SUNOCO PIPELINE
An ENERGY TRANSFER Partnership

June 29, 2021

Via Electronic Mail – johohenste@pa.gov

John Hohenstein, P.E.
Environmental Program Manager
Waterways & Wetlands Program
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

Re: Violations of the Dam Safety and Encroachments Act ("DSEA") and Regulations Promulgated under the DSEA and Clean Streams Law
Pennsylvania Pipeline Project (a.k.a. Mariner East 2)
Permit Nos. E15-862 and ESG 01 000 15 001
West Whiteland Township
Chester County

Dear Mr. Hohenstein,

On June 16, 2021, Sunoco Pipeline LP ("SPLP") received a Notice of Violation ("NOV") from the Department concerning the dewatering activity at the Wetland B71 (Briar Road) location, in West Whiteland Township, Chester County (the "Wetland Bore"). The NOV asserts that the Wetland Bore dewatering activity has resulted in violations of Section 611 of the Clean Streams Law, 35 P.S. § 691.611 and Section 18 of the Dam Safety and Encroachment Act Law, 32 P.S. § 693.18. SPLP responds to the NOV as follows.

DEP requested that SPLP do the following on or before June 30, 2021. SPLP lists each request below together with SPLP's response.

1. Conduct an assessment and evaluation of WB71 that analyzes the functions and values of the Wetland as well as: (a) any physical, biological, and chemical impacts associated with the deposit of sediment, clay, and other substances from the dewatering operation on these functions and values; and (b) any hydrological impacts from inundation of Wetland WB71 by sediment laden waters discharging from the dewatering operation into and across Wetland WB71.

SPLP Response: As presented in the Wetland B71 Impact Assessment and Restoration Plan (attached), SPLP prepares Current Condition Reports on a daily basis and conducted both a Wetland Condition Assessment and Function-Value Evaluation within the area of influence and reference areas in Wetland B71 on May 12 and June 9, 2021. These assessments evaluate the observed deposition of fine sediment and any effects on hydrology, vegetation, and functions/values of the wetland.

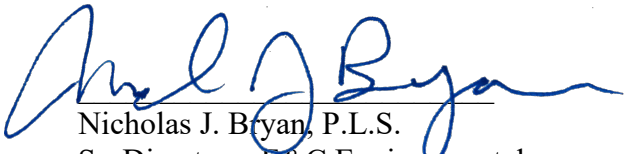
2. Submit for review and approval, the results of the assessment and evaluation performed pursuant to paragraph 1, above, and a plan for the restoration of Wetland WB71 to a condition equal to or better than that in place before the commencement of the dewatering operation. The plan must include provisions for monitoring in accordance with Special Conditions related to Restoration and Monitoring in Permit E15-862.

   SPLP Response: As presented in the Wetland B71 Impact Assessment and Restoration Plan (attached), based on the data collected in W-B71 before and after the discharge on June 2-3, 2021, there is no evidence to indicate that W-B71 requires restoration at this time. The nature and extent of the deposition of the fine sediment associated with the ongoing, PADEP-permitted, dewatering discharge activities observed within W-B71 has not changed since the start of the dewatering discharge activities as a result of the June 2-3 discharge, and it is expected the fine sediment will naturally flush through the wetland upon cessation of the dewatering activities. SPLP will continue to implement the monitoring measures for W-B71 as detailed in their PADEP-approved Wetland B71 Direct Pipe Bore Monitoring Plan (May 2021), and presented in the attached Wetland B71 Impact Assessment and Restoration Plan.

Please note that nothing in this response should be construed either as an admission of any of the legal conclusions set forth by the Department in the NOV or as a waiver of any legal defenses SPLP may possess.

If you have any questions or need additional information regarding this supplemental response and the enclosed documents, please contact me at (570) 505-3740 or via email at Nick.Bryan@EnergyTransfer.com.

Thank you,



Nicholas J. Bryan, P.L.S.
Sr. Director – E&C Environmental
Energy Transfer

Attachment

Attachment:

Wetland B71 Impact Assessment and Restoration Plan

Wetland B71
Impact Assessment and Restoration Plan

For the
Mariner East II: Pennsylvania Pipeline Project

June 2021

Prepared for:

Sunoco Pipeline
An Energy Transfer Company
535 Fritztown Road
Sinking Spring, PA 19608

Prepared by:

Tetra Tech, Inc.
301 Ellicott Street
Buffalo, New York 14203

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LIST OF ACRONYMS/ABBREVIATIONS

Acronym/Abbreviation	Definition
AOI	Area of influence
bgs	below ground surface
BMP	best management practice
CI	Condition Index
Department	Pennsylvania Department of Environmental Protection
ECD	erosion control device
EI	Environmental Inspection
MP	monitoring point
NOV	Notice of violation
NTU	nephelometric turbidity unit
PADEP	Pennsylvania Department of Environmental Protection
PEM	palustrine emergent wetland
PFO	palustrine forested wetland
Plan	Impact Assessment and Restoration Plan
Project	Mariner East II - Pennsylvania Pipeline Project
RAP	Rapid Assessment Protocol
SPLP	Sunoco Pipeline LP
Tetra Tech	Tetra Tech, Inc.
USACE	United States Army Corps of Engineers
W-B71	wetland B71
Wetland RAP	Wetland Condition Assessment

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has been contracted by Sunoco Pipeline LP (SPLP) to develop an Impact Assessment and Restoration Plan (Plan) to evaluate the deposition of sediment in Wetland B71 (W-B71) located in West Whiteland Township, Chester County, Pennsylvania, during the construction of the Mariner East II - Pennsylvania Pipeline Project (Project). Current and future bore pit dewatering activities at this site include the approved discharge of groundwater through enhanced best-management practices (BMPs), which will result in the minor and temporary deposition of sediments within a portion of W-B71.

On June 3, 2021, the direct bore was activated and the initial turbidity in the bore pit dewatering discharge was observed to have increased. The on-site personnel immediately obtained nephelometric turbidity unit (NTU) readings of the discharge and stopped the discharge. SPLP self-reported the turbid discharge to the Pennsylvania Department of Environmental Protection (PADEP or Department) and checked the discharge treatment system that has been installed to reduce total suspended solids and turbidity, which is primarily comprised of a combination of chemical (coagulant and flocculent) and physical (weir tank, sand filter, filter bags, rock level spreader, and three layers of compost filter sock) treatment processes. On June 4, 2021, the Department had a representative on-site to assess the discharge and, at that time, the representative commented that it appeared to be legacy sediment from the original discharge in April, but that operations should not resume until further notice (conversation between Mr. Mike McAdams of the Department and Keith Davis, Environmental Inspector on behalf of SPLP). On June 16, 2021 the Department issued a Notice of Violation (NOV) requesting that SPLP:

1. Conduct an assessment and evaluation of W-B71 that analyzes the functions and values of the wetland as well as: (a) any physical, biological, and chemical impacts associated with the deposit of sediment, clay, and other substances from the dewatering operation on these functions and values; and (b) any hydrological impacts from inundation of W-B71 by sediment laden waters discharging from the dewatering operation into and across the wetland.
2. Submit, for Department review and approval, the results of the assessment and evaluation performed pursuant to paragraph 1, above, and a plan for the restoration of W-B71 to a condition equal to or better than that in place before the commencement of the dewatering operation. The plan must include provisions for monitoring in accordance with Special Conditions related to Restoration and Monitoring in Permit E15-862.

This Plan outlines SPLP's commitment to monitor pre-construction, during construction, and post-construction biological parameters to ensure potential impacts to Waters of the Commonwealth and associated functions and values are evaluated appropriately and in a timely manner and that potential impacts are avoided or minimized. This Plan also presents the results of the assessment and evaluation of sediment deposition in W-B71; provides the provisions and schedule for monitoring the condition and functions/values of W-B71 during the discharge activities (i.e., completion of the bore); and, presents the restoration and monitoring activities to be conducted at W-B71 following the completion of construction.

2.0 IMPACT ASSESSMENT

2.1 WETLAND B71

W-B71 is a palustrine, forested (PFO) wetland with some small palustrine, emergent (PEM) areas associated with existing rights-of-ways (Cowardin 1979). Wetland hydrology indicators in the PFO/PEM complex include drift deposits, drainage patterns, and geomorphic position. Saturated conditions occur in much of the area and appear to be the result of shallow groundwater sources. Adjacent first-order streams also provide seasonal hydrology via small scale flooding events and a piezometric connection to the wetland habitat. Dominant overstory vegetation in the PFO consists of red maple (*Acer rubrum*), box elder (*Acer negundo*) and green ash (*Fraxinus pennsylvanica*); the understory includes ashleaf maple (*Acer negundo*), Morrow's honeysuckle (*Lonicera morrowii*), and multiflora rose (*Rosa multiflora*); and, the ground cover is comprised of emergent invasive species such as reed canarygrass (*Phalaris arundinacea*), stiltgrass (*Microstegium vimineum*), and a dense carpet of fig buttercup (*Ranunculus ficaria*). The PEM areas are dominated by fig buttercup, moneywort (*Lysimachia nummularia*), and soft rush (*Juncus effusus*), with areas of skunk cabbage (*Symplocarpus foetidus*) and *Carex* spp. also present.

The soil profile exhibits a 10YR 4/3 matrix with a sandy loam texture between 0 and 5 inches below ground surface (bgs) and a low-chroma matrix (10YR 4/2) with a silty loam texture that contains redoximorphic features (7.5YR 5/6) between 5 and 15 inches bgs.

2.2 MONITORING AREAS

2.2.1 Study Area

To identify, characterize, and quantify the resource and to gain a better understanding of the area receiving the discharge, a Study Area was established. The Study Area includes waters that will receive the discharge along with adjacent uninfluenced areas. The approximately 8.85-acre Study Area is depicted on Figure 1 in Appendix A. The defined Study Area encompasses an "Area of Influence" (AOI) that represents the entire area of the discharge and includes, at a minimum, all areas of sediment deposition; the entire extent of W-B71; the stream channels (streams S-B81 and S-B79) through and adjacent to W-B71; and, the undeveloped floodways of the mapped stream channels and surrounding forested areas. To help characterize the Study Area specifically in the context of the pre-existing conditions of this area, the Study Area intentionally includes adjacent, unimpacted areas that will be characterized and used as reference monitoring points.

2.2.2 Area of Influence

The AOI has been defined based on direct field observations of multiple dewatering events and conditions at the site, prior to the PADEP site inspection on June 3, 2021. The AOI within the wetland was delineated based on first-hand knowledge of field personal who observed and monitored the discharge through the installed dewatering BMPs and across W-B71. The 0.56–acre AOI area was delineated via on-the-ground survey and is depicted on Figure 1 in Appendix A.

2.2.3 Wetland B71 Monitoring Points

In accordance with their approved *Wetland B71 Direct Pipe Bore Monitoring Plan* (May 2021), SPLP has established monitoring points (MPs) in the PFO portion of W-B71 where Wetland Condition Assessment and Wetland Function-Value forms have been completed to allow for a comparison between portions of the wetland located within the AOI and unimpacted adjacent portions of the wetland that are located outside of the AOI but within the Study Area. Wetland monitoring locations have been established in the upper (MPs 1A/1B) and lower (MPs 2A/2B) portions of the wetland relative to the area of dewatering discharge (Figure 1). Wetland assessments to be completed at MP1A and MP2A will be limited to wetland habitat affected by the dewatering discharge (within the AOI), whereas assessments to be completed at MP1B and MP2B will include areas unimpacted by the dewatering discharge (outside the AOI).

2.3 FUNCTIONAL ASSESSMENT

Per the methods and schedule presented in SPLP's approved *Wetland B71 Direct Pipe Bore Monitoring Plan* (May 2021), the Department's 2017 – PA Wetland and Riverine Condition Level 2 Rapid Assessment Protocols (RAP) were used to assess W-B71 at the established wetland monitoring locations (PADEP 2018). In addition, the United States Army Corps of Engineers (USACE) New England District's *The Highway Methodology Workbook Supplement – Wetland Functions and Values: A Descriptive Method* (Highway Methodology; USACE 1999) was used to assess the functions and values of W-B71. Wetland RAP and functions/value assessments were conducted on May 12 and June 9, 2021 at each of the four identified monitoring locations prior to and after the discharge of turbid water on June 2-3, 2021.

The Wetland RAP allow for the evaluation of aquatic resources, or portions of these resources, based on a series of categories reflecting existing environmental conditions, which are determined through in-field observations and review of aerial imagery. Wetland resources are assessed according to land use in the area surrounding the wetland, the proximity and quantity of roadways, the abundance of invasive vegetation, and the presence and quantity of stressors influencing vegetation, hydrology, sediment, and water quality. Each category is assigned an individual score between 1 and 20 (with 20 being considered optimal) in the rapid assessment form based on the associated description that best reflects the resource. This score is then translated to a Condition Index (CI) score between 0 and 1 (with 1 being the highest score). The individual CI scores of the different categories are then averaged to determine an overall CI.

The Highway Methodology identifies thirteen Principal Function categories: Groundwater Recharge/Discharge, Floodflow Alteration, Fish and Shellfish Habitat, Sediment/Toxicant Retention, Nutrient Removal, Production Export, Sediment/Shoreline Stabilization, Wildlife Habitat, Recreation, Educational/Scientific Value, Uniqueness/ Heritage, Visual Quality/Aesthetics, and Endangered Species Habitat. The Highway Methodology Protocol provides an extensive numbered list for each category containing characteristics that may or may not apply to the resource. Based on in-field observations, as well as a review of off-site resources where necessary, the evaluator selects all characteristics for each Principal Function category that apply to the resource. According to the quantity and relative significance of these characteristics, the evaluator then determines whether each function or value is a Principal Function provided by the resource, has suitability but is not a Principal Function, or is not adequately provided by the resource to be considered either suitable or a Principal Function.

In addition to the wetland assessments identified above, the current conditions of W-B71 were obtained on a daily basis and include photodocumentation of the wetland and the stream channels (streams S-B81 and S-B79) through and adjacent to W-B71. Appendix B presents the Current Condition Reports for May 14 and June 9, 2021, and Appendices C and D include the wetland RAP and Function-Value forms, respectively.

2.4 RESULTS

Current Condition Reports are obtained on a daily basis and include several photographs of W-B71 as well as the location of each photograph. Comparison of photographs in the May 14 and June 9 reports (Appendix B) clearly show the presence of a fine sediment deposition before and after the discharge on June 2-3, 2021, and do not indicate any difference in the aerial extent or thickness of the deposition in the AOI of W-B71. The photographs also show the non-impacted growth of vegetation and hydrology throughout the wetland.

Wetland Condition Assessment Forms from the protocols of the Pennsylvania Wetland Condition Level 2 Rapid Assessment method were completed for two wetland MPs within the AOI and two "paired" reference MPs within the Study Area. The AOI monitoring locations MP1A and MP2A and the reference monitoring locations MP1B and MP2B are presented on Figure 1 (Appendix A) and the assessment forms can be found in Appendix C. Table 1 provides a summary of the CIs determined for each individual category and the overall/average CI obtained at all the monitoring locations on May 12 and June 9, 2021.

Table 1. Wetland Condition Rapid Assessment Protocol Results

MP1A – Area of Influence						
	May 12, 2021		June 9, 2021		Delta	
Condition Index	CI	Avg	CI	Avg	CI	Avg
Wetland Zone of Influence Condition Index	0.51	0.70	0.51	0.70	0.00	0.00
Roadbed Presence Index	0.75		0.75		0.00	
Vegetation Condition Index	0.80		0.80		0.00	
Hydrologic Modification Index	0.85		0.85		0.00	
Sediment Stressor Index	0.70		0.70		0.00	
Water Quality Stressor Index	0.60		0..60		0.00	

MP1B – Reference						
	May 12, 2021		June 9, 2021		Delta	
Condition Index	CI	Avg	CI	Avg	CI	Avg
Wetland Zone of Influence Condition Index	0.59	0.82	0.59	0.82	0.00	0.00
Roadbed Presence Index	0.78		0.78		0.00	
Vegetation Condition Index	0.80		0.80		0.00	
Hydrologic Modification Index	0.95		0.95		0.00	
Sediment Stressor Index	0.95		0.95		0.00	
Water Quality Stressor Index	0.85		0.85		0.00	

MP2A – Area of Influence						
	May 12, 2021		June 9, 2021		Delta	
Condition Index	CI	Avg	CI	Avg	CI	Avg
Wetland Zone of Influence Condition Index	0.51	0.72	0.51	0.72	0.00	0.00
Roadbed Presence Index	0.83		0.83		0.00	
Vegetation Condition Index	0.80		0.80		0.00	
Hydrologic Modification Index	0.85		0.85		0.00	
Sediment Stressor Index	0.70		0.70		0.00	
Water Quality Stressor Index	0.60		0.60		0.00	

MP2B – Reference						
	May 12, 2021		June 9, 2021		Delta	
Condition Index	CI	Avg	CI	Avg	CI	Avg
Wetland Zone of Influence Condition Index	0.51	0.82	0.51	0.82	0.00	0.00
Roadbed Presence Index	0.83		0.83		0.00	
Vegetation Condition Index	0.85		0.85		0.00	
Hydrologic Modification Index	0.95		0.95		0.00	
Sediment Stressor Index	0.95		0.95		0.00	
Water Quality Stressor Index	0.85		0.85		0.00	

The values for all the individual CI categories at all four monitoring locations remained the same before and after the “turbid discharge” on June 2-3, 2021, indicating no change in the wetland conditions. In addition, the AOI monitoring location indices were recorded as being “moderate” to “high”, indicating that W-B71 has not likely been significantly degraded by the dewatering discharge activities as indices above these are reserved for very high-quality wetlands. The indices are also expected as the dewatering activity has not permanently or negatively impacted the floodplain or hydrology of the area, only having minor short-term impact on wetland vegetation

associated with the temporary deposition of sediment. However, a comparison between the AOI and reference MPs indicates a slightly lower overall CI for the AOI area when compared to the reference area. The contributing CIs for hydrologic modification, sediment stressor, and water quality stressor were found to be consistently, but only slightly, lower for the AOI area when compared to the reference area (Table 1). However, it is expected that these values will be similar upon cessation of the dewatering activities and the natural flushing of the surficial deposition of fine sediment through the wetland.

W-B71 provides a limited number of functions that are of value to the ecological community and, based on the Function-Value assessment, W-B71 lacks recreational, educational/scientific, uniqueness/heritage, visual quality/aesthetics, and potential sensitive species habitat as principal functions. The wetland supports both PFO and PEM cover types that provide ground water discharge/recharge, flood flow alteration, sediment/toxicant retention, nutrient removal, sediment and shoreline stabilization, and wildlife habitat (Appendix D). The principal functions/values of W-B71 remained the same before and after the “turbid discharge” on June 2-3, 2021, indicating no change in wetland functions and values.

Based on the data collected in W-B71 before and after the discharge on June 2-3, 2021, there is no evidence of any physical, biological, or chemical change associated with the deposit of sediment from the dewatering operation. The deposition of the fine sediment observed within W-B71 has not changed from the beginning of the dewatering discharge activities (April 3, 2021) and the discharge on June 2-3. In addition, there is no evidence of any hydrological impacts from inundation of W-B71 by sediment laden waters discharging from the dewatering operation into and across W-B71, nor have the functions/values of the wetland changed. It is expected that the surficial deposition will naturally flush through the wetland upon cessation of the dewatering activities.

Overall, the impacts to W-B71 are considered short-term and minor as there has been only a minor, temporary, surficial deposition of fine sediment in the AOI, and no impact to the wetland’s hydrology, vegetative composition, and soil structure. The wetland will be monitored in accordance with Section 5.0 and is expected to completely return to pre-dewatering activity conditions following the completion of construction and the associated dewatering activities.

3.0 RESTORATION PLAN

SPLP has developed an extensive restoration program for impacted resources and will comply with all restoration activities (i.e., seeding and BMP/erosion control device [ECD] installation) in accordance with the conditions and requirements of the approved Chapter 102 E&S Permit No. ESG0100015001 and Chapter 105 Permit No. E15-862 for the overall Project.

As presented in the *Wetland B71 Direct Pipe Bore Monitoring Plan* (May 2021), the level of restoration in W-B71 is dependent on the level of impact observed and documented during the dewatering monitoring. The dewatering process has been performed in accordance with the approved temporary discharge permit as to not adversely impact the Waters of the Commonwealth, including modifications to the water treatment system following the discharge of turbid water on June 2-3, 2021. The required daily Current Condition Reports provide immediate documentation of site conditions and the scheduled wetland assessments (RAP and Function-Value) provide additional data regarding the wetland characteristics.

As presented in Section 2.4, based on the data collected in W-B71 before and after the discharge on June 2-3, 2021, there is no evidence to indicate that W-B71 requires restoration at this time. The nature and extent of the deposition of the fine sediment associated with the ongoing, PADEP-permitted, dewatering discharge activities observed within W-B71 has not changed since the start of the dewatering activities as a result of the June 2-3 discharge, and it is expected the fine sediment will naturally flush through the wetland upon cessation of the dewatering activities. Any restoration activities implemented in the wetland at this time will result in wetland impacts (e.g., compacting/mixing soils and disturbing vegetation) that are not justified based on the monitoring data. If future monitoring (refer to Section 5.0) indicates a change in the functions and values and/or the hydrology of W-B71, a site-specific restoration plan will be submitted to the Department for approval to implement appropriate corrective actions.

4.0 MONITORING

SPLP has developed an extensive monitoring program for impacted resources and will comply with all monitoring requirements identified in their Chapter 105 Joint Permit Application (E15-862) as well as all applicable permits and clearances. In addition, SPLP will continue to implement the monitoring measures identified below for W-B71 as detailed in their PADEP-approved *Wetland B71 Direct Pipe Bore Monitoring Plan* (May 2021).

- **Site Assessments**: The wetland will continue to be inspected by the Environmental Inspection (EI) team at least twice per day during the discharge operation and a daily Current Conditions Report will be prepared. The Current Conditions Report includes a photographic log with pictures taken from established stations that will be depicted and keyed on an included map. When any inflow (such as discharges and/or inadvertent returns) to the wetland is observed, the EI will collect detailed notes regarding the location of the observation(s); description of the inflow(s); description and areal extent of any sediment deposits (including photographs and a map key of photograph locations) within the wetland; and, a description of the general conditions of the AOI and reference MPs, including aquatic plants, invertebrates, fish, and aquatic habitat. In addition, any specific incidents within the wetland will be identified, described, photographed, georeferenced, and located on the map showing the spatial extent within a similar Incident Report.
- **Wetland Functional Assessment**: The Department's 2017 – PA Wetland and Riverine Condition Level 2 Rapid Assessment Protocols (RAP) will continue to be used to assess W-B71. Wetland RAP will be conducted at each of the four identified MPs prior to restart of the dewatering activities, once per month during dewatering activities, after dewatering is completed (Fall 2021), and another post-construction sample will be collected in the Spring of 2022. In addition, the USACE New England District's *The Highway Methodology Workbook Supplement – Wetland Functions and Values: A Descriptive Method* (Highway Methodology; USACE 1999) will be used to assess the functions and values of W-B71.
- **Wetland Impact Assessment**: In response to any incidents reported by the EI team within W-B71, a field assessment will be conducted by a qualified wetland scientist. The field assessment will include an inventory and dominance assessment of the plant community; delineation of areas where plants are coated or covered by silt, sediment, or other deposits; an inventory of surviving plant species and their areal coverage; an inventory of invasive species and their areal coverage; percent coverage of hydrophytes; percent coverage by unvegetated ground; precent coverage by invasives; assessment of hydrology; photographs documentation; and a map key to the photographs.

In addition to the activities identified above, monitoring of W-B71 following construction will include an assessment of the establishment of wetland vegetation and maintenance of wetland hydrology and soils. The monitoring will also include assessments of invasive plant species. The impacted wetland areas will be monitored for at least five (5) years:

- For the first two (2) years after cessation of the discharge activities, monitoring reports will be submitted to the Department on a quarterly basis with reports due on January 30th, April 30th, July 30th, and October 30th of each year for the preceding calendar quarter.
- After the initial two (2) year monitoring period, monitoring reports will be submitted on an annual basis, with the first annual report due on January 30th following year three (3).

5.0 REFERENCES

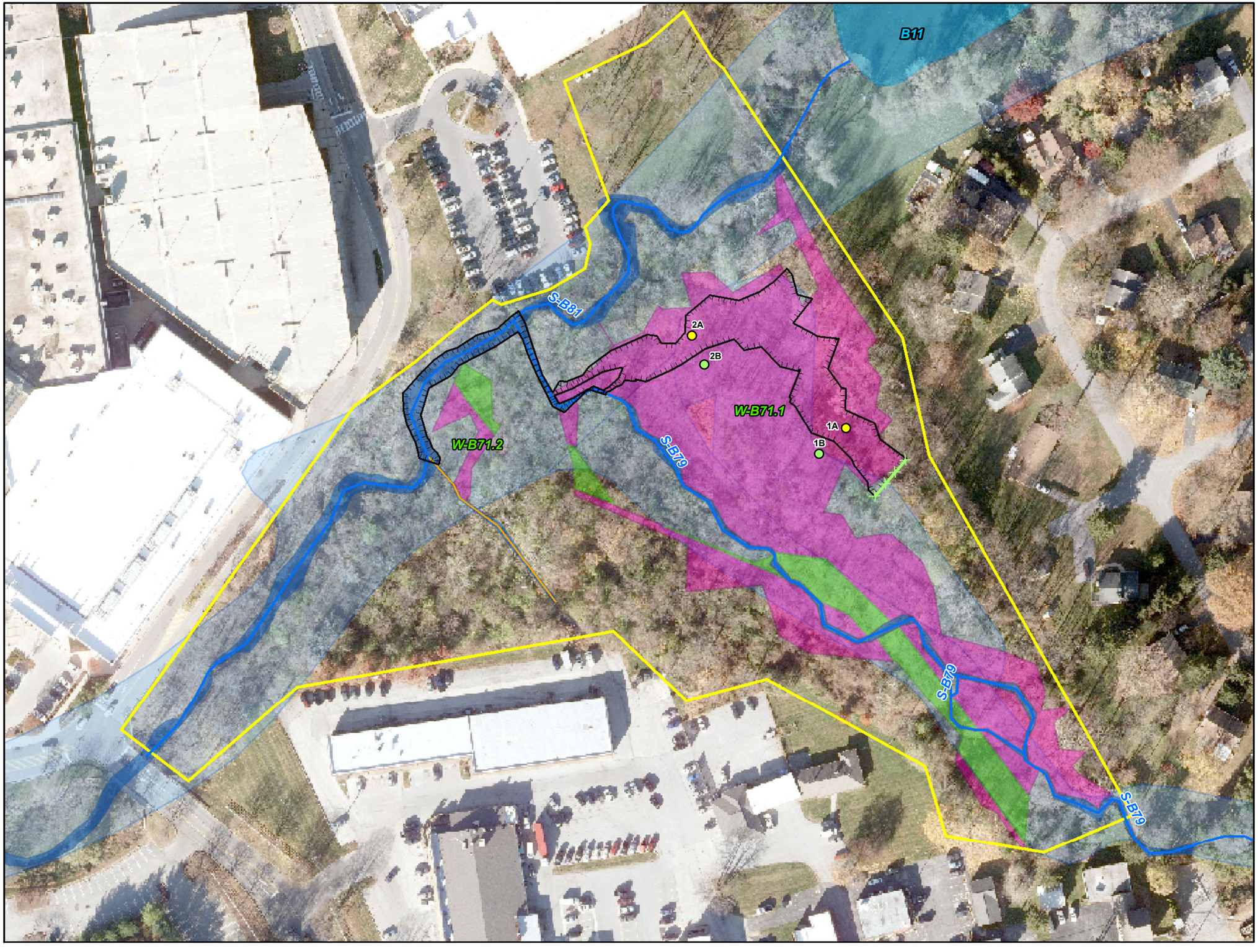
Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service FWS/OBS-79/31. Washington, D.C. 131pp.

Kollmorgen Corporation. 2009. *Munsell Soil Color Charts* (2009 edition, 2018 printing). Macbeth Division of Kollmorgen Corp., Baltimore, MD.

Pennsylvania Department of Environmental Protection (PADEP). 2018. *Assessment Methodology for Rivers and Streams*. D. Shull and M. Pulket (eds), PADEP, Office of Water Programs, Bureau of Clean Water. Harrisburg, PA.

United States Army Corps of Engineers (USACE). 1999. *The Highway Methodology Workbook Supplement: Wetland Functions and Values: A Descriptive Approach*. New England District, US Army Corps of Engineers. Brochure NAEEP-360-1-30a.

APPENDIX A
STUDY AREA FIGURE



Legend

- Monitoring Point - AOI
- Monitoring Point - Reference Area
- Area of Influence
- Study Area
- Location of Discharge from Dewatering Treatment
- Stormwater Ditch
- Perennial Stream
- Stream Channel
- Pond
- PEM Wetland
- PFO Wetland
- Chapter 105 Floodway

0 25 50 100 150

1 inch = 100 feet

N

Figure 1.
Wetland B71 Study Area
ME2: Pennsylvania Pipeline Project
Chester County, PA.
Sheet 1 of 1

Prepared By:	Date:
TETRA TECH	6/24/2021

Base Map; SPLP, 2013 - 2015.
Aquatics, TT 2013-2020.

Coordinate System: NAD 83 Stateplane, PA South, Feet

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APPENDIX B
CURRENT CONDITION REPORTS

TETRA TECH

Sunoco Pipeline L.P.
Pennsylvania Pipeline Project
Current Conditions Report

PPP 6 – Wetland WL-B71 Bore
West Whiteland Township, Chester County, Pennsylvania

CURRENT CONDITION PHOTOS (MAY 14, 2021)

View looking southwest of section 1.	
View looking north of section 2.	
View looking north of section 3.	

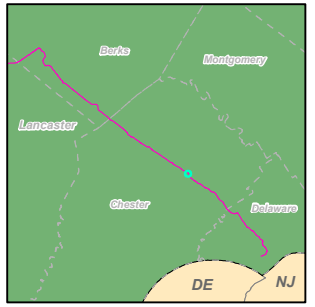
View looking north of section 4.	
View looking west of section 5.	
View looking south of section 6.	

View looking west of section 7.	
View looking east of section 8.	
View looking south of section 9.	

View looking east of section 10.	
View looking east of section 11.	

Legend

- Monitoring Point - AOI
- Monitoring Point - Reference Area
- Water Quality Monitoring Point
- Area of Influence
- Study Area
- Stormwater Ditch
- Perennial Stream
- Stream Channel
- Pond
- PEM Wetland
- PFO Wetland
- Chapter 105 Floodway
- 1 Current Condition Photo Log Location and Direction



0 25 50 100 150

1 inch = 100 feet

N

Figure 1.
Wetland B71 Monitoring Plan
ME2: Pennsylvania Pipeline Project
Chester County, PA.
Sheet 1 of 1

Prepared By:	Date:
TETRA TECH	4/29/2021

Base Map; SPLP, 2013 - 2015.
Aquatics, TT 2013-2020.

Coordinate System: NAD 83 Stateplane, PA South, Feet

E:\GIS\Projects\112205938-PPPM\MXD\NOV\Figure 1 - Impact Area COP7.mxd LN

Sunoco Pipeline L.P.
Pennsylvania Pipeline Project
Current Conditions Report

PPP 6 – Wetland WL-B71 Bore
West Whiteland Township, Chester County, Pennsylvania

CURRENT CONDITION PHOTOS (JUNE 9, 2021)

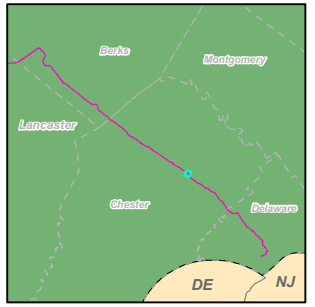
View looking southwest of section 1. No discharge at the time of photo.	
View looking north of section 2. No discharge at the time of photo.	
View looking north of section 3. No discharge at the time of photo.	

View looking north of section 4. No discharge at the time of photo.	
View looking west of section 5. No discharge at the time of photo.	
View looking south of section 6. No discharge at the time of photo.	
View looking east of section 7. No discharge at the time of photo.	

View looking east of section 8. No discharge at the time of photo.	
View looking south of section 9. No discharge at the time of photo.	
View looking east of section 10. No discharge at the time of photo.	
View looking east of section 11. No discharge at the time of photo.	

Legend

- Monitoring Point - AOI
- Monitoring Point - Reference Area
- Water Quality Monitoring Point
- Area of Influence
- Study Area
- Stormwater Ditch
- Perennial Stream
- Stream Channel
- Pond
- PEM Wetland
- PFO Wetland
- Chapter 105 Floodway
- 1 Current Condition Photo Log Location and Direction



0 25 50 100 150

1 inch = 100 feet

N

Figure 1.
Wetland B71 Monitoring Plan
ME2: Pennsylvania Pipeline Project
Chester County, PA.
Sheet 1 of 1

Prepared By:	Date:
TETRA TECH	4/29/2021

Base Map; SPLP, 2013 - 2015.
Aquatics, TT 2013-2020.

Coordinate System: NAD 83 Stateplane, PA South, Feet

E:\GIS\Projects\112205938-PPPM\MXD\NOV\Figure 1 - Impact Area COP7.mxd LN

APPENDIX C
PENNSYLVANIA WETLAND RAPID ASSESSMENT PROTOCOL FORMS

Wetland Condition Assessment Form

RAP 1A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsylvania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**5/12/21**				

Name(s) of Evaluator(s)	Lat (dd)	Long (dd)	Notes:
B. Hepler	**40.0307**	**-75.6195**	**RAP 1A**

General Comments: W-B71.1 - 1A is located within the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																				
	Optimal					Suboptimal					Marginal					Poor					
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.		**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.		**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.		**CI = Total Score/20**
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	35%	10%	10%	5%	30%	10%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.51**
	Total Sub-score:	6.30	1.40	0.90	0.35	1.20	0.10	**10.25**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																				
	Optimal					Suboptimal					Marginal					Poor					
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 feet of the AA boundary				**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.			**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.		**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.			**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.		
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	

Comments: Temporary matted road located within 100 feet of 1A.

	Condition Categories																				
	Optimal					Suboptimal					Marginal					Poor					
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 - 300 feet of the AA boundary				**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.			**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.		**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.			**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.		**CI = Total Score/20**
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	

	Condition Score	Weighting	Sub-Scores	
a. Roadbed 0-100:	17	* (0.67)	11	
b. Roadbed 100-300:	11	* (0.33)	4	**0.75**
		Total Score:	**15**	

Comments: Temporary matted road and driveways located between 100 and 300 feet of 1A.

Wetland Condition Assessment Form

RAP 1A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
a. Invasive Species Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments: Multiflora rose

	Condition Category																			
b. Vegetation Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/40

Comments: Sediment around base of trunks/stems.

a. Invasive Sub-Score:	15	**Total Score**
b. Vegetation Sub-Score:	17	**32**

0.80

4. Hydrologic Modification Index

	Condition Category																			
Hydrologic Modification Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/20

Comments: Water input from dewatering.

Score:	**17**

0.85

5. Sediment Stressor Index

	Condition Category																			
Sediment Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/20

Comments: Sediment deposits and input of turbid water from dewatering.

Score:	**14**

0.70

6. Water Quality Stressor Index

	Condition Category																			
a. Eutro-phication Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments:

	Condition Category																			
b. Contaminant / Toxicity Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/40

Comments: Vegetative stress, dewatering, and garbage present within the wetland.

a. Eutrophication Score	19	**Total Score:**
b. Contaminant Score	5	**24**

0.60

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.70**

Wetland Condition Assessment Form

RAP 1B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsylvania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**5/12/21**				
Name(s) of Evaluator(s)		**Lat (dd)**	**Long (dd)**	**Notes:**		
B. Hepler		**40.0306**	**-75.6196**	**RAP 1B**		

General Comments: W-B71.1 - 1B is located outside of the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																				
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.		**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.		**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.		**CI = Total Score/20**
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	40%	15%	15%	5%	20%	5%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.59**
	Total Sub-score:	7.20	2.10	1.35	0.35	0.80	0.05	**11.85**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																				
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 feet of the AA boundary				**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.	**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.				**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.	**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.				**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.	**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.				**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

Comments: Temporary matted road located within 100 feet of 1B.

	Condition Categories																				
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 - 300 feet of the AA boundary				**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.	**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.				**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.	**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.				**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.	**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.				**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.	**CI = Total Score/20**
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

	Condition Score	**Weighting**	**Sub-Scores**	
a. Roadbed 0-100:	17	*** (0.67)**	11	
b. Roadbed 100-300:	13	*** (0.33)**	4	**0.78**
		Total Score:	**16**	

Comments: Temporary matted road and driveways located between 100 and 300 feet of 1B.

Wetland Condition Assessment Form

RAP 1B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Invasive Species Presence	**High Optimal:** No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Tatarian honeysuckle

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Vegetation Stressor Presence	**High Optimal:** No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments:

a. Invasive Sub-Score:	13	**Total Score**
b. Vegetation Sub-Score:	19	**32**

0.80

4. Hydrologic Modification Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Hydrologic Modification Stressor Presence	**High Optimal:** No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**

0.95

5. Sediment Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Sediment Stressor Presence	**High Optimal:** No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**

0.95

6. Water Quality Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Eutro-phication Stressor Presence	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Contaminant / Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments: Garbage present within wetland.

a. Eutrophication Score	19	**Total Score:**
b. Contaminant Score	15	**34**

0.85

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.82**

Wetland Condition Assessment Form

RAP 2A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**5/12/21**				
Name(s) of Evaluator(s)		**Lat (dd)**	**Long (dd)**	**Notes:**		
B. Hepler		**40.0311**	**-75.6201**	**RAP 2A**		

General Comments: W-B71.1 - 2A is located within the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																			CI = Total Score/20
Wetland Zone of Influence (300 foot area around AA perimeter)	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.		**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.		**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	35%	10%	10%	5%	30%	10%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.51**
	Total Sub-score:	6.30	1.40	0.90	0.35	1.20	0.10	**10.25**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																			
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No roadbeds present within 100 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: No roads present within 100 feet of 2A.

	Condition Categories																			CI = Total Score/20
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No roadbeds present within 100 - 300 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

	Condition Score	**Weighting**	**Sub-Scores**	
a. Roadbed 0-100:	19	*** (0.67)**	13	
b. Roadbed 100-300:	12	*** (0.33)**	4	**0.83**
		Total Score:	**17**	

Comments: Temporary matted road, 2-lane road, and parking lot located between 100 and 300 feet of 2A.

Wetland Condition Assessment Form

RAP 2A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
a. Invasive Species Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments: Reed canary grass

	Condition Category																			
b. Vegetation Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/40

Comments: Sediment around base of trunks/stems.

a. Invasive Sub-Score:	15	**Total Score**
b. Vegetation Sub-Score:	17	**32**

0.80

4. Hydrologic Modification Index

	Condition Category																			
Hydrologic Modification Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/20

Comments: Water input from dewatering.

Score:	**17**

0.85

5. Sediment Stressor Index

	Condition Category																			
Sediment Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/20

Comments: Sediment deposits and input of turbid water.

Score:	**14**

0.70

6. Water Quality Stressor Index

	Condition Category																			
a. Eutro-phication Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments:

	Condition Category																			
b. Contaminant / Toxicity Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/40

Comments: Vegetative stress, dewatering, and garbage present within the wetland.

a. Eutrophication Score	19	**Total Score:**
b. Contaminant Score	5	**24**

0.60

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.72**

Wetland Condition Assessment Form

RAP 2B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**5/12/21**				
Name(s) of Evaluator(s)		**Lat (dd)**	**Long (dd)**	**Notes:**		
B. Hepler		**40.0310**	**-75.6200**	**RAP 2B**		

General Comments: W-B71.1 - 2B is located outside of the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.		**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.		**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.		**CI = Total Score/20**
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	35%	10%	10%	5%	30%	10%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.51**
	Total Sub-score:	6.30	1.40	0.90	0.35	1.20	0.10	**10.25**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.		
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

Comments: No roads present within 100 feet of 2B.

	Condition Categories																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 - 300 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.		**CI = Total Score/20**
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

	Condition Score	**Weighting**	**Sub-Scores**	
a. Roadbed 0-100:	19	*** (0.67)**	13	
b. Roadbed 100-300:	12	*** (0.33)**	4	**0.83**
		Total Score:	**17**	

Comments: Temporary matted road, 2-lane road, and parking lot located between 100 and 300 feet of 2B.

Wetland Condition Assessment Form

RAP 2B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Invasive Species Presence	**High Optimal:** No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Tatarian honeysuckle

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Vegetation Stressor Presence	**High Optimal:** No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments:

a. Invasive Sub-Score:	15	**Total Score**	**0.85**
b. Vegetation Sub-Score:	19	**34**	

4. Hydrologic Modification Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Hydrologic Modification Stressor Presence	**High Optimal:** No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**	**0.95**

5. Sediment Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Sediment Stressor Presence	**High Optimal:** No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**	**0.95**

6. Water Quality Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Eutro-phication Stressor Presence	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Contaminant / Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments: Garbage present within wetland.

a. Eutrophication Score	19	**Total Score:**	**0.85**
b. Contaminant Score	15	**34**	

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.82**

Wetland Condition Assessment Form

RAP 1A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**6/9/21**				

Name(s) of Evaluator(s)	Lat (dd)	Long (dd)	Notes:
B. Hepler	**40.0307**	**-75.6195**	**RAP 1A**

General Comments: W-B71.1 - 1A is located within the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.			**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.			**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.			**CI = Total Score/20**
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	35%	10%	10%	5%	30%	10%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.51**
	Total Sub-score:	6.30	1.40	0.90	0.35	1.20	0.10	**10.25**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.		
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments: Temporary matted road located within 100 feet of 1A.

	Condition Categories																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 - 300 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.		
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

	Condition Score	Weighting	Sub-Scores	
a. Roadbed 0-100:	17	* (0.67)	11	
b. Roadbed 100-300:	11	* (0.33)	4	**0.75**
		Total Score:	**15**	

Comments: Temporary matted road and driveways located between 100 and 300 feet of 1A.

Wetland Condition Assessment Form

RAP 1A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
a. Invasive Species Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No invasives present.		**Low Optimal:** <5% of the total AA contains invasive species.			**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.		**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.			**High Marginal:** >20% but less than 30% of the total AA contains invasive species.		**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.			> 50% of the total AA contains invasive species.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments: Multiflora rose

	Condition Category																			
b. Vegetation Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No vegetation stressors present within the AA boundary.		**Low Optimal:** One vegetation stressor present within the AA boundary.			**High Suboptimal:** Two vegetation stressors present within the AA boundary.		**Low Suboptimal:** Three vegetation stressors present within the AA boundary.			**High Marginal:** Four vegetation stressors present within the AA boundary.		**Low Marginal:** Five vegetation stressors present within the AA boundary.			Greater than five vegetation stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/40

Comments: Sediment around base of trunks/stems.

a. Invasive Sub-Score:	15	**Total Score**
b. Vegetation Sub-Score:	17	**32**

0.80

4. Hydrologic Modification Index

	Condition Category																			
Hydrologic Modification Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No hydrologic stressors present within the AA boundary.		**Low Optimal:** One hydrologic stressor present within the AA boundary.			**High Suboptimal:** Two hydrologic stressors present within the AA boundary.		**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.			**High Marginal:** Four hydrologic stressors present within the AA boundary.		**Low Marginal:** Five hydrologic stressors present within the AA boundary.			Greater than five hydrologic stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/20

Comments: Water input from dewatering.

Score:	**17**

0.85

5. Sediment Stressor Index

	Condition Category																			
Sediment Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	High Optimal: No sediment stressors present within the AA boundary.		**Low Optimal:** One sediment stressor present within the AA boundary.			**High Suboptimal:** Two sediment stressors present within the AA boundary.		**Low Suboptimal:** Three sediment stressors present within the AA boundary.			**High Marginal:** Four sediment stressors present within the AA boundary.		**Low Marginal:** Five sediment stressors present within the AA boundary.			Greater than five sediment stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/20

Comments: Sediment deposits and input of turbid water from dewatering.

Score:	**14**

0.70

6. Water Quality Stressor Index

	Condition Category																			
a. Eutro-phication Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments:

	Condition Category																			
b. Contaminant / Toxicity Stressor Presence	**Optimal**					**Suboptimal**					**Marginal**					**Poor**				
	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

CI = Total Score/40

Comments: Vegetative stress, dewatering, and garbage present within the wetland.

a. Eutrophication Score	19	**Total Score:**
b. Contaminant Score	5	**24**

0.60

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.70**

Wetland Condition Assessment Form

RAP 1B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsylvania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**6/9/21**				

Name(s) of Evaluator(s)	Lat (dd)	Long (dd)	Notes:
B. Hepler	**40.0306**	**-75.6196**	**RAP 1B**

General Comments: W-B71.1 - 1B is located outside of the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category				
	Optimal	**Suboptimal**	**Marginal**	**Poor**	
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.	**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. **Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.	**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover. **Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.	**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition. **Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	**CI = Total Score/20**
SCORE	**20 19 18 17 16**	**15 14 13 12 11**	**10 9 8 7 6**	**5 4 3 2 1**	

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	40%	15%	15%	5%	20%	5%	**Total Score:**
	Score:	18	14	9	7	4	1	
	Total Sub-score:	7.20	2.10	1.35	0.35	0.80	0.05	**11.85**

0.59

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories				
	Optimal	**Suboptimal**	**Marginal**	**Poor**	
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 feet of the AA boundary. **Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.	**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4. **Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.	**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8. **Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.	**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12. **Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.	
SCORE	**20 19 18 17 16**	**15 14 13 12 11**	**10 9 8 7 6**	**5 4 3 2 1**	

Comments: Temporary matted road located within 100 feet of 1B.

	Condition Categories				
	Optimal	**Suboptimal**	**Marginal**	**Poor**	
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 - 300 feet of the AA boundary. **Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.	**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4. **Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.	**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8. **Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.	**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12. **Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.	**CI = Total Score/20**
SCORE	**20 19 18 17 16**	**15 14 13 12 11**	**10 9 8 7 6**	**5 4 3 2 1**	

	Condition Score	Weighting	Sub-Scores
a. Roadbed 0-100:	17	* (0.67)	11
b. Roadbed 100-300:	13	* (0.33)	4
		Total Score:	**16**

0.78

Comments: Temporary matted road and driveways located between 100 and 300 feet of 1B.

Wetland Condition Assessment Form

RAP 1B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Invasive Species Presence	**High Optimal:** No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Tatarian honeysuckle

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Vegetation Stressor Presence	**High Optimal:** No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments:

a. Invasive Sub-Score:	13	**Total Score**	**0.80**
b. Vegetation Sub-Score:	19	**32**	

4. Hydrologic Modification Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Hydrologic Modification Stressor Presence	**High Optimal:** No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**	**0.95**

5. Sediment Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Sediment Stressor Presence	**High Optimal:** No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**	**0.95**

6. Water Quality Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Eutro-phication Stressor Presence	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Contaminant / Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments: Garbage present within wetland.

a. Eutrophication Score	19	**Total Score:**	**0.85**
b. Contaminant Score	15	**34**	

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.82**

Wetland Condition Assessment Form

RAP 2A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsylvania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**6/9/21**				

Name(s) of Evaluator(s)	Lat (dd)	Long (dd)	Notes:
B. Hepler	**40.0311**	**-75.6201**	**RAP 2A**

General Comments: W-B71.1 - 2A is located within the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																				
Wetland Zone of Influence (300 foot area around AA perimeter)	**Optimal**					**Suboptimal**					**Marginal**					**Poor**					**CI = Total Score/20**
	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.		**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.		**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	35%	10%	10%	5%	30%	10%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.51**
	Total Sub-score:	6.30	1.40	0.90	0.35	1.20	0.10	**10.25**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																				
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**Optimal**					**Suboptimal**					**Marginal**					**Poor**					
	High Optimal: No roadbeds present within 100 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

Comments: No roads present within 100 feet of 2A.

	Condition Categories																				
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**Optimal**					**Suboptimal**					**Marginal**					**Poor**					**CI = Total Score/20**
	High Optimal: No roadbeds present within 100 - 300 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.	
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

	Condition Score	Weighting	Sub-Scores	
a. Roadbed 0-100:	19	* (0.67)	13	
b. Roadbed 100-300:	12	* (0.33)	4	**0.83**
		Total Score:	**17**	

Comments: Temporary matted road, 2-lane road, and parking lot located between 100 and 300 feet of 2A.

Wetland Condition Assessment Form

RAP 2A

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Invasive Species Presence	**High Optimal:** No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Reed canary grass

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Vegetation Stressor Presence	**High Optimal:** No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments: Sediment around base of trunks/stems.

a. Invasive Sub-Score:	15	**Total Score**
b. Vegetation Sub-Score:	17	**32**

0.80

4. Hydrologic Modification Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Hydrologic Modification Stressor Presence	**High Optimal:** No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments: Water input from dewatering.

Score:	**17**

0.85

5. Sediment Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Sediment Stressor Presence	**High Optimal:** No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments: Sediment deposits and input of turbid water.

Score:	**14**

0.70

6. Water Quality Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Eutro-phication Stressor Presence	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Contaminant / Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments: Vegetative stress, dewatering, and garbage present within the wetland.

a. Eutrophication Score	19	**Total Score:**
b. Contaminant Score	5	**24**

0.60

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.	**Overall Condition Index:**	**0.72**

Wetland Condition Assessment Form

RAP 2B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

Project #	Project Name	Date	Proposed Impact Size (acres)	AA #	AA Size (acres)	
R14-0247.000	**PPP - B71**	**6/9/21**				

Name(s) of Evaluator(s)	Lat (dd)	Long (dd)	Notes:
B. Hepler	**40.0310**	**-75.6200**	**RAP 2B**

General Comments: W-B71.1 - 2B is located outside of the area of influence.

1. Wetland Zone of Influence Condition Index

	Condition Category																			CI = Total Score/20
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
Wetland Zone of Influence (300 foot area around AA perimeter)	ZOI area vegetation consists of a tree stratum present (diameter at breast height (dbh) > 3 inches) with greater than or equal to 60% tree canopy cover. Areas comprised of stream channels, wetlands (regardless of classification or condition) and lacustrine resources ≥ 10 acres are scored as optimal.					**High Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.			**Low Suboptimal:** ZOI area vegetation consists of a tree stratum (dbh > 3 inches) present, with greater than or equal to 30% and less than 60% tree canopy cover with a maintained understory.		**High Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation with either a shrub layer or a tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover.			**Low Marginal:** ZOI area vegetation consists of non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, areas of hay production, and ponds or open water areas (< 10 acres). If trees are present, tree stratum (dbh > 3 inches) present, with less than 30% tree canopy cover with maintained understory.		**High Poor:** ZOI area vegetation consists of lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, pervious trails, recently seeded and stabilized, or other comparable condition.		**Low Poor:** ZOI area vegetation consists of impervious surfaces; mine spoil lands, denuded surfaces, row crops, active feed lots, impervious trails, or other comparable conditions.	
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

1. Identify all applicable Condition Category areas within the wetland zone of influence using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % ZOI Area in decimal form (0.00) and Score for each category in the blocks below.

Total Score = SUM(%Areas*Scores)

	Condition Category:							
Scoring:	% ZOI Area:	35%	10%	10%	5%	30%	10%	**Total Score:**
	Score:	18	14	9	7	4	1	**0.51**
	Total Sub-score:	6.30	1.40	0.90	0.35	1.20	0.10	**10.25**

Comments: 1 = Roads, parking lots, driveways, and buildings. 4 = Mowed areas and matted areas.

2. Roadbed Presence Index

	Condition Categories																			
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
a. Roadbed Presence (within 0 - 100 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 0-100 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 0-100 foot distance of the AA boundary is greater than 12.	
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

Comments: No roads present within 100 feet of 2B.

	Condition Categories																			CI = Total Score/20
	Optimal					**Suboptimal**					**Marginal**					**Poor**					
b. Roadbed Presence (within 100 - 300 foot Wetland ZOI distance)	**High Optimal:** No roadbeds present within 100 - 300 feet of the AA boundary			**Low Optimal:** Roadbed presence score within 100 - 300 feet of the AA boundary equal to or less than 2.		**High Suboptimal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 2 but equal to or less than 4.			**Low Suboptimal:** Roadbed presence score within 100 - 300 feet AA boundary is greater than to 4 but less than or equal to 6.		**High Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 6 but less than or equal to 8.			**Low Marginal:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 8 but less than or equal to 10.		**High Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than to 10 but less than or equal to 12.			**Low Poor:** Roadbed presence score within 100 - 300 feet of the AA boundary is greater than 12.	
SCORE	**20**	**19**	**18**	**17**	**16**	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

	Condition Score	Weighting	Sub-Scores	
a. Roadbed 0-100:	19	* (0.67)	13	
b. Roadbed 100-300:	12	* (0.33)	4	**0.83**
		Total Score:	**17**	

Comments: Temporary matted road, 2-lane road, and parking lot located between 100 and 300 feet of 2B.

Wetland Condition Assessment Form

RAP 2B

Pennsylvania Wetland Condition Level 2 Rapid Assessment (Document No. 310-2137-002)

Pennsylvania Department of Environmental Protection

For use in all wetland classifications found within Pennsyvlania except those found within the banks of a watercourse.

3. Vegetation Condition Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Invasive Species Presence	**High Optimal:** No invasives present.			**Low Optimal:** <5% of the total AA contains invasive species.		**High Suboptimal:** >5% but less than 10% of the total AA contains invasive species.			**Low Suboptimal:** >10% but less than 20% of the total AA contains invasive species.		**High Marginal:** >20% but less than 30% of the total AA contains invasive species.			**Low Marginal:** >30% but less than 50% of the total AA contains invasive species.		> 50% of the total AA contains invasive species.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments: Tatarian honeysuckle

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Vegetation Stressor Presence	**High Optimal:** No vegetation stressors present within the AA boundary.			**Low Optimal:** One vegetation stressor present within the AA boundary.		**High Suboptimal:** Two vegetation stressors present within the AA boundary.			**Low Suboptimal:** Three vegetation stressors present within the AA boundary.		**High Marginal:** Four vegetation stressors present within the AA boundary.			**Low Marginal:** Five vegetation stressors present within the AA boundary.		Greater than five vegetation stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments:

a. Invasive Sub-Score:	15	**Total Score**	**0.85**
b. Vegetation Sub-Score:	19	**34**	

4. Hydrologic Modification Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Hydrologic Modification Stressor Presence	**High Optimal:** No hydrologic stressors present within the AA boundary.			**Low Optimal:** One hydrologic stressor present within the AA boundary.		**High Suboptimal:** Two hydrologic stressors present within the AA boundary.			**Low Suboptimal:** Three hydrologic stressors present within the AA boundary.		**High Marginal:** Four hydrologic stressors present within the AA boundary.			**Low Marginal:** Five hydrologic stressors present within the AA boundary.		Greater than five hydrologic stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**	**0.95**

5. Sediment Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
Sediment Stressor Presence	**High Optimal:** No sediment stressors present within the AA boundary.			**Low Optimal:** One sediment stressor present within the AA boundary.		**High Suboptimal:** Two sediment stressors present within the AA boundary.			**Low Suboptimal:** Three sediment stressors present within the AA boundary.		**High Marginal:** Four sediment stressors present within the AA boundary.			**Low Marginal:** Five sediment stressors present within the AA boundary.		Greater than five sediment stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/20

Comments:

Score:	**19**	**0.95**

6. Water Quality Stressor Index

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
a. Eutro-phication Stressor Presence	No eutrophication stressors present within the AA boundary.					One eutrophication stressors present within the AA boundary.					Two eutrophication stressors present within the AA boundary.					Three eutrophication stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Comments:

	Condition Category																			
	Optimal					Suboptimal					Marginal					Poor				
b. Contaminant / Toxicity Stressor Presence	No contaminant / toxicity stressors present within the AA boundary.					One contaminant / toxicitystressors present within the AA boundary.					Two contaminant / toxicity stressors present within the AA boundary.					Three contaminant / toxicity stressors present within the AA boundary.				
SCORE	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

CI = Total Score/40

Comments: Garbage present within wetland.

a. Eutrophication Score	19	**Total Score:**	**0.85**
b. Contaminant Score	15	**34**	

Overall Wetland Level 2 Condition Score: Sum all six of the Condition Indexes and divide by 6 to calculate the overall condition score.

Overall Condition Index: **0.82**

APPENDIX D
WETLAND FUNCTION-VALUE EVALUATION FORMS

Wetland Function-Value Evaluation Form

Total area of wetland_____ Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"?_____

Adjacent land use Residential, Commercial, Wooded, Riparian Distance to nearest roadway or other development ~150' avg.

Dominant wetland systems present PEM, PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? 2 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-B71

Latitude 40.0310° Longitude -75.6202°

Prepared by: BPH Date 5/12/2021

Wetland Impact:
Type_____ Area_____

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N_____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	2,7*,15	X	*Perennial streams flow through wetland. The water table has consistently been observed at a depth of ~18 inches in the wetland.
Floodflow Alteration	Y	3,4,5,6,7,9,10,11,13,18	X	Wetland receives and retains floodwater from adjacent streams.
Fish and Shellfish Habitat	N	1,7,8,14,16,17		
Sediment/Toxicant Retention	Y	1,3,4,7,10,14,16	X	Dense vegetation and slow-moving water allow for this function.
Nutrient Removal	Y	3,4,7,8,9,10,11,12,13,14	X	Dense vegetation and slow-moving water allow for this function.
Production Export	N	4,7,8,10,11,12		
Sediment/Shoreline Stabilization	Y	1,3,4,6,7,9,12,13,14,15	X	Wetland borders a persistent watercourse.
Wildlife Habitat	Y	7,13,15,17,19,21	X	Various species of birds, as well as animal tracks, were observed in the wetland.
Recreation	N	2,8,12		
Educational/Scientific Value	N	11,14		
Uniqueness/Heritage	N	1,7,11,15,19,22,30		
Visual Quality/Aesthetics	N	3,4,6		
ES Endangered Species Habitat	N	N/A		
Other				

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland_____ Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"?_____

Adjacent land use Residential, Commercial, Wooded, Riparian Distance to nearest roadway or other development ~150' avg.

Dominant wetland systems present PEM, PFO Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper

How many tributaries contribute to the wetland? 2 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. W-B71

Latitude 40.0310° Longitude -75.6202°

Prepared by: BPH Date 6/9/2021

Wetland Impact:
Type_____ Area_____

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N_____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	2,7*,15	X	*Perennial streams flow through wetland. The water table has consistently been observed at a depth of ~18 inches in the wetland.
Floodflow Alteration	Y	3,4,5,6,7,9,10,11,13,18	X	Wetland receives and retains floodwater from adjacent streams.
Fish and Shellfish Habitat	N	1,7,8,14,16,17		
Sediment/Toxicant Retention	Y	1,3,4,7,10,14,16	X	Dense vegetation and slow-moving water allow for this function.
Nutrient Removal	Y	3,4,7,8,9,10,11,12,13,14	X	Dense vegetation and slow-moving water allow for this function.
Production Export	N	4,7,8,10,11,12		
Sediment/Shoreline Stabilization	Y	1,3,4,6,7,9,12,13,14,15	X	Wetland borders a persistent watercourse.
Wildlife Habitat	Y	7,13,15,17,19,21	X	Various species of birds, as well as animal tracks, were observed in the wetland.
Recreation	N	2,8,12		
Educational/Scientific Value	N	11,14		
Uniqueness/Heritage	N	1,7,11,15,19,22,30		
Visual Quality/Aesthetics	N	3,4,6		
ES Endangered Species Habitat	N	N/A		
Other				

Notes:

* Refer to backup list of numbered considerations.