

Attachment General-1b

Pre-Construction Notification for U.S. Army Corps of Engineers Nationwide Permit 12,
Equitrans Expansion Pipeline Project, Wetzel County, West Virginia

November 25, 2015

Mike Hatten, Chief of Energy Resources
U.S. Army Corps of Engineers
502 Eighth Street
Huntington, WV 25701-2070

RE: Preconstruction Notification Nationwide Permit 12 for the Equitrans Expansion
Pipeline Project, Wetzel County, West Virginia
Project Number 212IC-PB-00176

Dear Mr. Hatten:

On behalf of Equitrans, L.P. (EQT), Tetra Tech Inc. is respectfully submitting a Preconstruction Notification for Nationwide Permit No. 12 for the proposed construction of a gas pipeline interconnect and associated workspaces and access roads.. The proposed project would incur temporary impacts to wetlands and other waters of the U.S. Included within this preconstruction notification package are:

- Project description
- Form 4345
- Wetland Delineation and Waters of the U.S. Report
- USFWS and WVDNR coordination
- Cultural resources notification
- National Wild and Scenic Rivers evaluation
- 401 Water Quality Certification
- Restoration Plan

Equitrans is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC or Commission) Docket No. CP16-13-000 pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Project located in three counties in Pennsylvania (Washington, Allegheny, and Greene) and one county in West Virginia. Equitrans plans to construct approximately 7.87 miles of pipeline (at multiple separate locations), a new compressor station, an interconnect with the proposed Mountain Valley Pipeline, and ancillary facilities. In addition, Equitrans is seeking authorization to abandon an existing compressor station (which will be replaced by a new compressor station) pursuant to Section 7(b) of the Natural Gas Act.

Please find enclosed two (2) copies of the preconstruction notice application package and two (2) compact discs that contain digital copies of the application package. If you have any questions or need additional information, please contact me at (412) 921-8167, or Preston.Smith@tetrattech.com.

Sincerely,



Preston R. Smith
Manager, Wetlands and Ecological Services
Tetra Tech Inc.

Attachments

-Preconstruction Notification

CC: Stephanie Frazier
Heather Trexler
File 212IC-PB-00176

Pre-Construction Notification for
U.S. Army Corps of Engineers
Nationwide Permit 12
Equitrans Expansion Pipeline Project
Wetzel County, West Virginia

Prepared By:
Tetra Tech, Inc.
For
Equitrans, LP

625 Liberty Avenue Suite 1700
Pittsburgh, Pennsylvania



November 2015

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SECTION 1

PRE-CONSTRUCTION NOTIFICATION

**PRE-CONSTRUCTION NOTIFICATION
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

This Pre-Construction Notification (PCN) was prepared on behalf of Equitrans, L.P. (EQT) for the proposed Equitrans Expansion Pipeline Project. Information required for the PCN under the Nationwide Permit 12 is included below:

Project Contact Information

Stephanie Frazier
Equitrans, L.P.
625 Liberty Avenue, Suite 1700
Pittsburgh, Pennsylvania 15222

Project Location

The West Virginia portion of the Equitrans Expansion Pipeline Project is located on the Big Run quadrangle of the 7.5 USGS map series. The project is located in Grant District, Wetzel County West Virginia, near Mobley (Figure 1). The project will add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tap on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. It will also connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley Pipeline.

Project Summary

The proposed portion of the project in WV is located on Big Run quadrangle of the 7.5 USGS map series. The project is located in Grant District, Wetzel County West Virginia, near Mobley. This portion of the project will add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tap on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. Also included with this portion of the project is the H-319 pipeline which is a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley. Construction activities will consist of clearing and grubbing, installation of new access roads, construction of permanent pads, installation of pipeline, and site restoration activities.

The Webster Interconnect will consist of a permanent gravel pad approximately 255 feet in length by 130 feet in width. Two new access drives will be constructed to access the interconnect. No streams or wetlands will be crossed or impacted by this facility. A permanent road will be constructed as part of the Mountain Valley project which will include a permanent stream crossing.

A temporary workspace area is proposed south of the Webster interconnect. This workspace is approximately 610 feet in length by 110 feet in width. Stream S-A2A runs along the eastern limit of this workspace and BMPs will be utilized to protect the stream. Wetland Z2 is located at the south eastern portion of this workspace and BMPs will be utilized to protect the wetland. No stream or wetland impacts are proposed for this workspace.

The H-319 pipeline will utilize a 100-ft construction right-of-way and a 50-ft permanent right-of-way. Two wetlands and one stream will be crossed by the pipeline.

The Mobley Tap will consist of a permanent gravel pad approximately 170 feet in length by 90 feet in width. No streams or wetlands will be crossed or impacted by this facility.

A temporary workspace area is proposed east of the Mobley Tap. Stream S-J63 runs through this workspace. Timber mats will be used to temporarily cross this stream and BMPs will be used to protect the stream.

The Equitrans Expansion Pipeline Project will temporarily impact 2 streams and 2 wetlands. The footprint of the pipeline right-of-way will be minimized when crossing all waters of the U.S., and the proposed project would not incur any permanent impacts to wetlands or waters of the U.S. Erosion and sediment control BMPs will be used for the protection of water resources.

As required under NWP 12, the project included a Wetland Delineation and Waters of the U.S. Survey (Section 3), Threatened and Endangered Species Consultation (Section 4), and Cultural Resource Screening (Section 5).

SECTION 2

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

ENG FORM 4345

U.S. ARMY CORPS OF ENGINEERS
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved -
OMB No. 0710-0003
Expires: 30-SEPTEMBER-2015

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Stephanie Middle - Last - Frazier Company - Equitrans, LP E-mail Address - SFrazier@eqt.com		8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Preston Middle - Last - Smith Company - Tetra Tech, Inc. E-mail Address - Preston.Smith@tetrattech.com	
6. APPLICANT'S ADDRESS: Address- 625 Liberty Avenue Suite 1700 City - Pittsburgh State - PA Zip - 15222 Country - US		9. AGENT'S ADDRESS: Address- 661 Anderson Dr. Foster Plaza 7 City - Pittsburgh State - PA Zip - 15220 Country - US	
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax		10. AGENTS PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 412-921-8167	

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Preston Smith to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.


SIGNATURE OF APPLICANT

Nov 23, 2015
DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) Equitrans Expansion Pipeline Project			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable) Address	
15. LOCATION OF PROJECT Latitude: °N 39.553262 Longitude: °W -80.544671		City - State - Zip -	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality Section - Township - Range -			

17. DIRECTIONS TO THE SITE

From I-79 S take exit 136 toward Co Rd 31/2/Stoney Road. Turn left onto Fairmont Gateway Connector N. At traffic circle, take the 2nd exit and stay on Fairmont Gateway Connector N. Continue onto Jefferson St, go 0.1 miles and turn left onto Jackson St. Turn right onto US-250 N/Cleveland Ave, go 12.9 miles. Turn left onto High St, slight right to stay on High St. Continue straight onto Marshall St. Turn left onto Buffalo St, go 5.7 miles. Turn left onto Brink Rd, go 1.3 miles. Slight left to stay on Brink Rd, go 3.2 miles. Continue straight onto N Fork Rd, go 3.3 miles. Turn left onto Shuman Hill.

18. Nature of Activity (Description of project, include all features)

The project will add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tap on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. Also included with this portion of the project is the H-319 pipeline which is a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley. Construction activities will consist of clearing and grubbing, installation of new access roads, construction of permanent pads, installation of pipeline, and site restoration activities.

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19. Project Purpose (Describe the reason or purpose of the project, see instructions)

To add the Webster Interconnect with Mountain Valley Pipeline LLC's (Mountain Valley) proposed pipeline and add the Mobley Tab on Equitrans' existing H-302 pipeline that also connects with Mountain Valley. Also to connect the existing Equitrans H-306 pipeline to the Webster Interconnect with Mountain Valley.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards

NOT APPLICABLE

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres NOT APPLICABLE
or

Linear Feet NOT APPLICABLE

23. Description of Avoidance, Minimization, and Compensation (see instructions)

FOOTPRINT OF THE PIPELINE WILL BE MINIMIZED WHEN CROSSING WATERS OF THE U.S. NO PERMANENT IMPACTS WILL OCCUR TO WATERS OF THE U.S.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- See attached Table 3.

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

SECTION 3

WETLAND DELINEATION AND WATERS OF THE U.S. SURVEY

**WETLAND DELINEATION AND WATERS OF THE U.S. SURVEY
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

A wetland delineation and waters of the U.S. survey was completed for the Equitrans Expansion Pipeline Project. The study area was limited to the proposed pipeline corridor and the limit of disturbance of proposed workspaces and access roads. The findings of the West Virginia portion of the wetland delineation are summarized below and the complete report, including both the West Virginia and Pennsylvania portions of the project is presented in Appendix A.

FINDINGS

The findings of the West Virginia portion of the wetland delineation and waters of the U.S. survey are summarized in Table 1 and Table 2 and presented on Figures 3-1 to 3-2. Four wetlands and 4 streams were identified within or immediately adjacent to the proposed project limit of disturbance.

Wetland and Stream Impacts

The Equitrans Expansion Pipeline Project will involve the temporary impact of 2 streams and 2 wetlands. The footprint of the pipeline right-of-way will be minimized when crossing all waters of the U.S., and the proposed project would not incur any permanent impacts to wetlands or waters of the U.S. Erosion and sediment control BMPs will be used for the protection of water resources.

SECTION 4

UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) AND WEST VIRGINIA DIVISION OF NATURAL RESOURCES (WVDNR) COORDINATION

**UNITED STATES FISH & WILDLIFE SERVICE AND WEST VIRGINIA DIVISION OF NATURAL RESOURCES
COORDINATION
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

Tetra Tech utilized the “Known and Potential Distribution of Federally Listed Endangered and Threatened Species and Proposed Species in West Virginia” list (Appendix B) and “Counties in Northern Long-eared Bat Range” list provided by the U.S. Fish and Wildlife Service’s (FWS) web sites at:

http://www.fws.gov/westvirginiafieldoffice/PDF/KnownandPotentialDistributionofFederally_Mar42013.pdf.

<http://www.fws.gov/midwest/endangered/mammals/nleb/documents/NLEBRangeCountyList043015.xls>

Tetra Tech also utilized the list in Appendix A of the 2013 West Virginia Mussel Survey Protocol to determine if any streams within the Project area had State protected mussel species.

FINDINGS

Two federally listed endangered species (Indiana bat – *Myotis sodalis*, and northern long-eared bat - *Myotis septentrionalis*) were identified on the “Known and Potential Distribution of Federally Listed Endangered and Threatened Species and Proposed Species in West Virginia” list (Appendix B) or “Counties in Northern Long-eared Bat Range” list provided by the USFWS for Wetzel County. No streams within the Project area are listed by the WVDNR as containing protected mussel species.

CONSULTATION RESULTS

A coordination letter was submitted to the USFWS West Virginia Field Office on April 27, 2015 (Appendix C). A data request was also sent to the WVDNR Natural Heritage Program for information they may have regarding rare, threatened and endangered species (RTE) and unique habitats in the vicinity of the Project. In a response letter received May 12, 2015 (Appendix D), the WVDNR determined that there are no records of RTE in the vicinity of the Project. Consultation with the USFWS West Virginia Field Office is ongoing.

SECTION 5

CULTURAL RESOURCES NOTIFICATION

**CULTURAL RESOURCES NOTIFICATION
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

Tetra Tech initiated formal consultation with the WVDCH April 27, 2015. A copy of the consultation letter including a project description is provided in Appendix E. Comments from WVDCH were received June 2, 2015 stating that the WVDCH has no immediate concerns regarding historic properties that could be potentially affected by the proposed project. EQT agrees to complete the Section 106 consultation process by following the direction of the WVDCH.

SECTION 6

NATIONAL WILD AND SCENIC RIVERS EVALUATION

**NATIONAL WILD AND SCENIC RIVERS EVALUATION
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

No National Wild and Scenic Rivers occur within the project area, and therefore, no Wild and Scenic Rivers will be impacted by this project.

SECTION 7

401 WATER QUALITY CERTIFICATION

**401 WATER QUALITY CERTIFICATION
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

A wetland delineation and waters of the U.S. survey was completed for the proposed Equitrans Expansion Pipeline Project and within the limit of disturbance of proposed pipeline and workspaces (study area). The findings are summarized below and the complete report is presented in Appendix A. A total of 4 wetlands and 4 streams were identified within the Wetzel County portion of the Equitrans Expansion Pipeline Project study area. The Equitrans Expansion Pipeline Project will involve the temporary impact of 2 streams and 2 wetlands. The footprint of the pipeline right-of-way will be minimized when crossing all waters of the U.S., and the proposed project would not incur any permanent impacts to wetlands or waters of the U.S. Erosion and sediment control BMPs will be used for the protection of water resources.

EQT will follow an Erosion and Sediment Control Plan (E&SCP) that been prepared in accordance with the 2006, West Virginia Department of Environmental Protection (WVDEP) Best Management Protection (BMP) Manual and the 2012 WVDEP E&SC Field Oil and Gas Manual.

EQT will be applying for a WVDEP General Water Pollution Control Permit.

General notes

1. All trapped sediments will be disposed on an upland area where there is no chance of entering nearby streams. Silt and sediment removed from BMPs shall be disposed outside of wetlands, floodplains or drainage swales and immediately stabilized or placed in topsoil stockpiles.
2. All delineated wetlands subject to sediment laden runoff shall be protected by placing compost filter sock uphill and outside of the wetland boundary.
3. Wetland and stream crossings shall be done utilizing timber mats.

SECTION 8
RESTORATION PLAN

**RESTORATION PLAN
FOR THE PROPOSED
EQUITRANS EXPANSION PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA**

Following completion of pipeline installation and trench backfilling, the area shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. Temporary equipment travel areas must be scarified during site restoration. The right of way will be seeded per the site restoration schedule provided and mulched with straw. The right of way will be maintained in accordance with accepted industry standard practices. If the pipeline is constructed through lawns, gardens, and other improved property, a minimum of such areas shall be disturbed and all improved property and grounds shall be restored to a condition equivalent of that existing prior to construction including the replacement and/or restoration of lawns, shrubbery, bushes, trees, sidewalks, fences, ditches and drainage facilities, driveways, septic tanks, septic tank drainage fields, and any other structures or facilities encountered during construction. As a result of restoring all disturbed areas to the pre-construction conditions, there will be no increase in runoff rate or volume.

TABLES

Table 1 - Wetland Summary

Wetland ID	Wetland Classification	Location		USACE Water Type	Crossing Method	Size * (acres)	Area of Impact (acres)	Fill Material (cubic yards)	Pipeline Length Through Wetland (feet)
		Latitude	Longitude						
W-Z3A	PEM	39.552937	-80.544539	RPWWN	Open Cut	0.1226	0.055	3.906	11.719
W-Z3B	PEM	39.552937	-80.544539	RPWWN	Open Cut	0.0546	0.114	9.105	27.316
W-Z2A	PEM	39.550181	-80.544762	RPWWWD	NI	0.0924	NI	NI	NI
W-Z1	PEM	39.562971	-80.543704	RPWWWD	NI	0.0040	NI	NI	NI
Total						0.2737 acres	0.169 acres	13.012 cubic yards	39.036 feet

NI - No Impact
All impacts are temporary.

Table 2 – Waterbody Summary

Stream ID	Waterbody	Stream Classification	USACE Water Type	Crossing Location		Crossing Method	OHWM Width at Crossing (feet)	Linear Feet of Discharge Below OHWM**	Crossing Area (square feet)	Fill Material (cubic yards)	Surface Area Filled (acres)	Length of Impact (feet)
				Latitude	Longitude							
S-Z1	Mobley Run	Perennial	RPW	39.562907	-80.543684	NI	NI	NI	NI	NI	NI	NI
S-J63	UNT to Mobley Run	Perennial	RPW	39.562554	-80.543564	Timber Mat	7.0	0*	0*	0*	0*	694
S-A3A	UNT to North Fork Fishing Creek	Ephemeral	NRPW	39.551893	-80.54509	Timber Mat	5.0	0*	0*	0*	0*	1262
S-A2A	UNT to North Fork Fishing Creek	Perennial	RPW	39.552673	-80.544944	Open Cut	15.0	5	75	14	0.0017	1511
							27	-	75	14	0.00172	3467
							Feet		Square Feet	Cubic Yards	Acres	Feet

All impacts are temporary.

*Stream will be crossed by temporary road using timber mat. No fill or discharge material will be placed in the stream.

** Linear feet of discharge below OHWM represents the proposed crossing's upstream to downstream extent below the OHWM which is equal to the width of the proposed crossing trench (5 ft.)

Table 3 – List of Affected Landowners

Landowner Name	Street Address	City	State	Zip
SHIRLEY TITUS	CO RT 80	SMITHFIELD	WV	26437
GREGORY PAUL WORTHY	CO RT 15-3	BIG RUN	WV	26561
EARL R & JUANITA L CLARK	CO RT 15-4	BIG RUN	WV	26561

FIGURES



Equitrans Expansion Project



1:24,000

0 2,000 4,000 Feet

EQUITRANS™

**Attachment #: 1-4
USGS Project Location Map
Wetzel County, West Virginia**

October 2015

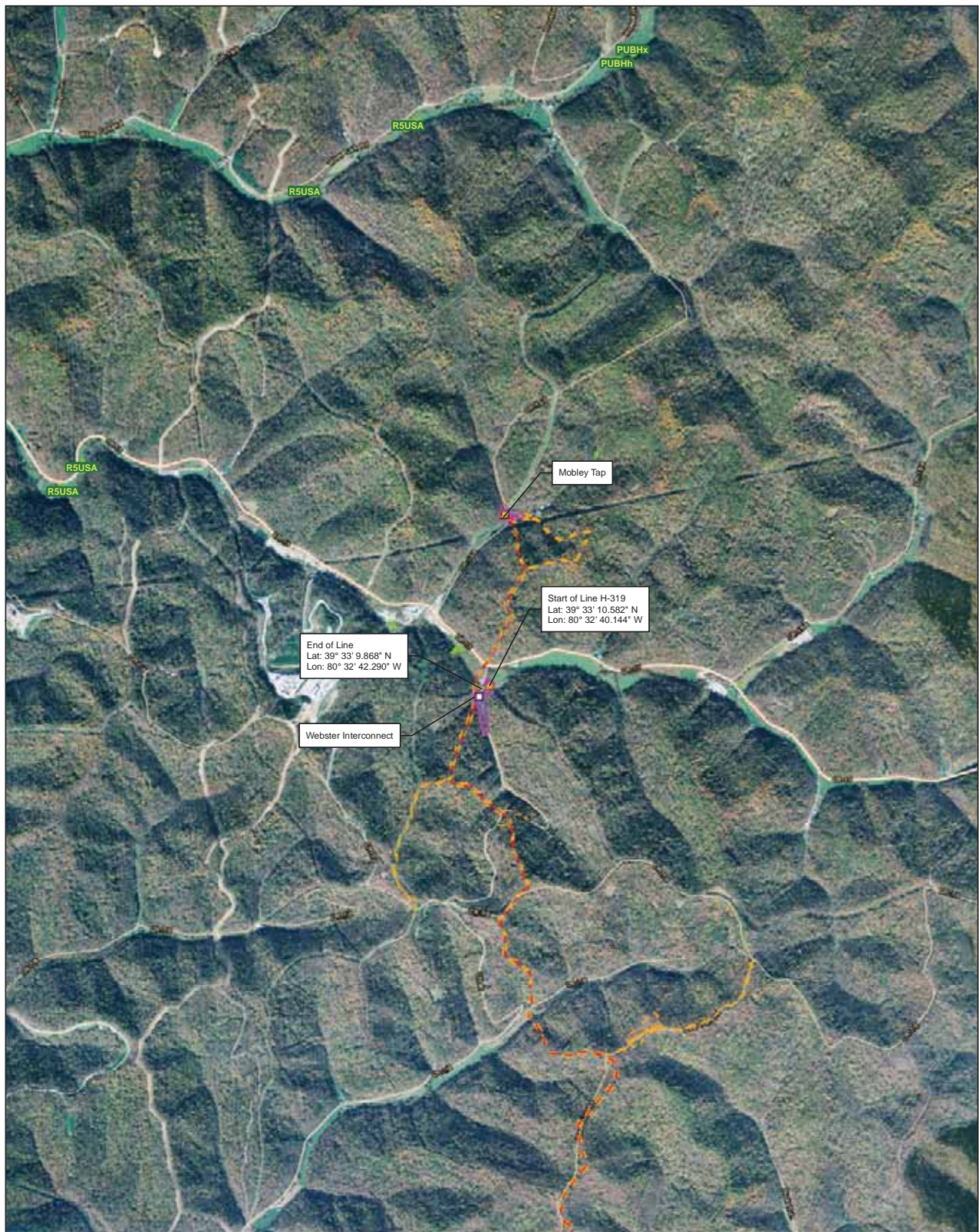
Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area
- MVP - Alignment Centerline
- MVP - Perment ROW



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Equitrans Expansion Project



1:24,000

0 2,000 4,000 Feet

EQUITRANSSM

Attachment #: 3-4 NWI Wetlands and Codes Map Wetzel County, West Virginia

October 2015

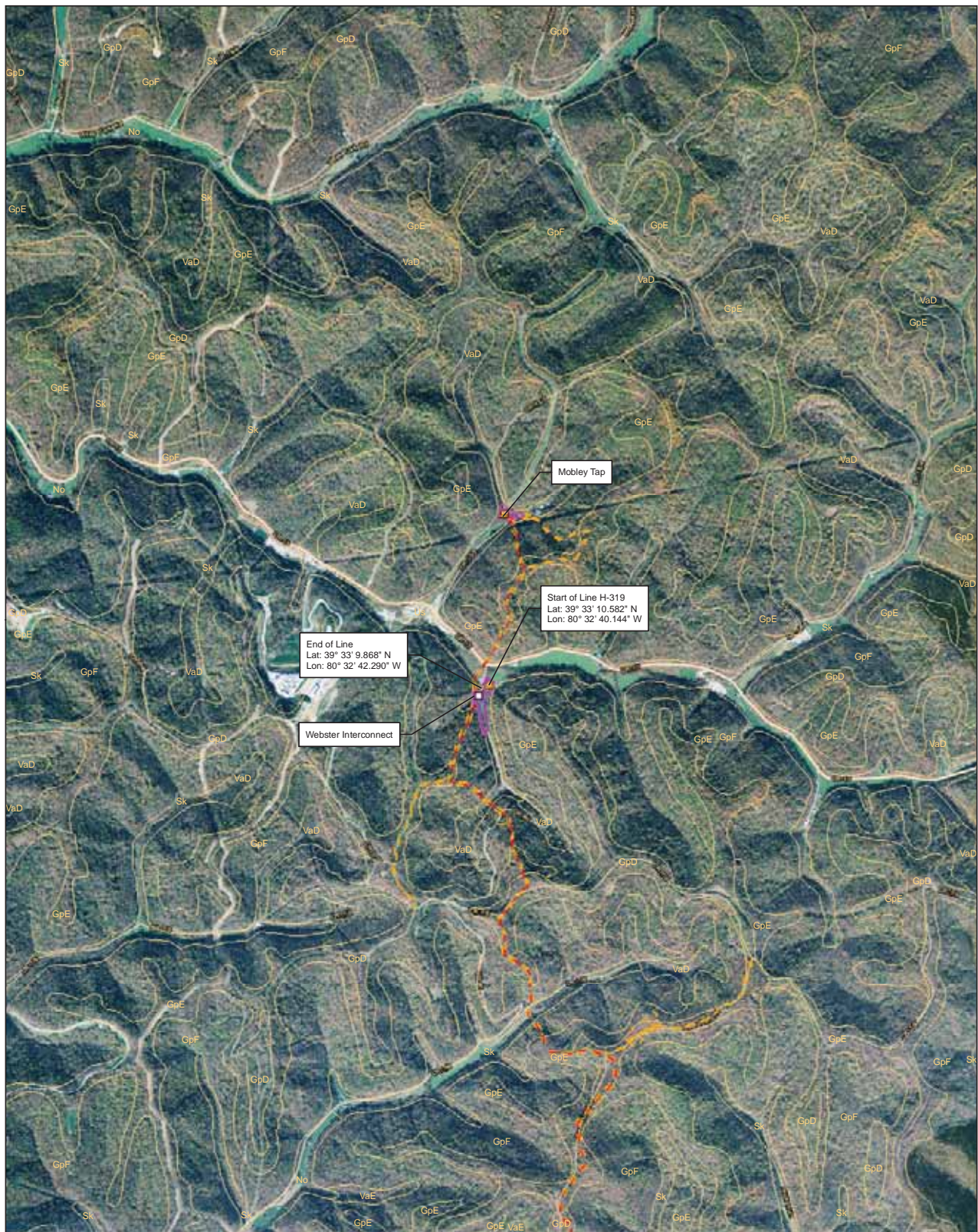
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area
- NWI Wetlands and Codes
- MVP - Alignment Centerline
- MVP - Perment ROW



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Equitrans Expansion Project



1:24,000

0 2,000 4,000 Feet

EQUITRANS™

Attachment #: 2-4 NRCS Soils and Codes Map Wetzel County, West Virginia

October 2015

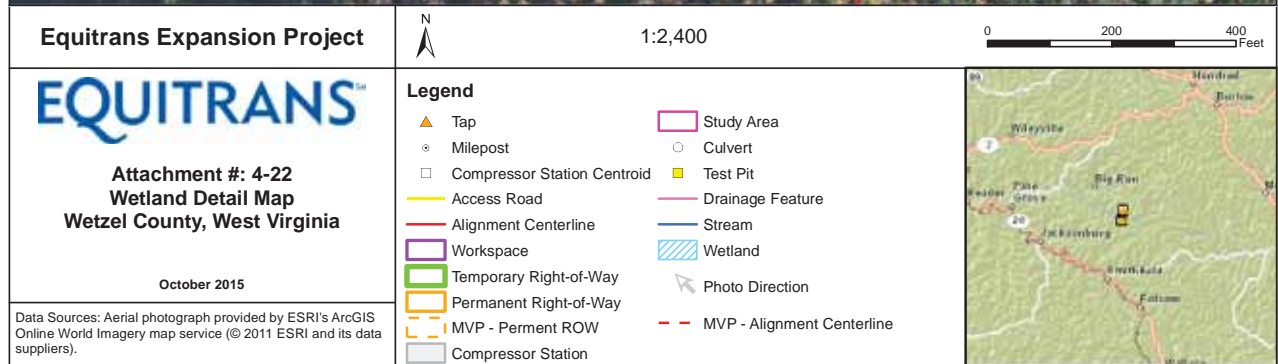
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

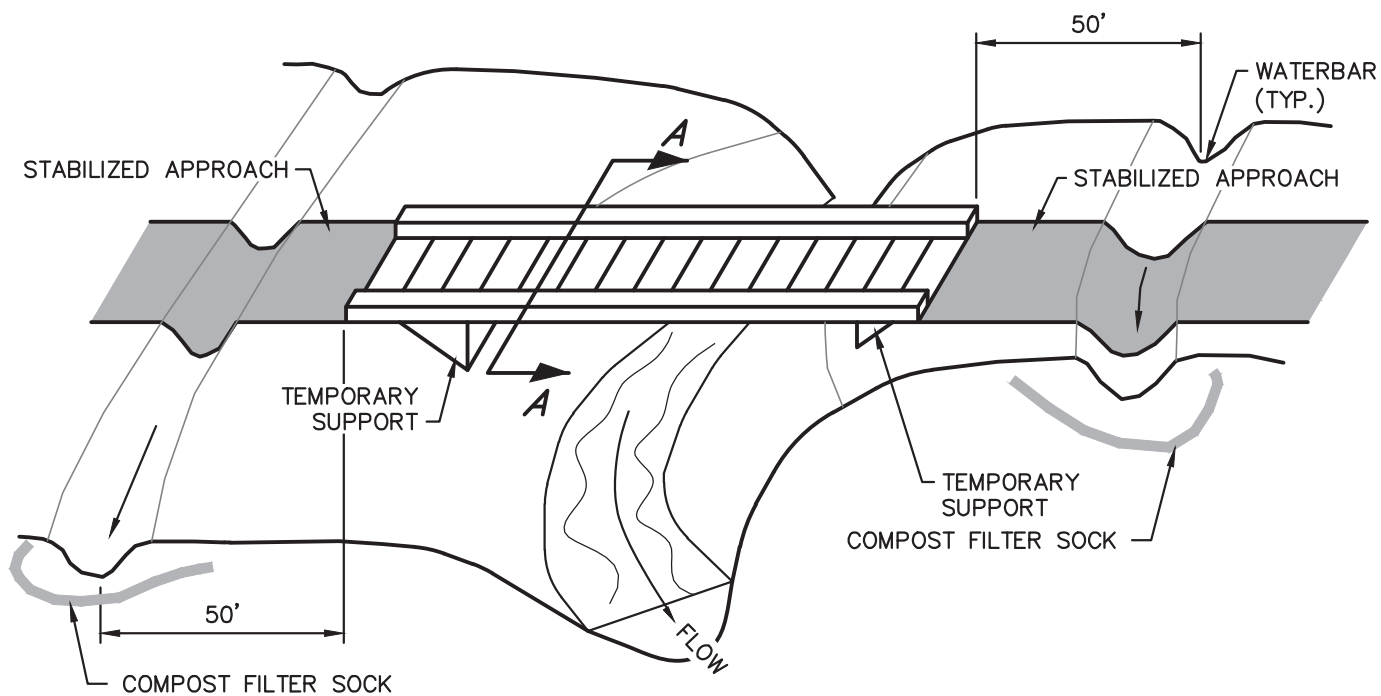
- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area
- NRCS Soil & Codes
- MVP - Alignment Centerline
- MVP - Perment ROW



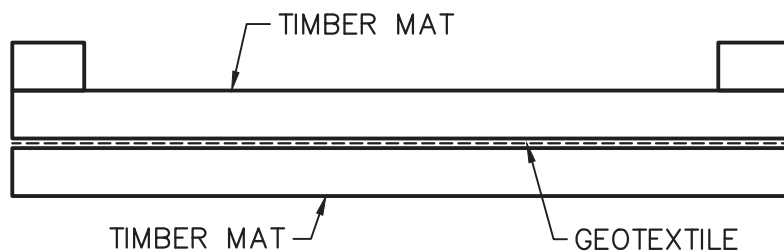
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DRAWINGS



TEMPORARY STREAM CROSSING
NOT TO SCALE



SECTION A-A
NOT TO SCALE

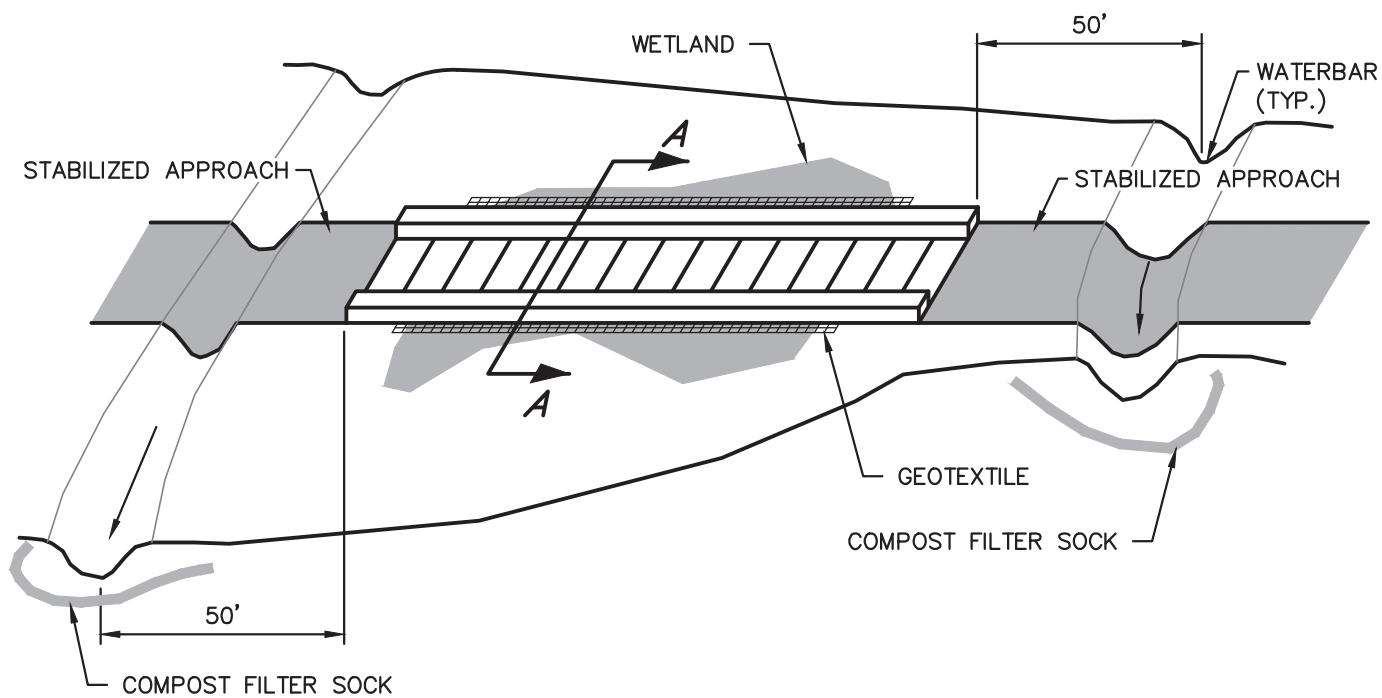


TETRA TECH

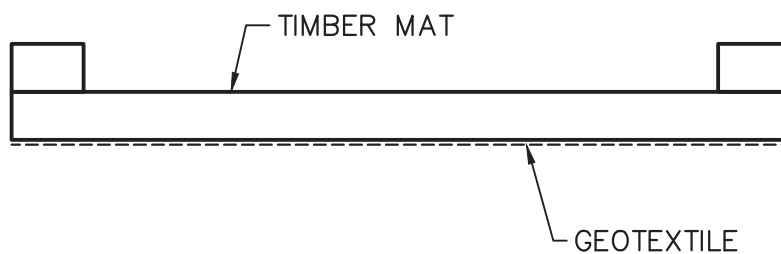
WWW.TETRATECH.COM

661 ANDERSEN DRIVE – FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

TEMPORARY STREAM CROSSING



TEMPORARY STREAM CROSSING
NOT TO SCALE



SECTION A-A
NOT TO SCALE



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TEMPORARY WETLAND CROSSING

APPENDIX A

WETLAND DELINEATION AND WATERS OF THE U.S. SURVEY REPORT

Aquatic Resource Report for the
Equitrans Expansion Pipeline Project
Allegheny, Washington, and Greene Counties,
Pennsylvania,
and Wetzel County, West Virginia



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ACRONYMS

1987 Manual	USACE of Engineers Wetland Delineation Manual
USACE Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region
EQT Gathering	EQT Gathering, LLC
Equitrans	Equitrans, L.P.
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GIS	Geographic Information Systems
GPS	Global Positioning System
MVP	Mountain Valley Pipeline
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
PEM	Palustrine Emergent
PFO	Palustrine Forested
ROW	Right-of-way
SF	Square Feet
UNT	Unnamed Tributary
UPL	Upland
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WWF	Warm Water Fishes

1.0 INTRODUCTION

This Aquatic Resource Report for the proposed Equitrans Expansion Project was prepared by Tetra Tech, Inc. on behalf of Equitrans, L.P. (Equitrans). Areas were investigated for the presence of wetlands on site using methodologies enumerated in the *United States Army Corps of Engineers (USACE) Wetland Delineation Manual* (Environmental Laboratory, 1987) (*1987 Manual*), as amended by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*, April 2012 (*USACE Regional Supplement*).

The subject of this report is a proposed project involving multiple proposed natural gas pipeline right-of-ways (ROW), associated access roads, above ground facilities and workspaces located in Allegheny, Greene and Washington Counties, Pennsylvania. The purpose of this proposed project is to add capacity to bring natural gas from the central Appalachian Basin into the interstate pipeline grid or existing Equitrans markets.

1.1 Washington/Allegheny Counties, PA (H-318 pipeline)

The portion of the project in Allegheny and Washington Counties (the H-318 pipeline) will include the installation of 1, 20" natural gas transmission pipeline, approximately 4.6 miles long, within a 100'-wide construction ROW and a 50'-wide permanent ROW. This portion of the project also involves the installation of permanent aboveground facilities including the Applegate and Hartson Launcher/Receiver Facilities. The H-318 pipeline will move gas from the EQT Gathering, LLC (EQT Gathering) Applegate Gathering System, in Forward Township, Allegheny County, to Equitrans' existing H-148 pipeline, in Union Township, Washington County, for delivery south.

The proposed project area in Allegheny and Washington County would require crossing the Monongahela River. The Monongahela River and its associated UNTs are listed as Warm Water Fishes (WWF), as designated in Chapter 93 of Title 25 of the PA Code. The proposed project would also require crossing Lobbs Run, Bunola Run, Kelly Run and several UNTs to each. These water features and the associated UNTs are listed as Warm Water Fishes (WWF), as designated in Chapter 93 of Title 25 of the PA Code.

1.2 Greene County, PA (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

The portion of the project in Greene County will include the installation four pipelines and new above ground facilities. The H-316 natural gas pipeline will be a 30" natural gas transmission pipeline, approximately 2.9 miles long, within a 125'-wide construction ROW and 50'-wide

permanent ROW. The H-316 pipeline will move gas from the proposed Redhook Compressor Station to Equitrans' existing H-302 pipeline for delivery to Texas Eastern infrastructure, or south on Equitrans' existing H-302 pipeline to the Mountain Valley Pipeline (MVP). The proposed project in Greene County also involves the installation of three shorter pipelines: the M-80, the H-158, and the H-305 pipelines. Each of these proposed pipelines will be located within a 100'-wide construction ROW and a 50'-wide permanent ROW. The M-80 pipeline is an existing 6" pipeline to the Pratt Compressor Station that will be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-158 pipeline is an existing 12" pipeline to the Pratt Compressor Station that will be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-305 pipeline is a proposed 24" pipeline extension, approximately 540' in length, that will move gas from the Redhook Compressor Station to Equitrans' existing H-305 pipeline located at the existing Braden Run Interconnect with Texas Eastern. New above ground facilities for this portion of the project include the Redhook Compressor Station and the H-302 tie-in. The pipeline projects spans Jefferson and Morgan Townships, Greene County, PA.

The project area in Greene County would require crossing South Fork Tenmile Creek and several UNTs to it. The South Fork Tenmile Creek and its associated UNTs are listed as WWF, as designated in Chapter 93 of Title 25 of the PA Code. The proposed project would also require crossing Ruff Creek and several UNTs. These water features and the associated UNTs are listed as WWF, as designated in Chapter 93 of Title 25 of the PA Code.

1.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

In Wetzel County, West Virginia, the project involves the installation of the Webster Interconnect, Mobley Tap and the H-319 pipeline, a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the proposed Webster Interconnect with MVP.

The project area in Wetzel County, West Virginia is located within the Mobley Run and North Fork Fishing Creek watersheds. UNT to North Fork Fishing Creek will be crossed by this project.

The content of this report presents the results of wetland delineation and stream identification activities completed for the pipeline ROW, associated access roads, above ground facilities and workspaces for the proposed project.

2.0 METHODOLOGY

USACE requires the use of the procedures enumerated in the *1987 Manual* (Environmental Laboratory, 1987) and the *USACE Regional Supplement* (Environmental Laboratory, 2012) for making jurisdictional determinations. According to the *1987 Manual*, an area is defined as a wetland if, under normal circumstances, it meets all three of the following criteria:

1. Predominance of hydrophytic vegetation (plants adapted for life in saturated soil conditions);
2. Hydric soils (soils formed under water, or in saturated conditions); and
3. Wetland hydrology (presence of inundated or saturated soils at some time during the growing season).

Wetlands identified in the field were classified in accordance with the U.S. Fish and Wildlife Service's (USFWS) *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979), *A Hydrogeomorphic Classification for Wetlands* (Brinson 1993) and USACE Waters Type. Dominant vegetation was identified and classified according to The National Wetland Plant List: 2014 Update of Wetland Ratings (Lichvar, 2014). Plant classifications are as follows:

- Obligate (OBL) - essentially always found in wetlands; estimated probability >99%
- Facultative Wetland (FACW) - usually found in wetlands; estimated probability 67%-99%
- Facultative (FAC) - equally likely to occur in wetlands and non-wetlands; estimated probability 34%-66%
- Facultative Upland (FACU) - usually occurs in non-wetlands; estimated probability 1%-33%
- Upland (UPL) - essentially always found in non-wetlands; estimated probability >99%

The field investigations for the proposed Project were performed during numerous field visits: June 9th 2015, July 8th - 12th 2015, and October 8th 2015. The study area was focused on the proposed pipeline corridor, proposed access roads, and specific areas identified for proposed workspaces, ancillary sites, and compressor stations. Study areas were investigated for the presence of potential wetlands and streams. The final study area is illustrated on the project mapping (Figures).

Preliminary site reconnaissance of the study area was conducted through a review of available Geographic Information Systems (GIS) resources. Existing information reviewed included the following:

- U.S. Geological Survey (USGS) topographic mapping (Figure 1-1 to 1-4)

- Natural Resources Conservation Service (NRCS) National Cooperative Soil Survey (Figure 2-1 to 2-4)
- USFWS National Wetland Inventory (NWI) Mapping (Figure 3-1 to 3-4)

Wetland delineation in the field involved establishment of the wetland/upland margin with flagging hung at intervals that accurately depicted the outline of the boundary. The individual flags were then located using a Global Positioning System (GPS) receiver with sub-meter accuracy and later added to the project area mapping. Wetland flagging was limited to the bounds of the investigated study area and wetlands are shown as closed or partially closed systems on the detail map (Figure 4).

All wetlands and streams identified were given unique identification names (i.e. Wetland ID, Stream ID). For streams, the National Hydrography Dataset (NHD) mapped stream names (USGS 2015) are also provided in the results. For identified streams without a NHD name, the identified stream was given the name, "Unidentified Tributary (UNT)", of the first named receiving waterbody.

Data concerning soils, hydrology, and vegetation were collected and recorded on USACE Wetland Determination Data Forms at wetlands and at upland point locations associated with each wetland. USACE Wetland Determination Forms and stream data sheets detailing stream characteristics are provided in Appendix A. Photographs depicting wetland topography and vegetation are included in Appendix B. Appendix C contains photographs of streams identified within the study area. Appendix D provides a list of hydric soils known to occur within the counties of the study area. Resumes of Project field personnel, summarizing professional experience, qualifications, and education, are included in Appendix E.

3.0 RESULTS

Thirty-three areas within the Equitrans Expansion Project study area met the wetland criteria outlined in the *1987 Manual*, as amended by the *USACE Regional Supplement*. Additionally, 37 streams were identified within the evaluated study area. A narrative summary of field data collected within the study area for this Project is presented below. The detail maps (Figure 4-1 to 4-22) illustrate the wetland and watercourse locations in relation to the proposed ROW.

3.1 Wetland Identification and Delineation

This section is a summary of the wetland delineation for the individual projects within the Equitrans Expansion Project. USACE wetland determination data forms detailing the existing vegetation, soil characteristics, and hydrology were prepared for each wetland and its associated upland point (Appendix A).

3.1.1 Washington/Allegheny Counties (H-318 pipeline)

Based on field evidence and best professional judgment, it was determined that 13 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*.

A review of the NRCS Soil Survey and hydric soil list indicated that seven soils mapped within the Allegheny and Washington county study area are classified as hydric or as containing hydric components (Figure 2-1 to 2-4): Cavode silt loam, 2 to 8 percent slopes (CaB), Cavode silt loam, 8 to 15 percent slopes (CaC), Fluvaquents, loamy (Fa), Glenford silt loam 3 to 8 percent slopes (GdB), Udorthents, smoothed gently sloping (UdB), Udorthents, smoothed, moderately steep (UdD), and Urban land-Rainsboro complex, gently sloping (URB).

No NWI wetlands are mapped within the study area (Figure 3-1 to 3-4).

Wetland BB1

Wetland BB1 (W-BB1) is a palustrine emergent (PEM) wetland 867-square foot (SF) in size located in the northwestern portion of the study area (Figure 4-1). Indicators of wetland hydrology include surface water, algal mat or crust, and crayfish burrows. Dominant vegetation consisted of curly dock (*Rumex crispus*), Pennsylvania smartweed (*Polygonum pennsylvanicum*), and Kentucky blue grass (*Poa pratensis*). The soil between 0-14 inches exhibited a low-chroma matrix color (2.5Y 3/2) with a clay loam texture. The soil between 14-18 inches exhibited a low-chroma matrix color (10YR 4/2) with a clay loam texture.

Wetland BB3

Wetland BB3 (W-BB3) is a PEM wetland 2,993-SF in size located in the northwestern portion of the study area (Figure 4-2). Indicators of wetland hydrology include surface water, saturation, hydrogen sulfide odor, crayfish burrows, geomorphic position, and FAC neutral test. Dominant vegetation consisted of common fox sedge (*Carex vulpinoidea*), dark-green bulrush (*Scirpus atrovirens*), short-awn meadow-foxtail grass (*Alopecurus aequalis*), and spreading bent grass (*Agrostis stolonifera*). The soil between 0-12 inches exhibited a low-chroma matrix color (7.5Y 3/2) with a clay loam texture. The soil between 12-18 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture.

Wetland BB2

Wetland BB2 (W-BB2) is a PEM wetland 5,961-SF in size located in the northwestern portion of the study area (Figure 4-2). Indicators of wetland hydrology include surface water, a high water table, saturation, hydrogen sulfide odor, drainage patterns, geomorphic position, and FAC neutral test. Dominant vegetation consisted of curly dock, common fox sedge, and dark-green bulrush. The soil between 0-1 inches exhibited a low-chroma matrix color (2.5Y 3/1) with a muck texture. The soil between 1-5 inches exhibited a low-chroma matrix color (2.5Y 3/1) with a clay loam texture.

Wetland BB13

Wetland BB13 (W-BB13) is a palustrine forested (PFO) wetland 11,621-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include surface water, saturation, water stained leaves, aquatic fauna, crayfish burrows, and geomorphic position. Dominant vegetation consisted of ashleaf maple (*Acer negundo*), red maple (*Acer rubrum*), Chinese privet (*Ligustrum sinense*), Canadian clearweed (*Pilea pumila*), may-apple (*Podophyllum peltatum*), stinging nettle (*Urtica dioica*), Japanese stilt grass (*Microstegium vimineum*), pale touch-me-not (*Impatiens pallida*), and poison ivy (*Toxicodendron radicans*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture. The soil between 3-16 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam texture.

Wetland BB11

Wetland BB11 (W-BB11) is a PFO wetland 2,493-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include water marks and water stained leaves. Dominant vegetation consisted of red maple, American beech (*Fagus grandifolia*), an unidentified honeysuckle species (*Lonicera* sp.), and Canadian clearweed. The soil between 0-1 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam muck texture. The soil between 1-18 inches exhibited a 10YR 4/3 matrix color with a clay loam texture.

Wetland BB10

Wetland BB10 (W-BB10) is a PFO wetland 1,016-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include surface water, water marks, water stained leaves, and crayfish burrows. Dominant vegetation consisted of red maple, American beech, an unidentified honeysuckle species, Japanese stilt grass, Canadian clearweed, deer-tongue rosette grass (*Dichanthelium clandestinum*), and Pennsylvania blackberry (*Rubus pensilvanicus*). The soil between 0-6 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 6-18 inches exhibited a 10YR 5/4 matrix color with a clay loam texture.

Wetland BB9

Wetland BB9 (W-BB9) is a PFO wetland 709-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include surface water, water marks, water stained leaves, aquatic fauna, crayfish burrows, and microtopographic relief. Dominant vegetation consisted of red maple, American beech, an unidentified honeysuckle species, may-apple (*Podophyllum peltatum*), sensitive fern (*Onoclea sensibilis*), and Japanese stilt grass. The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 4/1) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 8-18 inches exhibited a 10YR 5/6 matrix color with a loamy clay texture.

Wetland BB8

Wetland BB8 (W-BB8) is a PFO wetland 1,619-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include water stained leaves, hydrogen sulfide odor, and FAC neutral test. Dominant vegetation consisted of red maple, an unidentified honeysuckle species, Canadian clearweed, and Pennsylvania blackberry. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a clay loam texture. The soil between 8-16 inches exhibited a 10YR 5/6 matrix color with a clay loam texture.

Wetland BB7

Wetland BB7 (W-BB7) is a PEM wetland 94,073-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include surface water, saturation, hydrogen sulfide odor, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of spreading bent (*Agrostis stolonifera*), stalk-grain sedge (*Carex stipata*), lesser poverty rush (*Juncus tenuis*), poison ivy, and Pennsylvania blackberry. The soil between 0-6 inches exhibited a 10YR 4/3 matrix color with a clay loam texture. The soil between 6-18 inches exhibited a 10YR 5/4 matrix color with a loamy clay texture that contained redoximorphic features (2.5YR 4/6).

Wetland BB6

Wetland BB6 (W-BB6) is a PEM wetland 4,031-SF in size located in the central portion of the study area (Figure 4-6). Indicators of wetland hydrology include surface water, saturation, algal mat or crust, hydrogen sulfide odor, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of spreading bent and poison ivy. The soil between 0-5 inches exhibited a 10YR 4/3 matrix color with a clay loam texture. The soil between 5-20 inches exhibited a low-chroma matrix color (10YR 4/2) with a loamy clay texture that contained redoximorphic features (2.5YR 4/6).

Wetland BB12

Wetland BB12 (W-BB12) is a PEM wetland 250-SF in size located in the central portion of the study area (Figure 4-7). Indicators of wetland hydrology include surface water, algal mat or crust, and sparsely vegetated concave surface, and crayfish burrows. Dominant vegetation consisted of dark-green bulrush. The soil between 0-6 inches exhibited a low-chroma matrix color (2.5Y 4/2) with a clay loam texture that contained redoximorphic features (7.5YR 5/4). The soil between 6-12 inches exhibited a low-chroma matrix color (2.5Y 4/1) with a loamy clay texture that contained redoximorphic features (7.5YR 5/4). The soil between 12-18 inches exhibited a low-chroma matrix color (2.5Y 4/2) with a loamy clay texture.

Wetland BB5

Wetland BB5 (W-BB5) is a PEM wetland 24,440-SF in size located in the northern portion of the study area (Figure 4-11). Indicators of wetland hydrology include surface water, water stained leaves, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of dark-green bulrush, lesser poverty rush, and deer-tongue rosette grass. The soil between 0-6 inches exhibited low-chroma (2.5Y 4/2) and gleyed (Gley 4/10Y) matrix colors with a clay loam texture. The soil between 6-12 inches exhibited a 2.5Y 5/4 matrix color with a clay loam texture.

Wetland BB4

Wetland BB4 (W-BB4) is a PEM wetland 1,725-SF in size located in the northern portion of the study area (Figure 4-11). Indicators of wetland hydrology include surface water, aquatic fauna, crayfish burrows, and FAC neutral test. Dominant vegetation consisted of stalk-grain sedge and lesser poverty rush. The soil between 0-5 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 5-18 inches exhibited a 10YR 4/3 matrix color with a clay loam texture.

3.1.2 Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Based on field evidence and best professional judgment, it was determined that 17 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained wetland hydrology indicators.

A review of the NRCS Soil Survey and hydric soil list indicated that six soils mapped within the Green County study area are classified as hydric or as containing hydric components these are Dumps, mines (Du), Fluvaquents, loamy (Fa), Glenford silt loam, 3 to 8 percent slopes (GdB), Newark silt loam (Nw), Udorthents, smoothed gently sloping (UdB), and Udorthents, smoothed, moderately steep (UdD) (Figure 2-1).

Three NWI wetlands are mapped within the study area (Figure 3).

Wetland N1

Wetland N1 (W-N1) is a PEM wetland 3,401-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology includes saturation and geomorphic position. Dominant vegetation consisted of lamp rush (*Juncus effusus*). The soil between 0-17 inches exhibited a low-chroma matrix color (10YR 5/2) with a sandy clay texture that contained redoximorphic features (10YR 6/8, 10YR 6/1).

Wetland AA1

Wetland AA1 (W-AA1) is a PEM wetland 5,275-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of American sycamore (*Platanus occidentalis*), common fox sedge, and American hog peanut (*Amphicarpaea bracteata*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 4/2) with a silty clay loam texture. The soil between 3-10 inches exhibited low-chroma matrix colors (10YR 5/1, 10YR 4/2) with a silty clay loam texture that contained redoximorphic features (10YR 3/6). The soil between 10-20 inches exhibited a 10YR 5/6 matrix color with a silty clay loam texture.

Wetland AA5

Wetland AA5 (W-AA5) is a PEM wetland 855-SF in size located in the central portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table and geomorphic position. Dominant vegetation consisted of an unidentified grass species (*Poa* sp.). The soil

between 0-17 inches exhibited low-chroma matrix colors (2.5YR 5/1, 7.5YR 3/1) with a silty clay texture that contained redoximorphic features (10YR 5/6).

Wetland AA6

Wetland AA6 (W-AA6) is a PEM wetland 3,083-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table, saturation, oxidized rhizospheres on living roots, geomorphic position and FAC neutral test. Dominant vegetation consisted of reed canary grass (*Phalaris arundinacea*), and narrow-leaf cattail (*Typha angustifolia*). The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 5/2) with a silty clay loam texture that contained redoximorphic features (10YR 3/6).

Wetland AA2

Wetland AA2 (W-AA2) is a PEM wetland 293-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include surface water, a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of green ash (*Fraxinus pennsylvanica*) and shallow sedge (*Carex lurida*). The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 4/1) with a silty clay texture. The soil between 9-19 inches exhibited a low-chroma matrix color (10YR 4/1) with a silty clay texture that contained redoximorphic features (10YR 5/6).

Wetland AA3

Wetland AA3 (W-AA3) is a PEM wetland 353-SF in size located in the western portion of the study area (Figure 4-13). Indicators of wetland hydrology include surface water and a high water table. Dominant vegetation consisted of rough-stalk blue grass (*Poa trivialis*) and narrow-leaf cat-tail. The soil between 0-16 inches exhibited a low-chroma matrix color (10YR 6/1) with a silty clay loam texture that contained redoximorphic features (10YR 5/3, 10YR 4/6).

Wetland AA4

Wetland AA4 (W-AA4) is a PEM wetland 9,655-SF in size located in the central portion of the study area (Figure 4-14). Indicators of wetland hydrology include surface water, high water table, hydrogen sulfide odor, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge and common fox sedge. The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture. The soil between 3-19 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture that contained redoximorphic features (10YR 3/6).

Wetland AA7

Wetland AA7 (W-AA7) is a PEM wetland 12,464-SF in size located in the central portion of the study area (Figure 4-14). Indicators of wetland hydrology include surface water, a high water table, hydrogen sulfide odor, oxidized rhizospheres on living roots, and FAC neutral test. Dominant vegetation consisted of common fox sedge and fowl blue grass (*Poa palustris*). The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 3/1, 10YR 5/1) with a silty clay texture that contained redoximorphic features (10YR 5/8).

Wetland AA8

Wetland AA8 (W-AA8) is a PEM wetland 1,186-SF in size located in the central portion of the study area (Figure 4-15). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge, lamp rush, and common fox sedge. The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 5/2) with a silty clay loam texture that contained redoximorphic features (10YR 4/6).

Wetland M1

Wetland M1 (W-M1) is a PEM wetland 235-SF in size located in the central portion of the study area (Figure 4-16). Indicators of wetland hydrology included oxidized rhizospheres on living roots and FAC neutral test. Dominant vegetation consisted of reed canary grass. The soil between 0-2 inches exhibited a low-chroma matrix color (10YR 2/1) with a clay loam texture. The soil between 2-8 inches exhibited a low-chroma matrix color (2.5Y 5/2) with a gravelly clay loam texture that contained redoximorphic features (7.5YR 5/6).

Wetland AA9

Wetland AA9 (W-AA9) is a PEM wetland 275-SF in size located in the central portion of the study area (Figure 4-16). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of rough-stalk blue grass and common fox sedge. The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture that contained redoximorphic features (10YR 5/8).

Wetland AA10

Wetland AA10 (W-AA10) is a PEM wetland 1,344-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology include a high water table, saturation, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black tupelo (*Nyssa sylvatica*), rice cut grass (*Leersia oryzoides*), and harvestlice (*Agrimonia parviflora*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 2/2) with a sandy loam texture. The soil between 3-19 inches exhibited low-chroma matrix

colors (10YR 2/2, 10YR 5/1) with a sandy loam texture that contained redoximorphic features (10YR 3/6).

Wetland M3

Wetland M3 (W-M3) is a PEM wetland 28,129-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black walnut (*Juglans nigra*), black willow (*Salix nigra*), wingstem (*Verbesina alternifolia*), and narrow leaf cat-tail. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture that contained redoximorphic features (7.5YR 4/4).

Wetland M4

Wetland M4 (W-M4) is a PEM wetland 17,194-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology included surface water, a high water table, saturation, iron deposits, and FAC neutral test. Dominant vegetation consisted of reed canary grass and narrow leaf cat-tail. The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam texture that contained redoximorphic features (10YR 4/4).

Wetland M2

Wetland M2 (W-M2) is a PEM wetland 27,784-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included surface water, saturation, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black willow, narrow leaf cat-tail, and reed canary grass. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/1) with a clay loam texture that contained redoximorphic features (7.5YR 4/4).

Wetland M5

Wetland M5 (W-M5) is a PEM wetland 2,094-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included geomorphic position and FAC neutral test. Dominant vegetation consisted of black willow and narrow leaf cat-tail. The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 5/2) with a clay loam texture that contained redoximorphic features (5YR 5/4).

Wetland M6

Wetland M6 (W-M6) is a PEM wetland 259-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of narrow leaf cat-tail

(*Typha angustifolia*) and soft-stem bulrush (*Schoenoplectus tabernaemontani*). The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 5/2) with a clay loam texture that contained redoximorphic features (5YR 4/4).

3.1.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Based on field evidence and best professional judgment, it was determined that 3 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*.

A review of the NRCS Soil Survey and hydric soil list indicated that five soils mapped within the Wetzel county study area are classified as hydric or as containing hydric components (Figure 2): Elk silt loam, 3 to 8 percent slopes (EkB), Glenford silt loam, 3 to 8 percent slopes (GsB), Huntington silt loam (Hn), Nolin loam (No), Skidmore gravelly loam (Sk).

No NWI wetlands are mapped within the study area (Figure 3).

Wetland Z1

Wetland Z1 (W-Z1) is a PEM wetland 176-SF in size located in the southern portion of the study area (Figure 4-22). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black walnut (*Juglans nigra*), ash-leaf maple (*Acer negundo*), deertongue rosette grass (*Dichanthelium clandestinum*), and reed canary grass (*Phalaris arundinacea*). The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture. The soil between 8-20 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture that contained redoximorphic features (10YR 5/8).

Wetland Z3A and B

Wetland Z3 (W-Z3A and B) is a PEM wetland 7,720-SF in size located in the southern portion of the study area (Figure 4-21). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge (*Carex lurida*), common fox sedge (*Carex vulpinoidea*), and small carp grass (*Arthraxon hispidus*). The soil between 0-8 inches exhibited low-chroma matrix colors (10YR 4/2 and 2.5Y 6/8) with a silty clay loam texture that contained redoximorphic features (7.5YR 5/8).

Wetland Z2

Wetland Z2 (W-Z2) is a PEM wetland 4,025-SF in size located in the southern portion of the study area (Figure 4-21). Indicators of wetland hydrology included oxidized rhizospheres on living roots,

geomorphic position, and FAC neutral test. Dominant vegetation consisted of common fox sedge (*Carex vulpinoidea*). The soil between 0-10 inches exhibited a low-chroma matrix color (10YR 4/2) with a silty clay loam texture that contained redoximorphic features (7.5YR 5/8).

3.2 Stream Identification and Evaluation

Thirty-seven streams were identified within the evaluated study area. Data sheets that detail the bank and channel characteristics, substrate composition, aquatic habitat, and hydrology were prepared at each stream (Appendix A).

3.2.1 Washington/Allegheny Counties (H-318 pipeline)

Six streams were identified within the evaluated study area in Washington and Allegheny counties.

Stream BB1

Stream BB1 (S-BB1), which flows west, is the perennial stream Lobbs Run (Figure 4-1). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 2 feet in width and 1 foot in height. The channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 5 inches.

Stream BB2

Stream BB2 (S-BB2), which flows north, is an ephemeral UNT to Lobbs Run (Figure 4-2). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 1 foot in width and 1 foot in height. The channel contained a silt and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream BB5

Stream BB5 (S-BB5), which flows east, is a perennial known as the Monongehela River (Figure 4-3). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 860 feet in width and 70 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the river. The stream exhibited a heavy flow at the time of the field investigations. Water depth was unable to be documented as the investigators were unable to access the river to determine depth.

Stream BB4

Stream BB4 (S-BB4), which flows east, is the perennial stream Bunola Run (Figure 4-4). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 20 feet in width and 3 foot in height. The channel contained a boulder, cobble, gravel, sand, silt, and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 12 inches.

Stream BB6

Stream BB6 (S-BB6), which flows north, is a perennial UNT to Bunola Run (Figure 4-4). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 3 feet in width and 2 feet in height. The channel contained a cobble, gravel, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 7 inches

Stream BB3

Stream BB3 (S-BB3), which flows northeast, is the perennial stream Kelly Creek (Figure 4-6). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 30 feet in width and 3 foot in height. The channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 18 inches.

3.2.2 Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Twenty seven streams were identified within the evaluated study area in Greene County.

Stream N1

Stream N1 (S-N1), which flows south, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 7 feet in width and 6 feet in height. The channel contained a cobble, gravel, and sand substrate. The stream exhibited a no flow at the time of the field investigations.

Stream N2

Stream N2 (S-N2), which flows southwest, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 1 foot in height. The

channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a no flow at the time of the field investigations.

Stream N3

Stream N3 (S-N3), which flows southwest, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 3 feet in width and 6 inches in height. The channel contained a boulder, cobble, sand, and silt substrate. The stream exhibited a no flow at the time of the field investigations.

Stream AA1

Stream AA1 (S-AA1), which flow south is a perennial UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 10 feet in width and 16 inches in height. The channel contained a bedrock, boulder, cobble, and gravel substrate. The stream exhibited heavy a flow at the time of the field investigations with a water depth of approximately 3 inches.

Stream AA2

Stream AA2 (S-AA2), which flows southeast, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 1.5 feet in width and 6 inches in height. The channel substrate is comprised of sand, silt, and clay. The stream exhibited standing water at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA5

Stream AA5 (S-AA5), which flows southwest, is the perennial stream South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 70 feet in width and 15 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 4 feet.

Stream AA7

Stream AA7 (S-AA7), which flows west, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 8 feet in width and 2 feet in height. The channel substrate

is comprised of boulder cobble, and gravel substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 4 inches.

Stream AA3

Stream AA3 (S-AA3), which flows south, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 4 feet in width and 14 inches in height. The channel substrate is comprised of gravel and sand. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA4

Stream AA4 (S-AA4), which flows south, is a perennial UNT to South Fork Tenmile Creek (Figure 4-13). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 5 feet in width and 21 inches in height. The channel contained a cobble, gravel and sand substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream AA8

Stream AA8 (S-AA8), which flows southeast, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-14). The stream bank is approximately 3 feet in width and 1.5 feet in height. The channel substrate is comprised of silt and clay substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA9

Stream AA9 (S-AA9), which flows southwest, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-14). The stream bank is approximately 4 feet in width and 18 inches in height. The channel substrate is comprised of silt and clay substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA10

Stream AA10 (S-AA10), which flows south, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-14). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 5 feet in width and 2 feet in height. The channel contained a bedrock, boulder, gravel, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 3 inches.

Stream AA11

Stream AA11 (S-AA11), which flows southeast, is an ephemeral UNT to Ruff Creek (Figure 4-15). The stream bank is approximately 6.5 feet in width and 60 inches in height. The channel substrate is comprised of boulder, cobble, sand, silt, and clay substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA12

Stream AA12 (S-AA12), which flows south, is the perennial stream Ruff Creek (Figure 4-15). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 75 feet in width and 12 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 26 inches.

Stream AA13

Stream AA13 (S-AA13), which flows south, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-17). The stream bank is approximately 3 feet in width and 15 inches in height. The channel substrate is comprised of boulder, cobble, gravel, sand, silt, and clay substrate. The stream exhibited standing water at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA14

Stream AA14 (S-AA14), which flows southwest, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-17). The stream bank is approximately 3 feet in width and 18 inches in height. The channel substrate is comprised of sand and clay substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA15

Stream AA15 (S-AA15), which flows southeast, is the perennial stream South Fork Tenmile Creek (Figure 4-17). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 100 feet in width and 17 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 3 feet.

Stream AA24

Stream AA24 (S-AA24), which flows southeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 6 feet in width and 2 feet in height. The channel contained a bedrock, cobble, gravel, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA23

Stream AA23 (S-AA23), which flows east, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-18). The stream bank is approximately 9 feet in width and 3 feet in height. The channel substrate is comprised of boulder, gravel, and sand substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA22

Stream AA22 (S-AA22), which flows east, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-18). The stream bank is approximately 7 feet in width and 3 feet in height. The channel substrate is comprised of gravel, sand, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately .5 inches.

Stream AA21

Stream AA21 (S-AA21), which flows east, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 4 feet in width and 4 feet in height. The channel contained a cobble, gravel, sand, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA20

Stream AA20 (S-AA20), which flows east, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 1 foot in width and 1 foot in height. The channel contained a sand, silt, and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA17

Stream AA17 (S-AA17), which flows east, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands,

groundwater, and upstream tributaries. The stream channel is approximately 12 feet in width and 4 feet 9 inches in height. The channel contained a bedrock boulder, cobble, gravel, sand, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 22 inches.

Stream AA18

Stream AA18 (S-AA18), which flows northeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 6 inches in height. The channel contained a gravel, sand silt and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA19

Stream AA19 (S-AA19), which flows northeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 3 feet in height. The channel contained a sand silt and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA16

Stream AA16 (S-AA16), which flows northwest, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 11 feet in width and 57 inches in height. The channel contained a boulder, cobble, and gravel substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 7 inches.

Stream M1

Stream M1 (S-M1), which flows north, is an ephemeral UNT to Muddy Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands. The stream channel is approximately 10 feet in width and 4 feet in height. The channel contained a clay, silt, gravel, and cobble, substrate. The stream exhibited a dry channel with no flow at the time of the field investigations.

3.2.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Four streams were identified within the evaluated study area in Wetzel County.

Stream A2A

Stream A2A (S-A2A), which flows north, is an ephemeral UNT to North Fork Fishing Creek (Figure 4-21). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 12 feet in width and 4 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream A3A

Stream A3A (S-A3A), which flows east, is an ephemeral UNT to North Fork Fishing Creek (Figure 4-21). This watercourse is supported by precipitation, surficial runoff from adjacent uplands. The stream channel is approximately 5 feet in width and 1.5 feet in height. The channel contained cobble, gravel, and sand substrate. The stream exhibited no flow at the time of the field investigations.

Stream J63

Stream J63 (S-J63), which flows west, is a perennial UNT to Mobley Run (Figure 4-22). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 7 feet in width and 3.5 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream Z1

Stream Z1 (S-Z1), which flows south, is a perennial known as Mobley Run (Figure 4-22). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 15 feet in width and 3.5 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 1 inch.

4.0 CONCLUSIONS

Thirty-three areas within the Equitrans Expansion Pipeline Project study area exhibited all three criteria listed below that are necessary to be classified as wetlands in accordance with the 1987 *Manual* and the *USACE Regional Supplement*:

1. Predominance of hydrophytic vegetation (plants which are adapted for life in saturated soil conditions);
2. Hydric soils (soils which were formed under water, or in saturated conditions); and
3. Wetland hydrology (or the presence of inundated or saturated soils at some time during the growing season).

Additionally, 37 streams were identified in the Project study area during the investigation.

Washington/Allegheny Counties (H-318 pipeline)

Based on field evidence and best professional judgment, it was determined that 13 wetlands were present within the study area. Six streams were identified within the evaluated study area in Washington and Allegheny counties.

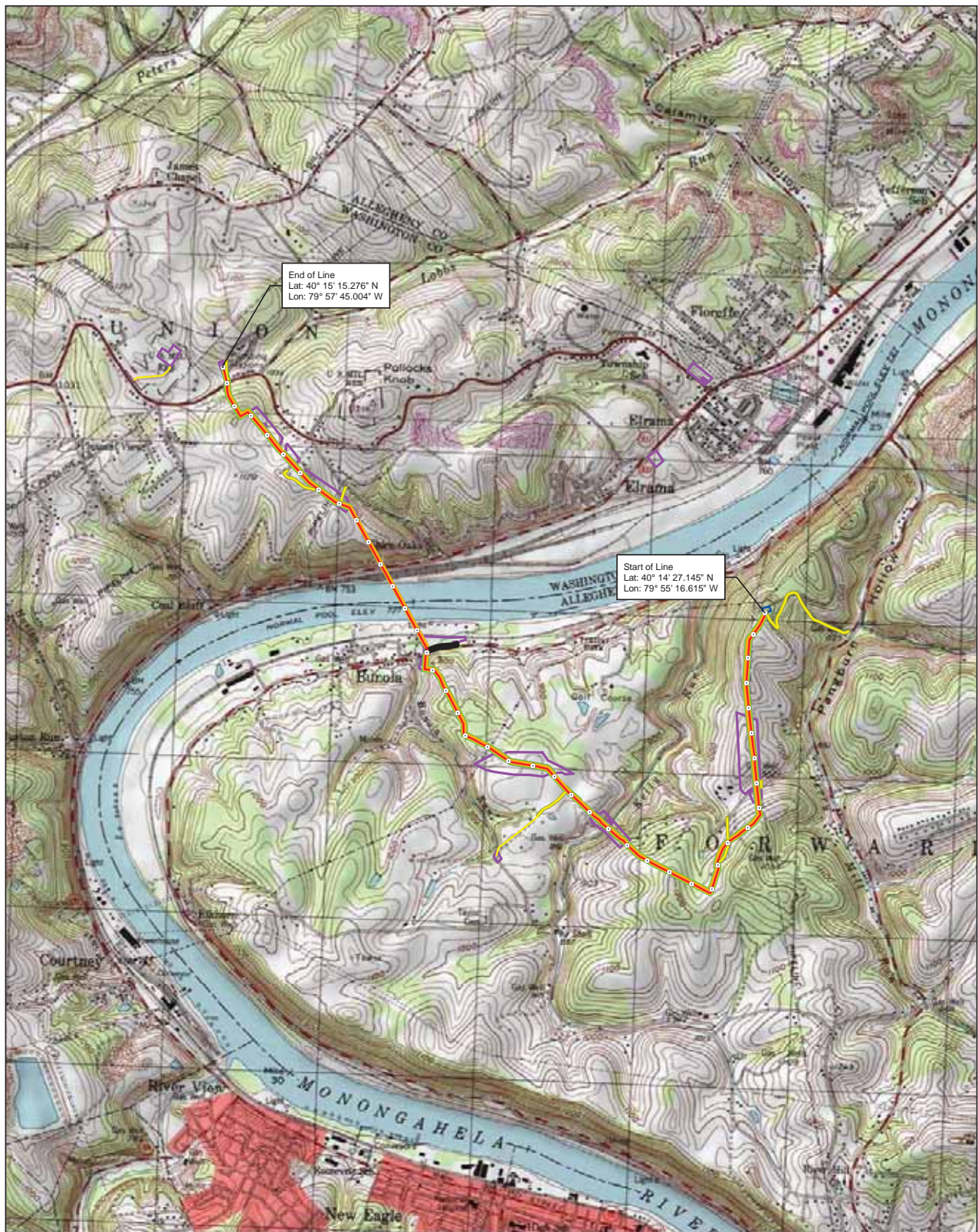
Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Based on field evidence and best professional judgment, it was determined that 17 wetlands were present within the study area. Twenty seven streams were identified within the evaluated study area in Greene County.

Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Based on field evidence and best professional judgment, it was determined that 3 wetlands were present within the study area. Four streams were identified within the evaluated study area in Wetzel County.

FIGURES



Equitrans Expansion Project



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Attachment #: 1-1
USGS Project Location Map
Washington & Allegheny County, PA

October 2015

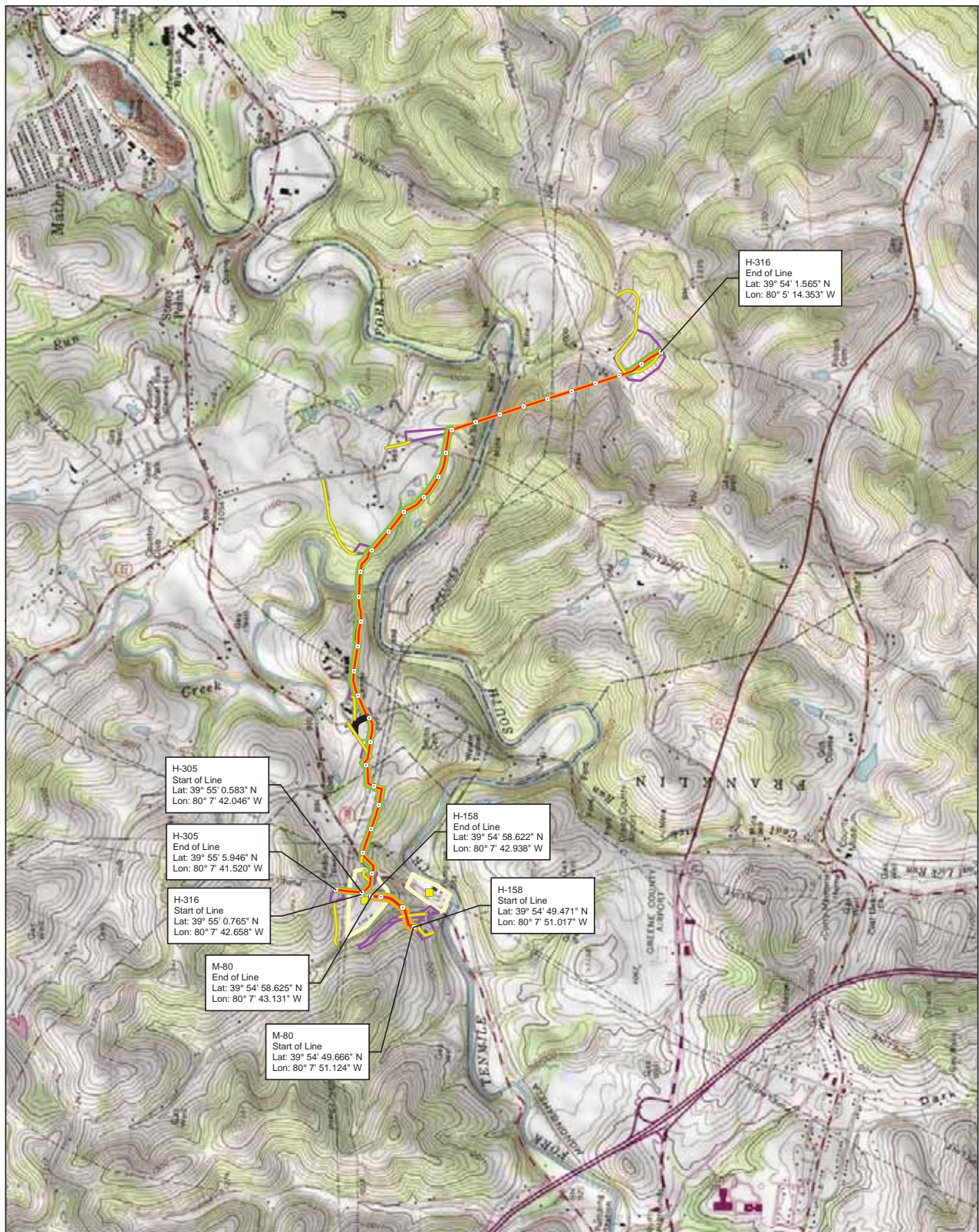
Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site



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Attachment #: 1-2 USGS Project Location Map Greene County, Pennsylvania

October 2015

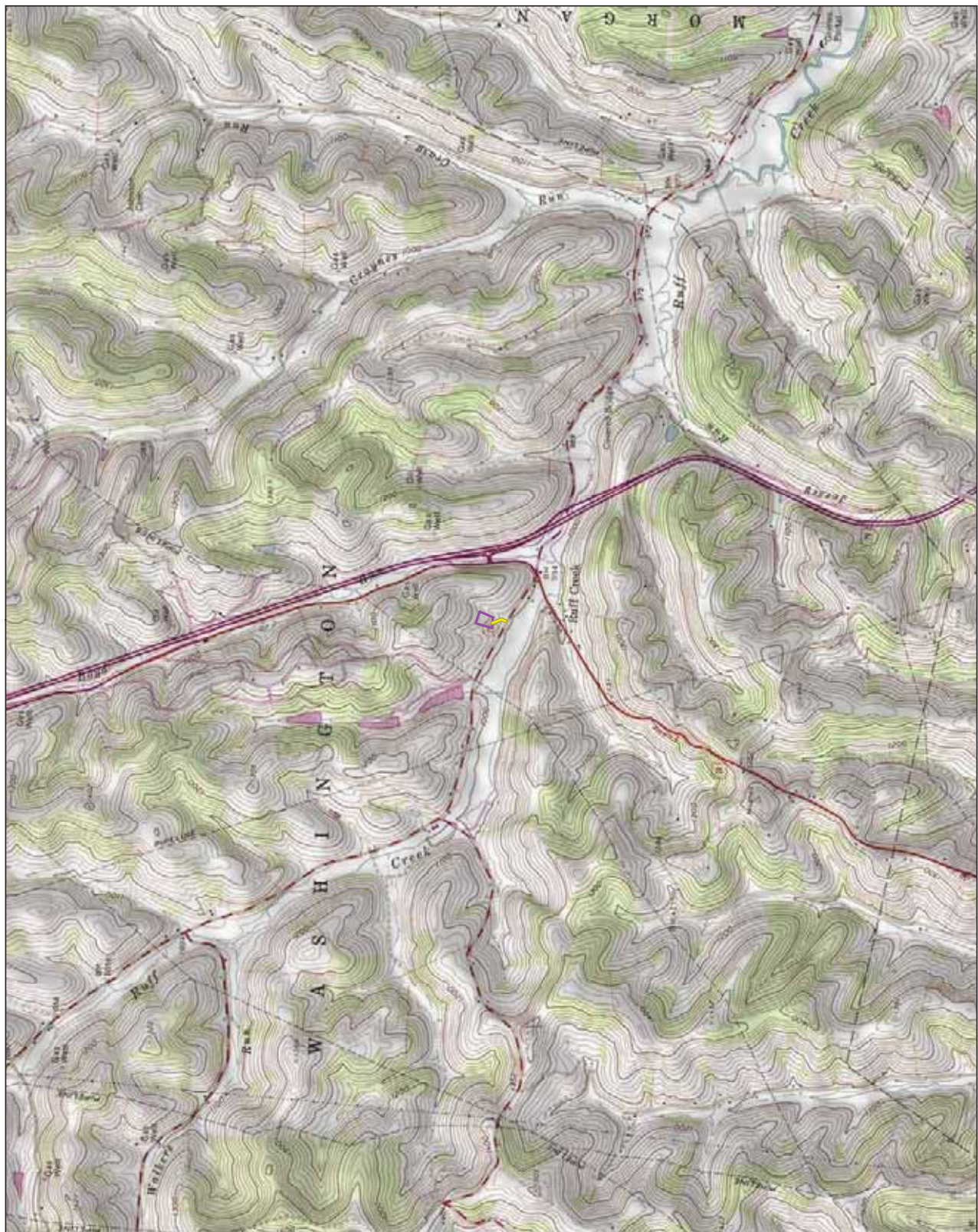
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Legend

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- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station



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Attachment #: 1-3 USGS Project Location Map Greene County, Pennsylvania

October 2015

Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- Milepost
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- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
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- Compressor Station



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Attachment #: 1-4
USGS Project Location Map
Wetzel County, West Virginia

October 2015

Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area



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Attachment #: 2-1 NRCS Soils and Codes Map Washington & Allegheny County, PA

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- NRCS Soil & Codes





Equitrans Expansion Project



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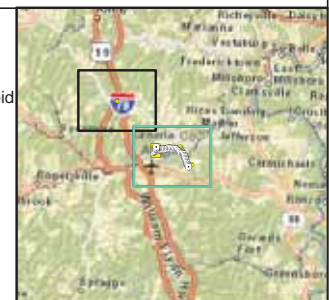
Attachment #: 2-2 NRCS Soils and Codes Map Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station
- NRCS Soil & Codes



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Equitrans Expansion Project



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Attachment #: 2-3 NRCS Soils and Codes Map Greene County, Pennsylvania

October 2015

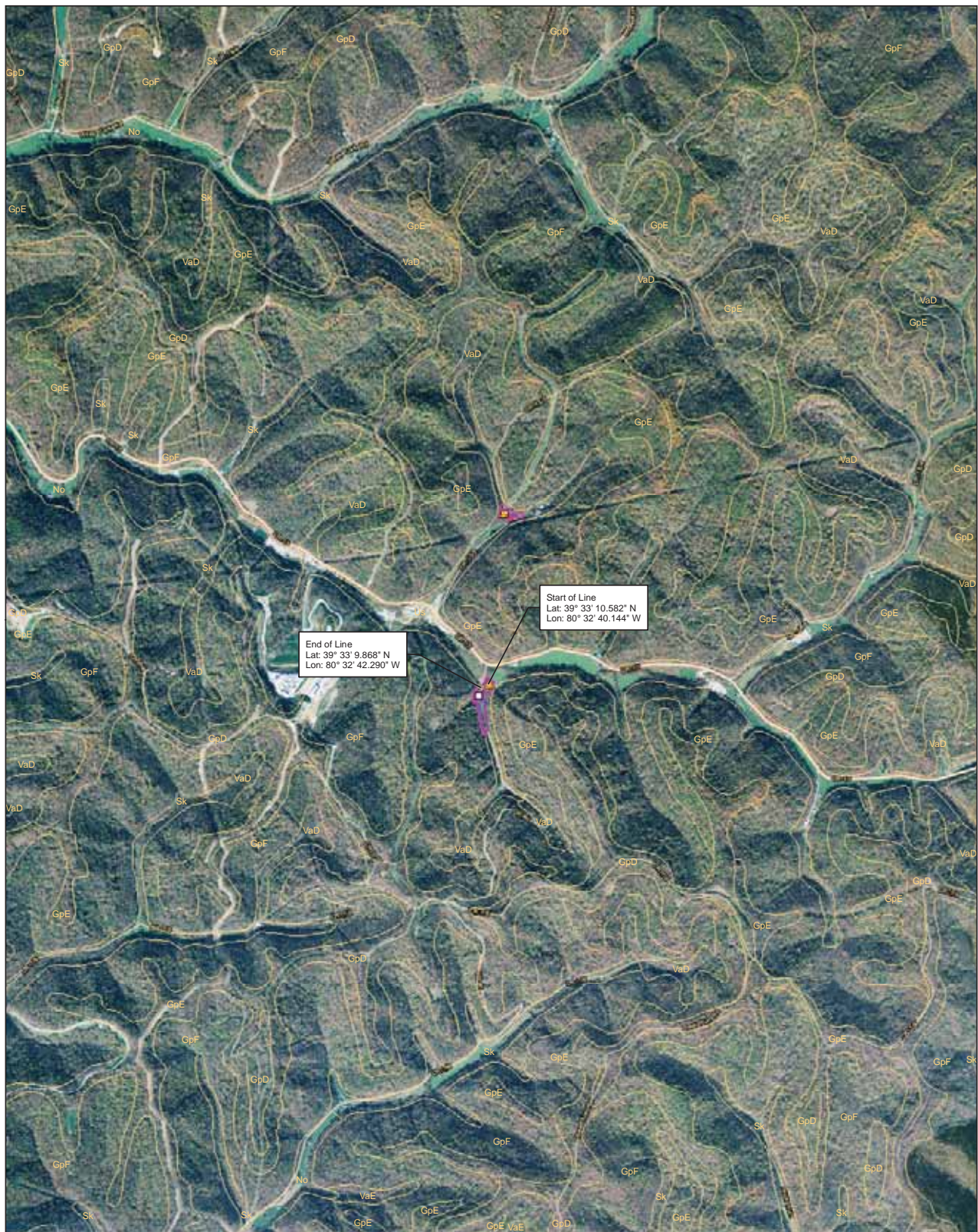
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station
- NRCS Soil & Codes



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EQUITRANS™

Attachment #: 2-4 NRCS Soils and Codes Map Wetzell County, West Virginia

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- ▭ Workspace
- ▭ Temporary Right-of-Way
- ▭ Permanent Right-of-Way
- ▭ Compressor Station
- ▭ Study Area
- ▭ NRCS Soil & Codes



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Equitrans Expansion Project



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Attachment #: 3-1 NWI Wetlands and Codes Map Washington & Allegheny County, PA

October 2015

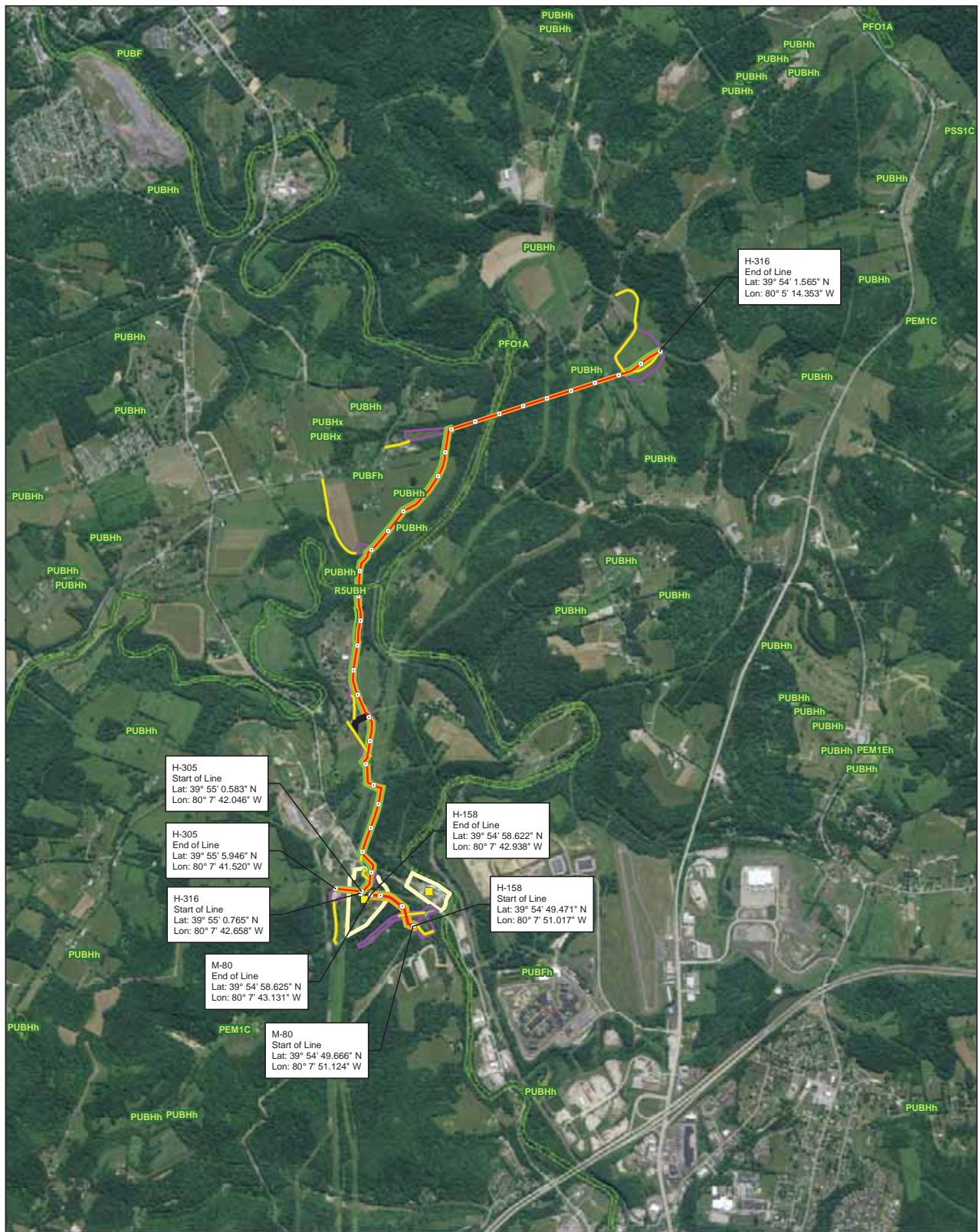
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- NWI Wetlands & Codes



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Equitrans Expansion Project



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EQUITRANSSM

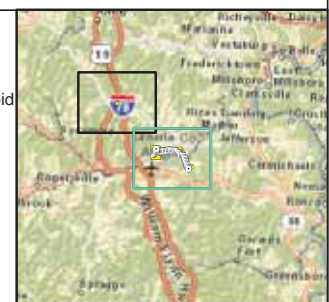
Attachment #: 3-2 NWI Wetlands and Codes Map Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station
- NWI Wetlands & Codes



Document Path: P:\GIS\ECOT\MapDocs\exp_3a_greencounty.nwk.mxd



Equitrans Expansion Project



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EQUITRANSSM

Attachment #: 3-4 NWI Wetlands and Codes Map Wetzel County, West Virginia

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- ▭ Workspace
- ▭ Temporary Right-of-Way
- ▭ Permanent Right-of-Way
- ▭ Compressor Station
- ▭ Study Area
- ▭ NWI Wetlands and Codes



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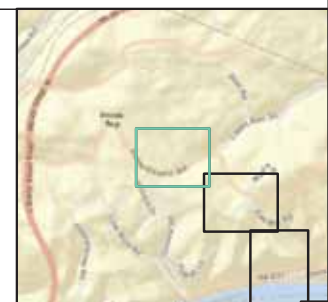
Attachment #: 4-1 Wetland Detail Map Washington & Allegheny County, PA

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
 - PEM
 - PFO
- Photo Location



Document Path: P:\GIS\MapDocs\exp_pa_washingCo_detail.mxd



Equitrans Expansion Project



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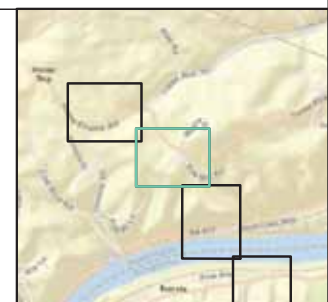
Attachment #: 4-2
Wetland Detail Map
Washington & Allegheny County, PA

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| • Milepost | Permanent Site |
| — Alignment Centerline | (Culvert |
| — Access Road |) Test Pit |
| Right-of-Way (Access Road) | — Stream |
| Groundbed | Wetland |
| Permanent Right-of-Way | PEM |
| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |



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Equitrans Expansion Project



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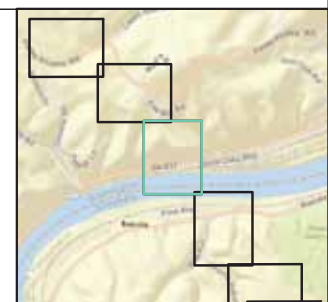
**Attachment #: 4-3
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
 - PEM
 - PFO
- Photo Location



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Equitrans Expansion Project



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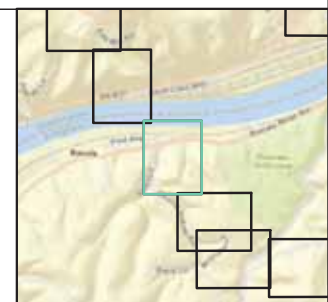
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Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

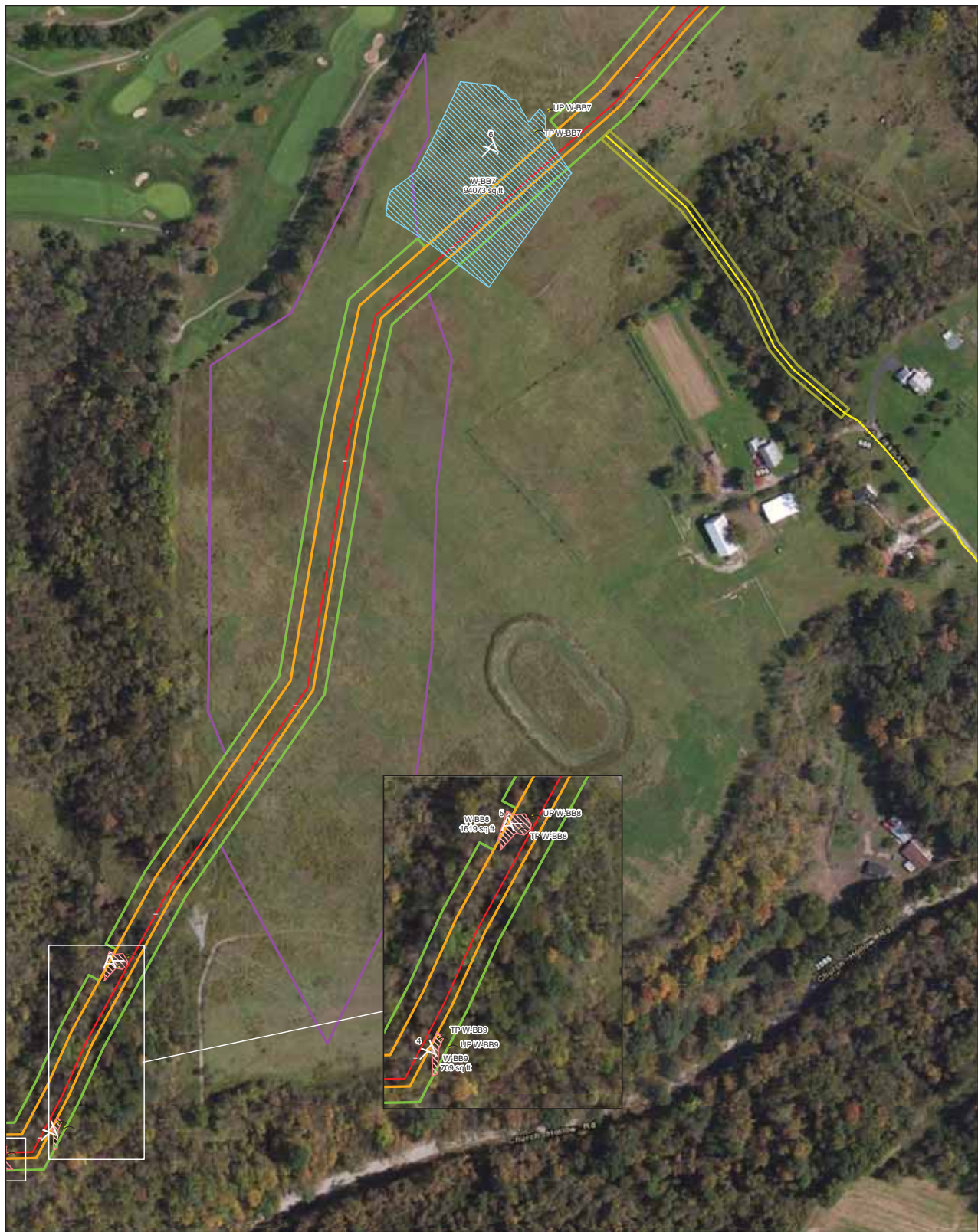
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
- PEM
- PFO
- Photo Location



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Equitrans Expansion Project



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EQUITRANSSM

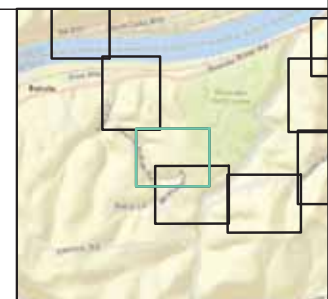
Attachment #: 4-5 Wetland Detail Map Washington & Allegheny County, PA

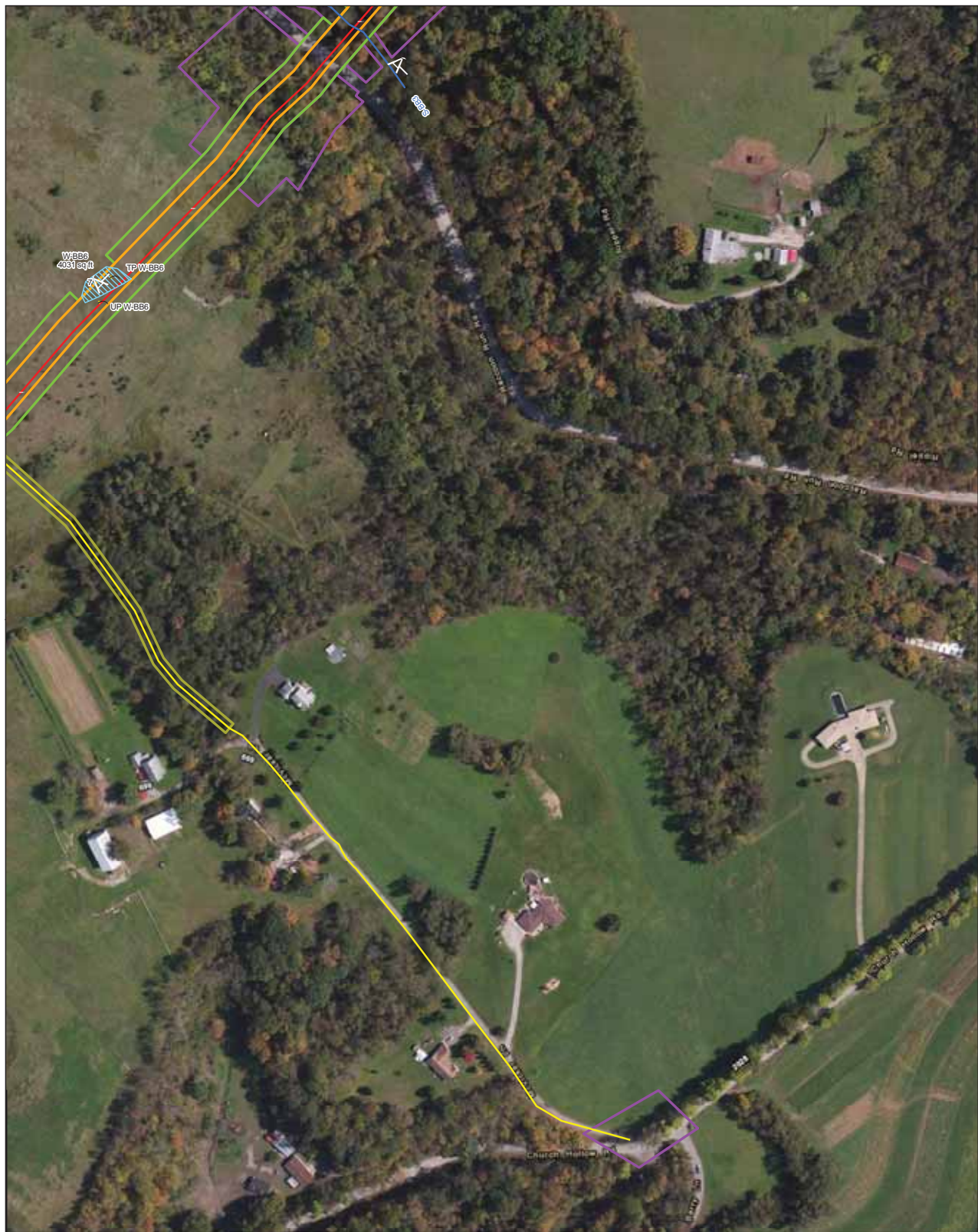
October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|----------------|
| • Milepost | Permanent Site |
| Alignment Centerline | (Culvert |
| Access Road |) Test Pit |
| Right-of-Way (Access Road) | Stream |
| Groundbed | Wetland |
| Permanent Right-of-Way | PEM |
| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |





Equitrans Expansion Project



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EQUITRANS

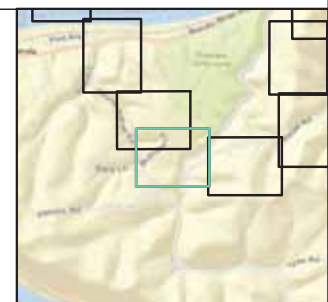
**Attachment #: 4-6
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
- PEM
- PFO
- Photo Location





Equitrans Expansion Project



1:2,400

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EQUITRANS

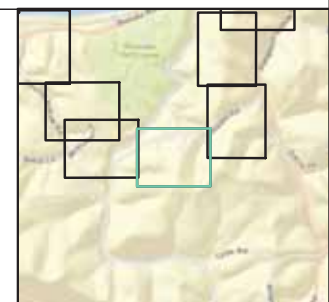
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Wetland Detail Map
Washington & Allegheny County, PA**

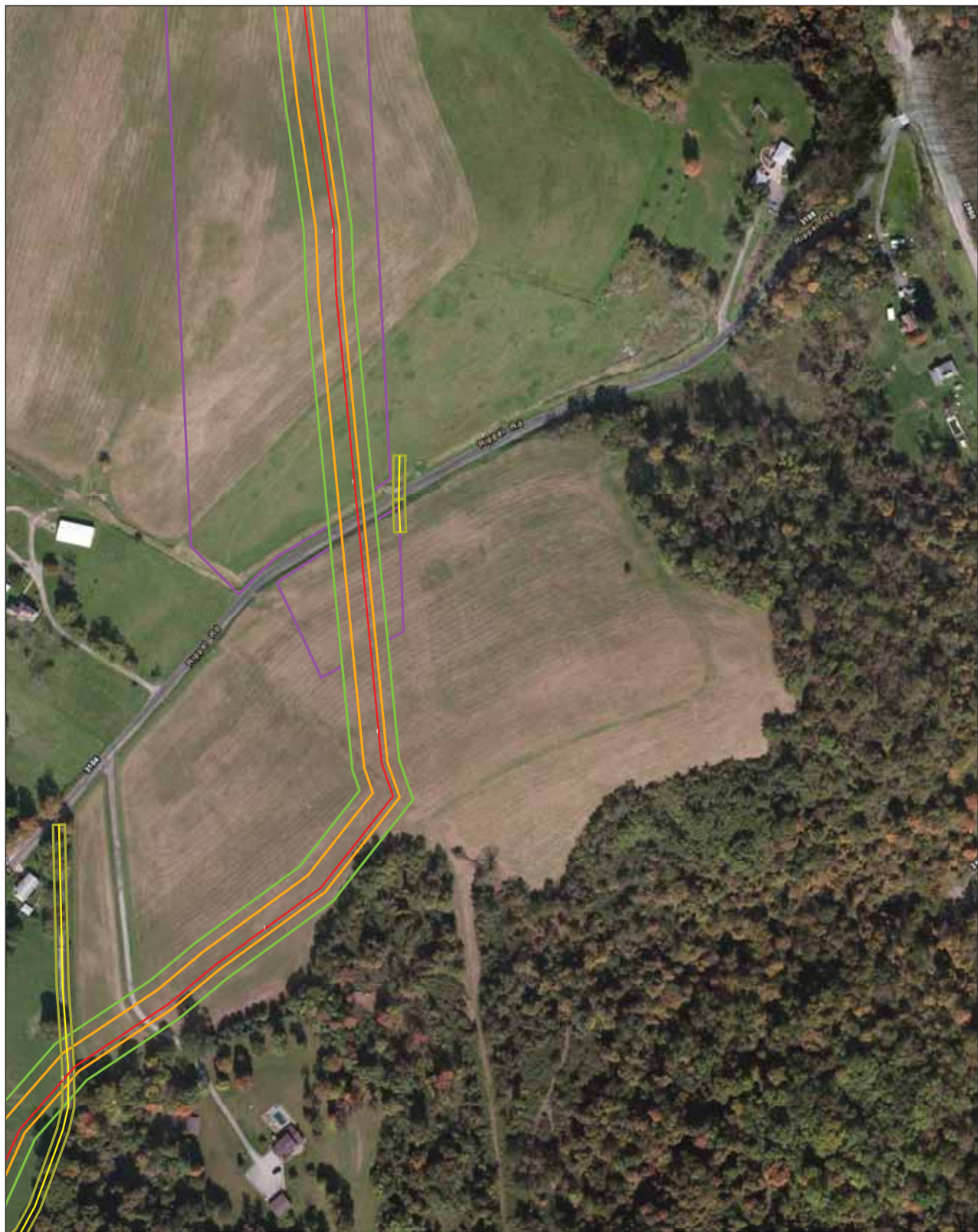
October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
- PEM
- PFO
- Photo Location





Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANSSM

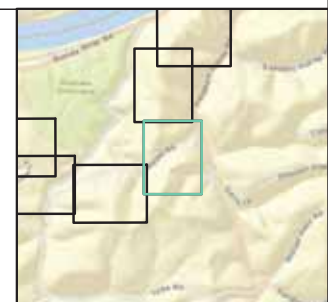
**Attachment #: 4-8
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- [Blue Outline Box] Permanent Site
- () Culvert
- () Test Pit
- Stream
- Wetland**
- [Blue Hatched Box] PEM
- [Red Hatched Box] PFO
- [Crosshair Symbol] Photo Location





Equitrans Expansion Project



1:2,400



EQUITRANSSM

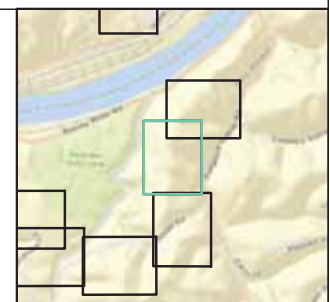
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Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

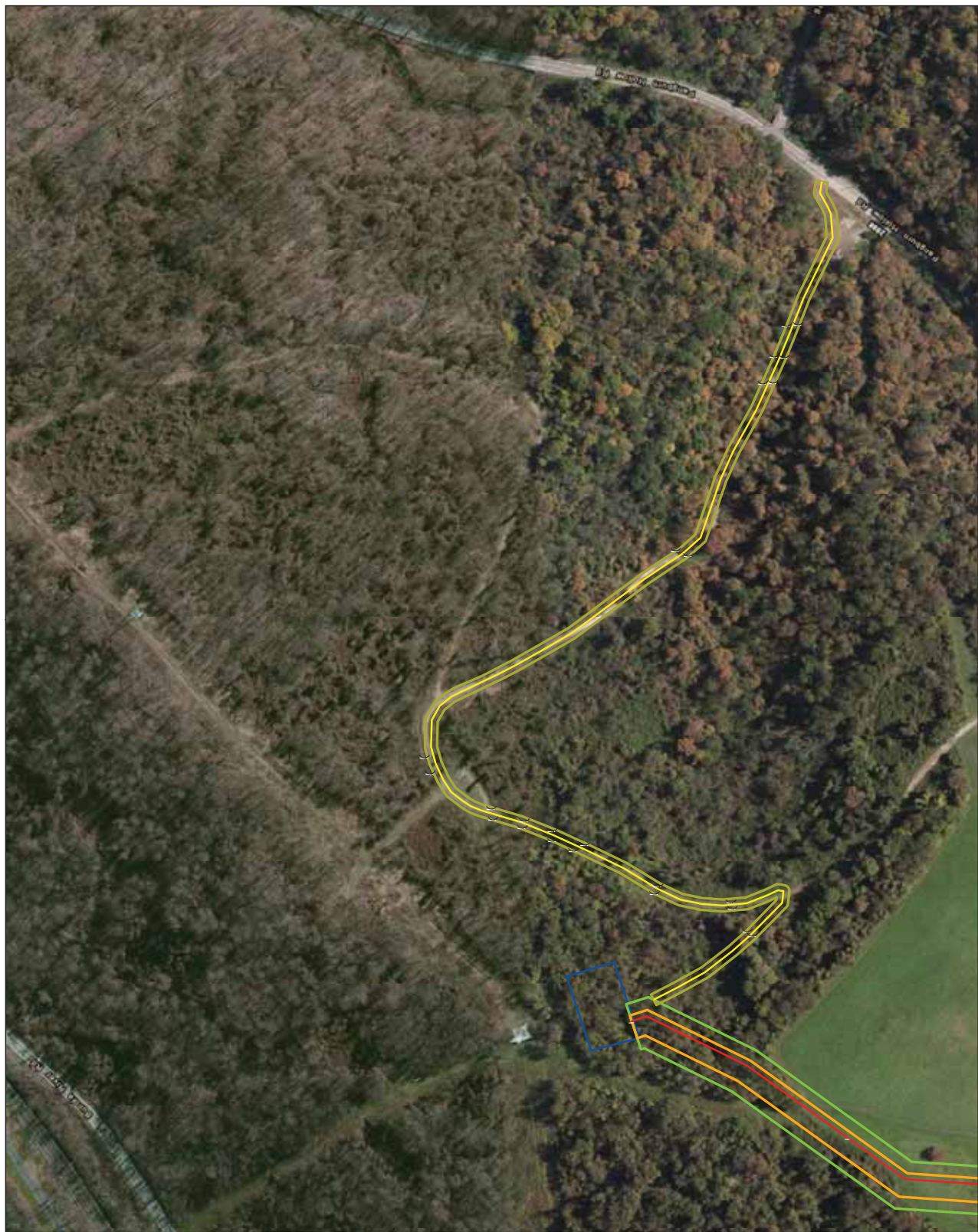
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
- PEM
- PFO
- Photo Location



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Equitrans Expansion Project



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EQUITRANSSM

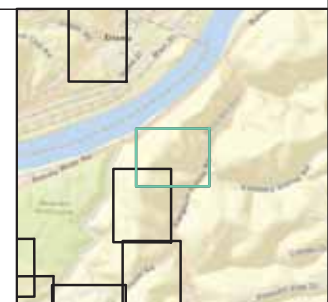
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Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

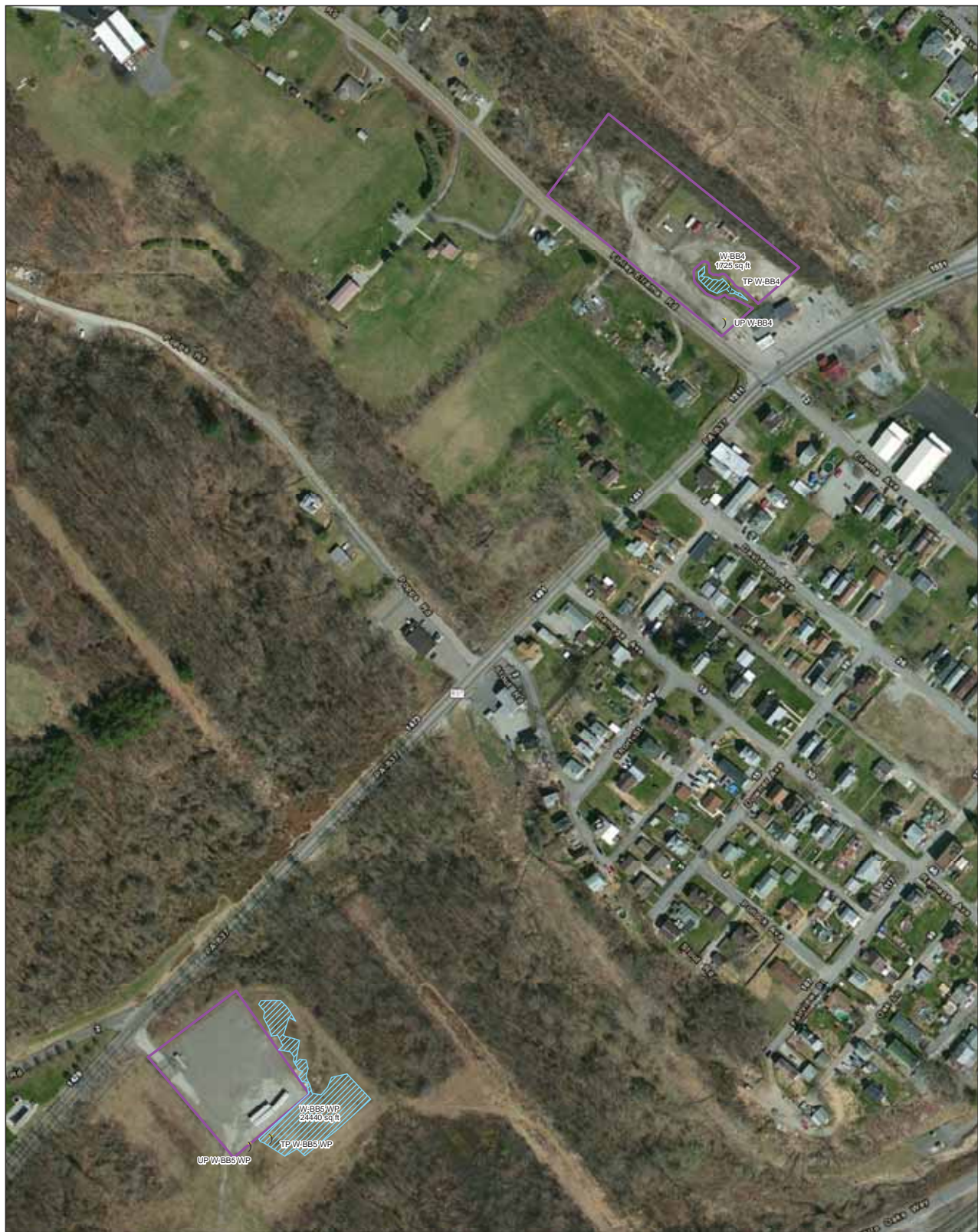
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|----------------|
| • Milepost | Permanent Site |
| Alignment Centerline | (Culvert |
| Access Road |) Test Pit |
| Right-of-Way (Access Road) | Stream |
| Groundbed | Wetland |
| Permanent Right-of-Way | PEM |
| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |



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Equitrans Expansion Project



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EQUITRANSSM

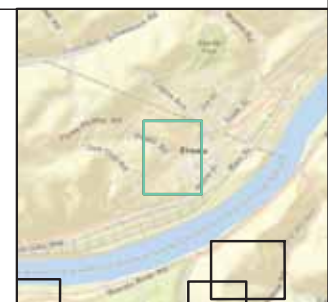
Attachment #: 4-11 Wetland Detail Map Washington & Allegheny County, PA

October 2015

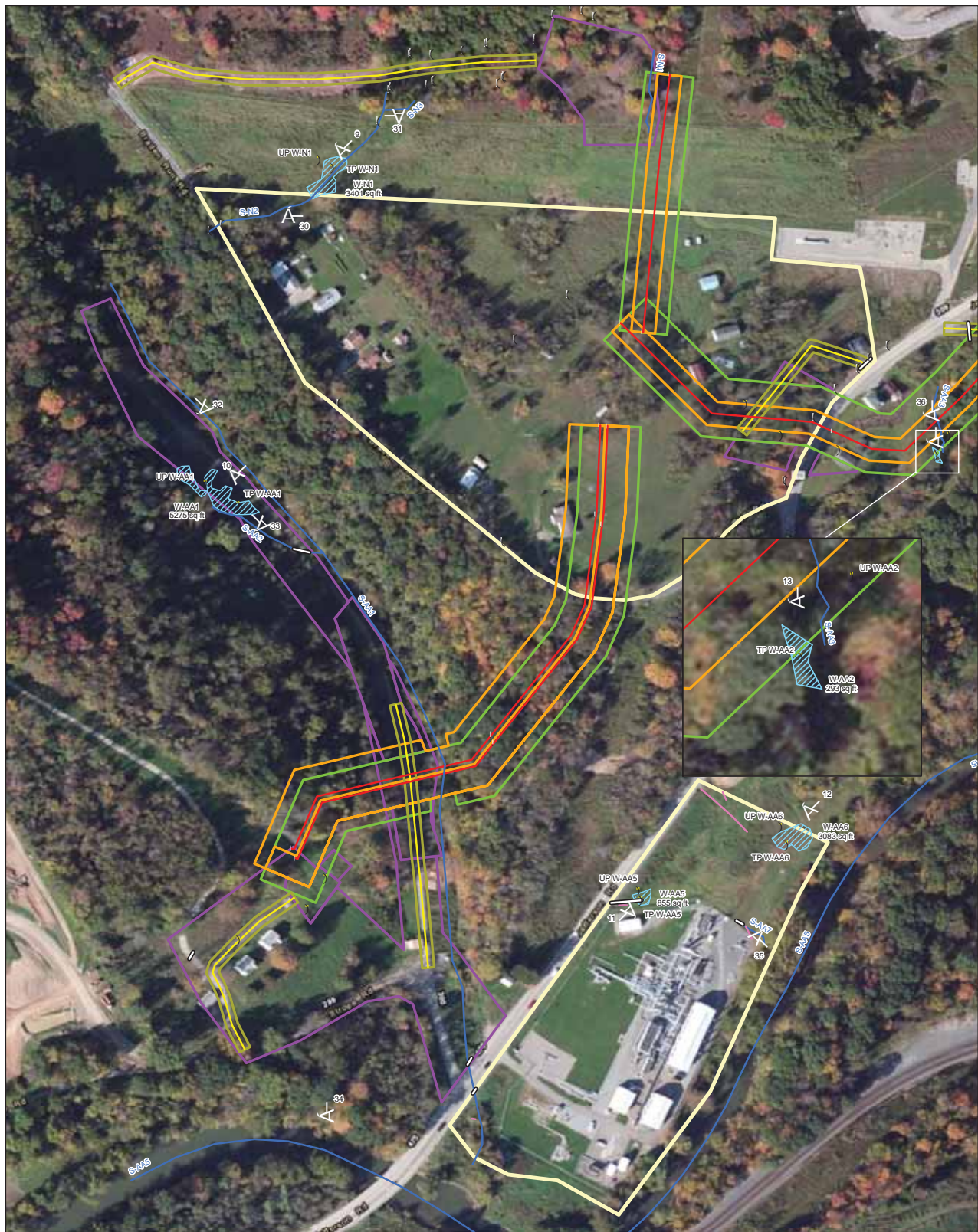
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| • Milepost | Permanent Site |
| — Alignment Centerline | (Culvert |
| — Access Road |) Test Pit |
| Right-of-Way (Access Road) | — Stream |
| Groundbed | Wetland |
| Permanent Right-of-Way | PEM |
| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |



Document Path: P:\GIS\EQMapDocs\eqp_pa_washingCo_detail.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANSSM

Attachment #: 4-12
USGS Project Location Map
Greene County, Pennsylvania

October 2015

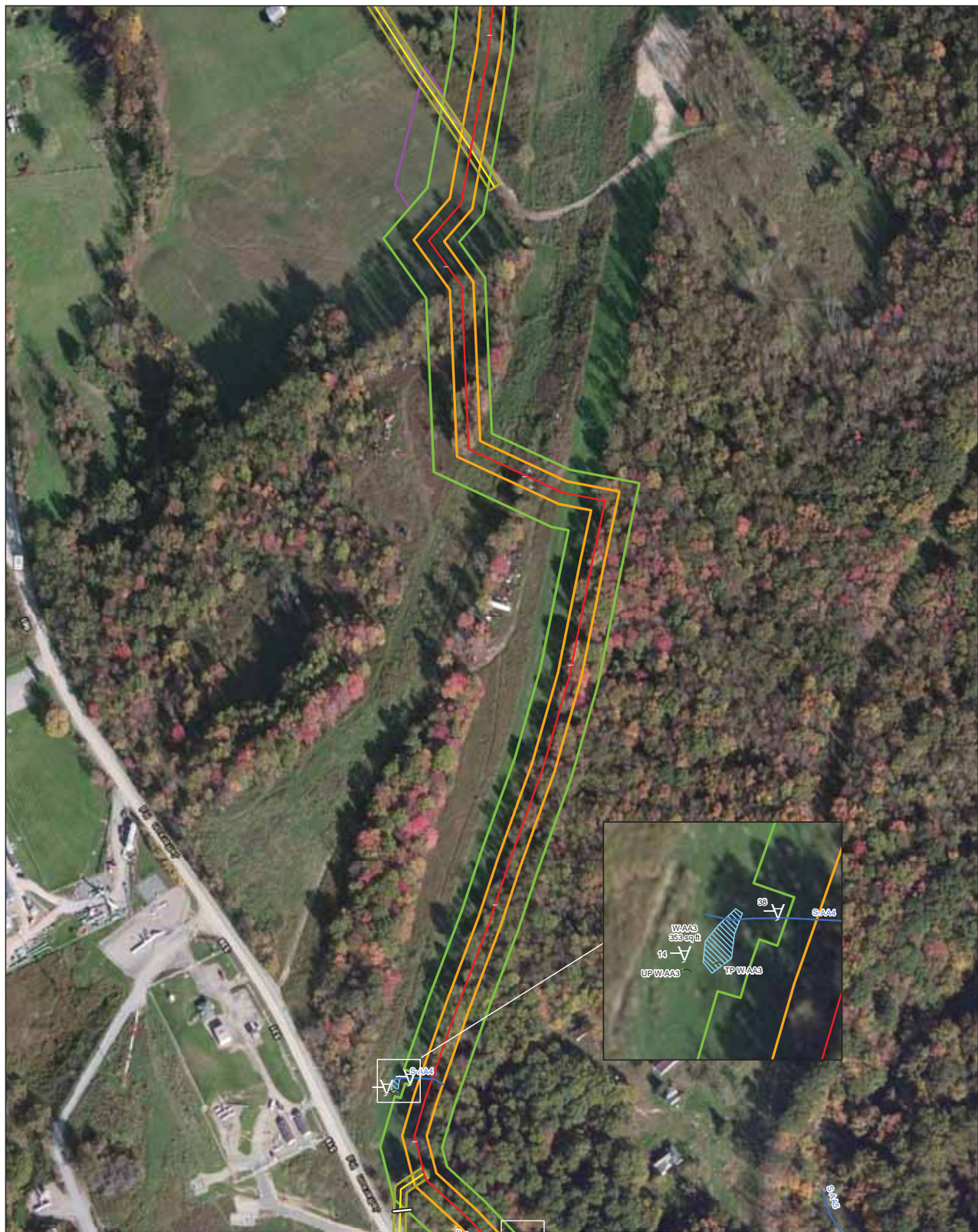
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------|--------------------|
| • Milepost | Permanent Site |
| — Alignment Centerline | Compressor Station |
| — Access Road | (Culvert |
| — Right-of-Way (Access Road) |) Test Pit |
| — Groundbed | — Stream |
| — Permanent Right-of-Way | Wetland |
| — Temporary Right-of-Way | Photo Location |
| — Workspace | |



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Equitrans Expansion Project



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EQUITRANSSM

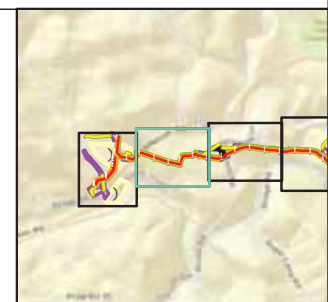
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USGS Project Location Map
Greene County, Pennsylvania

October 2015

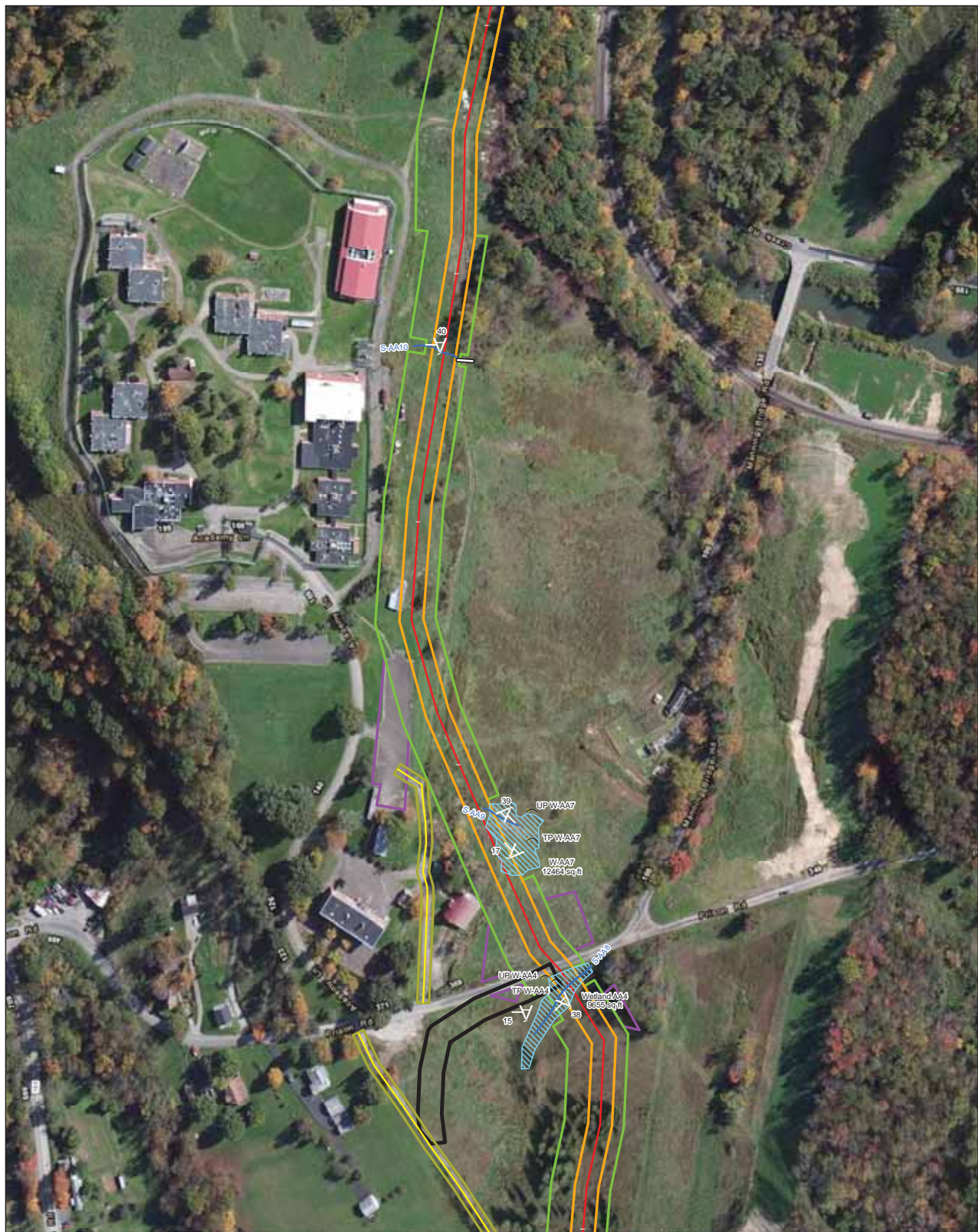
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------------------------|-----------------------------------------|
| • Milepost | [Blue outline box] Permanent Site |
| [Red line] Alignment Centerline | [Yellow outline box] Compressor Station |
| [Yellow line] Access Road | (Culvert |
| [Green outline box] Right-of-Way (Access Road) |) Test Pit |
| [Black outline box] Groundbed | [Blue line] Stream |
| [Orange outline box] Permanent Right-of-Way | [Blue hatched box] Wetland |
| [Green outline box] Temporary Right-of-Way | [Grey arrow] Photo Location |
| [Purple outline box] Workspace | |



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Equitrans Expansion Project



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EQUITRANSSM

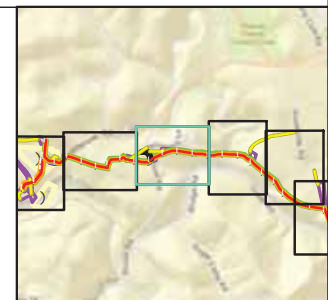
Attachment #: 4-14
USGS Project Location Map
Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | (Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



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Equitrans Expansion Project



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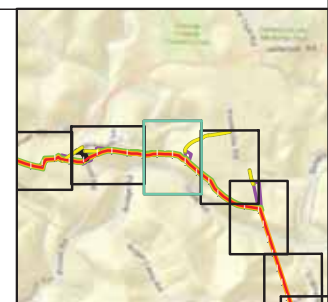
Attachment #: 4-15 USGS Project Location Map Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | (Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



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Equitrans Expansion Project



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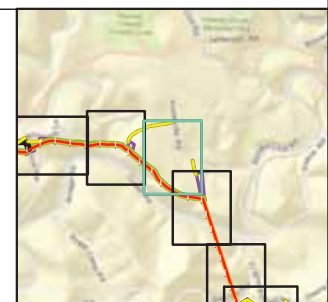
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USGS Project Location Map
Greene County, Pennsylvania**

October 2015

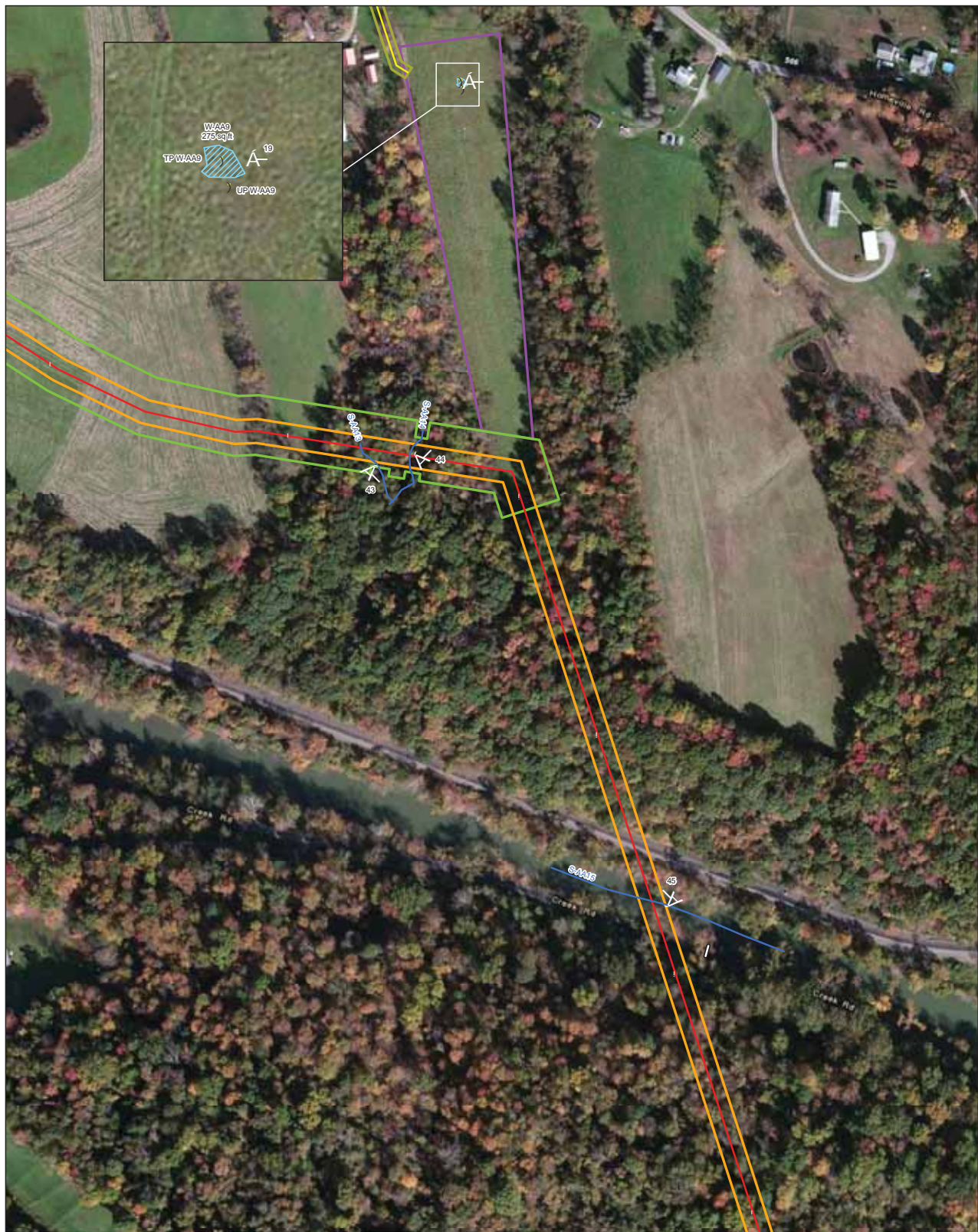
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------|----------------------|
| • Milepost | □ Permanent Site |
| — Alignment Centerline | □ Compressor Station |
| — Access Road | (Culvert |
| □ Right-of-Way (Access Road) |) Test Pit |
| □ Groundbed | — Stream |
| □ Permanent Right-of-Way | ▨ Wetland |
| □ Temporary Right-of-Way | ⛶ Photo Location |
| □ Workspace | |



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Equitrans Expansion Project



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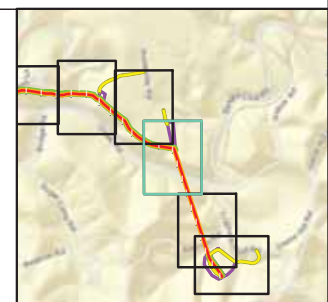
Attachment #: 4-17
USGS Project Location Map
Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | (Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



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Equitrans Expansion Project



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EQUITRANSSM

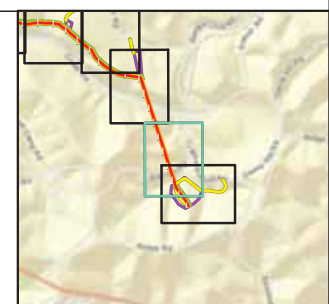
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USGS Project Location Map
Greene County, Pennsylvania

October 2015

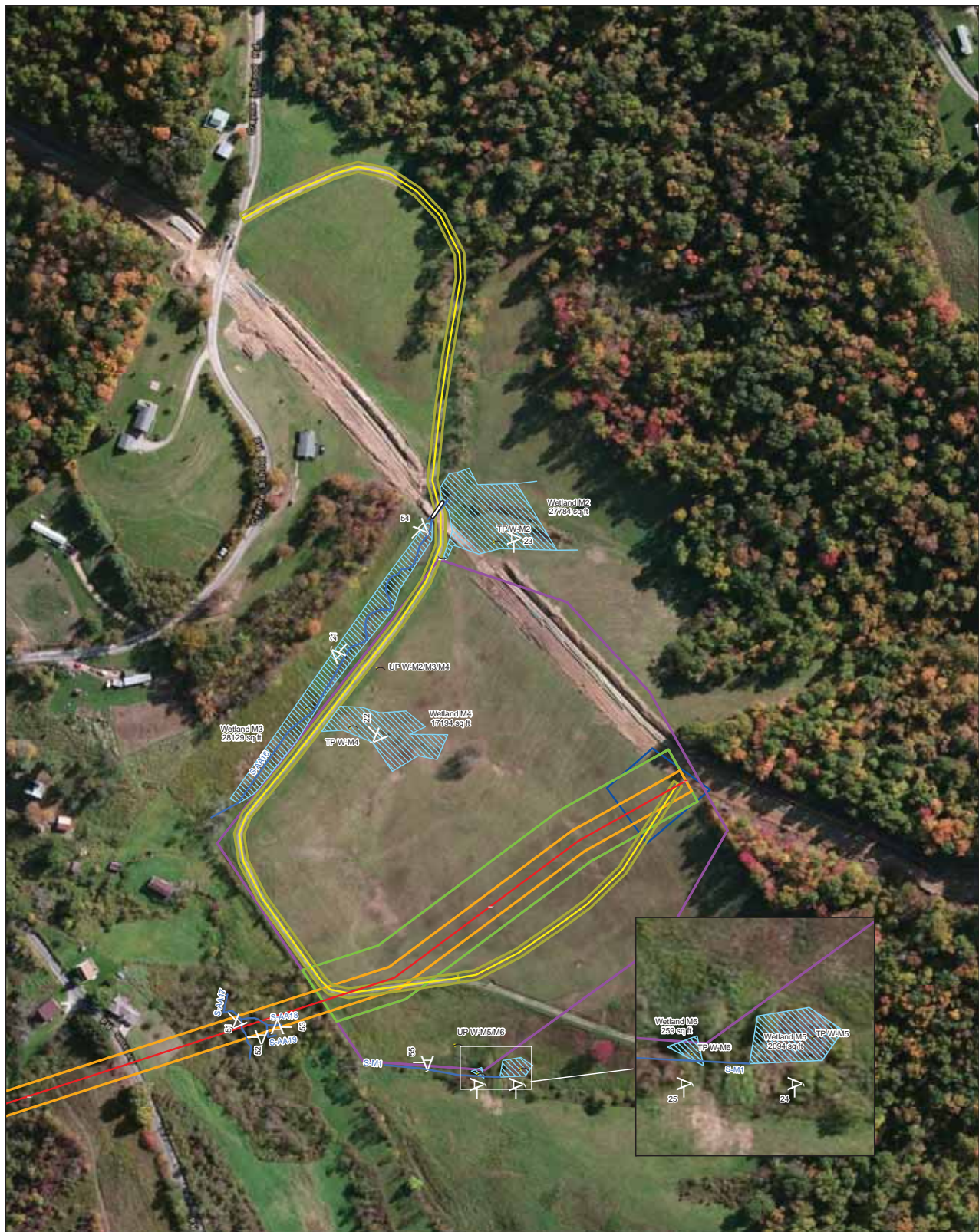
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------|--------------------|
| • Milepost | Permanent Site |
| — Alignment Centerline | Compressor Station |
| — Access Road | (Culvert |
| — Right-of-Way (Access Road) |) Test Pit |
| — Groundbed | — Stream |
| — Permanent Right-of-Way | Wetland |
| — Temporary Right-of-Way | Photo Location |
| — Workspace | |



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Equitrans Expansion Project



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EQUITRANSSM

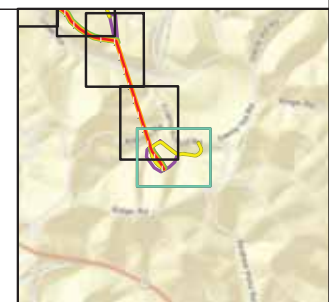
Attachment #: 4-19
USGS Project Location Map
Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------|----------------------|
| • Milepost | □ Permanent Site |
| — Alignment Centerline | □ Compressor Station |
| — Access Road | (Culvert |
| □ Right-of-Way (Access Road) |) Test Pit |
| □ Groundbed | — Stream |
| □ Permanent Right-of-Way | ▨ Wetland |
| □ Temporary Right-of-Way | ⛶ Photo Location |
| □ Workspace | |



Document Path: P:\GIS\EQMapDocs\eqp_19a_greenecounty_detail.mxd



Equitrans Expansion Project



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EQUITRANSSM

**Attachment #: 4-20
USGS Project Location Map
Greene County, Pennsylvania**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | (Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



Document Path: P:\GIS\EQMapDocs\eqp_pa_greencounty_detail.mxd



Equitrans Expansion Project













EQUITRANSSM

**Attachment #: 4-21
Wetland Detail Map
Wetzel County, West Virginia**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | | | |
|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|------------------|
|  | Tap |  | Study Area |
|  | Milepost |  | Culvert |
|  | Compressor Station Centroid |  | Test Pit |
| | Alignment Centerline | | Drainage Feature |
|  | Workspace | | Stream |
|  | Temporary Right-of-Way |  | Wetland |
|  | Permanent Right-of-Way |  | Photo Direction |
|  | Compressor Station | | |



APPENDIX A
FIELD DATA SHEETS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB1-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2-5
 Subregion (LRR or MLRA): LRRN Lat: 40.2552747 Long: -079.9666018 Datum: NAD 83
 Soil Map Unit Name: Udorthents, smoothed gently sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Depressional

WT: NRPWW

This location is a former missile location. Soil is mostly fill material, heavily disturbed, with mounds of debris and fill

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB1-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>250</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>250</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>40</u>	x 4 = <u>160</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>100</u> (A)	<u>250</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
Herb Stratum (Plot size: <u>5'</u>)					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____													
1. <u>Rumex Crispus</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Polygonum pensylvanicum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Poa pratensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>trifolium repens</u>	<u>10</u>	_____	<u>UPL</u>															
5. <u>Lolium perenne</u>	<u>10</u>	_____	<u>FACU</u>															
6. <u>Solidago altissima</u>	<u>10</u>	_____	<u>FACU</u>															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Woody Vine Stratum (Plot size: <u>15'</u>)														
7. <u>seteria faberi</u>	<u>5</u>	_____	<u>UPL</u>															
8. <u>Plantago major</u>	<u>5</u>	_____	<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
100 = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB1-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB3-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-8%
 Subregion (LRR or MLRA): LRRN Lat: 40.25059174070 Long: -79.95944689370 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam 8-15% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB3-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>55</u> x 4 = <u>220</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>70</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>4.07</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Chamerion angustifolium</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Leucanthum vulgare</u>	<u>10</u>	_____	<u>UPL</u>	
3. <u>Trifolium hybridum</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>Oxalis stricta</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>convolvulus arvensis</u>	<u>5</u>	_____	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present?
 Yes _____ No ☒

SOIL

Sampling Point: W-BB3-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB3-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): >10
 Subregion (LRR or MLRA): LRRN Lat: 3) 40.2506347 Long: -079.9595353 Datum: NAD 83
 Soil Map Unit Name: Dormot siltloam 8-15% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:
 Cowardin Code: PEM
 HGM: slope
 WT: isolate

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u>	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>14</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB3-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>62</u></td> <td>x 1 = <u>62</u></td> </tr> <tr> <td>FACW species <u>13</u></td> <td>x 2 = <u>26</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>178</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.78</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>62</u>	x 1 = <u>62</u>	FACW species <u>13</u>	x 2 = <u>26</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>178</u> (B)	Prevalence Index = B/A = <u>1.78</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>62</u>	x 1 = <u>62</u>																			
FACW species <u>13</u>	x 2 = <u>26</u>																			
FAC species <u>10</u>	x 3 = <u>30</u>																			
FACU species <u>15</u>	x 4 = <u>60</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>100</u> (A)	<u>178</u> (B)																			
Prevalence Index = B/A = <u>1.78</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
Herb Stratum (Plot size: <u>5'</u>)																				
1. <u>Carex vulpinoidea</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
2. <u>Scirpus atrovirens</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
3. <u>Alopecurus aequalis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
4. <u>Agrostis stolonifera</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>																	
5. <u>Solidago altissima</u>	<u>5</u>		<u>FACU</u>																	
6. <u>Rumex crispus</u>	<u>5</u>		<u>FACU</u>																	
7. <u>Chamerion angustifolium</u>	<u>5</u>		<u>FAC</u>																	
8. <u>Trifolium hybridum</u>	<u>5</u>		<u>FACU</u>																	
9. <u>Onoclea sensibilis</u>	<u>3</u>		<u>FACW</u>																	
10. <u>Asclepias incarnata</u>	<u>2</u>		<u>OBL</u>																	
11. <u>Asclepias syriaca</u>	<u>5</u>		<u>FAC</u>																	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																				
Woody Vine Stratum (Plot size: <u>15'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.																
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																

SOIL

Sampling Point: W-BB3-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB2-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): >10
 Subregion (LRR or MLRA): LRRN Lat: 40.2495476 Long: -079.9578589 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam 8-15% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Slope

WT: NRPWW

source of surface water unknown. Could be result of recent rains or spring located at top of hill

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 6
 Water Table Present? Yes ☒ No ☐ Depth (inches): 5
 Saturation Present? Yes ☒ No ☐ Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB2-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>215</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.15</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>215</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>100</u> (A)	<u>215</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex vulpinoidea</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Scirpus atrovirens</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Rumex Crispus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Solidago altissima</u>	<u>15</u>	_____	<u>FACU</u>															
5. <u>Asclepias syriaca</u>	<u>15</u>	_____	<u>FAC</u>															
6. <u>Calystegia sepium</u>	<u>10</u>	_____	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-BB2-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB2-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): linear Slope (%): 3-8%
 Subregion (LRR or MLRA): LRRN Lat: 40.24951600180 Long: -79.95775845020 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 8-15% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
 Water Table Present? Yes ☐ No ☐ Depth (inches):
 Saturation Present? Yes ☐ No ☐ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB2-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species _____ x 5 = _____ Column Totals: <u>75</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.4</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Chamerion angustifolium</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Trifolium repens</u>	<u>15</u>	_____	<u>FACU</u>	
3. <u>Rubus trivialis</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Achillea millefolium</u>	<u>5</u>	_____	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>75</u> = Total Cover 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB2-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/13/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB13
 Investigator(s): A Lands, S Cowell, T Caddy, Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope/depression Local relief (concave, convex, none): concave Slope (%): <5
 Subregion (LRR or MLRA): LRRN Lat: 40.238567 Long: -79.944506 Datum: NAD 83
 Soil Map Unit Name: Urban land-Rainsboro complex, gently sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PFO/PSS Depressional RPWWD large depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal,			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> FAC-Neutral Test (D5)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: some areas are saturated, however no H2S odor was detected.		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB13

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)														
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
20 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>4</u></td> <td>x 1 = <u>4</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>36</u></td> <td>x 3 = <u>108</u></td> </tr> <tr> <td>FACU species <u>24</u></td> <td>x 4 = <u>96</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>84</u> (A)</td> <td><u>248</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.95</u>	Total % Cover of:	Multiply by:	OBL species <u>4</u>	x 1 = <u>4</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>36</u>	x 3 = <u>108</u>	FACU species <u>24</u>	x 4 = <u>96</u>	UPL species _____	x 5 = _____	Column Totals: <u>84</u> (A)	<u>248</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>4</u>	x 1 = <u>4</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>36</u>	x 3 = <u>108</u>																	
FACU species <u>24</u>	x 4 = <u>96</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>84</u> (A)	<u>248</u> (B)																	
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Ligustrum sinense</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
5 = Total Cover																		
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Pilea pumila</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Podophyllum peltatum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Urtica dioica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Microstegium vimineum</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
5. <u>Impatiens pallida</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
6. <u>Athyrium filix-femina</u>	<u>2</u>	_____	<u>FAC</u>															
7. <u>Potentilla simplex</u>	<u>2</u>	_____	<u>FACU</u>															
8. <u>Gallium asprellum</u>	<u>2</u>	_____	<u>OBL</u>															
9. <u>Onoclea sensibilis</u>	<u>2</u>	_____	<u>OBL</u>															
10. <u>Oxalis stricta</u>	<u>2</u>	_____	<u>FACU</u>															
11. _____	_____	_____	_____															
50 = Total Cover																		
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
5 = Total Cover																		
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100					clay loam	fill gravel washed from road
3-16	10YR3/1	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,		
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒

No _____

Remarks:

Wetland situated on soil derived from dark coal floodplain. NRCS soil map unit name is urban land-Rainsboro complex, gently sloping (URB). Soil listed as hydric.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/13/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB13-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy Section, Township, Range: NA
Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): convex Slope (%): 3-5
Subregion (LRR or MLRA): LRRN Lat: 40.23873789560 Long: -79.94489288190 Datum: NAD 83
Soil Map Unit Name: Urban land-Rainsboro complex sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

Are Vegetation ☐, Soil ☒, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB13-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>32</u> x 3 = <u>96</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>82</u> (A) <u>266</u> (B) Prevalence Index = B/A = <u>3.24</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Impatiens pallida</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Urtica dioica</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Cardamine dyphalla</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Anemone virginiana</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>Podophyllum peltatum</u>	<u>5</u>	_____	<u>FACU</u>	
6. <u>Microstegium vimineum</u>	<u>5</u>	_____	<u>FAC</u>	
7. <u>Athyrium felix-femina</u>	<u>2</u>	_____	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>57</u> = Total Cover 50% of total cover: <u>28.5</u> 20% of total cover: <u>11.4</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB13-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB11-WP
 Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): <10
 Subregion (LRR or MLRA): LRRN Lat: 40.2368791 Long: -079.9457451 Datum: NAD 83
 Soil Map Unit Name: Strip mines 25-75% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO

HGM: slope

WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB11-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>Acer rubrum</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)														
2. <u>Fagus grandifolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)														
4. _____																		
5. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)														
6. _____																		
7. _____																		
$\frac{40}{100} = \text{Total Cover}$ 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>255</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.55</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>60</u>	x 2 = <u>120</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>255</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>60</u>	x 2 = <u>120</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>100</u> (A)	<u>255</u> (B)																	
$\frac{60}{100} = \text{Total Cover}$ 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Acer rubrum</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Lonicera sp.</u>	<u>10</u>		<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
3. <u>Fagus grandifolia</u>	<u>10</u>		<u>FACU</u>															
4. _____				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
5. _____																		
6. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
$\frac{70}{100} = \text{Total Cover}$ 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Pilea pumila</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
2. <u>Athyrium felix-femina</u>	<u>5</u>		<u>FAC</u>															
3. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
$\frac{0}{100} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB11-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB11-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): >5
Subregion (LRR or MLRA): LRRN Lat: 40.23685127460 Long: -79.94571985080 Datum: NAD 83
Soil Map Unit Name: Strip mines 25-75% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB11-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>15</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>75</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>3.33</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Podophyllum peltatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Pilea pumila</u>	<u>10</u>		<u>FACW</u>	
3. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Rubus pensylvanicus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB11-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR2.5/2	100					clay loam	organic
4-16	10YR4/3	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB10-WP
 Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): <5
 Subregion (LRR or MLRA): LRRN Lat: 40.2335633 Long: -079.9437277 Datum: NAD 83
 Soil Map Unit Name: Strip mines, 8-25% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO

HGM: slope

WT: NRPWW

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 8
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Skippers observed

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB10-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)
2. <u>Fagus grandifolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. _____				Total Number of Dominant Species Across All Strata: <u>8</u> (B)
4. _____				
5. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87%</u> (A/B)
6. _____				
7. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>3</u> x 1 = <u>3</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>12</u> x 4 = <u>48</u> UPL species _____ x 5 = _____ Column Totals: <u>85</u> (A) <u>251</u> (B) Prevalence Index = B/A = <u>2.95</u>
$\frac{35}{50\% \text{ of total cover: } 17.5} = \text{Total Cover}$ $\frac{20}{20\% \text{ of total cover: } 7}$				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lonicera sp.</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
$\frac{20}{50\% \text{ of total cover: } 10} = \text{Total Cover}$ $\frac{4}{20\% \text{ of total cover: } 4}$				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Microstegium vimenium</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pilea pumila</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Dicanthelium clandestinum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
4. <u>Athyrium felix-femina</u>	<u>5</u>		<u>FAC</u>	
5. <u>Solidago altissima</u>	<u>5</u>		<u>FACU</u>	
6. <u>Gallium asprellum</u>	<u>3</u>		<u>OBL</u>	
7. <u>Anemone virginiana</u>	<u>2</u>		<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
8. _____				
9. _____				
10. _____				
11. _____				
$\frac{55}{50\% \text{ of total cover: } 27.5} = \text{Total Cover}$ $\frac{11}{20\% \text{ of total cover: } 11}$				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Rubus pensylvanicum</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
$\frac{5}{50\% \text{ of total cover: } 2.5} = \text{Total Cover}$ $\frac{1}{20\% \text{ of total cover: } 1}$				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB10-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB10-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): none Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.23353475400 Long: -79.94372414120 Datum: NAD 83
 Soil Map Unit Name: Strip mine 8-25% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
 Water Table Present? Yes ☐ No ☐ Depth (inches):
 Saturation Present? Yes ☐ No ☐ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-BB10-UP

Tree Stratum (Plot size: 30')					
1.	Fagus grandifolia	Absolute % Cover 20	Dominant Species? ✓	Indicator FACU	
2.					
3.					
4.					
5.					
6.					
7.					
		20 = Total Cover			
50% of total cover:		10	20% of total cover:		4
Sapling/Shrub Stratum (Plot size: 15')					
1.	Lonicera Sp.	15	✓	FAC	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
		15 = Total Cover			
50% of total cover:		7.5	20% of total cover:		3
Herb Stratum (Plot size: 5')					
1.	Microstegium vimenium	20	✓	FAC	
2.	Podophyllum peltatum	15		FACU	
3.	Anemone virginiana	5		FACU	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
		40 = Total Cover			
50% of total cover:		20	20% of total cover:		8
Woody Vine Stratum (Plot size: 15')					
1.					
2.					
3.					
4.					
5.					
		0 = Total Cover			
50% of total cover:		0	20% of total cover:		0
Remarks: (Include photo numbers here or on a separate sheet.)					

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
Total Number of Dominant Species Across All Strata:	3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7% (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 = 105
FACU species	x 4 = 160
UPL species	x 5 =
Column Totals:	80 (A) 265 (B)
Prevalence Index = B/A = 3.31	
Hydrophytic Vegetation Indicators:	
1 - Rapid Test for Hydrophytic Vegetation	
✓ 2 - Dominance Test is >50%	
3 - Prevalence Index is ≤3.0 ¹	
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Four Vegetation Strata:	
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vine – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation Present? Yes ✓ No	

SOIL

Sampling Point: W-BB10-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB9-WP
 Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.2332639 Long: -079.9434972 Datum: NAD 83
 Soil Map Unit Name: Strip mine, 8-25% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO

HGM: Depressional

WT: NRPWW

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 6
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Skippers, crawfish, frogs observed

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB9-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)														
2. <u>Fagus grandifolia</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____				Total Number of Dominant Species Across All Strata: <u>5*</u> (B)														
4. _____																		
5. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)														
6. _____																		
7. _____																		
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>270</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.18</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species _____	x 5 = _____	Column Totals: <u>85</u> (A)	<u>270</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>85</u> (A)	<u>270</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>5'</u>)																		
1. <u>Lonicera Sp.</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>ND</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Podolphyllum peltatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Onoclea sensibilis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Microstegium vimenium</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
4. <u>Gallium asprellum</u>	<u>5</u>		<u>OBL</u>															
5. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>45</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not Determined. * Vegetation not ID'd to species level not included in dominance test.																		

SOIL

Sampling Point: W-BB9-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB9-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): none Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.23320910830 Long: -79.94352205020 Datum: NAD 83
 Soil Map Unit Name: Strip mines 8-25% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB9-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>10</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
$\frac{30}{100} = \text{Total Cover}$ 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet: <div style="display: flex; justify-content: space-between;"> Total % Cover of: _____ Multiply by: _____ </div> OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species _____ x 5 = _____ Column Totals: <u>65</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>3.46</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lonicera sp.</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
$\frac{15}{100} = \text{Total Cover}$ 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Podophyllum peltatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
$\frac{20}{100} = \text{Total Cover}$ 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
$\frac{0}{100} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB9-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB8-WP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): >10
Subregion (LRR or MLRA): LRRN Lat: 40.2329197 Long: -079.9423036 Datum: NAD 83
Soil Map Unit Name: Strip mines, 25-75% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO

HGM: Slope

WT: NRPWW

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

slight H2S odor

Sampling Point: W-BB8-WP

Tree Stratum (Plot size: 30')		Absolute % Cover	Dominant Species?	Indicator Status
1.	Acer rubrum	10	✓	FAC
2.				
3.				
4.				
5.				
6.				
7.				
		10 = Total Cover		
50% of total cover: 5		20% of total cover: 2		
Sapling/Shrub Stratum (Plot size: 15')		Absolute % Cover	Dominant Species?	Indicator Status
1.	Lonicera sp.	10	✓	ND
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
		10 = Total Cover		
50% of total cover: 5		20% of total cover: 2		
Herb Stratum (Plot size: 5')		Absolute % Cover	Dominant Species?	Indicator Status
1.	Pilea pumila	30	✓	FACW
2.	microstegium vinemeum	10		FAC
3.	Onoclea sensibilis	10		FACW
4.	Gallium asprellum	5		OBL
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		55 = Total Cover		
50% of total cover: 27.5		20% of total cover: 11		
Woody Vine Stratum (Plot size: 15')		Absolute % Cover	Dominant Species?	Indicator Status
1.	Rubus pensylvanicum	10	✓	FAC
2.				
3.				
4.				
5.				
		10 = Total Cover		
50% of total cover: 5		20% of total cover: 2		

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3* (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 5	x 1 = 5
FACW species 40	x 2 = 80
FAC species 40	x 3 = 120
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 85 (A)	205 (B)

Prevalence Index = B/A = 2.41

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No

SOIL

Sampling Point: W-BB8-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB8-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): plateau Local relief (concave, convex, none): concave Slope (%): 2-4
Subregion (LRR or MLRA): LRRN Lat: 40.23287489100 Long: -79.94221357790 Datum: NAD 83
Soil Map Unit Name: Strip mines 25-45% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB8-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Fagus grandifolia</u>	<u>15</u>		<u>FACU</u>	
3. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4. _____				
5. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
6. _____				
7. _____				
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species _____ x 5 = _____ Column Totals: <u>60</u> (A) <u>195</u> (B) Prevalence Index = B/A = <u>3.25</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lonicera sp</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Athyrium felix-femina</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB8-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB7-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): _____ Slope (%): <5
 Subregion (LRR or MLRA): LRRN Lat: 40.2306361 Long: -079.9359447 Datum: NAD 83
 Soil Map Unit Name: Rainsboro silt loam 3-8% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil ☒, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: slope

WT: NRPWW

location of former strip mine, remediated. Surface riddled with "potholes" of varying sizes, all filled with water.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 6
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? Yes ☒ No _____ Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB7-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>16</u></td> <td>x 1 = <u>16</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>36</u></td> <td>x 3 = <u>108</u></td> </tr> <tr> <td>FACU species <u>6</u></td> <td>x 4 = <u>24</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>208</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.44</u>	Total % Cover of:	Multiply by:	OBL species <u>16</u>	x 1 = <u>16</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>36</u>	x 3 = <u>108</u>	FACU species <u>6</u>	x 4 = <u>24</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>85</u> (A)	<u>208</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>16</u>	x 1 = <u>16</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>36</u>	x 3 = <u>108</u>																	
FACU species <u>6</u>	x 4 = <u>24</u>																	
UPL species <u>2</u>	x 5 = <u>10</u>																	
Column Totals: <u>85</u> (A)	<u>208</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>10'</u>)																		
1. <u>Agrostis stolonifera</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex stipata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Juncus tenuis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Chamerion angustifolium</u>	<u>5</u>		<u>FAC</u>															
5. <u>Alopecurus aequalis</u>	<u>5</u>		<u>OBL</u>															
6. <u>Solanum carolinense</u>	<u>2</u>		<u>FACU</u>															
7. <u>Calystegia pubescens</u>	<u>2</u>		<u>FACU</u>															
8. <u>Hypericum perforatum</u>	<u>1</u>		<u>FAC</u>															
9. <u>Gallium asprellum</u>	<u>1</u>		<u>OBL</u>															
10. <u>Convolvulus arvensis</u>	<u>2</u>		<u>UPL</u>															
11. <u>Asclepias syriaca</u>	<u>2</u>		<u>FACU</u>															
50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>																		
Woody Vine Stratum (Plot size: <u>10'</u>)																		
1. <u>Toxicodendron radicans</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.														
2. <u>Rubus pensylvanicus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-BB7-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB7-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): plateau Local relief (concave, convex, none): concave Slope (%): 3-5
Subregion (LRR or MLRA): LRRN Lat: 40.23057348320 Long: -79.93577201000 Datum: NAD 83
Soil Map Unit Name: Rainsboro silt loam, 3-8% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB7-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>70</u> (A) <u>175</u> (B) Prevalence Index = B/A = <u>2.5</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Agrostis stolonifera</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Chamerion angustifolium</u>	<u>15</u>		<u>FAC</u>	
3. <u>Convolvulus arvensis</u>	<u>5</u>		<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Rubus pensylvanicus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Toxicodendron radicans</u>	<u>5</u>		<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-BB7-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB6-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): <8
 Subregion (LRR or MLRA): LRRN Lat: 40.2295701 Long: -079.9346449 Datum: NAD 83
 Soil Map Unit Name: Culleoka-Weikert Shaly silt loams NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: slope

WT: RPWWN

location of former strip mine, remediated. Surface riddled with "potholes" of varying sizes, all filled with water.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 7
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 2

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

very slight H2S odor

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB6-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>220</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.4</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>90</u> (A)	<u>220</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>55</u>	x 2 = <u>110</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>90</u> (A)	<u>220</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: <u>5'</u>)					Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.													
1. <u>Agrostis stolonifera</u>	<u>55</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
2. <u>juncus tenuis</u>	<u>10</u>	_____	<u>FAC</u>															
3. <u>Chamerion angustifolium</u>	<u>5</u>	_____	<u>FAC</u>															
4. <u>Alopecurus aequalis</u>	<u>5</u>	_____	<u>OBL</u>															
5. <u>sorghum halepense</u>	<u>5</u>	_____	<u>FACU</u>															
6. <u>convolvulus arvensis</u>	<u>5</u>	_____	<u>UPL</u>															
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
Woody Vine Stratum (Plot size: <u>5'</u>)																		
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		

Remarks: (Include photo numbers here or on a separate sheet.)

 mostly reclaimed vegetation

SOIL

Sampling Point: W-BB6-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB6-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): plateau Local relief (concave, convex, none): concave Slope (%): 2-5
Subregion (LRR or MLRA): LRRN Lat: 40.22963424210 Long: -79.93481801570 Datum: NAD 83
Soil Map Unit Name: Culleoka-weikert shaly silt loams, 1-15% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB6-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: <div style="display: flex; justify-content: space-between;"> Total % Cover of: Multiply by: </div> OBL species <u>0</u> x 1 = _____ FACW species <u>0</u> x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species _____ x 5 = _____ Column Totals: <u>45</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>3.6</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Asclepias lanceolata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Daucus carota</u>	<u>10</u>	_____	<u>FACU</u>	
3. <u>Convolvulus arvensis</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>toxicodendron radicans</u>	<u>5</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Rubus pensylvanicus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: W-BB6-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR4/3	100					CL	
7-12	10YR4/4	100					CL	
12-16	2.5Y5/2	100					CL	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	(MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,		
MLRA 147, 148)	MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/13/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB12-WP
 Investigator(s): A Lands, S Cowell, T Caddy, Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): <10
 Subregion (LRR or MLRA): LRRN Lat: 40.2260 Long: -79.9287 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 3-8% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PEM slope isolate surface disturbed by heavy equipment			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB12-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>50</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>185</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.06</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species _____	x 5 = _____	Column Totals: <u>90</u> (A)	<u>185</u> (B)	Prevalence Index = B/A = <u>2.06</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>50</u>	x 1 = <u>50</u>																			
FACW species <u>5</u>	x 2 = <u>10</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species _____	x 5 = _____																			
Column Totals: <u>90</u> (A)	<u>185</u> (B)																			
Prevalence Index = B/A = <u>2.06</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5'</u>)					Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.															
1. <u>Scirpus atrovirens</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>OBL</u>																	
2. <u>Juncus tenuis</u>	<u>15</u>	_____	<u>FAC</u>																	
3. <u>Trifolium repens</u>	<u>10</u>	_____	<u>FACU</u>																	
4. <u>Trifolium hybridum</u>	<u>10</u>	_____	<u>FACU</u>																	
5. <u>Polygonum pensylvanicum</u>	<u>5</u>	_____	<u>FACW</u>																	
6. <u>microstegium vimineum</u>	<u>5</u>	_____	<u>FAC</u>																	
50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																
Woody Vine Stratum (Plot size: <u>15'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB12-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/13/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB12-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy Section, Township, Range: NA
Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): linear Slope (%): 6-10
Subregion (LRR or MLRA): LRRN Lat: 40.22588000040 Long: -79.92900000030 Datum: NAD 83
Soil Map Unit Name: Dormont silt loam 15-25% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB12-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>50</u> x 4 = <u>200</u> UPL species _____ x 5 = _____ Column Totals: <u>50</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>4</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Trifolium repens</u>	<u>35</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Trifolium hybridum</u>	<u>10</u>		<u>FACU</u>	
3. <u>Lolium perenne</u>	<u>5</u>		<u>FACU</u>	Woody Vine Stratum (Plot size: <u>15'</u>)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	50% of total cover: <u>25</u> 20% of total cover: <u>10</u>
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				Remarks: (Include photo numbers here or on a separate sheet.)
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	50% of total cover: <u>0</u> 20% of total cover: <u>0</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	

SOIL

Sampling Point: W-BB12-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	2.5Y4/4	100					clay loam	loamy clay

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB5-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): none Slope (%): 3-5
 Subregion (LRR or MLRA): LRRN Lat: 40.2491980 Long: -079.9294342 Datum: NAD 83
 Soil Map Unit Name: Glenford silt loam, 3-8% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: depressional

WT: RPWWN

man made obstructions present, mostly fill material

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 5
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB5-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>195</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.29</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>85</u> (A)	<u>195</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>45</u>	x 3 = <u>135</u>																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: <u>85</u> (A)	<u>195</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
Herb Stratum (Plot size: <u>5'</u>)					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____													
1. <u>Scirpus atrovirens</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
2. <u>Juncus tenuis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Dichanthelium clandestinum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Carex cristatella</u>	<u>10</u>	_____	<u>FACW</u>															
5. <u>agrostis stolonifera</u>	<u>10</u>	_____	<u>FACW</u>															
6. <u>Chamerion angustifolium</u>	<u>10</u>	_____	<u>FAC</u>															
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB5-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5Y4/2	50					clay loam	
0-6	Gley 4/10Y	50					clay loam	
6-12	2.5Y5/4	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
MLRA 147, 148)	MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:
Glenford silt loam, 3-8% slope
fill material present

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB5-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): valley bottom Local relief (concave, convex, none): none Slope (%): 2-4
Subregion (LRR or MLRA): LRRN Lat: 40.24917854360 Long: -79.92963309210 Datum: NAD 83
Soil Map Unit Name: Udortents smoothed, gently sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB5-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>65</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.92</u>
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Chamerion angustifolium</u>	<u>20</u>	<u>✓</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
2. <u>Artemisia vulgaris</u>	<u>15</u>	<u>✓</u>	<u>UPL</u>	
3. <u>Daucus carota</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Dipascus fullonum</u>	<u>10</u>	_____	<u>FACU</u>	
5. <u>Mellilotus albus</u>	<u>10</u>	_____	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB5-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB4-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 40.2542043 Long: -079.9262158 Datum: NAD 83
 Soil Map Unit Name: Dormant-Culleoka Complex 15-25% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: isolated

WT: Depressional

located behind gas station. UST's are present as well as man made obstructions

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): <5
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB4-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>180</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species _____	x 5 = _____	Column Totals: <u>90</u> (A)	<u>180</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>90</u> (A)	<u>180</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>carex stipata</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>juncus tenuis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>agrostis stolonifera</u>	<u>15</u>	_____	<u>FACW</u>															
4. <u>Chloris virgata</u>	<u>10</u>	_____	<u>FAC</u>															
5. <u>trifolium hybridum</u>	<u>5</u>	_____	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: W-BB4-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB4-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terraced hillslope Local relief (concave, convex, none): concave Slope (%): 3-8%
 Subregion (LRR or MLRA): LRRN Lat: 40.25399999960 Long: -79.92622000020 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 15-15% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB4-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u>55</u> (A) <u>215</u> (B) Prevalence Index = B/A = <u>3.91</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Trifolium hybridum</u>	<u>15</u>	<u>✓</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Cichorium intybus</u>	<u>10</u>	<u>✓</u>	<u>FACU</u>	
3. <u>oxalis stricta</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>plantago major</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>Coronilla varia</u>	<u>5</u>	_____	<u>FAC</u>	
6. <u>lotus corniculatus</u>	<u>5</u>	_____	<u>FACU</u>	
7. <u>plantago lanceolata</u>	<u>5</u>	_____	<u>FACU</u>	
8. <u>taraxacum officianale</u>	<u>5</u>	_____	<u>FACU</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u> </u> No <u>✓</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB4-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/2	100					clay loam	
6-20	10YR4/3	100					clay loam	fill material w/ coarse gravels

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Red Hook Compressor Station City/County: Greene Sampling Date: 06/09/2015
Applicant/Owner: EQT State: PA Sampling Point: W-N1
Investigator(s): JH, LM, JK Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.91772914740 Long: -80.13069448700 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☒ No ☐ Depth (inches): 4
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-N1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Juncus effusus	70	✓	FACW	
2. Asclepias incarnata	10		OBL	
3. Carex lurida	5		OBL	
4. Phalaris arundinaceae	2		FACW	
5. Carex vulpinoidea	10		OBL	
6. Impatiens capensis	5		FACW	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>102</u> = Total Cover 50% of total cover: <u>51</u> 20% of total cover: <u>20.4</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <u>✓</u> No _____

SOIL

Sampling Point: W-N1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Red Hook Compressor Station City/County: Greene Sampling Date: 06/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-N1 UP
 Investigator(s): JH, LM, JK Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91777586110 Long: -80.13079854330 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-N1 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Solidago altissima</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Trifolium pratense</u>	<u>5</u>	_____	<u>FACU</u>	
3. <u>Trifolium aureum</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
4. <u>Allium sp.</u>	<u>2</u>	_____	_____	
5. <u>Lotus corniculatus</u>	<u>10</u>	_____	<u>FACU</u>	
6. <u>Galium aparine</u>	<u>10</u>	_____	<u>FACU</u>	
7. <u>Melilotus officinalis</u>	<u>2</u>	_____	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>84</u> = Total Cover 50% of total cover: <u>42</u> 20% of total cover: <u>16.8</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-N1 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA1
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.91576824580 Long: -80.13133243640 Datum: NAD 83
Soil Map Unit Name: Newark silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

Large mound in middle of wetland. S-AA2 feeds W-AA1. Stream is dammed by road creating wetland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes ☒ No _____ Depth (inches): 10
Saturation Present? Yes ☒ No _____ Depth (inches): 0-10
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Platanus occidentalis</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex vulpinoidea</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Scirpus cyperinus</u>	<u>20</u>	_____	<u>FACW</u>	
3. <u>Scirpus atrovirens</u>	<u>5</u>	_____	<u>OBL</u>	
4. <u>Eupatorium perfoliatum</u>	<u>20</u>	_____	<u>FACW</u>	
5. <u>Agrimonia parviflora</u>	<u>15</u>	_____	<u>FACW</u>	
6. <u>Solidago gigantea</u>	<u>5</u>	_____	<u>FACW</u>	
7. <u>Amphicarpaea bracteata</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
8. <u>Dipsacus laciniatus</u>	<u>5</u>	_____	<u>FACU</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>160</u> = Total Cover 50% of total cover: <u>80</u> 20% of total cover: <u>32</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/2	100					SCL	
3-10	10YR 5/1	93	10YR 3/6	2	RM	M/PL	SCL	
3-10	10YR 4/2	5						
10-20	10YR 5/6	100					SCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA1 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.91589062750 Long: -80.13158042460 Datum: NAD 83
Soil Map Unit Name: Newark silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA1 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>315</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>75</u> (A)	<u>315</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>75</u> (A)	<u>315</u> (B)																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Erigeron annuus</u>	<u>15</u>		<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Potentilla indica</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Trifolium pratense</u>	<u>10</u>		<u>FACU</u>															
4. <u>Daucus carota</u>	<u>15</u>		<u>UPL</u>															
5. <u>Alliaria petiolata</u>	<u>5</u>		<u>FACU</u>															
6. <u>Carex sp.</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>ND</u>															
7. <u>Ranunculus sp.</u>	<u>5</u>		<u>ND</u>															
8. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.														
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.) ND- Not determined.				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA1 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-19	10YR 4/2	85					SCL	
	10YR 5/3	10						
	10YR 8/6	5						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA5
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope/depression Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91355442740 Long: -80.12824347210 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM
 HGM: Isolate
 WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☒ No ☐ Depth (inches): 1
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA5

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0*</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Poa sp.</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>ND</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Phalaris arundinacea</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>	
3. <u>Poa trivialis</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>	
4. <u>Daucus carota</u>	<u>5</u>	<input type="checkbox"/>	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Wetland with problematic hydrophytic vegetation Wetland is adjacent to Pratt Compressor Station (industrial area.) Adjacent drainage does not have bed or bank to make it a stream. Wetland fed by groundwater and rain events making it a slope wetland. Upland soils north and east of the wetland make it isolate. ND - Not Determined. * Vegetation not ID'd to species level not included in dominance test.				

SOIL

Sampling Point: W-AA5

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA5 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NAD 83
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.91360410120 Long: -80.12826299710 Datum: NAD 83
Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Hydric soil is present but lack of hydrology and vegetation makes this an upland sample plot.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA5 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>45</u></td> <td>x 4 = <u>180</u></td> </tr> <tr> <td>UPL species <u>70</u></td> <td>x 5 = <u>350</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>540</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>45</u>	x 4 = <u>180</u>	UPL species <u>70</u>	x 5 = <u>350</u>	Column Totals: <u>120</u> (A)	<u>540</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>45</u>	x 4 = <u>180</u>																	
UPL species <u>70</u>	x 5 = <u>350</u>																	
Column Totals: <u>120</u> (A)	<u>540</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Lotus corniculatus</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Dipsacus laciniatus</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
3. <u>Securigera varia</u>	<u>20</u>		<u>UPL</u>															
4. <u>Cirsium arvense</u>	<u>5</u>		<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. <u>Vitis riparia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA5 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA6
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope/Depression Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91389543370 Long: -80.12716311240 Datum: NAD 83
 Soil Map Unit Name: Huntington silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Isolated

WT: RPWWN

Groundwater from W-AA6 flows into S-AA5

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☒ No ☐ Depth (inches): 3
 Saturation Present? Yes ☒ No ☐ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA6

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phalaris arundinacea</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Typha angustifolia</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>5</u>		<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>20</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-AA6

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA6 UP
 Investigator(s): _____ Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8
 Subregion (LRR or MLRA): LRRN Lat: 39.91399666630 Long: -80.12721311840 Datum: NAD 83
 Soil Map Unit Name: Huntington silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? Yes _____ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys. No water table or saturation 0-20." No other hydrology indicators present.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA6 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus rubra</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>8</u> = Total Cover 50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Cirsium arvense</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Phalaris arundinacea</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Apocynum cannabinum</u>	<u>10</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA6 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA2
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91616667970 Long: -80.12612322510 Datum: NAD 83
 Soil Map Unit Name: Dumps, mine NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM
 HGM: Riverine
 WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 0
 Water Table Present? Yes ☒ No _____ Depth (inches): 0
 Saturation Present? Yes ☒ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>8</u> = Total Cover 50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Agrimonia parviflora</u>	<u>10</u>	_____	<u>FACW</u>	
3. <u>Microstegium vimineum</u>	<u>20</u>	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA2

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA2 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10
Subregion (LRR or MLRA): LRRN Lat: 39.91628509170 Long: -80.12603265380 Datum: NAD 83
Soil Map Unit Name: Dumps, mine NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒

Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Cowardin Code:

HGM:

WT:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA2 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Aesculus octandra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. <u>Robinia pseudoacacia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Acer rubrum</u>	<u>10</u>	<input type="checkbox"/>	<u>FAC</u>															
4. <u>Quercus rubra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. _____				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>236</u></td> <td>x 4 = <u>944</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>246</u> (A)</td> <td><u>974</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>236</u>	x 4 = <u>944</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>246</u> (A)	<u>974</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>236</u>	x 4 = <u>944</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>246</u> (A)	<u>974</u> (B)																	
6. _____																		
7. _____																		
8. _____																		
9. _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
10. _____																		
11. _____																		
12. _____																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u> 100 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Fraxinus americana</u>	<u>10</u>		<u>FACU</u>															
2. <u>Prunus americana</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Sassafras albidum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
4. <u>Quercus alba</u>	<u>10</u>		<u>FACU</u>															
5. _____																		
6. _____																		
7. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
8. _____																		
9. _____																		
10. _____																		
50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u> 75 = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Aesculus octandra</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Prunus serotina</u>	<u>10</u>		<u>FACU</u>															
3. <u>Potentilla indica</u>	<u>8</u>		<u>FACU</u>															
4. <u>Prunus americana</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. <u>Quercus alba</u>	<u>10</u>		<u>FACU</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
50% of total cover: <u>35.5</u> 20% of total cover: <u>14.2</u> 71 = Total Cover																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
50% of total cover: <u>0</u> 20% of total cover: <u>0</u> 0 = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA2 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA3
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8
 Subregion (LRR or MLRA): LRRN Lat: 39.91694532470 Long: -80.12500339490 Datum: NAD 83
 Soil Map Unit Name: Dormant-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Cowardin Code: PEM HGM: Slope WT: RPWWD	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) _____ Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) _____ _____ Water-Stained Leaves (B9) _____ _____ Aquatic Fauna (B13) _____		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Heavy rainfall for 4 days before and during surveys.		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <i>Typha angustifolia</i>	<u>40</u>	<u>✓</u>	<u>OBL</u>	
2. <i>Carex vulpinoidea</i>	<u>10</u>		<u>OBL</u>	
3. <i>Poa trivialis</i>	<u>60</u>	<u>✓</u>	<u>FACW</u>	
4. <i>Juncus effusus</i>	<u>15</u>		<u>FACW</u>	
5. <i>Solidago</i> sp	<u>5</u>			
6. <i>Lotus corniculatus</i>	<u>5</u>		<u>UPL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>135</u> = Total Cover 50% of total cover: <u>67.5</u> 20% of total cover: <u>27</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present?
 Yes ✓ No _____

SOIL

Sampling Point: W-AA3

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: _____
Applicant/Owner: EQT State: PA Sampling Point: W-AA3 UP
Investigator(s): J. Heule L. McCarrell, L. Sexton, C. Lee Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
Subregion (LRR or MLRA): LRRN Lat: 39.91699149540 Long: -80.12501773560 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA3 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>550</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>130</u> (A)	<u>550</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>130</u> (A)	<u>550</u> (B)																	
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Lotus corniculatus</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Cirsium arvense</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Solidago altissima</u>	<u>10</u>		<u>FACU</u>															
4. <u>Poa pratensis</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
$\frac{130}{50\% \text{ of total cover: } 65} = \text{Total Cover}$																		
$\frac{26}{20\% \text{ of total cover: } 26}$																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$																		
$\frac{0}{20\% \text{ of total cover: } 0}$																		
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA3 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA4
Investigator(s): JH, LM, LS, CL Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.91675806970 Long: -80.11522332030 Datum: NAD 83
Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> True Aquatic Plants (B14)	
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:Surface Water Present? Yes ☒ No ☐ Depth (inches): 0Water Table Present? Yes ☒ No ☐ Depth (inches): 0Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA4

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex lurida</u>	<u>65</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Carex vulpinoidea</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Phalaris arundinacea</u>	<u>5</u>		<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>5</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>125</u> = Total Cover 50% of total cover: <u>62.5</u> 20% of total cover: <u>25</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA4

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA4 UP
 Investigator(s): JH, LM, LS, CL Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 4
 Subregion (LRR or MLRA): LRRN Lat: 39.916774 Long: -80.115212 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes (DoC) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? Yes _____ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA4 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>40</u></td> <td>x 5 = <u>200</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>440</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>100</u> (A)	<u>440</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>40</u>	x 5 = <u>200</u>																	
Column Totals: <u>100</u> (A)	<u>440</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: <u>5'</u>)					Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.													
1. <u>Cirsium arvense</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Securigera varia</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
$\frac{100}{50\% \text{ of total cover: } 50} = \text{Total Cover}$		$\frac{20}{20\% \text{ of total cover: } 20}$		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA4 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA7
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 15
 Subregion (LRR or MLRA): LRRN Lat: 39.91692035220 Long: -80.11417398970 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:
 Cowardin Code: PEM
 HGM: Riverine
 WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA7

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Scirpus atrovirens</u>	<u>10</u>	_____	<u>OBL</u>	
2. <u>Carex vulpinoidea</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Phalaris arundinacea</u>	<u>20</u>	_____	<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>15</u>	_____	<u>FACW</u>	
5. <u>Poa palustris</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
6. _____	_____	_____	_____	
<u>145</u> = Total Cover 50% of total cover: <u>72.5</u> 20% of total cover: <u>29</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-AA7

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA7 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 20
Subregion (LRR or MLRA): LRRN Lat: 39.91692609920 Long: -80.11395393570 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 8 to 15 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒

Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		___ Surface Soil Cracks (B6)
___ Surface Water (A1)	___ True Aquatic Plants (B14)	___ Sparsely Vegetated Concave Surface (B8)
___ High Water Table (A2)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Other (Explain in Remarks)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)		___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ Microtopographic Relief (D4)
___ Aquatic Fauna (B13)		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA7 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>12</u></td> <td>x 5 = <u>60</u></td> </tr> <tr> <td>Column Totals: <u>127</u> (A)</td> <td><u>520</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.1</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>12</u>	x 5 = <u>60</u>	Column Totals: <u>127</u> (A)	<u>520</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>115</u>	x 4 = <u>460</u>																	
UPL species <u>12</u>	x 5 = <u>60</u>																	
Column Totals: <u>127</u> (A)	<u>520</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Cirsium arvense</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Securigera varia</u>	<u>12</u>		<u>UPL</u>															
3. <u>Rubus allegheniensis</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>117</u> = Total Cover 50% of total cover: <u>58.5</u> 20% of total cover: <u>23.4</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.														
1. <u>Rubus allegheniensis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA7 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/1	100					SCL	
12-20	10YR 7/6	100					SCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	(MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
MLRA 147, 148)	MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA8
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.91723329800 Long: -80.10237266320 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 25 to 80 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM
 HGM: Isolated
 WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes ☒ No _____ Depth (inches): 3
 Saturation Present? Yes ☒ No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA8

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>40</u>	<u>✓</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u>✓</u> 1 - Rapid Test for Hydrophytic Vegetation <u>✓</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex vulpinoidea</u>	<u>30</u>	<u>✓</u>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>40</u>	<u>✓</u>	<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>25</u>	<u> </u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>135</u> = Total Cover 50% of total cover: <u>67.5</u> 20% of total cover: <u>27</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes <u>✓</u> No <u> </u>				
Remarks: (Include photo numbers here or on a separate sheet.) Western 50% of wetland has been mowed in the last 2 months, eastern 50% has not. Therefore, the western part of the wetland has problematic vegetation. Water table at 0" for entire plot. Wetland ID in the area with hydric vegetation.				

SOIL

Sampling Point: W-AA8

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA8 UP
Investigator(s): J. Heule, L. McCarell, L. Sexton, C. Lee Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Flat plain Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.91720006700 Long: -80.10240104760 Datum: NAD 83
Soil Map Unit Name: Dekalb channery loam, 25 to 80 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA8 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>145</u> (A)</td> <td><u>610</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>145</u> (A)	<u>610</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>115</u>	x 4 = <u>460</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>145</u> (A)	<u>610</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Trifolium pratense</u>	<u>25</u>		<u>FACU</u>															
2. <u>Daucus carotaz</u>	<u>10</u>		<u>UPL</u>															
3. <u>Securigera varia</u>	<u>20</u>		<u>UPL</u>															
4. <u>Phleum pratense</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. <u>Dactylis glomerata</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>145</u> = Total Cover 50% of total cover: <u>72.5</u> 20% of total cover: <u>29</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA8 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M1
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Linear Slope (%): 12-15%
 Subregion (LRR or MLRA): LRRN Lat: 39.91492671900 Long: 80.10000660220 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:
 Cowardin Code: PEM
 HGM: Slope
 WT: Isolate

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phalaris arundinacea</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Solidago altissima</u>	<u>10</u>		<u>FACU</u>	
3. <u>Rosa multiflora</u>	<u>10</u>		<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>95</u> = Total Cover 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-M1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M1 UPL
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Linear Slope (%): 8-10%
 Subregion (LRR or MLRA): LRRN Lat: 39.91492671900 Long: -80.1000660220 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M1 UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Gleditsia triacanthos</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phleum pratense</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Dactylis glomerata</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Achillea millefolium</u>	<u>10</u>		<u>FACU</u>	
4. <u>Plantago lanceolata</u>	<u>10</u>		<u>UPL</u>	
5. <u>Solidago sp.</u>	<u>10</u>		<u>ND</u>	
6. <u>Solanum carolinense</u>	<u>5</u>		<u>FACU</u>	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>115</u> = Total Cover 50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.) <u>ND - Not determined</u>				

SOIL

Sampling Point: W-M1 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA9
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.91473751940 Long: -80.09409456670 Datum: NAD 83
 Soil Map Unit Name: Glenford silt loam, 3 to 8 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM
 HGM: Isolated
 WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes ☒ No _____ Depth (inches): 3
 Saturation Present? Yes ☒ No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA9

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Herb Stratum (Plot size: <u>5'</u>)				
1. <i>Phalaris arundinacea</i>	<u>5</u>		FACW	
2. <i>Carex vulpinoidea</i>	<u>30</u>	<input checked="" type="checkbox"/>	OBL	
3. <i>Juncus tenuis</i>	<u>20</u>		FAC	
4. <i>Poa trivialis</i>	<u>60</u>	<input checked="" type="checkbox"/>	FACW	
5. <i>Phleum pratense</i>	<u>5</u>		FACU	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: <u>60</u>		20% of total cover: <u>24</u>		
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA9

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA9 UP
Investigator(s): J. Heule L. Sexton C. Lee L. McCarrell Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Flat plain Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.91470007700 Long: -80.09407900410 Datum: NAD 83
Soil Map Unit Name: Glenford silt loam, 3 to 8 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA9 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Ulmus rubra</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2*</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>8</u> = Total Cover 50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>18</u></td> <td>x 2 = <u>36</u></td> </tr> <tr> <td>FAC species <u>13</u></td> <td>x 3 = <u>39</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>86</u> (A)</td> <td><u>325</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.8</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>18</u>	x 2 = <u>36</u>	FAC species <u>13</u>	x 3 = <u>39</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>86</u> (A)	<u>325</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>18</u>	x 2 = <u>36</u>																	
FAC species <u>13</u>	x 3 = <u>39</u>																	
FACU species <u>25</u>	x 4 = <u>100</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>86</u> (A)	<u>325</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Unknown grass</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>ND</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Daucus carotaz</u>	<u>18</u>		<u>FACW</u>															
3. <u>Apocynum cannabinum</u>	<u>10</u>		<u>FACU</u>															
4. <u>Dichanthelium clandestinum</u>	<u>5</u>		<u>FAC</u>															
5. <u>Hyssop officinalis</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
6. <u>Rubus allegheniensis</u>	<u>15</u>		<u>FACU</u>															
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>113</u> = Total Cover 50% of total cover: <u>56.5</u> 20% of total cover: <u>22.6</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA9 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR4/1	90					SC	
	10YR7/6	10						
11-19	10YR7/6	100					SCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/12/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA10
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.90452367680 Long: -80.09013204320 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

PEM is cut out of forest, not a PFO

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes ☒ No _____ Depth (inches): 7
Saturation Present? Yes ☒ No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA10

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Nyssa sylvatica</u>	<u>3</u>	<u>✓</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>3</u> = Total Cover 50% of total cover: <u>1.5</u> 20% of total cover: <u>0.6</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>✓</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Carex lurida</u>	<u>20</u>	_____	<u>OBL</u>	
2. <u>Agrimonia parviflora</u>	<u>25</u>	<u>✓</u>	<u>FACW</u>	
3. <u>Impatiens capensis</u>	<u>20</u>	_____	<u>FACW</u>	
4. <u>Leersia oryzoides</u>	<u>40</u>	<u>✓</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes <u>✓</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA10

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/12/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA10 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.90453565550 Long: -80.09019300780 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA10 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus americana</u>	<u>55</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. <u>Celtis occidentalis</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>95</u> = Total Cover 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>180</u> (A)</td> <td><u>630</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>80</u>	x 3 = <u>240</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>180</u> (A)	<u>630</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>80</u>	x 3 = <u>240</u>																	
FACU species <u>95</u>	x 4 = <u>380</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>180</u> (A)	<u>630</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Verbesina alternifolia</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Viola sp</u>	<u>8</u>																	
3. <u>Grass sp</u>	<u>15</u>																	
4. <u>Boehmeria cylindrica</u>	<u>5</u>		<u>FACW</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>108</u> = Total Cover 50% of total cover: <u>54</u> 20% of total cover: <u>21.6</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA10 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M3
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 2-4%
 Subregion (LRR or MLRA): LRRN Lat: 39.902613 Long: -80.086839 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juglans nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Verbesina alternifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Typha angustifolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Agrimonia parviflora</u>	<u>10</u>		<u>FACW</u>	
4. <u>Salix nigra</u>	<u>10</u>		<u>OBL</u>	
5. <u>Dichanthelium clandestinum</u>	<u>10</u>		<u>FAC</u>	
6. <u>Solidago altissima</u>	<u>5</u>		<u>FACU</u>	
7. <u>Scirpus atrovirens</u>	<u>5</u>		<u>OBL</u>	
8. _____				
9. _____				
10. _____				
11. _____				
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M3

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M4
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Concave Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN Lat: 39.90235947890 Long: -80.08697573750 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Slope

WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> True Aquatic Plants (B14)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1"
Water Table Present? Yes ☒ No ☐ Depth (inches): 0"
Saturation Present? Yes ☒ No ☐ Depth (inches): 0"
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M4

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Phalaris arundinacea	50	✓	FACW	
2. Typha angustifolia	20	✓	OBL	
3. Onoclea sensibilis	10		FACW	
4. Carex vulpinoidea	10		OBL	
5. Asclepias incarnata	5		OBL	
6. Juncus effusus	5		FACW	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M4

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M2
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 3-5%
 Subregion (LRR or MLRA): LRRN Lat: 39.90155980100 Long: -80.08556468700 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>		<u>0</u> = Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>10</u>	<u>✓</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>		<u>10</u> = Total Cover		Hydrophytic Vegetation Indicators: <u>✓</u> 1 - Rapid Test for Hydrophytic Vegetation <u>✓</u> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Typha angustifolia</u>	<u>50</u>	<u>✓</u>	<u>OBL</u>	
2. <u>Phalaris arundinacea</u>	<u>30</u>	<u>✓</u>	<u>FACW</u>	
3. <u>Juncus effusus</u>	<u>20</u>	_____	<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>10</u>	_____	<u>FACW</u>	
5. <u>Verbena hastata</u>	<u>5</u>	_____	<u>FACW</u>	
6. <u>Carex lurida</u>	<u>5</u>	_____	<u>OBL</u>	
7. <u>Eupatorium perfoliatum</u>	<u>5</u>	_____	<u>FACW</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50% of total cover: <u>62.5</u> 20% of total cover: <u>25</u>		<u>125</u> = Total Cover		Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>		<u>0</u> = Total Cover		Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M2

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M2, M3, M4 UPL
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Convex Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN Lat: 39.90221161600 Long: -80.08653293760 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M2, M3, M4 UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phleum pratense</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Dactylis glomerata</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Potentilla indica</u>	<u>15</u>	_____	<u>FACU</u>	
4. <u>Andropogon virginicus</u>	<u>15</u>	_____	<u>FACU</u>	
5. <u>Trifolium pratense</u>	<u>10</u>	_____	<u>FACU</u>	
6. <u>Plantago lanceolata</u>	<u>5</u>	_____	<u>UPL</u>	
7. <u>Achillea millefolium</u>	<u>5</u>	_____	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M2, M3, M4 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M5
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR or MLRA): LRRN Lat: 39.90132669870 Long: -80.08949790100 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M5

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
15 = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Typha angustifolia</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Ranunculus hispidus</u>	<u>5</u>	_____	<u>FAC</u>	
3. <u>Mimulus ringens</u>	<u>5</u>	_____	<u>OBL</u>	
4. <u>Epilobium coloratum</u>	<u>5</u>	_____	<u>FACW</u>	
5. <u>Carex sp.</u>	<u>5</u>	_____	<u>ND</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
6. <u>Eupatorium perfoliatum</u>	<u>3</u>	_____	<u>FACW</u>	
7. <u>Persicaria sagittata</u>	<u>3</u>	_____	<u>OBL</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
101 = Total Cover 50% of total cover: <u>50.5</u> 20% of total cover: <u>20.2</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
5. _____	_____	_____	_____	
0 = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				

SOIL

Sampling Point: W-M5

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M6
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 0-3%
 Subregion (LRR or MLRA): LRRN Lat: 39.90157019710 Long: -80.08954794330 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M6

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Typha angustifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Schoenoplectus tabernaemontani</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>20</u>	_____	<u>FACW</u>	
4. <u>Scirpus atrovirens</u>	<u>10</u>	_____	<u>OBL</u>	
5. <u>Agrimonia parviflora</u>	<u>10</u>	_____	<u>FACW</u>	
6. <u>Solidago sp.</u>	<u>5</u>	_____	<u>ND</u>	
7. <u>Poa sp.</u>	<u>5</u>	_____	<u>ND</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				

SOIL

Sampling Point: W-M6

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M5, M6 UPL
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Convex Slope (%): 0-2%
 Subregion (LRR or MLRA): LRRN Lat: 39.90170628860 Long: -80.08933135920 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M5, M6 UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species _____ x 5 = _____ Column Totals: <u>90</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>3.77</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Dactylis glomerata</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Verbesina alternifolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Cirsium vulgare</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Solanum carolinense</u>	<u>10</u>	_____	<u>FACU</u>	
5. <u>Solidago sp.</u>	<u>10</u>	_____	<u>ND</u>	
6. <u>Achillea millefolium</u>	<u>10</u>	_____	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				

SOIL

Sampling Point: W-M5, M6 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z1
 Investigator(s): SAZ, CS Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.562971 Long: -80.543704 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Juglans nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
4. _____				
5. _____				
6. _____				
7. _____				
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-Z1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
Applicant/Owner: EQT State: WV Sampling Point: W-Z1 UPL
Investigator(s): SAZ, CS Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.563019 Long: -80.54361 Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z1 UPL

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>0</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>0</u>)				
1. <i>Dactylis glomerata</i>	65	✓	FACU	
2. <i>Trifolium pratense</i>	20	✓	FACU	
3. <i>Echinochloa crus-galli</i>	10		FAC	
4. <i>Plantago major</i>	5		FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present?
 Yes _____ No ✓

SOIL

Sampling Point: W-Z1 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z3
 Investigator(s): SAZ, CS Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.552937 Long: -80.544539 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWN Data form for wetlands W-Z3A and W-Z3B.			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Carex vulpinoidea</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Arthraxon hispidus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. <u>Juncus effusus</u>	<u>15</u>	_____	<u>FACW</u>	
5. <u>Cyperus esculentus</u>	<u>10</u>	_____	<u>FACW</u>	
6. <u>Scirpus atrovirens</u>	<u>5</u>	_____	<u>OBL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Vegetation has been disturbed over significant portions of W-Z3A & W-ZB, straw is covering bare ground.				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-Z3

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z3 UPL
 Investigator(s): SAZ, CS Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): LRRS Lat: 39.553178 Long: -80.544416 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z3 UPL

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>0</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>0</u>)				
1. <u>Dactylis glomerata</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Juncus effusus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Trifolium pratense</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
4. <u>Plantago lanceolata</u>	<u>10</u>		<u>UPL</u>	
5. <u>Daucus carota</u>	<u>10</u>		<u>UPL</u>	
6. <u>Phalaris arundinacea</u>	<u>10</u>		<u>FACW</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present? Yes _____ No ☒

SOIL

Sampling Point: W-Z3 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z2
 Investigator(s): SAZ, CS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.550181 Long: -80.544762 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex vulpinoidea</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Carex lurida</u>	<u>10</u>	_____	<u>OBL</u>	
3. <u>Scirpus polyphyllus</u>	<u>5</u>	_____	<u>OBL</u>	
4. <u>Juncus canadensis</u>	<u>5</u>	_____	<u>OBL</u>	
5. <u>Persicaria sagittata</u>	<u>5</u>	_____	<u>OBL</u>	
6. <u>Juncus effusus</u>	<u>5</u>	_____	<u>FACW</u>	
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-Z2

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z2 UPL
 Investigator(s): SAZ, CS Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.550418 Long: -80.544845 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z2 UPL

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Sapling/Shrub Stratum (Plot size: <u>0</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Herb Stratum (Plot size: <u>0</u>)				
1. <u>Dactylis glomerata</u>	<u>60</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Clinopodium vulgare</u>	<u>15</u>		<u>UPL</u>	
3. <u>Trifolium pratense</u>	<u>10</u>		<u>FACU</u>	
4. <u>Glechoma hederacea</u>	<u>10</u>		<u>FACU</u>	
5. <u>Verbesina alternifolia</u>	<u>5</u>		<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-Z2 UPL

[illegible]

STREAM ID S-BB1		STREAM NAME Lobbs Run	
LAT 40.253691 LONG -79.962318		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: LB 1.0 ft RB 1.0 ft Water Depth: 5.00 in Water Width: 2.0 ft High Water Mark: 4.0 in Flow Direction: West		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	60	Muck-Mud	black, very fine organic (FPOM)	5
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Crawfish holes, mayflies, water bugs, skimmers

STREAM ID S-BB2		STREAM NAME UNT to Lobbs Run	
LAT 40.249311 LONG -79.957857		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>1.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>11.0</u> in High Water Mark: <u>2.0</u> in Flow Direction: <u>North</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")				
Gravel	2-64 mm (0.1"-2.5")		Muck-Mud	black, very fine organic (FPOM)	70
Sand	0.06-2mm (gritty)				
Silt	0.004-0.06 mm	60	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	40			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID <small>W-BB2</small>		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Source is seep/well at top of hill crawfish holes.

STREAM ID S-BB5		STREAM NAME Monongehela River	
LAT 40.242072 LONG -79.949452		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS AL,SC,TC,JA			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>860.0</u> ft Top of Bank Height: LB <u>30.0</u> ft RB <u>70.0</u> ft Water Depth: <u> </u> ft Water Width: <u>767.0</u> ft High Water Mark: <u> </u> in Flow Direction: <u>East</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other <u> </u>		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	5			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other: <u> </u>		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID <u> </u>		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Substrate material could not be determined
	OHWM could not be accurately determined
	Salamanders, frogs, fish, snakes

STREAM ID S-BB4		STREAM NAME Bunola Run	
LAT 40.23785276 LONG -79.94687252		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS AL,SC,TC,JA			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>20.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>2.0</u> ft Water Depth: <u>12.00</u> in Water Width: <u>5.0</u> ft High Water Mark: <u>18.0</u> in Flow Direction: <u>East</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	5			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-BB6	STREAM NAME UNT to Bunola Run
LAT 40.238830 LONG -79.943779	DATE 07/08/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS AL,SC,TC,JA	
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 1.0 ft RB 2.0 ft Water Depth: 7.00 in Water Width: 1.0 ft High Water Mark: 5.0 in Flow Direction: North		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 70 % Run 30 % Pool % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	70	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Catchment feature, drains into river Skimmers, water bugs, crawfish holes.
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STREAM ID S-BB3		STREAM NAME Kelly Run	
LAT 40.228285 LONG -79.932636		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS AL,SC,TC,JA			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>30.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>2.0</u> ft Water Depth: <u>18.00</u> in Water Width: <u>20.0</u> ft High Water Mark: <u>12.0</u> in Flow Direction: <u>Northeast</u>	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	60	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Salamanders, frogs, mayflies, water bugs, skimmers
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STREAM ID S-N1		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.918213 LONG -80.128345		DATE 06/09/2015	
CLIENT EQT		PROJECT NAME MVP	
INVESTIGATORS JH, LM, JK			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 7.0 ft Top of Bank Height: LB 20.0 in RB 72.0 in Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 5.0 in Flow Direction: South		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	20
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	65	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input checked="" type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Channelized to direct water around existing fenced facility

STREAM ID S-N2	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.917568 LONG -80.130835	DATE 06/09/2015
CLIENT EQT	PROJECT NAME MVP
INVESTIGATORS JH, LM, JK	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: LB 1.0 ft RB 1.0 ft Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 2.0 in Flow Direction: Southwest		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	10			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	5
Sand	0.06-2mm (gritty)	50			
Silt	0.004-0.06 mm	20	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-N1		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	S-N3 feeds into S-N2. Connected with W-N1

STREAM ID S-N3	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.918078 LONG -80.1302	DATE 06/09/2015
CLIENT EQT	PROJECT NAME MVP
INVESTIGATORS JH, LM, JK	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 6.0 in RB 6.0 in Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 6.0 in Flow Direction: Southwest		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	0
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	5			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	35			
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Drains from a culvert and converges with S-N2 through another culvert

STREAM ID S-AA1		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.91687549 LONG -80.12493326		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>10.0</u> ft Top of Bank Height: LB <u>16.0</u> in RB <u>15.0</u> in Water Depth: <u>3.00</u> in Water Width: <u>81.0</u> in High Water Mark: <u>10.0</u> in Flow Direction: <u>South</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 20 % Pool 20 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		10	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	50			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	15
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Channelized under highway through cement culvert. 5 foot waterfall
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STREAM ID S-AA2		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.915698 LONG -80.131299		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 1.5 ft Top of Bank Height: LB 6.0 in RB 6.0 in Water Depth: 0.50 in Water Width: 1.0 ft High Water Mark: 2.0 in Flow Direction: Southeast		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 100 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	80
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	80			
Clay	< 0.004 mm (slick)	10			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA1		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Adjacent to W-AA1. The road creates a dam which creates the wetland

STREAM ID S-AA5	STREAM NAME South Fork Tenmile Creek
LAT 39.91246121 LONG -80.12781246	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>70.0</u> ft Top of Bank Height: LB <u>13.0</u> ft RB <u>15.0</u> ft Water Depth: <u>4.00</u> ft Water Width: <u>45.0</u> ft High Water Mark: <u>6.5</u> ft Flow Direction: <u>Southwest</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 10 % Run 90 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Investigators cannot see bottom of stream.
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STREAM ID S-AA7	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91337453 LONG -80.12736829	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 8.0 ft Top of Bank Height: LB 2.0 ft RB 2.5 ft Water Depth: 4.00 in Water Width: 5.0 ft High Water Mark: 10.0 in Flow Direction: West	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 40 % Run 30 % Pool 30 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	50	Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA5
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STREAM ID S-AA3		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.916234 LONG -80.126083		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 4.0 ft	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB 10.0 in RB 14.0 in	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: 0.00 in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: 0.0 ft	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: 5.0 in	
	Flow Direction: South	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Rifle 0 % Run 0 % Pool 0 %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	50	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	50			
Silt	0.004-0.06 mm	0	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft
		Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		Wetland ID W-AA2

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Adjacent to W-AA2
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STREAM ID S-AA4	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.916873 LONG -80.124933	DATE 07/09/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 5.0 ft Top of Bank Height: LB 16.0 in RB 21.0 in Water Depth: 2.00 in Water Width: 30.0 in High Water Mark: 7.0 in Flow Direction: South	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 50 % Run 20 % Pool 30 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	10
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA3

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input checked="" type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Adjacent to W-AA3
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STREAM ID S-AA8	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91667051 LONG -80.11525436	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 1.5 ft RB 1.5 ft Water Depth: 1.00 in Water Width: 0.5 ft High Water Mark: 0.5 ft Flow Direction: Southeast	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 20 % Pool 80 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	50
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	50			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA4

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Runs through W-AA4
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STREAM ID S-AA9		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.91708932 LONG -80.11402927		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 4.0 ft Top of Bank Height: LB 18.0 in RB 18.0 in Water Depth: 1.00 in Water Width: 3.0 in High Water Mark: 0.5 ft Flow Direction: Southwest	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 100 % Run % Pool % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	25
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	50			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA7

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Stream ends at W-AA7
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STREAM ID S-AA10		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.91742961 LONG -80.11058282		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 5.0 ft Top of Bank Height: LB 2.0 ft RB 2.0 ft Water Depth: 3.00 in Water Width: 10.0 in High Water Mark: 15.0 ft Flow Direction: South	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 0 % Pool 20 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		25	Detritus	sticks, wood, coarse plant materials (CPOM)	50
Boulder	> 256 mm (10")	50			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	10	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Completely shaded, hard to find. Runs through culvert under road
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STREAM ID S-AA11		STREAM NAME UNT to Ruff Creek	
LAT 39.91747678 LONG -80.10698305		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>6.5</u> ft	Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB <u>61.0</u> in RB <u>60.0</u> in	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: <u>0.00</u> in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: <u>0.0</u> ft	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: <u>40.0</u> ft	
	Flow Direction: <u>Southeast</u>	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other <u>No water</u>

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	10			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	20			
Clay	< 0.004 mm (slick)	55			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Heavy erosion
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STREAM ID S-AA12		STREAM NAME Ruff Creek	
LAT 39.91742494 LONG -80.10568522		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>75.0</u> ft Top of Bank Height: LB <u>12.0</u> ft RB <u>8.0</u> ft Water Depth: <u>26.00</u> in Water Width: <u>34.0</u> ft High Water Mark: <u>7.0</u> ft Flow Direction: <u>South</u>		Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run 25 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	65
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Investigators cannot see the bottom of the stream due to turbidity. Water level is high due to recent rain event.
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STREAM ID S-AA13	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91252677 LONG -80.09465444	DATE 07/11/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>3.0</u> ft Top of Bank Height: LB <u>15.0</u> in RB <u>12.0</u> in Water Depth: <u>0.50</u> in Water Width: <u>15.0</u> in High Water Mark: <u>8.0</u> in Flow Direction: <u>South</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool 100 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	15
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	30			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA14

STREAM ID S-AA14	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91245274 LONG -80.0943711	DATE 07/11/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 18.0 in RB 1.0 ft Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 4.0 in Flow Direction: Southwest	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	25	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	75			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Stream turns into much wider stream outside of corridor.
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STREAM ID S-AA15		STREAM NAME South Fork Tenmile Creek	
LAT 39.90982517 LONG -80.09229348		DATE 07/11/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>100.0</u> ft Top of Bank Height: LB <u>17.0</u> ft RB <u>12.0</u> ft Water Depth: <u>3.00</u> ft Water Width: <u>25.0</u> ft High Water Mark: <u>6.0</u> ft Flow Direction: <u>SE</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Investigators cannot see the bottom of the stream to evaluate substrate components. Investigators cannot safely access the north side of the bank to delineate the bank using GPS points. North bank 10 horizontal feet from the railroad.
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STREAM ID S-AA24		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.9075366 LONG -80.0912906		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>6.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>20.0</u> in High Water Mark: <u>10.0</u> in Flow Direction: <u>Southeast</u>		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 40 % Run 10 % Pool 50 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		15	Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	50
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	45			
Clay	< 0.004 mm (slick)	10			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	S-AA23 is a tributary to this stream

STREAM ID S-AA23		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90722013 LONG -80.09118362		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 9.0 ft	Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB 3.0 ft RB 3.0 ft	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: 0.00 in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: 0.0 ft	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: 1.0 ft	
	Flow Direction: East	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	70			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	15	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	15			
Silt	0.004-0.06 mm	0	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA24
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STREAM ID S-AA22		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90707654 LONG -80.09114841		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>7.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>3.0</u> ft Water Depth: <u>0.50</u> in Water Width: <u>15.0</u> in High Water Mark: <u>10.0</u> in Flow Direction: <u>East</u>		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 50 % Run 10 % Pool 40 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	50
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	30
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	20			
Clay	< 0.004 mm (slick)	30			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-AA21		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90661814 LONG -80.09089011		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 4.0 ft Top of Bank Height: LB 4.0 ft RB 4.0 ft Water Depth: 1.00 in Water Width: 1.0 ft High Water Mark: 2.0 ft Flow Direction: East	Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 10 % Pool 30 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	25
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	15
Gravel	2-64 mm (0.1"-2.5")	15			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)	35			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Two track roads running perpendicular to stream. Debris litter in stream
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STREAM ID S-AA20		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90452337 LONG -80.09019849		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>1.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>6.0</u> in High Water Mark: <u>3.0</u> in Flow Direction: <u>East</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 45 % Run 15 % Pool 75 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")				
Gravel	2-64 mm (0.1"-2.5")		Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	60			
Clay	< 0.004 mm (slick)	10			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID <small>W-AA10</small>		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-AA17		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90295128 LONG -80.08927605		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>12.0</u> ft Top of Bank Height: LB <u>5.0</u> ft RB <u>7.0</u> ft Water Depth: <u>22.00</u> in Water Width: <u>4.0</u> ft High Water Mark: <u>2.0</u> ft Flow Direction: <u>East</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 10 % Pool 30 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		5	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	20
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	S-AA18 and S-AA19 are both tributaries to this stream
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STREAM ID S-AA18		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90281892 LONG -80.08921583		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: LB 6.0 in RB 6.0 in Water Depth: 0.50 in Water Width: 4.0 in High Water Mark: 2.0 in Flow Direction: Northeast		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run 0 % Pool 25 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	10	Muck-Mud	black, very fine organic (FPOM)	15
Sand	0.06-2mm (gritty)	20			
Silt	0.004-0.06 mm	50	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	20			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA17

STREAM ID S-AA19		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90280125 LONG -80.08931079		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>2.0</u> ft Top of Bank Height: LB <u>3.0</u> ft RB <u>3.0</u> ft Water Depth: <u>0.50</u> in Water Width: <u>6.0</u> in High Water Mark: <u>1.0</u> ft Flow Direction: <u>Northeast</u>		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool 100 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	30			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA18

STREAM ID S-AA16		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90186278 LONG -80.08527456		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>11.0</u> ft Top of Bank Height: LB <u>57.0</u> in RB <u>39.0</u> in Water Depth: <u>7.00</u> in Water Width: <u>55.0</u> in High Water Mark: <u>22.0</u> in Flow Direction: <u>Northwest</u>	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	70	Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Flows through culvert under access road. Large PEM wetland surrounding stream. All of wetland boundary is outside corridor/access road
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STREAM ID S-M1		STREAM NAME UNT to Muddy Creek	
LAT 39.90179 LONG -80.08954		DATE 10/08/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS J. McGuirk, A. Mengel			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>10.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>4.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft High Water Mark: <u>3.0</u> in Flow Direction: <u>North</u>		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	90
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)	40			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-M5, W-M6		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	No Macros observed.

STREAM ID S-Z1		STREAM NAME Mobley Run	
LAT 39.562907 LONG -80.543684		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>15.0</u> ft Top of Bank Height: LB <u>3.5</u> ft RB <u>3.5</u> ft Water Depth: <u>1.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>6.0</u> in Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>South</u>	Stream Erosion ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy Artificial, Modified or Channelized ___ Yes <input checked="" type="checkbox"/> No Dam Present ___ Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low ___ Medium ___ High Gradient <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water Velocity ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run % Pool 25 % Turbidity <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Opaque ___ Stained ___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	40			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	20			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ Other: _____ Canopy Cover ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	Indicate the dominant type ___ Trees <input checked="" type="checkbox"/> Shrubs ___ Grasses ___ Herbaceous Floodplain Width ___ Wide > 30ft ___ Moderate 15-30ft ___ Narrow <16ft Wetland Present ___ Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present ___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating ___ Floating algae ___ Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Water pennys
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STREAM ID S-J63		STREAM NAME UNT to Mobley Run	
LAT 39.562554 LONG -80.543564		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>7.0</u> ft Top of Bank Height: LB <u>3.5</u> ft RB <u>3.5</u> ft Water Depth: <u>2.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>3.5</u> ft Ordinary High Water Mark (Height): <u>1.0</u> ft Flow Direction: <u>West</u>	Stream Erosion ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy Artificial, Modified or Channelized ___ Yes <input checked="" type="checkbox"/> No Dam Present ___ Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low ___ Medium ___ High Gradient <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water Velocity ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 40 % Pool 0 % Turbidity ___ Clear <input checked="" type="checkbox"/> Slightly turbid ___ Turbid ___ Opaque ___ Stained ___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	60			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse ___ Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural <input checked="" type="checkbox"/> Residential ___ Other: _____ Canopy Cover <input checked="" type="checkbox"/> Open ___ Partly shaded ___ Shaded	Indicate the dominant type ___ Trees ___ Shrubs <input checked="" type="checkbox"/> Grasses ___ Herbaceous Floodplain Width ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <16ft Wetland Present ___ Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present ___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating ___ Floating algae ___ Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-A2a		STREAM NAME UNT to North Fork Fishing Creek	
LAT 39.552673 LONG -80.544944		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>12.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>4.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>4.0</u> ft Ordinary High Water Mark (Height): <u>1.0</u> ft Flow Direction: <u>North</u>	Stream Erosion ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy Artificial, Modified or Channelized ___ Yes <input checked="" type="checkbox"/> No Dam Present ___ Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low ___ Medium ___ High Gradient <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water Velocity ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run % Pool 25 % Turbidity ___ Clear <input checked="" type="checkbox"/> Slightly turbid ___ Turbid ___ Opaque ___ Stained ___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	50	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse ___ Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural <input checked="" type="checkbox"/> Residential ___ Other: _____ Canopy Cover <input checked="" type="checkbox"/> Open ___ Partly shaded ___ Shaded	Indicate the dominant type ___ Trees ___ Shrubs <input checked="" type="checkbox"/> Grasses ___ Herbaceous Floodplain Width ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes ___ No Wetland ID W-Z2 & W-Z3
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present ___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating ___ Floating algae ___ Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Large pools downstream of culvert with many small fish
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STREAM ID S-A3a		STREAM NAME UNT to North Fork Fishing Creek	
LAT 39.551893 LONG -80.545090		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>5.0</u> ft Top of Bank Height: LB <u>1.5</u> ft RB <u>1.5</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>3.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> ft Flow Direction: <u>East</u>	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <small>100</small>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	40			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	Indicate the dominant type <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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APPENDIX B
WETLAND PHOTOGRAPHS



Photograph Number: 1 Feature Name: W-BB1 Date: 07/08/2015
 Direction: NE Plant Community: PEM Remarks: N/A



Photograph Number: 2 Feature Name: W-BB3 Date: 07/09/2015
 Direction: SE Plant Community: PEM Remarks: N/A



Photograph Number: 3 Feature Name: W-BB2 Date: 07/08/2015
 Direction: W Plant Community: PEM Remarks: N/A



Photograph Number: 4 Feature Name: W-BB9 Date: 07/11/2015
 Direction: SE Plant Community: PFO Remarks: N/A



Photograph Number: 5 Feature Name: W-BB8 Date: 07/11/2015
 Direction: N Plant Community: PFO Remarks: N/A



Photograph Number: 6 Feature Name: W-BB7 Date: 07/11/2015
 Direction: SE Plant Community: PEM Remarks: N/A



Photograph Number: 7 Feature Name: W-BB6 Date: 07/11/2015
 Direction: NW Plant Community: PEM Remarks: N/A



Photograph Number: 8 Feature Name: W-BB12 Date: 07/13/2015
 Direction: NE Plant Community: PFO Remarks: N/A



Photograph Number: 9 Feature Name: W-N1 Date: 06/09/2015
Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 10 Feature Name: W-AA1 Date: 07/08/2015
Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 11 Feature Name: W-AA5 Date: 07/10/2015
 Direction: NE Plant Community: PEM Remarks: N/A



Photograph Number: 12 Feature Name: W-AA6 Date: 07/10/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 13 Feature Name: W-AA2 Date: 07/08/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 14 Feature Name: W-AA3 Date: 07/09/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 15 Feature Name: W-AA4 Date: 07/10/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 16 Feature Name: W-AA7 Date: 07/10/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 17 Feature Name: W-AA8 Date: 07/11/2015
Direction: W Plant Community: PEM Remarks: N/A



Photograph Number: 18 Feature Name: W-M1 Date: 10/08/2015
Direction: N Plant Community: PEM Remarks: N/A



Photograph Number: 19 Feature Name: W-AA9 Date: 07/11/2015
Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 20 Feature Name: W-AA10 Date: 07/10/2015
Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 21 Feature Name: W-M3 Date: 10/08/2015
 Direction: NW Plant Community: PEM Remarks: N/A



Photograph Number: 22 Feature Name: W-M4 Date: 10/08/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 23 Feature Name: W-M2 Date: 10/08/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 24 Feature Name: W-M5 Date: 10/08/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 25 Feature Name: W-M6 Date: 10/08/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 26 Feature Name: W-Z1 Date: 10/21/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 27 Feature Name: W-Z2 Date: 10/21/2015
 Direction: N Plant Community: PEM Remarks: N/A



Photograph Number: 28 Feature Name: W-Z3A Date: 10/21/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number:	29	Feature Name:	W-Z3B	Date:	10/21/2015
Direction:	NE	Plant Community:	PEM	Remarks:	N/A

APPENDIX C
STREAM PHOTOGRAPHS



Photograph Number: 26 Feature Name: S-BB1 Date: 07/08/2015
 Direction: W, Upstream Flow Regime: Intermittent Remarks: N/A



Photograph Number: 27 Feature Name: S-BB2 Date: 07/08/2015
 Direction: S, Upstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number:	32	Feature Name:	S-AA1	Date:	07/08/2015
Direction:	SE, Downstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	33	Feature Name:	S-AA2	Date:	07/08/2015
Direction:	SE, Downstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number: 35 **Feature Name:** S-AA5 **Date:** 07/10/2014
Direction: S, Across **Flow Regime:** Perennial **Remarks:** South Fork Tenmile Creek



Photograph Number: 36 **Feature Name:** S-AA7 **Date:** 07/10/2015
Direction: NW, Downstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number: 37 **Feature Name:** S-AA3 **Date:** 07/08/2015
Direction: S, Downstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number: 38 **Feature Name:** S-AA4 **Date:** 07/09/2015
Direction: S, Downstream **Flow Regime:** Perennial **Remarks:** N/A



Photograph Number: 39 **Feature Name:** S-AA8 **Date:** 07/10/2015
Direction: SE, Downstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number: 40 **Feature Name:** S-AA9 **Date:** 07/10/2015
Direction: NE, Upstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number: 41 Feature Name: S-AA10 Date: 07/10/2015
 Direction: S, Downstream Flow Regime: Intermittent Remarks: N/A



Photograph Number: 42 Feature Name: S-AA11 Date: 07/10/2015
 Direction: SE, Downstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number: 43 **Feature Name:** S-AA12 **Date:** 07/16/2015
Direction: E, Across **Flow Regime:** Perennial **Remarks:** Ruff Creek



Photograph Number: 44 **Feature Name:** S-AA13 **Date:** 07/11/2015
Direction: NE, Upstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number:	45	Feature Name:	S-AA14	Date:	07/12/2015
Direction:	SW, Downstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	46	Feature Name:	S-AA15	Date:	07/11/2015
Direction:	SE, Downstream	Flow Regime:	Perennial	Remarks:	South Fork Tenmile Creek



Photograph Number:	47	Feature Name:	S-AA24	Date:	07/12/2015
Direction:	NW, Upstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	48	Feature Name:	S-AA23	Date:	07/12/2015
Direction:	NE, Downstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	49	Feature Name:	S-AA22	Date:	07/12/2015
Direction:	NW, Upstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	50	Feature Name:	S-AA21	Date:	07/12/2015
Direction:	E, Downstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number: 51 Feature Name: S-AA20 Date: 07/12/2015
Direction: W, Upstream Flow Regime: Perennial Remarks: N/A



Photograph Number: 52 Feature Name: S-AA17 Date: 07/12/2015
Direction: SW, Upstream Flow Regime: Perennial Remarks: N/A



Photograph Number: 53 **Feature Name:** S-AA18 **Date:** 07/12/2015
Direction: NE, Downstream **Flow Regime:** Perennial **Remarks:** N/A



Photograph Number: 54 **Feature Name:** S-AA19 **Date:** 07/12/2015
Direction: S, Upstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number: 55 **Feature Name:** S-AA16 **Date:** 03/18/2014
Direction: SE, Upstream **Flow Regime:** Perennial **Remarks:** N/A



Photograph Number: 56 **Feature Name:** S-M1 **Date:** 10/08/2015
Direction: S, Upstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number:	57	Feature Name:	S-Z1	Date:	10/21/2015
Direction:	N, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	58	Feature Name:	S-J63	Date:	10/21/2015
Direction:	W, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	59	Feature Name:	S-A2a	Date:	10/21/2015
Direction:	N, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	60	Feature Name:	S-A3a	Date:	10/21/2015
Direction:	E, Downstream	Flow Regime:	Ephemeral	Remarks:	N/A

APPENDIX D
HYDRIC SOILS LIST

Hydric Soils List

Allegheny County, Pennsylvania

Map Unit Symbol	Map Unit Name	Component Name and Phase	Landforms
At	Atkins silt loam	Atkins	flood plains
BrB	Brinkerton silt loam, 2 to 8 percent slopes	Brinkerton	draws
BrC	Brinkerton silt loam, 8 to 15 percent slopes	Brinkerton	
BrC	Brinkerton silt loam, 8 to 15 percent slopes	Atkins	flood plains
CaB	Cavode silt loam, 2 to 8 percent slopes	Brinkerton	draws
CaC	Cavode silt loam, 8 to 15 percent slopes	Brinkerton	draws
CeB	Caneadea silt loam, 3 to 8 percent slopes	Canadice	lakebeds (relict)
CeB	Caneadea silt loam, 3 to 8 percent slopes	Mill	ground moraines
CoD	Cookport loam, 15 to 25 percent slopes	Andover	mountain slopes
Du	Dumps, coal wastes	Wet spots	depressions
Dw	Dumps, industrial wastes	Wet spots	draws
ErB	Ernest silt loam, 2 to 8 percent slopes	Brinkerton	hills

ErC	Ernest silt loam, 8 to 15 percent slopes	Brinkerton	hills
EvB	Ernest-Vandergrift silt loams, 3 to 8 percent slopes	Brinkerton	hillslopes
EvC	Ernest-Vandergrift silt loams, 8 to 15 percent slopes	Brinkerton	hillslopes
EvD	Ernest-Vandergrift silt loams, 15 to 25 percent slopes	Brinkerton	hillslopes
GvB	Guernsey-Vandergrift silt loams, 3 to 8 percent slopes	Brinkerton	hills
GvC	Guernsey-Vandergrift silt loams, 8 to 15 percent slopes	Brinkerton	hills
GvD	Guernsey-Vandergrift silt loams, 15 to 25 percent slopes	Brinkerton	hills
Gx	Gullied land	Brinkerton	draws
Hu	Huntington silt loam	Atkins	flood plains
Ln	Lindside silt loam	Melvin	flood plains
Ne	Newark silt loam	Brinkerton	depressions
Ne	Newark silt loam	Atkins	flood plains
Ph	Philo silt loam	Atkins	flood plains
TaB	Tiltsit silt loam, 3 to 8 percent slopes	Brinkerton	hills
UGB	Urban land-Guernsey complex, gently sloping	Thorndale	draws
URB	Urban land-Rainsboro complex, gently sloping	Ginat	terraces
UWB	Urban land-Wharton complex, gently sloping	Armagh	hills

VcB	Vandergrift-Cavode silt loams, 3 to 8 percent slopes	Brinkerton	hillslopes
VcC	Vandergrift-Cavode silt loams, 8 to 15 percent slopes	Brinkerton	
VcD	Vandergrift-Cavode silt loams, 15 to 25 percent slopes	Brinkerton	
WhB	Wharton silt loam, 3 to 8 percent slopes	Cavode	hills
WhB	Wharton silt loam, 3 to 8 percent slopes	Brinkerton	depressions

Hydric Soils List

Greene and Washington Counties, Pennsylvania

Map Unit Symbol	Map Unit Name	Component Name and Phase	Landforms
Du	Dumps, mine	Wet spots	depressions
Fa	Fluvaquents, loamy	Melvin	flood plains
GdA	Glenford silt loam, 0 to 3 percent slopes	Purdy	terraces
GdB	Glenford silt loam, 3 to 8 percent slopes	Purdy	terraces
GdC	Glenford silt loam, 8 to 15 percent slopes	Purdy	terraces
Hu	Huntington silt loam	Atkins	flood plains
LbA	Library silty clay loam, 0 to 3 percent slopes	Purdy	terraces
Nw	Newark silt loam	Atkins, Brinkerton	flood plains, depressions
Py	Purdy silt loam	Purdy	terraces
Sk	Skidmore gravelly loam	Melvin	flood plains
UdB	Udorthents, smoothed, gently sloping	Wet spots	depressions
UdD	Udorthents, smoothed, moderately steep	Wet spots	depressions
Modified from Hydric Soils of the United States (NRCS 2014)			

Hydric Soils List

Wetzel County, West Virginia

Map Unit Symbol	Map Unit Name	Component Name and Phase	Component Percent	Landforms
EkB	Elk silt loam, 3 to 8 percent slopes	Melvin	3	Flood plains
GsB	Glenford silt loam, 3 to 8 percent slopes	Melvin	5	Flood plains
Hn	Huntington silt loam	Melvin	5	Flood plains
No	Nolin loam	Melvin	5	Flood plains
Sk	Skidmore gravelly loam	Melvin	3	Flood plains
Modified from Hydric Soils of the United States (NRCS 2014)				

APPENDIX E
RESUMES

Experience Summary

Mr. Heule's experience as a Biologist and Environmental Planner includes a background in jurisdictional wetlands and other Waters of the United States delineations, Federal Endangered Species Act (ESA), state and local endangered and threatened species, Bald and Golden Eagle Protection Act (BGEPA), and state-listed noxious weeds. Mr. Heule has conducted biological resource field studies in 7 states, and has conducted desktop housing assessments for communities in North Dakota and Wyoming. Additionally, Mr. Heule is a licensed (Backcountry) Emergency Medical Technician, with more than 3 years of experience with patient care, public safety, and emergency response coordination. He has been recognized for his commitment to safety through Tetra Tech's monthly safety awards twice. Mr. Heule is currently enrolled in Graduate-level studies at the University of Colorado Denver, where he is studying Geographic Information Systems (GIS). These studies include an emphasis on ArcGIS, an Environmental Systems Research Institute (Esri) supported software useful for application in environmental planning with mapmaking, geospatial analytic, and data visualization capabilities.

Education

BA, Ecology and Evolutionary Biology, University of Colorado–Boulder, 2014

At-sea reinforced coursework (semester) with field practicum in 13 countries in Africa, Asia, and Central America, University of Virginia, 2011

Registrations/Certifications

Graduate Certificate in GIS, University of Colorado, Denver, in process

Corporation Project Experience

Wetland Scientist, April–August 2015

Equitrans, Mountain Valley Pipeline Project, West Virginia, Virginia, and Pennsylvania

Mr. Heule led field reconnaissance in teams of three wetland delineators for a proposed 42-inch natural gas pipeline project. Mr. Heule's specific tasks included providing skills identifying hydric soils and hydrophytic vegetation to delineate jurisdictional wetlands and other waters of the U.S. In addition, Mr. Heule was in charge of safety and well-being, quality of work, and overall progress for the team. Wetlands and other Waters of the U.S. were mapped using Trimble® software. Mr. Heule has over 8 weeks experience delineating wetlands and other Waters of the U.S. in the Northern Piedmont Region. This project will run through the summer of 2016.

Biologist, March 2015

NextEra Energy Resources, LLC Wind Energy Center, Taylor, ND

Mr. Heule assisted in field reconnaissance to microsite wind turbines to avoid wetlands and other waters of the United States. If impacts to wetlands and waters cannot be avoided, follow-on desk analysis of wetland and surface water resources, field reconnaissance of these resources, and wetland delineations and Section 404 permitting as necessary.

Environmental Planner, March 2015–Present

Housing and Socioeconomic Study, Mercer and Emmons Counties, ND; Platt County, WY

Mr. Heule analyzed population and economic data to support housing and economic studies for rural communities in North Dakota and Wyoming. Large energy projects bring both benefits and challenges to small, rural communities. Challenges include increasing populations, increases in crime, and impacts to roads and infrastructure and services such as schools and healthcare. Mr. Heule's specific tasks included the analysis of community daycare service capabilities, community member interviews, census data analysis, and housing market analysis. The goal of the housing studies is to predict future housing

trends and determine the needs of the local workforce from an economic perspective. These studies will continue through December of 2015.

Biologist, May 2015–Present**Xcel Energy, West Main Natural Gas Pipeline, Boulder County, CO**

Mr. Heule conducted tree inventories and weed surveys to make recommendations to Excel Energy for the purpose of creating an integrated noxious weed management plan and tree preservation plan as mandated by Boulder County. Tasks have included desktop analysis, independent field reconnaissance, and reporting findings and recommendations. This project will be completed in the fall of 2016.

Biologist, August 2015**Public Service Company of Colorado (PSCo), Sterling Ranch Natural Gas Pipeline, Douglas County, CO**

Mr. Heule conducted desktop analysis, field reconnaissance, and report writing to provide recommendations to avoid protected biological resources in the Backcountry Wilderness Area of Highlands Ranch. Mr. Heule identified the need for burrowing owl surveys, wetland and other Waters of the U.S. delineation, and raptor surveys within the project area. Mr. Heule completed the report that describes Tetra Tech's recommendations.

Wetland Scientist, August 2015–Present**NextEra and Norvento Energy, Ninnescah and Bloom Wind Farms, Platt and Ford Counties, KS**

Mr. Heule conducted micrositeing, desktop analysis, and wetland delineation efforts for a proposed windfarm infrastructure that included turbines, access roads, and transmission lines. Specific tasks included plant and soil identification in the Great Plains region, playa wetland jurisdictional determination, and micrositeing turbines to avoid water resources on-the-fly. These projects will end in 2016.

Biologist, February 2015**NextEra Energy, Dickenson Wind Farm, ND**

Mr. Heule conducted desktop analysis, field reconnaissance, and reporting to provide recommendations to NextEra Energy to avoid Clean Water Act Section 404 permitting for a proposed wind farm in North Dakota. Mr. Heule used his knowledge and understanding of the U.S. Army Corps of Engineers jurisdiction over wetlands and other Waters of the U.S. to map avoidance areas for NextEra.

Biologist, May 2015**Mora Transmission Line, LLC, Mora Transmission Line Project, Mora County, NM**

Mr. Heule provided recommendations to avoid biological resources for a proposed replacement to a transmission line in Mora County, New Mexico. Mr. Heule completed a desktop analysis and field reconnaissance to identify biological resources protected under the federal Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA), Clean Water Act (CWA), and local-level environmental protection legislation. Mr. Heule completed the report that describes Tetra Tech's recommendations.

Previous Experience**Clinical Service Technician, 2014****Apria Healthcare**

Provided care to geriatric and pediatric patients by developing a plan for domestic respiratory therapy.

Intern—CO-Labs, 2014**Teacher—Outdoor Labs**

Taught environmental science lessons to middle school students on a volunteer basis.

**Resident Advisor (RA) –University of Colorado at Boulder 2013-2014**

Recognized by peers for outstanding leadership to colleagues with the Staff Leadership Award.

Emergency Medical Technician (EMT), 2012–2014**University of Colorado at Boulder EMS**

Provided emergency care, improved event safety, and worked with other agencies to coordinate transport to local hospitals.

Discipline Codes**Biologist**

Urban/Regional Planning

Skill Sets**Biological**

Biological assessments

Wetlands delineation

Social

Planning

Other

Geographic Information Systems (GIS)

Related Company Information

Payroll Number: 546590

Employment Status: Part-time

Preferred First Name: John

Office Location: Denver, CO

Hire Date: 2/2/2015

Years with Other Firms: 3

Years with Current Firm: >1

Total Years of Experience: 3

Supervisor: Steve Yarbrough, Biologist

Office Phone: (303) 291-6260

Cell Phone: (303) 253-1647

Fax:

E-mail Address: john.heule@tetrattech.com

Other E-mail Address (if any): john.heule@gmail.com

Resume Last Revised: 9/8/2015

EXPERIENCE SUMMARY

Mrs. Lands is an Environmental Scientist with over four years progressive experience in environmental management, research and consulting. She has considerable experience working with multiple teams of professionals to meet the needs of clients and the company.

She has performed and provided project level management for numerous Phase I/II Environmental Site Assessments. Mrs. Lands has supervised, coordinated and/or conducted field activities involving soil, soil gas, paint, water, and air sampling, stormwater and groundwater quality monitoring programs, full delineations, waste characterizations, and risk assessments of contaminated soil and/or groundwater, land use determination, comprehensive stream assessments, USACE regulated wetland delineations, field observation for underground storage tank (UST) removal projects, and site evaluations for Spill Prevention Control and Countermeasure Plans (SPCC). She is an experienced field supervisor who has managed soil and groundwater field investigations such as monitor well installation and excavations of soils impacted with chlorinated solvents and oil for the petroleum industry. Mrs. Lands has assisted with groundwater and soil subsurface environmental remediation investigations, and supervised regulatory interaction and reporting. Additionally, she is experienced with managing and maintaining comprehensive project documentation and employing detailed projects plans to monitor and track project progress and performance.

Mrs. Lands has extensive experience developing, preparing and executing various written deliverables such as environmental assessment reports, compliance reports, Health and Safety Standard Operating Procedures, risk assessment summaries, SPCC plans, delineation reports, and soil and water quality summaries for federal, state and local regulatory agencies, petroleum clients, and academia. In addition, Mrs. Lands has prepared field logs for soil borings and installation of monitoring wells, soil, paint, air, and water sampling logs, and has developed health and safety plans in compliance with company, state and federal regulations. Mrs. Lands has assisted with the development of various National Environmental Policy Act (NEPA) research, documentation and reporting projects.

Other qualifications include stormwater management, Texas Railroad Commission (RRC) and Texas Commission on Environmental Quality (TCEQ) regulatory compliance procedures for air, water, and petroleum. TCEQ compliance includes reviewing air permit applications, drafting Air Permits by Rule (PBR) applications and assisting with PBR registrations. RRC compliance includes assistance with permitting, production reporting, well completion, etc. of oil and gas wells, facilities and activities.

EDUCATION

B.A., Physical Geography,
Environmental Science
Specialization, 2010, Kennesaw
State University

CERTIFICATIONS

US Army Corps of Engineers
Wetland Delineation, certificate
#7105, 12/2013

TRAINING

Stormwater Permitting and
Management, TEEX, 5/2014

Project Management, PM Level 1,
Tetra Tech, NUS, 2/2014

Heartsaver First Aid, CPR, AED,
American Heart Association, 10/2013

OSHA 29 CFR 1910.1200 Hazard
Communications, Tetra Tech, NUS,
10/2013

OSHA 29 CFR 1910.120 8-Hr
Refresher, Tetra Tech, NUS,
10/2013

Confined Spaces, JJ Keller, 6/2013

Hydrogen Sulfide Training, QSSI,
12/2012

NEPA refresher, BLM, 11/2012

Air Permitting, TCEQ, 10/2012

Watershed Management, EPA,
10/2012

OFFICE

San Antonio, Texas

YEARS OF EXPERIENCE

4+

YEARS WITH TETRA TECH

2

RELEVANT EXPERIENCE

❖ *Environmental Analysis/Management*

Environmental Scientist; HPIP Gonzales Holdings, LLC; Gonzales County, TX; May 2013 – January 2014. Served as a team member assisting with biological surveys, stream assessments, and identification and delineation of wetlands in and around a proposed 25 mile gas pipeline corridor.

Environmental Scientist; Rooney Engineering/Sunoco; Mitchell, Nolan, Taylor, Shackelford, Callahan, Stephens, Eastland, Erath, Somervell, Johnson, and Hill counties in North Texas; October 2013-April 2014. Served as a team member assisting with biological surveys, stream assessments, and identification and delineation of wetlands in and around 325 miles of proposed gas pipeline corridors.

Environmental Science student, KSU; City of Acworth, GA; Acworth, GA; October 2009. Served as team member responsible for the biological, ecological, hydrological assessment and delineation of wetlands of streams leading into Lake Acworth. Final report of findings was presented to the City of Acworth.

❖ *Sampling (Groundwater, Soil, Paint)*

Environmental Scientist; Halliburton; Laredo, TX, May 2014. Obtained groundwater samples from three monitor wells using low flow pump method and prepared samples for laboratory analysis.

Environmental Scientist; Breitburn Florida, LLC; LeHigh Acres, FL; March 2013-Present. Conducts bi-annual groundwater monitoring at three tank batteries in the LeHigh Acres area. Obtain groundwater samples from 15 monitor wells by bailing/purging, low-flow, and/or submersible pump methods and prepares samples for laboratory analysis. Analytical results are reviewed and chronicled in water quality report format after each sampling event as a client deliverable.

Environmental Scientist; Gibsons Energy; Stockdale, TX; April-May 2014. Obtained soil samples from excavated areas around two plugged and abandoned oil wells to verify or refute the presence of hydrocarbon impacted soils. Samples were collected in jars using grab sample method and prepared for laboratory analysis. Screened samples for volatile organic vapors by way of head space analysis using a Photo Ionization Detector. Analytical results were reviewed and chronicled in report format as a client deliverable.

Environmental Scientist; Flint Hill Resources; Austin, Waco, San Antonio, TX; June 2013-Present. Obtains paint samples from crude oil storage tanks on an as needed basis to verify or refute lead content. Samples are collected using the cold scrape method then prepared for laboratory analysis. Analytical results were reviewed and chronicled in report format as a client deliverable after each sampling event.

Environmental Scientist; SM Energy; Beckham, Greer, Washita, Harmon, Roger Mills counties in Oklahoma, Wheeler and Collingsworth counties in Texas and Bossier Parish, Louisiana; December 2012-March 2013. Conducted pre-development sampling of soil and water in the vicinity of proposed drilling areas. Obtained surface water and groundwater samples by bailing/purging, low-flow, and/or submersible pump methods. Obtained soil samples in jars using grab sample method. All samples were prepared for laboratory analysis. Analytical results were reviewed and chronicled in report format as a client deliverable.

Environmental Scientist; Koch Pipeline, Sunfield Station; Starr County, TX; April 2013. Obtained samples of contaminated soil near a degraded pipeline. Samples were collected in jars using grab sample method and prepared for laboratory analysis.

Environmental Scientist; Tervita/Shell Pilanco; Catarina, TX; January 2013. Obtained samples of remediated soil on various oil pads on the property. Samples were collected in jars using grab sample and/or auger method and prepared for laboratory analysis.

❖ *Phase I/II Environmental Site Assessments*

Environmental Scientist/Project Manager; Globe Energy Services, LLC; Kenedy, Daisetta, Carrizo Springs, TX; May 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; Gibsons Energy; Stockdale, TX; April 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. A limited phase II evaluation was conducted to determine if historical petroleum activities adversely affected the property. This included soil sampling, PID use, and field supervision of subcontractors using magnetometers to locate any anomalies. Produced final written report to serve as client deliverable.

Environmental Scientist/Project Manager; Enviro Vat, Denver City, TX; March 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-13 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included creating MSA, developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; Universal Pressure Pumping, Inc., Atascosa County, TX; February 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-13 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist/Project Manager; Globe Energy Services, LLC; Nixon, TX; January 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; HPIP Gonzales Holdings, LLC; Gonzales County, TX; May 2013. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; D.R. Horton; Weld County, CO; May 2013. Conducted records review and report preparation for Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-00 and 40 CFR Part 312. Created report for use in final environmental site assessment.

Environmental Scientist; Pioneer Natural Resources Company; LaSalle County, TX; January 2013. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental

Site Assessments, E 1527-05 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; McJunkin Red Man Corporation; Asherton, Crane, Midland, Odessa, Kermit, and San Angelo Texas; Carlsbad, Artesia, and Eunice New Mexico; November-December 2012. Conducted 10 Phase I Environmental Site Assessments in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; Southern Company; Henderson County, TX; November, 2012. Conducted Phase I site reconnaissance in accordance with American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312. Created report for use in final environmental site assessment.

Environmental Scientist; Northeast Crossing Neighborhood Revitalization, LTD; San Antonio, TX; November 2012. Conducted Phase I site reconnaissance in accordance with American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312. Created report for use in final environmental site assessment.

❖ *Air Quality*

Environmental Scientist; Concho Operating, LLC; San Antonio and Houston, TX; October-November 2012. Assisted with details of TCEQ Permit By Rule (PBR) Applications, PBR registration (PI-7), and supporting documentation for PBR Claim Modification.

❖ *Oil and Gas*

Environmental Scientist; Pyote Water Systems, LLC; Carrizo Springs, TX; June 2014. Conducted inspection of a Saltwater Disposal Facility for the development of the SPCC Plan. Activities included collection of all tank, pump, and containment information on the site, measuring dimensions of containments and secondary containments, and taking photographs of facility. Findings and photos were recorded for use in SPCC plan.

Environmental Scientist; Pioneer Natural Resources Company; various facilities in Eagle Ford Shale Play; January 2013-Present. Gathers details on oil storage locations, tanks, pumps, containments and other on-site equipment of point of delivery (POD) sites, saltwater disposal units, compressor stations, and other oil/gas facilities for creation or revisions of SPCC plans. Creates SPCC plans by reporting findings, along with preventive maintenance, safety inspections, emergency response procedures, training for workers involved with handling oil, inspections and maintenance schedules, and facility operations guidelines. Creates site maps, diagrams and figures using AutoCad and ArcGIS. Prepares final written SPCC plan to serve as client deliverable.

Environmental Scientist; Parsley Petroleum; Reagan and Upton Counties, TX; January-February 2014. Performed site assessments of injection wells, salt water disposal units, and production facilities for environmental audit purposes. Activities included collection of all tank, pump, and containment information on the site, measuring dimensions of containments and secondary containments, taking photographs of facility and conducting NORM Surveys.

❖ *Geotechnical*

Environmental Scientist; Halliburton; Laredo, TX; May 2014. Served as field supervisor for soil boring and drilling, installation, and completion of monitor well by drilling contractor. Collected groundwater samples prior to well completion. Screened soil borings for volatile organic vapors by way of head space analysis using a Photo Ionization Detector. Surveyed elevation at each monitor well relative to mean sea level using a TopCon Laser Level, measured groundwater depth at each well, and used the data for the development of a groundwater gradient map.

❖ *Remediation*

Environmental Scientist; Occidental Petroleum Company (Oxy); Chaves County, NM; September-October 2013. Provided oversight of excavation, transportation and liner installation of assessment area. Conducted assessment and remediation of contaminated soils at abandoned oil and gas facility. Collected samples from excavated soil to delineate oil spill. Conducted field analysis to determine contamination levels. Prepared samples for further laboratory analysis, reported analytical findings and delineation details.

Environmental Scientist; Cimarex; Eddy County, NM; August 2013. Provided oversight of excavation, transportation and liner installation of assessment area. Conducted assessment and remediation of contaminated soils at an active oil and gas facility. Collected samples from excavated soil to delineate oil spill. Conducted field analysis to determine contamination levels. Prepared samples for further laboratory analysis, reported analytical findings and delineation details.

❖ *Environmental Compliance*

Environmental Scientist; Forge Energy; San Antonio, TX; January 2014-Present. Supervises a regulatory compliance team conducting compliance reviews and regulatory audits. Team is also responsible for permitting, production, and completion reporting for the client's oil and gas facilities in southwest Texas.

❖ *NEPA*

Contract Specialist; US Army Corps of Engineers; Mountain Pine, AR; 2001-2004. Assisted in the preparation of NEPA documents in accordance with the Council on Environmental Quality (CEQ) regulation 40 CFR 1500-1508. Documents included Environmental Information Documents, Environmental Assessments, Environmental Impact Statements, and Findings of No Significant Impact.

❖ *Health and Safety*

Environmental Scientist; Forge Energy, San Antonio, TX; May 2014. Provided assistance in the development of Standard Operating Procedures for Health and Safety. Topics included Benzene Awareness, Hydrogen Sulfide Awareness, Stop Work Initiative, Respiratory Protection, and Personal Protective Equipment.

CHRONOLOGICAL HISTORY

- Environmental Scientist, Tetra Tech, Inc., October 2012-present, San Antonio, TX.
- Contract Specialist, US Army Corps of Engineers, 2001-2007, Mountain Pine, AR; Cartersville, GA.
- Contract Closeout Administrator; US Army Corps of Engineers and US Agency for International Development, May 2004-January 2005, Baghdad, Iraq
- US Army, 1994-1996, Fort Carson, CO and Uijongbu, South Korea
- US Army Reserves, 1997-2000, Fort Belvoir, VA and New Boston, TX.

SCIENTIFIC/TECHNICAL PUBLICATIONS

N/A

MEMBERSHIPS

Geological Society of America
National Groundwater Association
Project Management Institute

AWARDS

- Global Engagement Certificate, Kennesaw State University, November 2010 - Recognized achievements of valuable learning in areas of global perspectives, intercultural skills, environmental awareness and global citizenship.
- Commander's Award for Civilian Service, U.S. Department of the Army, November 2004 - An honorary award presented by the Department of the Army to civilian employees for commendable service or achievement.
- Medal for Global War on Terrorism, U.S. Department of Defense, November 2004 - Service medal awarded for direct support in service to the Global War on Terrorism.
- Various military awards, U.S. Army, January 1993-January 1996



EXPERIENCE SUMMARY

Mr. Jason McGuirk has six years of professional experience in wetland delineation, permitting, fisheries and wildlife, and stream assessments and classification in Pennsylvania, New York, Ohio, and Alaska. Mr. McGuirk has conducted hundreds of wetland delineations, stream evaluations as well as conducted and produced habitat assessments, and post monitoring impact statements and assessments on over 800 miles of proposed natural gas pipeline, and fifty plus proposed well pad sites. He has extensive knowledge in watercourse classification and assessment including the Rosgen method. In particular attention of his has been focused on fisheries habitat and macro-invertebrate work, with over fifty miles of stream classifications in Alaska. Mr. McGuirk's educational background is in Fisheries and Aquaculture with a minor focus in Marine Biology and Wildlife management.

RELEVANT EXPERIENCE

Environmental Scientist III; Sunoco Logistics; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects, Engendered Species Surveys; Reptilia (*Glyptemys muhlenbergii*), Plantae (*Ellisia nyctelea*); Pennsylvania. Segments 1, 2, and 3 wetlands field lead, and crew leader. Responsibilities include organizing and conducting all field work operations for multiple wetlands crews, wetland delineations and stream assessments for the proposed 450 mile Pennsylvania Pipeline Project. Additional work included proposing potential re-route on an environmental basis.

Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist III; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

EDUCATION

B.T. Fisheries and Aquaculture,
SUNY Cobleskill, 2011T

REGISTRATIONS

Wild Plant Management Permit,
PA, 2014, Permit # 14-651

AREA OF EXPERTISE

Wetland Delineation and Stream
Identification, Fisheries, and
Botanical Surveys

TRAINING/CERTIFICATIONS

Winter Vegetation ID,
Rutgers University, 2012

Amtrak Contractor
Certification, 2014

Certified Wetland
Assessment Delineator, NY,
2009

OFFICE

Pittsburgh, PA

YEARS OF EXPERIENCE

6+

YEARS WITH TETRA TECH

2+

Environmental Scientist III; Gulfport Energy Corporation; Wetland Delineations for Miscellaneous Natural Gas Well Pad Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural well pads southeastern Ohio. Specific tasks included field survey, report preparation, PCN preparation, and completion of Ohio EPA specific wetland and stream assessments.

Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineation and Engendered Species Survey (*Ranunculus flabellaris* and *Alopecurus aequalis*) for Vanport to Butler Gas Pipeline; Butler County, Pennsylvania. Responsible for performing and assisting with wetland delineation and endangered species survey along pipeline right-of-way. Specific tasks included field survey and report preparation.

Environmental Scientist III; Antero Resources Appalachian Corp.; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ritchie and Doddridge Counties, West Virginia. Responsible for performing and assisting with wetland delineations for various proposed natural gas well pads and access roads in northern West Virginia. Specific tasks included field survey and report preparation.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 30 miles of pipeline in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Southwest Energy L.P; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations on proposed Well pad and compressor sites. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 15 proposed well pad locations in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Southwest Energy L.P; Susquehanna County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations on proposed Well pad and compressor sites. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 20 proposed well pad locations in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Carroll, Jefferson County, OH; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed ORAM and QHEI Assessments, and preparation of wetland report for 30 miles of pipeline in Eastern Ohio.

Wetland & Watercourse Biologist; Shell Oil; Butler County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 40 miles of pipeline in Western Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting Indiana Bat habitat surveys on multiple proposed natural gas pipelines in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting post construction habitat monitoring and assessment of constructed natural gas pipelines in Northeastern Pennsylvania.

CHRONOLOGICAL HISTORY

Wetland Environmental Scientist IV; Tetra Tech, Inc.; Pittsburgh, PA, June 2014 - Present

Wetland Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, PA, February 2013 - June 2014

Wetland & Watercourse Biologist; Hanover Engineering & Associates; Towanda, PA, November 2011 - October 2012

Assistant Hatchery Manager; SUNY Cobleskill; Cobleskill, NY, September – May of 2009- 2011

Biological Fisheries Technician, US Forest Service; Thorne Bay, AK, May 2010 - August 2010

Fisheries Technician, Cook Inlet Aquaculture Association, Kenai, AK, May 2009 – August 2009

SCIENTIFIC/TECHNICAL PUBLICATIONS

- McGuirk, J, M, "Walleye (*Sander vitreus*) spawning movements and habitat utilization in Otsego Lake, NY, 2011

MEMBERSHIPS

- N/A

AWARDS

- David E. Moorehouse Award for Outstanding Junior in Fisheries and Aquaculture B.T.



Cody R. Stoliker

ENVIRONMENTAL SCIENTIST I

EXPERIENCE SUMMARY

Cody R. Stoliker has approximately 1 year of professional experience in wetland delineation, permitting, and stream assessments and classification in Pennsylvania, New York, Ohio, and West Virginia. With 4 years of fisheries and wildlife management experience, specializing in large game conservation, Mr. Stoliker has technician experience working with bear, elk, moose, deer, and wolves in Wyoming, as well as biologist work with whitetail deer, red stag, feral hogs, and the endangered American Burying Beetle in Oklahoma along pipeline routes where he produced habitat assessments, post monitoring impact statements and performed population control. Mr. Stoliker is assisting Tetra Tech field leads and other environmental scientists to assess and delineate streams and wetlands along natural gas pipeline routes, access roads, right-of-ways, and well pad sites. Cody R. Stoliker's educational background is in Wildlife Management with a minor focus in wetland assessment/delineation and fisheries.

RELEVANT EXPERIENCE

Environmental Scientist I; Sunoco Logistics; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects Pennsylvania. Responsible for performing and assisting with wetland delineations and stream assessments for the proposed Pennsylvania Pipeline Project. Other responsibilities included report preparation and wetland functional assessments.

Environmental Scientist I; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist I; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

EDUCATION

Bachelor of Technology, Wildlife Management, 2013, State University of New York at Cobleskill

AREA OF EXPERTISE

Large Game Wildlife Management & Conservation, Wetland Assessment

REGISTRATIONS/ AFFILIATIONS

Ducks Unlimited 2012- Present

Rocky Mountain Elk Foundation 2013 – Present

National Wild Turkey Federation 2013 - Present

TRAINING/CERTIFICATIONS

Certified Wetland Assessment Delineator, NY, 2010

NYS Certified Class A Interior Firefighter

OFFICE

Tetra Tech OGA
Pittsburgh, PA

YEARS OF EXPERIENCE

1

YEARS WITH TETRA TECH

1

SCIENTIFIC/TECHNICAL PUBLICATIONS

N/A

CHRONOLOGICAL HISTORY

Environmental Scientist I, Tetra Tech, 2014-2015, Pittsburgh, PA

Wildlife Biologist/Ranch Manager, Oklahoma Trophy Ranch, 2013-2014, Allen, OK

Wildlife Management Technician, Rolling Thunder & Rim Ranches, Spring-Fall 2013, Bondurant, WY

Assistant Herdsman, Bison Island, 2012-2013, Sharon Springs, NY

Avian Survey Technician, NYS Dept. of Environmental Conservation, Winter 2011, Albany NY

EXPERIENCE SUMMARY

Ms. Stephanie Zabowski Lieb is a wetland/environmental scientist with 5+ years of experience in wetland delineation and stream evaluation, and rare, threatened & endangered botanical surveying and assessment, throughout Pennsylvania, Ohio, and West Virginia. This includes preparation of wetland delineation and stream evaluation reports, botanical reports, US Army Corps Joint and Nation Wide Permits, and PA Department of Environmental Protection General Permits. Stephanie has additional experience performing geographic information systems (GIS) data processing and figure creation using ArcGIS10.1. She also has experience performing bat hibernaculum and summer roost tree habitat surveys in West Virginia.

RELEVANT EXPERIENCE

Wetland/Environmental Scientist III; Sunoco Logistics; OPP Natural Gas Pipeline Projects, Ohio and West Virginia; August 2015 to present. Responsibilities included aiding in wetland delineations and stream assessments for the proposed 70 miles of the Ohio Pipeline and West Virginia Pipeline Projects.

Wetland/Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Fox to Houston Natural Gas Pipeline Project, Washington County, PA; August 2015 to present. Responsible for conducting wetland delineations and stream assessments for the approximate 1 mile of proposed pipeline.

Environmental Scientist; Pittsburgh Botanic Garden; Kentucky Hollow Site, Allegheny County, PA; 2015. Responsible conducting wetland delineations and stream assessments for the approximate 40 acre area for proposed construction of trails and passive acid mine drainage treatment system. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Environmental Scientist; EQT Gathering; NIMC S001 Pipeline Project, Allegheny & Washington Counties, PA; 2015. Responsible for conducting botanical survey for wild hyacinth (*Cammasia scilloides*) and snow trillium (*Trillium nivale*), PA state-listed species. Responsible for preparing a botanical survey report.

Environmental Scientist; Grace Baptist Church Additions; Grace Baptist Church, Allegheny County, PA; 2015. Responsible for compiling components of the NPDES permit package and GIS figure creation for church additions.

Environmental Scientist; NiSource Midstream Services, LLC; East Washington Gathering Pipeline Project, Washington County, PA; 2015. Assisted in the transplantation of Short's sedge

EDUCATION

B.S. Environmental Resource Management,
The Pennsylvania State University, May 2009

Minors: Wildlife and Fisheries Science, May
2009; Watershed and Water Resources, May
2009

REGISTRATIONS

Wild Plant Management Permit, PA, 2015
Permit # 15-650

AREA OF EXPERTISE

Wetland Delineation and Stream Identification;
RTE Botanical Surveys

TRAINING/CERTIFICATIONS

USFWS and WV DNR Sponsored Training for
the Identification of the Federally Listed Running
Buffalo Clover, Virginia Spirea, and Small
Whorled Pogonia, May 2015.

2015 PA Plant Forum and Winter Woody ID
workshop. Sponsored by the PA DCNR and
Western Pennsylvania Conservancy, April 2015.

USACE 1987 Manual and Regional Supplement
Wetland Delineation Training, Swamp School,
2013.

Ohio Rapid Assessment Method for Wetlands
Training, Ohio EPA, 2013.

Grasses, Sedges and Rushes Identification
Workshop. Taught by Sarah Chamberlain, 2013.

Sedge Identification Workshop. Taught by Dr.
Timothy Block and Dr. Ann Rhoads, 2013.

OFFICE

Pittsburgh, PA

YEARS OF EXPERIENCE

5+

YEARS WITHIN FIRM

0

CONTACT

Stephanie.ZabowskiLieb@TetraTech.com

(*Carex shortiana*), a PA state-listed species, as part of mitigation request by PA DCNR. Responsible for associated GIS data processing and figure creation.

Environmental Scientist; West Newton Borough; 100 Pemberton Place Retaining Wall, Westmoreland County, PA; 2015. Responsible for compiling joint permit registration package and associated GIS figure creation for a 130 foot long retaining wall.

Environmental Scientist; Plum Borough School District; Regency Park Elementary School, Allegheny County, PA; 2015. Responsible for conducting wetland delineations and stream assessments for the approximate 5 acre school property. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Environmental Scientist; Freeport Area School Athletic Field; Freeport Area School District, Butler County, PA; 2015. Responsibilities for compiling components of the NPDES permit package and associated GIS figure creation.

Environmental Scientist; EQT Corporation; Above Ground Storage Tank Inspection/Registration, various Counties, WV; 2014. Responsible for GIS data processing, shapefile creation, organization, progress tracking, and mapping of 1600+ above ground storage tanks.

Environmental Scientist; Sunoco Logistics; Pennsylvania Pipeline Project, Cambria County, PA; 2014. Responsible for conducting botanical survey for federally listed Northeastern Bulrush (*Scirpus ancistrochaetus*) along the 23 mile pipeline route in Cambria County, PA and associated data processing.

Environmental Scientist; Bethel Park Municipal Authority; Bethel Park Wastewater Treatment Plant Expansion, Allegheny County, PA; 2014. Responsible for compiling joint permit registration package and associated GIS figure creation for wastewater treatment plant expansion.

Environmental Scientist; EQT Gathering; Yablonski Well Line Project, Washington & Greene Counties, PA; 2014. Responsible for conducting botanical survey for fringed bluets (*Houstonia canadensis*) and tall larkspur (*Delphinium exaltatum*), PA state-listed species, and preparing associated botanical report for 3 mile pipeline project.

Environmental Scientist; Y-Grade Pipeline Project; Hilcorp Energy Company, Columbiana County, OH; 2014. Responsible for conducting wetland delineations and stream assessments of access roads for proposed pipeline project. Prepared wetland delineation and stream assessment report. Assisted in erosion and sediment control monitoring during pipeline construction.

Environmental Scientist; various projects; Antero Resources, various counties, WV; 2014. Responsible for conducting wetland delineations and stream assessments for various proposed pipeline projects. Prepared wetland delineation and stream assessment reports.

Biologist II; NRG Homer City Services, LLC; Homer City Ash Landfill Expansion, Indiana County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 130 acre proposed ash landfill expansion. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Burg to Wack Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 2.5 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Bame to Bluestone Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 3 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Stebbins to McElhinney Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 3 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; EQT Gathering, LLC; NIJU S026 Pipeline, Washington County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 2.5 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package. Assisted with archeology field work and GIS figure creation.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Lynn to Stebbins Pipeline, Butler County, PA; 2013. Responsible for conducting a wetland delineation and stream investigation, as well as a botanical survey for a PA state-listed species. Prepared a wetland delineation and stream identification report, botanical survey report, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; EQT Gathering, LLC; MOME S007 Pipeline, Harrison County, WV; 2012. Responsible for preparing nationwide permit package. Also assisted in Indiana Bat habitat assessment and report preparation.

Environmental Scientist; Williams; Huczko to Clark Pipeline Project, Westmoreland County, PA; 2012. Assisted in surveys for PA state-listed species including purple fringeless orchid (*Platanthera peramoena*), bushy bluestem (*Andropogon glomeratus*), shining ladies' tresses (*Spiranthes lucida*), and mountain bugbane (*Actea podocarpa*). Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; Williams; Jury to 6-inch Pipeline Project, Westmoreland County, PA; 2011. Assisted in botanical surveys for PA state-listed species including purple rocket (*Iodanthus pinnatifidus*), scouring rush (*Equisetum x ferrissii*), and Torrey's sedge (*Juncus torreyi*) for a 4 mile natural gas pipeline project. Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; XTO; North Discharge/Indiana Extension Pipeline Project, Westmoreland & Indiana Counties, PA; 2011. Assisted in a wetland delineation/stream survey and a survey for PA state-listed species including purple fringeless orchid (*Platanthera peramoena*), bushy bluestem (*Andropogon glomeratus*), shining ladies' tresses (*Spiranthes lucida*), leafcup (*Smallanthus uvedalius*), and eastern coneflower (*Rudbeckia fulgida*) for a 12 mile natural gas pipeline project. Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; Williams; Gamelands to Jordan Pipeline Project, Greene County, PA; 2011. Assisted in surveys for state-listed species including shining ladies' tresses (*Spiranthes ovalis*), wild senna (*Senna marilandica*), leaf-cup (*Smallanthus uvedalius*), sourwood (*Oxydendron arboreum*), crested dwarf iris (*Iris cristata*), St. Andrew's cross (*Hypericum stragulum*), harbinger-of-spring (*Erigenia bulbosa*), lobed spleenwort (*Asplenium pinnatifidum*), puttyroot (*Aplectrum hyemale*), single-headed pussytoes (*Antennaria solitaria*), and blue monkshood (*Aconitum uncinatum*). Prepared reports for PA state regulatory agencies.

Environmental Scientist; Range Resources; Multiple Temporary and Permanent Water Pipelines; Washington County, Pennsylvania. 2010 to 2011. Responsible for wetland delineations and stream evaluations on dozens of temporary and permanent water pipelines linking frac water impoundments in the Washington County area. Also prepared wetland delineation and stream assessment reports.

CHRONOLOGICAL HISTORY

Wetland/Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, PA, August 2015 – Present.

Environmental Scientist – Part-time; Pennsylvania Soil and Rock, Inc. Monroeville, PA, March 2015 – August 2015

Environmental Scientist; Dawood Engineering Inc., Canonsburg, PA, February 2014 – January 2015

Biologist II; AECOM Technical Services, Inc.; Pittsburgh, PA, August 2012 – February 2014

Environmental Scientist; Pennsylvania Soil and Rock, Inc.; Monroeville, PA, April 2010 – August 2012

Black Fly Suppression Program Intern; Pennsylvania Department of Environmental Protection; Pittsburgh, PA, May 2008 – August 2008

SCIENTIFIC/TECHNICAL PUBLICATIONS

- N/A

MEMBERSHIPS

- Botanical Society of Western Pennsylvania

AWARDS

- N/A

APPENDIX B

FEDERAL THREATENED AND ENDANGERED SPECIES LIST FOR WEST VIRGINIA

Known and Potential Distribution of Federally Listed Endangered and Threatened Species and Proposed Species in West Virginia

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
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MAMMALS

Cougar, eastern	<i>Felis concolor cougar</i>	E	May occur throughout the entire state. However, this species may be extinct or extirpated and there have been no documented, verified occurrences in WV in over 100 years.
Bat, Indiana	<i>Myotis sodalis</i>	E	May occur throughout the state. Known hibernacula (winter habitat) in Fayette, Greenbrier, Mercer, Monroe, Pendleton, Pocahontas, Preston, Randolph, and Tucker Counties. The Indiana bat may use abandoned mine portals (confirmed in the New River Gorge National River, Fayette County) or occupy summer habitat throughout the entire state. Maternity activity confirmed in Boone, Fayette, Ohio, Tucker, and Wetzel Counties. Critical habitat: Hellhole Cave, Pendleton County. Two Conservation Areas are located in Boone County.
Bat, Virginia big-eared	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	E	Known summer or winter caves located in Grant, Pendleton, Randolph, Tucker and Counties. Also known to utilize abandoned mine portals in Fayette County. May also occur in mine portals and caves throughout the state, particularly in Hardy, Kanawha, Mercer, Monroe, Nicholas, Preston, Raleigh, Summers, and Wyoming Counties. Critical habitat: Hellhole Cave, Cave Mountain Cave, Hoffman School Cave, and Sinnitt/Thorn Mountain Cave, Pendleton County; Cave Hollow/Arbogast Cave, Tucker County.

AMPHIBIANS

Cheat Mountain salamander	<i>Plethodon nettingi</i>	T	Grant, Pendleton, Pocahontas, Randolph, and Tucker Counties.
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FISHES

Diamond darter	<i>Crystallaria cincotta</i>	P	Clay and Kanawha Counties - Elk River.
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E = Endangered; T = Threatened; P = Proposed

Updated March 2013

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
<u>CRUSTACEANS</u>			
Madison Cave isopod	<i>Antrolana lira</i>	T	Known in Jefferson County and may potentially also occur in Berkeley County.
<u>MOLLUSKS</u>			
Mussel, clubshell	<i>Pleurobema clava</i>	E	<u>Braxton, Clay and Kanawha Counties – Elk River and the lower ½ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek; Harrison and Lewis Counties – Hackers Creek; Doddridge County – Meathouse Fork and the lower ½ mile of these tributaries: Toms Fork; Doddridge, Pleasants, and Tyler Counties – Middle Island Creek and the lower ½ mile of these tributaries: Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McKim Creek, Point Pleasant Creek, Sancho Creek; Doddridge, Ritchie, and Wirt Counties - South Fork Hughes River and the lower ½ mile of these tributaries: Bone Creek, Indian Creek, Leatherbark Creek, Otterslide Creek, Slab Creek, and Spruce Creek.</u>
Mussel, fanshell	<i>Cyrogenia stegaria</i> (= <i>irrorata</i>)	E	<u>Fayette, Kanawha, Mason and Putnam Counties - Kanawha River; Cabell, Jackson, Mason, Pleasants, Tyler, Wayne, Wetzel, and Wood Counties - Ohio River.</u>
Mussel, James spiny	<i>Pleurobema</i> (=Canthyria) <i>collina</i>	E	Monroe County – Cove Creek, South Fork of Potts Creek, and Potts Creek.
Mussel, pink mucket	<i>Lampsilis abrupta</i> (= <i>orbiculata</i>)	E	<u>Braxton, Clay and Kanawha Counties - Elk River and the lower ½ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek; Fayette, Kanawha, Mason, and Putnam Counties - Kanawha River; Cabell, Jackson, Mason, Pleasants, Tyler, Wayne, Wetzel, and Wood Counties - Ohio River.</u>
Mussel, northern riffleshell	<i>Epioblasma torulosa</i> <i>rangiana</i>	E	Braxton, Clay and Kanawha Counties – Elk River and the lower ½ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek.
Mussel, rayed bean	<i>Villosa fabalis</i>	E	Braxton, Clay and Kanawha Counties – Elk River and the lower ½ mile of these tributaries: Birch River, Blue Creek, and Laurel Creek; Doddridge, Pleasants, and Tyler Counties – Middle Island Creek and the lower ½ mile of these tributaries: Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McKim Creek, Point Pleasant Creek, and Sancho Creek.

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
MOLLUSKS			
Mussel, sheepnose	<i>Plethobasus cyphus</i>	E	Fayette and Kanawha, Mason and Putnam Counties - Kanawha River; Cabell, Jackson, Mason, Pleasants, Tyler, Wayne, Wetzel, and Wood Counties – Ohio River.
Mussel, spectacle case	<i>Cumberlandia monodonta</i>	E	Fayette, Kanawha, Mason and Putnam Counties - Kanawha River.
Mussel, snuffbox	<i>Epioblasma triquetra</i>	E	Braxton County – Cedar Creek, Elk River, and Little Kanawha River; Cabell County – Ohio River; Calhoun County – Beech Fork, Henry’s Fork, Steer Creek, and West Fork Little Kanawha River; Clay County - Elk River; Doddridge County – Arnold Creek, Bluestone Creek, Bone Creek, Buckeye Creek, Indian Creek, Leatherbark Creek, McElroy Creek, McKim Creek, Meathouse Fork, Middle Island Creek, Otterslide Creek, Point Pleasant Creek, Sancho Creek, Slab Creek, South Fork Hughes River, Spruce Creek, and Toms Fork; Gilmer County – Cedar Creek, Fink Creek, Leading Creek, Little Kanawha River, and Steer Creek; Harrison County – West Fork River and Hackers Creek; Jackson County – Ohio River; Kanawha County – Big Sandy Creek and Elk River; Lewis County – Fink Creek, Hackers Creek, Leading Creek and West Fork River; Marion County - West Fork River; Marshall County – Fish Creek; Mason County – Ohio River; Monongalia County – Dunkard Creek; Pleasants County – Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McKim Creek, Middle Island Creek, Ohio River, Point Pleasant Creek, Sancho Creek, and Sugar Creek; Ritchie County – Addis Run, Bonds Creek, Devilhole Creek, Gillespie Run, Hughes River, North Fork Hughes River, South Fork Hughes River, and Spruce Creek; Roane County – Bone Creek, Henry’s Fork, Indian Creek, Leatherbark Creek, Otterslide Creek, Reedy Creek, Slab Creek, Spring Creek, Spruce Creek, and South Fork Hughes River; Roane County – Reedy Creek, Spring Creek, and West Fork Little Kanawha River; Tyler County – Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McElroy Creek, McKim Creek, Middle Island Creek, Ohio River, Point Pleasant Creek, and Sancho Creek; Wetzel County – Fishing Creek and Ohio River; Wirt County – Addis Run, Bonds Creek, Bone Creek, Devilhole Creek, Gillespie Run, Goose Creek, Hughes River, Indian Creek, Leatherbark Creek, Little Kanawha River, North Fork Hughes River, Otterslide Creek, Reedy Creek, Slab Creek, South Fork Hughes River, Spring Creek, Spruce Creek, and West Fork Little Kanawha River; Wood County - Little Kanawha River and Ohio River.
Mussel, tubercled-blossom pearly	<i>Epioblasma (=Dysnomia) torulosa torulosa</i>	E	Fayette, Kanawha, Mason, and Putnam Counties - Kanawha River. May be extinct.
Snail, flat-spined three-toothed land	<i>Triodopsis platysayoides</i>	T	Monongalia and Preston Counties, including both sides of Cheat River Gorge.

E = Endangered; T = Threatened; P = Proposed

Updated March 2013

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
<u>PLANTS</u>			
Harperella	<i>Ptilimnium nodosum</i>	E	Berkeley County – Back Creek; Morgan County – Cacapon River, Potomac River, and Sleepy Creek.
Northeastern bulrush	<i>Scirpus ancistrochaetus</i>	E	Known in Berkeley and Hardy Counties and may potentially also occur in Hampshire, Mineral, Morgan, and Pendleton Counties.
Running buffalo clover	<i>Trifolium stoloniferum</i>	E	Known in Barbour, Brooke, Fayette, Pocahontas, Randolph, Webster, and Tucker Counties. May potentially also occur in Monongalia and Preston Counties.
Shale barren rock cress	<i>Boechera (=Arabis) serotina</i>	E	Greenbrier, Hardy, and Pendleton Counties.
Small whorled pogonia	<i>Isotria medeoloides</i>	T	Greenbrier County.
Virginia spiraea	<i>Spiraea virginiana</i>	T	<u>Fayette County</u> – Gauley River, Meadow River, and New River; <u>Greenbrier County</u> – Greenbrier River and Meadow River; <u>Mercer County</u> – Bluestone River; <u>Nicholas County</u> - Gauley River and Meadow River; <u>Pocahontas County</u> - Greenbrier River; <u>Raleigh County</u> – Marsh Fork River, Dingess Branch, and Millers Camp Branch; and <u>Summers County</u> - Bluestone River. May also potentially occur in Upshur County.

APPENDIX C

USFWS COORDINATION LETTER



April 27, 2015

John Schmidt
Project Leader
USFWS, West Virginia Field Office
694 Beverly Pike
Elkins, WV 26241

**Subject: Equitrans Expansion Project, Green Allegheny and Washington Counties,
Pennsylvania, and Wetzel County, West Virginia
Docket No. PF15-22**

Dear Mr. Schmidt,

Equitrans, L.P. (Equitrans) is hereby providing background information on the proposed Equitrans Expansion Project (Project) in Greene, Allegheny and Washington Counties, Pennsylvania. The Project will add up to 600,000 dekatherms per day (Dth/day) of north-to south firm capacity on the Equitrans system. The Project includes the replacement and expansion of the 4,800 horsepower Pratt Compressor Station with the 31,300 horsepower Redhook Compressor Station in Greene County, Pennsylvania; approximately four miles of 30-inch diameter pipeline between the proposed Redhook Compressor Station and the existing Equitrans H-302 pipeline in Greene County, Pennsylvania; approximately five miles of 24-inch diameter pipeline between the EQT Gathering, LLC Applegate Gathering System and Equitrans' existing H-148 pipeline in Allegheny and Washington Counties, Pennsylvania; and the new Webster interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed pipeline in Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of Equitrans' system south to a future interconnection with Mountain Valley, as well as existing interconnects on the southern portion of Equitrans' system with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will provide shippers with the flexibility to transport additional natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

An overall Project location map and more specific Project component location maps have been included as attachments to this letter. To establish the pipeline corridor for the proposed Project, it will be necessary to clear forest land along the corridor. Equitrans has contracted with Tetra Tech, Inc. to conduct biological and cultural field surveys for the Project which are scheduled to commence in May 2015. Equitrans will coordinate the survey plans with appropriate agency staff for review and concurrence prior to initiating the field surveys.

The Federal Energy Regulatory Commission (FERC) will serve as the lead agency for the Project. FERC granted Equitrans request in Docket No. PF15-22 to use the FERC's pre-filing process in late April 2015 and Equitrans anticipates filing a formal application with the FERC in the fourth quarter of 2015. The FERC will then prepare an Environmental Assessment or an Environmental Impact Statement to satisfy the National Environmental Policy Act (NEPA) process for the Project.

In order to assist Equitrans in preparing the FERC application and identifying possible issues to be addressed during the NEPA process, the purpose of this letter is initiate dialogue, request information and identify any potential concerns you may have regarding the Project.

The Equitrans team looks forward to working with you as we move forward with development of this Project. We appreciate your assistance and thank in you advance for your willingness to work with Equitrans.

If you have questions or would like additional information about the Project please go to equitransproject.com, contact me at 412-553-5798 (SFrazier@eqt.com), or Tricia Pellerin at 617-443-7556 (tricia.pellerin@tetrattech.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'SFrazier', is positioned above the printed name.

Stephanie Frazier
Supervisor Permitting – Environmental, EQT Corporation

cc: J. Nathaniel Manchin, EQT
Tricia Pellerin, Tetra Tech
Dave Richardson, Tetra Tech

APPENDIX D

WV DNR COORDINATION



April 27, 2015

Barbara Sargent
West Virginia Division of Natural Resources (WVDNR)
Natural Heritage Program
67 Ward Road
Elkins, WV 26241

**Subject: Equitrans Expansion Project, Green Allegheny and Washington Counties,
Pennsylvania, and Wetzel County, West Virginia
Docket No. PF15-22**

Dear Ms. Sargent,

Equitrans, L.P. (Equitrans) is hereby providing background information on the proposed Equitrans Expansion Project (Project) in Greene, Allegheny and Washington Counties, Pennsylvania. The Project will add up to 600,000 dekatherms per day (Dth/day) of north-to south firm capacity on the Equitrans system. The Project includes the replacement and expansion of the 4,800 horsepower Pratt Compressor Station with the 31,300 horsepower Redhook Compressor Station in Greene County, Pennsylvania; approximately four miles of 30-inch diameter pipeline between the proposed Redhook Compressor Station and the existing Equitrans H-302 pipeline in Greene County, Pennsylvania; approximately five miles of 24-inch diameter pipeline between the EQT Gathering, LLC Applegate Gathering System and Equitrans' existing H-148 pipeline in Allegheny and Washington Counties, Pennsylvania; and the new Webster interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed pipeline in Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of Equitrans' system south to a future interconnection with Mountain Valley, as well as existing interconnects on the southern portion of Equitrans' system with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will provide shippers with the flexibility to transport additional natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

An overall Project location map and more specific Project component location maps have been included as attachments to this letter. To establish the pipeline corridor for the proposed Project, it will be necessary to clear forest land along the corridor. Equitrans has contracted with Tetra Tech, Inc. to conduct biological and cultural field surveys for the Project which are scheduled to commence in May 2015. Equitrans will coordinate the survey plans with appropriate agency staff for review and concurrence prior to initiating the field surveys.

The Federal Energy Regulatory Commission (FERC) will serve as the lead agency for the Project. FERC granted Equitrans request in Docket No. PF15-22 to use the FERC's pre-filing process in late April 2015 and Equitrans anticipates filing a formal application with the FERC in the fourth quarter of 2015. The FERC will then prepare an Environmental Assessment or an Environmental Impact Statement to satisfy the National Environmental Policy Act (NEPA) process for the Project.

In order to assist Equitrans in preparing the FERC application and identifying possible issues to be addressed during the NEPA process, the purpose of this letter is initiate dialogue, request information and identify any potential concerns you may have regarding the Project.

The Equitrans team looks forward to working with you as we move forward with development of this Project. We appreciate your assistance and thank in you advance for your willingness to work with Equitrans.

If you have questions or would like additional information about the Project please go to equitransproject.com, contact me at 412-553-5798 (SFrazier@eqt.com), or Tricia Pellerin at 617-443-7556 (tricia.pellerin@tetrattech.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'SFrazier', is positioned above the printed name.

Stephanie Frazier
Supervisor Permitting – Environmental, EQT Corporation

cc: J. Nathaniel Manchin, EQT
Tricia Pellerin, Tetra Tech
Dave Richardson, Tetra Tech



DIVISION OF NATURAL RESOURCES

Wildlife Resources Section

Operations Center

P.O. Box 67

Elkins, West Virginia 26241-3235

Telephone (304) 637-0245

Fax (304) 637-0250

Earl Ray Tomblin
Governor

Robert A. Fala
Director

May 12, 2015

Ms. Stephanie Frazier
Equitrans, LP
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

Dear Ms. Frazier:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Equitrans Expansion Project in Wetzel County, WV (Docket No. PF15-22).

We have no known records of any RTE species or sensitive habitats within the project area. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or barbara.d.sargent@wv.gov. Enclosed please find an invoice.

Sincerely,


Barbara Sargent
Environmental Resources Specialist
Wildlife Diversity Unit

enclosure

S:\Monthly\Barb\Invoices\Equitrans.doc

NO. 215-583

INVOICE

West Virginia Division of Natural Resources

Wildlife Resources Section, P.O. Box 67, Elkins, WV 26241

Attention: Ms. Patty Fordyce

In Account With: Equitrans, LP
625 Liberty Avenue, Suite 1700
Pittsburgh, PA 15222

Date: May 12, 2015

Attention: Ms. Stephanie Frazier

For the retrieval and compilation of information on rare, threatened and endangered species and sensitive habitats for the proposed Equitrans Expansion Project in Wetzel County, WV (Docket No. PF15-22).

AMOUNT DUE: \$75.00

Make check payable to WV Division of Natural Resources. **Please reference the invoice number on your check.** Mail to the above address and to the attention of Ms. Fordyce.

APPENDIX E

WV DIVISION OF CULTURE AND HISTORY COORDINATION LETTER



April 27, 2015

Susan Pierce
Director, Deputy State Historic Preservation Officer
West Virginia Division of Culture and History
1900 Kanawha Boulevard East
Charleston, WV 25305

**Subject: Equitrans Expansion Project, Green Allegheny and Washington Counties, Pennsylvania,
and Wetzel County, West Virginia
Docket No. PF15-22-000**

Dear Ms. Pierce,

Equitrans, L.P. (Equitrans) is hereby providing background information on the proposed Equitrans Expansion Project (Project) in Greene, Allegheny and Washington Counties, Pennsylvania. The Project will add up to 600,000 dekatherms per day (Dth/day) of north-to south firm capacity on the Equitrans system. The Project includes the replacement and expansion of the 4,800 horsepower Pratt Compressor Station with the 31,300 horsepower Redhook Compressor Station in Greene County, Pennsylvania; approximately four miles of 30-inch diameter pipeline between the proposed Redhook Compressor Station and the existing Equitrans H-302 pipeline in Greene County, Pennsylvania; approximately five miles of 24-inch diameter pipeline between the EQT Gathering, LLC Applegate Gathering System and Equitrans' existing H-148 pipeline in Allegheny and Washington Counties, Pennsylvania; and the new Webster interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed pipeline in Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of Equitrans' system south to a future interconnection with Mountain Valley, as well as existing interconnects on the southern portion of Equitrans' system with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will provide shippers with the flexibility to transport additional natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

An overall Project location map and more specific Project component location maps have been included as attachments to this letter. To establish the pipeline corridor for the proposed Project, it will be necessary to clear forest land along the corridor. Equitrans has contracted with Tetra Tech, Inc. to conduct biological and cultural field surveys for the Project which are scheduled to commence in May 2015. Equitrans anticipates the need to conduct surveys for terrestrial and aquatic protected species as well as protected bat species, and as appropriate, will commence the recommended bat surveys within the allowable windows for each state. The survey corridor includes ¼ mile on either side of the proposed pipeline route, for a total of ½ mile of survey width. Equitrans will coordinate the survey plan with the USFWS field offices for review and concurrence prior to initiating the field surveys.

The Federal Energy Regulatory Commission (FERC) will serve as the lead agency for the Project. FERC granted Equitrans request in Docket No. PF15-22-000 to use the FERC's pre-filing process in late April 2015 and Equitrans anticipates filing a formal application with the FERC in the fourth quarter of 2015. The FERC will then prepare an Environmental Assessment or an Environmental Impact Statement to satisfy the National Environmental Policy Act (NEPA) process for the Project.

In order to assist Equitrans in preparing the FERC application and identifying possible issues to be addressed during the NEPA process, the purpose of this letter is initiate dialogue with the U.S. Fish and Wildlife Service, and to request information and identify any potential concerns the U.S Fish and Wildlife Service may have regarding the Project.

The Equitrans team looks forward to working with you as we move forward with development of this Project. We appreciate your assistance and thank in you advance for your willingness to work with Equitrans.

If you have questions or would like additional information about the Project please go to equitransproject.com, contact me at 412-533-5798 (SFrazier@eqt.com), or Tricia Pellerin at 617-443-7556 (tricia.pellerin@tetrattech.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'SFrazier', is positioned above the printed name and title.

Stephanie Frazier
Supervisor Permitting – Environmental, EQT Corporation

cc: J. Nathaniel Manchin, EQT
Tricia Pellerin, Tetra Tech
Dave Richardson, Tetra Tech



The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300

Randall Reid-Smith, Commissioner

Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562

EEO/AA Employer

Ms. Stephanie Frazier
Supervisor Permitting -- Environmental
Equitrans, L.P.
625 Liberty Avenue, Suite 1700
Pittsburgh, WV 15222-3111

RE: Equitrans Expansion Project; Docket No. PF15-22
FR#: 15-570-WZ

Dear Ms. Cannon:

We have reviewed the information submitted for the above mentioned project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, Equitrans, L.P. is proposing an expansion project in Greene, Allegheny and Washington Counties, Pennsylvania and Wetzel County, West Virginia. Within West Virginia, the proposed project will involve the construction of the new Webster Interconnect to deliver natural gas into Mountain Valley Pipeline LLC's proposed pipeline. It is our understanding that the Federal Energy Regulatory Commission (FERC) will serve as the lead agency and that FERC has granted Equitrans' request to use its Pre-Filing Process. We also understand that Equitrans has retained Tetra Tech to conduct biological and cultural field surveys for the proposed project. At this time, we have no immediate concerns regarding historic properties that could potentially be affected by the proposed project within West Virginia. We look forward to continuing the Section 106 consultation process and reviewing the resulting cultural resource technical reports.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Lora A Lamarre-DeMott, Senior Archaeologist, or Jeffrey S. Smith, Structural Historian at (304) 558-0240.*

Sincerely,

A handwritten signature in blue ink that reads "Susan M. Pierce".

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/LLD