pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS

CHAPTER 105 WATER OBSTRUCTIONS AND ENCROACHMENT GENERAL PERMIT REGISTRATION

PLEASE MARK ("X") ALL THAT APPLY:

- ☐ GP- 1 Fish Habitat Enhancement Structures
- ☐ GP- 2 Small Docks & Boat Launching Ramps

Please mark ("X") the specific type of project:

- ☐ private recreational dock
- ☐ public access facility
- ☐ public service facility
- ☐ other private or commercial facility

- ☐ GP- 3 Bank Rehabilitation, Bank Protection and Gravel Bar Removal
- ☐ GP- 4 Intake and Outfall Structures
- ☐ GP- 5 Utility Line Stream Crossing
- ☐ GP- 6 Agricultural Crossings & Ramps
- ☐ GP- 7 Minor Road Crossings
- ☐ GP- 8 Temporary Road Crossings
- ☐ GP- 9 Agricultural Activities
- ☐ GP-10 Abandoned Mine Reclamation
- ☒ GP-11 Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments (reviewed by DEP Regional Office only)
- ☐ GP-15 Private Residential Construction in Wetlands

☒ **Activity Related to Oil and Gas Exploration, Production or Transmission**

☐ **Activity Subject to FERC approval (Docket number _____)** ☐ **FERC Natural Gas Act Facility**

SECTION A. APPLICANT INFORMATION

Applicant's Name / Client	**DEP Client ID#** (if known)	**Employer ID#** (EIN)
Toboyne Township		

Client Information - Please select Client Type / Code from drop down box under the correct entity shown to the right. (or may be written in) →	**Government**	**Non-Government**	**Individual**
	MUNI Municip		

Mailing Address	**City**	**State**	**ZIP + 4**
50 Lower Buck Ridge Road	Blain	PA	17006

Contact Person – Last Name	First	MI	Suffix	**Telephone**	**Email Address**
Beaston	Dean			(717) 536-3154	

SECTION B. CONSULTANT INFORMATION (Complete if different than above) ☐ N/A

Contact Person – Last Name	First	MI	Suffix	**Consultant's Title**	**Consulting Firm**
Simcik	Rob			E&S Task Manager	Tetra Tech, Inc.

Mailing Address	**City**	**State**	**ZIP + 4**
661 Andersen Drive, Foster Plaza 7	Pittsburgh	PA	15220

Telephone	**Fax**	**Email**	**Employer ID# (EIN)**
(412) 921-8163	(412) 921-4040	robert.simcik@tetratech.com	

SECTION C. PROJECT INFORMATION

Project /Site Name:	**DEP Site ID#** (if known or leave blank)
Back Hollow Road Bridge Repair Project	

Client Relationship - Please select Site-to-Client Relationship / Code from drop down box to the right. (or may be written in) →	Double-click on shaded area below to select correct Site-to-Client Relationship / Code ↓

County	**Municipality** ☐ City ☐ Borough ☒ Township	
Perry	Toboyne	

Site Location / Address	**City**	**State**	**ZIP + 4**
Back Hollow Road	Blain	PA	17006

Collection Method: ☐ EMAP ☒ HGIS ☐ GISDR* ☐ ITPMP ☐ GPS ☐ WAAS ☐ LORAN

Check the horizontal reference datum (or projection datum) employed in the collection method.
EMAP and HGIS (PNDI) have known datum and do not require checking here. ☐ NAD27 ☒ NAD83 ☐ WGS84 (GEO84)

Enter the date of collection if coordinates were derived from GPS, WAAS or LORAN. _____ mm _____ dd _____ yyyy

Applicant's Name Toboyne Township	GENERAL PERMIT REGISTRATION	

SECTION D. RESOURCE IDENTIFICATION

Please place an "X" in the appropriate box to indicate if the applicant has identified that any of these resources may be present at the project site; indicate that no resources were identified or indicate and list those resources which were identified. Each General Permit (GP) has a specific set of restrictions and some resources may require certain actions or prohibit the project from being eligible to register use of the GP.	Applicant Entry	DEP Use Only
No resources identified as being present at the project site ……	☐	☐
Resources identified as being present at the project site:		
- Stream (HQ-CWF)	☐	☐
-	☐	☐
-	☐	☐

SECTION E. REGISTRATION CHECK LIST AND REQUIREMENTS

Please place an "X" next to each item (1 - 16) to ensure it is completed and/or provided. Unless otherwise specified, all items are ***required*** to ensure a complete Registration package. ****Provide ONE (1) ORIGINAL and ONE (1) COPY of the Registration package****	Applicant Entry	DEP Use Only
1. General Permit Registration form properly completed and signed:	☐	☐
- I have read the terms and conditions of the GP(s) indicated above	☒	☐
2. Permit Fee:		
- General Permit Registration Fee	☒	☐
- Chapter 105 Fee Calculation Worksheet	☒	☐
3. Notification sent to the Municipality & County: (copy of **General Permit Registration form**)	☒	☐
4. PASPGP-5 Reporting Criteria Checklist properly completed:	☒	☐
5. Location Map (USGS quad map) with project site marked:	☒	☐
6. Color Photographs with dates and descriptions: *(see instructions)* ☐ ***N/A***	☒	☐
7. Stream Name and Chapter 93 Classification: (example: UNT to #40637 HOUSE RUN, HQ-WWF/EV) Shaeffer Run #16824, HQ-CWF	☒	☐
8. Project Description:		
- Project Description including PNDI avoidance measures (if applicable)	☒	☐
- Aquatic Resource Impacts Table	☒	☐
9. Site Specific and/or Standard Drawings depicting the project's GP activities.	☒	☐
10. Site Plan depicting the site of the project's GP activities. *(see Section F.)*	☒	☐
11. Erosion & Sediment Control Plan (E&S Plan) *(required for GP-11 only - see instructions)*	☒	☐
12. Written Directions to Project Site:	☐	☐
- See Attached Written Directions	☒	☐
-	☐	☐
-	☐	☐
13. Pennsylvania Natural Diversity Inventory (PNDI): **Please place an "X" next to the appropriate box indicating the information provided:** Signed PNDI Receipt showing:		
- "No Known Impacts"	☒	☐
- "Avoidance Measures" which have ALSO been incorporated into the project description	☐	☐
- "Potential Impacts" AND proof of delivery to the appropriate agency(ies) where further coordination is required.	☐	☐

Applicant's Name Toboyne Township	**GENERAL PERMIT REGISTRATION**	

Please place an "X" next to each item (1 - 16) to ensure it is completed and/or provided. ***(continued)***	**Applicant Entry**	**DEP Use Only**
14. Bog Turtle Habitat Screening: **Please place an "X" next to the appropriate box indicating the information provided:**		
- Completed Request for a Bog Turtle Habitat Screening Form	☐	☐
- "No Effect" determination from the Army Corp of Engineers	☐	☐
- Documented clearance from the US Fish and Wildlife Services	☐	☐
- N/A due to GP type, wetland impact and/or County of project	☒	☐
15. Activities which impact wetlands: **Please place an "X" next to the appropriate box indicating the information provided:**		
- N/A because no wetland impacts are proposed or no compensatory mitigation is necessary.	☒	☐
- A wetland delineation with complete data sheets in accordance with the 1987 Corps of Engineers Wetland Delineation Manual AND the appropriate Regional Supplements to the Corps of Engineers Wetland Delineation Manual for use in Pennsylvania.	☐	☐
- If direct or indirect wetland impacts are greater than 0.05 acres, a compensatory mitigation plan in accordance with the Department's Replacement criteria which provides compensation at a minimum one to one acre ratio.	☐	☐
- **If compensatory mitigation onsite is determined not feasible:** A check, number _____, in the amount of $_____ payable to the National Fish and Wildlife Foundation, N.A. 1237, as compensatory mitigation for _____ acres of impact in wetlands, in accordance with the Pennsylvania Wetland Replacement Project.	☐	☐
16. Registration of a GP-11: **Please place an "X" next to the appropriate box indicating the worksheet(s) provided:**		
- N/A because not registering use of GP-11	☐	☐
- E&S Plan	☒	☐
- Bridge and/or Culvert Replacement Projects or Projects That Change the Waterway Opening	☒	☐

SECTION F. SITE PLAN

Please place an "X" next to the appropriate box indicating what is shown on the site plan. Unless otherwise specified in the permit, all items are ***required*** to ensure a complete Registration package.	**Applicant Entry**	**DEP Use Only**
All items included on Site Plan	☒	☐
Items not included on Site Plan and reason:		
- _____	☐	☐
- _____	☐	☐
- _____	☐	☐

SECTION G. IMPACT TABLE

Please place an "X" next to the appropriate box indicating what is shown on the Impact Table. The Aquatic Resource Impact Table (3150-PM-BWEW0557) worksheet or equivalent is required.	**Applicant Entry**	**DEP Use Only**
All information included on Impact Table	☒	☐
Information not included on Impact Table and reason:		
- Project Information: _____	☐	☐
- Corps / 404: _____	☐	☐
- DEP / 105: _____	☐	☐

Applicant's Name Toboyne Township	GENERAL PERMIT REGISTRATION	

SECTION H. CERTIFICATION

I certify under penalty of law that the information provided in this permit registration is true and correct to the best of my knowledge and information and that I possess the authority to undertake the proposed action. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (If any of the information and/or plans is found to be in error, falsified, and/or incomplete, this authorization/verification may be subject to modification, suspension, or revocation in accordance with applicable regulations.)

Dean W Beaston — Signature of Applicant/Owner

1/5/18 — Date

Dean Beaston — Typed / Printed Name

Chair of the Board of Supervisors, Toboyne Township — Typed / Printed Title

PA Fish and Boat Commission Approval (for GP-1 only)

Signature of Reviewer — Date

Reviewer's Typed / Printed Name — ( ) Phone Number

Reviewer's Typed / Printed Title — Email Address

This General Permit shall not be effective until the owner has had their E&S Plan reviewed by the appropriate Regional Office or District, obtained Federal Authorization and, where required, obtained an SLLA from DEP.

AN ACKNOWLEDGED COPY OF THIS GENERAL PERMIT REGISTRATION PACKAGE (INCLUDING THE ACKNOWLEDGEMENT LETTER AND TERMS AND CONDITIONS), REQUIRED FEDERAL AUTHORIZATION, AND THE E&S PLAN MUST BE AVAILABLE AT THE PROJECT SITE DURING CONSTRUCTION.

SECTION I. ACKNOWLEDGEMENT – DEP USE ONLY

Signatures authorizing acknowledgment to use and register:

A. Completeness Review:

DEP / District Reviewer Signature

Reviewer's Typed / Printed Name

Begin Date: ____
Incomplete Date: ____
Response Date: ____
End Date: ____

Completeness Status

☐ YES ☐ NO

B. Eligibility Review:

DEP / District Reviewer Signature

Reviewer's Typed / Printed Name

Begin Date: ____
Incomplete Date: ____
Response Date: ____
End Date: ____

☐ Deficient - **DENIED**

C. Decision Review:

DEP / District Manager Signature

Reviewer's Typed / Printed Name

Begin Date: ____
End Date: ____

Disposition Status

☐ WITHDRAWN ☐ **APPROVED**
☐ RETURNED ☐ **DENIED**

D. Contact Information:

Typed / Printed Name — ( ) Phone Number — Email Address

E. Permit Tracking:

Received ____ Acknowledged ____ SLLA required: ☐ NO ☐ YES PASPGP-5: ☐ NO ☐ YES ☐ REP ☐ NONREP

GP - ____ GP - ____ GP - ____ GP - ____ GP - ____

Notes: ____

Directions to Back Hollow Road Bridge from PADEP South Central Regional Office:

From the Pennsylvania Department of Environmental Protection Southcentral Regional Office, head southwest on Elmerton Avenue for 0.2 mile. Turn right onto US-22 W and drive 0.4 mile. Use the middle lane to take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown, continue for 0.2 mile. Keep left at the fork, then follow signs for I-81 S/Carlisle and merge onto I-81 S. Drive 7.7 miles. Keep right at the fork to stay on I-81 S, and drive 2.6 miles. Take exit 57 for Pa-114 toward Mechanicsburg and drive 0.3 mile. Turn right onto Pa-114 W (signs for Wertzville Rd.) and drive for 1.0 mile. Turn left onto Pa-944 W and continue for 3.4 miles. Continue onto Sunnyside Dr., drive 1.1 mile. At the traffic circle, take the 2nd exit onto Spring Rd and continue for 5.2 miles. Turn left onto Pa-850 W and drive 6.6 miles. Turn right onto N. Carlisle St., drive 404 feet. Continue onto Pa-850 W/Montour Rd and drive 0.8 mile. Turn left onto Ernest Rd., drive 1.2 mile. Turn right at the 1st cross street onto State Rte 382, continue for 0.3 mile. Turn left onto Hidden Valley Rd., drive 3.4 miles. Turn left to stay on Hidden Valley Road and continue for approximately 300 feet. Turn right to stay on Hidden Valley Road and continue for 1.3 miles. Continue onto Couchtown Rd and drive for 4.0 miles. Continue onto 300/Back Hollow Road and drive 4.9 miles. The project is located at the existing bridge.

PART ONE: WATER OBSTRUCTIONS AND ENCROACHMENTS

SECTION A. APPLICATION FEES

☐ **WATER OBSTRUCTION AND ENCROACHMENT PERMIT** (Joint Permit Application)
Some activities or structures within a project may also qualify for an accumulation of General Permit fees, please mark the box above indicating an Individual Water Obstruction and Encroachment Permit AND the corresponding fee(s) in the General Permit section below those. Activities or structures not qualifying for a General Permit fee must include a disturbance fee.

☐ Administrative Filing Fee[1]			$ 1,750 +	
☐ Temporary Disturbance ($400/0.1ac)	____.____ acres x $4,000 =		$ ____ +	
☐ Permanent Disturbance ($800/0.1ac)	____.____ acres x $8,000 =		$ ____	= $ ____
		WO&E FEE subtotal (a)		$ ____

☒ **GENERAL PERMIT(S)** (select activity/structure(s) below, see page 4 for "#" explanation)
Some activities or structures within a project requiring an Individual Water Obstruction and Encroachment Permit may qualify for an accumulation of General Permit fees, please mark the corresponding fee(s) below but not the box above indicating a General Permit.

☐ GP-1 Fish Habitat Enhancement Structures		$ 50	= $ ____
☐ GP-2 Small Docks and Boat Launching Ramps	____ (#) x	$ 175	= $ ____
☐ GP-3 Bank Rehabilitation, Bank Protection and Gravel Bar Removal	____ (#) x	$ 250	= $ ____
☐ GP-4 Intake and Outfall Structures	____ (#) x	$ 200	= $ ____
☐ GP-5 Utility Line Stream Crossings[2]	____ (#) x ____ (#) x	$ 250	= $ ____
☐ GP-6 Agricultural Crossings and Ramps	____ (#) x	$ 50	= $ ____
☐ GP-7 Minor Road Crossings[2]	____ (#) x	$ 350	= $ ____
☐ GP-8 Temporary Road Crossings[2]	____ (#) x	$ 175	= $ ____
☐ GP-9 Agricultural Activities		$ 50	= $ ____
☐ GP-10 Abandoned Mine Reclamation		$ 500	= $ ____
☒ GP-11 Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments[1]		$ 750 +	
☒ Temporary Disturbance ($400/0.1ac)	0.1 acres x $4,000 =	$ 400 +	
☒ Permanent Disturbance ($800/0.1ac)	0.1 acres x $8,000 =	$ 800	= $ 1200
☐ GP-15 Private Residential Construction in Wetlands[1]		$ 750 +	
☐ Temporary Disturbance ($400/0.1ac)	____.____ acres x $4,000 =	$ ____ +	
☐ Permanent Disturbance ($800/0.1ac)	____.____ acres x $8,000 =	$ ____	= $ ____
	GP(s) FEE subtotal (b)		$ 1,200

PART ONE: SECTION A. APPLICATION FEE(S) subtotal (a+b=c) $ 1200

SECTION B. OTHER FEES

☐ Environmental Assessment for Waived Activities (§105.13(c)(2)(iv))		$ 500	$ ____
☐ Amendment to Water Obstruction and Encroachment Permit			
☐ Major Amendment[1]		$ 500 +	
☐ Temporary Disturbance	____.____ acres x $4,000 =	$ ____ +	$ ____
☐ Permanent Disturbance	____.____ acres x $8,000 =	$ ____	= $ ____
☐ Minor Amendment		$ 250	$ ____

Transfer of Water Obstruction and Encroachment Permit *does not require submission of this form;* *see Application for Transfer of Permit / Submerged Lands License Agreement (3150-PM-BWEW-0016)*

PART ONE: SECTION B. OTHER FEE(S) subtotal (d) $ ____

PART ONE: FEE(S) TOTAL (c+d=e) $ 1200

DEP USE ONLY			
FEE TOTAL:		Permit / Authorization Number (s):	
Correct Amount:		Check #:	
Check Amount:		Payable to:	

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DEP USE ONLY
☐ Non-Reporting
☐ Reporting

PASPGP-5 REPORTING CRITERIA CHECKLIST

The following questionnaire must be completed (instructions on pages 1-6) and submitted as part of all DEP Chapter 105 applications / registrations to determine the appropriate Federal Pennsylvania State Programmatic General Permit-5 (PASPGP-5) review procedure. **Incomplete submissions, including lack of certification signature, will be returned.**

Applicant / Project Name: Back Hollow Road Bridge Repair Project	County(s): Perry County

SECTION A: ELIGIBILITY DETERMINATION

YES ☐ NO ☒ 1. Does the proposed work associated with the Single and Complete Project temporarily and/or permanently impact greater than 1.0 acre of waters and/or wetlands, and/or result in the loss of greater than 1,000 linear feet of stream channel(s)?

YES ☐ NO ☒ 2. Is any of the proposed work located waterward of the ordinary high water mark (OHWM) of any of the ineligible waterbodies identified in the instructions?

YES ☐ NO ☒ 3. Has any portion of the proposed work been denied a DEP Chapter 105 Permit, a State Water Quality Certification as required under Section 401 of the Clean Water Act, or a Coastal Zone Consistency Determination?

YES ☐ NO ☒ 4. Does the proposed work result in the diversion of more than 10,000 gallons per day of surface water or groundwater into or out of the Great Lakes Basin (Lake Erie Watershed)?

*****

SECTION B: REPORTING ACTIVITY DETERMINATION

YES ☐ NO ☒ 1. Does the proposed work associated with a Single and Complete Project, including any attendant features, permanently and/or temporarily impact greater than 0.5 acre of waters of the United States, including jurisdictional wetlands?

YES ☐ NO ☒ 2a. Does the application/registration include any proposed Single and Complete Projects permanently impacting greater than 250 linear feet of streams, rivers, or other watercourses (excluding wetlands)?

YES ☐ NO ☒ 2b. Is the Single and Complete Project for stream bank stabilization, rehabilitation, protection and/or enhancement and propose impacts of greater than 500 linear feet of stream channel(s)?

YES ☐ NO ☒ 2c. Does the Single and Complete Project qualify for DEP GP-1 for Fish and Enhancement Structures?

YES ☐ NO ☒ 2d. Is the project covered by a programmatic State Water Quality Certification issued by DEP - that is conditioned upon receiving approval by- the Environmental Review Committee?

YES ☐ NO ☒ 3. Does the application/registration include any Single and Complete Projects that propose the permanent conversion of greater than 0.10 acre of forested and/or shrub-scrub wetlands in association with a regulated activity?

YES ☐ NO ☒ 4. If the application/registration is for a utility line, do any of the single and complete projects in waters of the United States, including jurisdictional wetlands, exceed 500 linear feet (excluding overhead lines)?

YES ☐ NO ☒ 5. Is this application/registration to place a buried utility line in waters and/or wetlands in a manner that the utility line will run parallel to or along a stream bed?

SECTION B: REPORTING ACTIVITY DETERMINATION (CONT)

YES ☐ NO ☒ 6. Is the application/registration associated with a Single and Complete Project whereby a previous Department of the Army authorization has been issued through an Individual Permit, a Nationwide Permit, or a PASPGP processed by the Corps as a Category III/Reporting Activity? **If YES, please complete the following table.**

Authorization Type	Authorization Number	Date (mm/dd/yyyy)	Federal Permitted Impacts	
			Wetlands	Waters

YES ☐ NO ☒ 7a. Is the proposed project located in waterways occupied by Federally listed, proposed, or candidate mussels or fish, or in waters of the United States within 300 feet of these listed waterways? *See instructions for list of waterways.*

YES ☐ NO ☐ 7b. If 7a is yes, have you received documented clearance from the USFWS, or a Section 7 of the Endangered Species Act (ESA) "no effect" determination from the Corps? Documented clearance from the USFWS could include PNDI language stating "NO KNOWN IMPACT"; or, if in a USFWS letter the language must indicate "no effect" or "the project or activity will not affect Federally listed species."

YES ☐ NO ☒ 8a. Does the project propose impacts to Federally regulated wetlands in a county that requires bog turtle screening procedures? *See instructions for list of counties.*

YES ☐ NO ☐ 8b. If 8a is YES, have you received documented clearance from the USFWS, or a Section 7 ESA "no effects" determination from the Corps? Documented clearance from the USFWS could include PNDI language stating "NO KNOWN IMPACT"; or, if in a USFWS letter the language must indicate "no effect" or "the project or activity will not affect Federally listed species."

YES ☐ NO ☒ 9a. Does the completed Pennsylvania Natural Diversity Inventory (PNDI) search receipt identify a potential conflict(s) for a Federally listed species?

YES ☐ NO ☐ 9b. If YES for 9a, have you received additional documented Section 7 ESA clearance, or do you agree, through signing of the PNDI receipt, to comply with all avoidance measures identified on the PNDI receipt associated with Federally listed species for the proposed work?

YES ☐ NO ☒ 10. Is the proposed work associated with maintenance dredging of a reservoir's design storage capacity, including the removal of accumulated sediments? This corresponds to activities authorized pursuant to Section 7 of the Dam Safety and Encroachments Act (DSEA), 32 P.S. § 693.1, et seq., and the rules and regulations promulgated there under in the PA Bulletin (codified at 25 PA. Code, Chapter 105, § 105.131(c)).

YES ☐ NO ☒ 11a. If the DEP Chapter 105 application/registration requires submittal of a Cultural Resources Notification Form as part of the application/registration, have you included the response letter from the State Historic Preservation Officer (SHPO), i.e., Pennsylvania Historic and Museum Commission (PHMC) with your application/registration?

YES ☐ NO ☒ 11b. Has the PHMC determined that archaeological or other cultural resources are believed to exist within the permit area?

YES ☐ NO ☐ 11c. If yes for 11b, have you received follow-up documented clearance from PHMC, or a Section 106 "no effect" determination from the Corps?

YES ☐ NO ☒ 12a. Does the proposed work occur in a component of the National Wild and Scenic River System or in a river officially designated by Congress as a "Study River" for possible inclusion in the System? *See instructions for listing.*

YES ☐ NO ☐ 12b. If yes for 12a, have you received a written determination from the Federal agency with direct management responsibility for such river that the proposed activity will not adversely affect any Wild and Scenic River including study rivers?

YES ☐ NO ☒ 13. Does the proposed project require the preparation of an Environmental Impact Statement?

YES ☐ NO ☒ 14. Does the proposed regulated activity or area of indirect impact (secondary impact) extend across state boundaries (i.e., the work in not wholly located within the Commonwealth of Pennsylvania)?

SECTION B: REPORTING ACTIVITY DETERMINATION (CONT)

YES ☐ NO ☒ 15. Is the proposed work authorized pursuant to DEP Chapter 105 permits in conjunction with coal and non-coal mining permits issued by the DEP District Mining Offices (Bureau of Mining and Reclamation), including activities authorized pursuant to Chapter 105 Waiver 4 [25 Pa. Code §105.12(a)(4)] and GP-101 and GP-102]?

YES ☐ NO ☒ 16. Is the proposed work associated with the construction of a Mitigation Bank or In Lieu Fee site developed to meet the requirements of the Corps and EPA April 10, 2008 Compensatory Mitigation for Losses of Aquatic Resources: Final Rule?

YES ☐ NO ☒ 17. Will the proposed work alter, use, build upon, attempt to possess, or that may harm or impair any existing or proposed Corps Civil Works project, and any Corps-owned or managed property?

YES ☐ NO ☒ 18a. Does the Single and Complete Project involve the construction or expansion of a residential, commercial or institutional subdivision or development?

YES ☐ NO ☒ 18b. Does greater than 0.25 acre of wetland(s) exist within the property boundary that are not proposed to be directly impacted as part of this application/registration? **If YES, provide wetland acreage: _____ acres.**

YES ☐ NO ☒ 18c. Are you proposing to protect the wetland area(s) through a deed restriction or conservation easement that follows the Corps' Model Protective Covenant?

YES ☐ NO ☒ 19. Does the proposed work temporarily impact waters and/or wetlands that will remain in place for more than 1 year?

YES ☐ NO ☒ 20. Do you have any other pending applications/registrations with the DEP or Corps that are necessary for this total proposed project to function and meet its intended purpose? **If YES, provide following information.**

Application / Registration Number / Type	**Project Name**	**Date of Submittal to DEP** (mm/dd/yyyy)	**DEP / CCD Reviewing Office**	**Corps Reviewing Office**

YES ☐ NO ☒ 21. Are you proposing to do work in the Delaware River (upstream from the U.S. Route 202 Bridge in New Hope, Pennsylvania.) and/or the Lehigh River (from the mouth to Francis E. Walter Dam, located in Carbon and Luzerne County, Pennsylvania between March 15 and June 30?

YES ☐ NO ☒ 22a. Does the proposed work occur in any of the waters listed in the instructions?

YES ☒ NO ☐ 22b. Will you comply with all of the identified conservation measures?

*****

SECTION C: CERTIFICATION

I certify that the information provided on this form is true and correct to the best of my knowledge and information. If any of the information and/or plans is found to be in error, falsified, and/or incomplete, your Chapter 105/PASPGP-5 authorization/verification may be subject to modification, suspension, or revocation in accordance with applicable regulations.

Dean W Beaston
Signature of Applicant

1/5/18
Date

Dean Beaston - Chair of the Board of Supervisors, Toboyne Township
Name Typed or Printed

*****

IMPERVIOUS SURFACE DATA FOR CORPS

YES ☐ NO ☒ 1a. Is your project located in the Corps of Engineers Philadelphia District (Delaware River Watershed), or in Chester, Lancaster, or York County?

YES ☐ NO ☒ 1b. Does your project propose impervious surfaces within waters and wetlands? **If YES, provide area of impervious surface within the footprint of waters and wetlands:** _____ square feet

YES ☐ NO ☒ 1c. Does any part of your project propose the removal of any impervious surfaces? **If YES, provide area of impervious surface being removed:** _____ square feet

FOR DEP USE ONLY

DEP / District Manager Signature

Date

Name Typed or Printed

Permit Number

Please complete and provide this chart as part of the General Permit Registration (3150-PM-BWEW0500) for GP-11 (3150-PM-BWEW0511)

BRIDGE AND/OR CULVERT REPLACEMENT PROJECTS OR PROJECTS THAT CHANGE THE WATERWAY OPENING*										
	Bridge/Culvert Existing					Bridge/Culvert Proposed				
Activity Number**	Waterway Opening (sq. ft.) (cross section/area)	Span (ft.)	Underclearance (ft.)	Length (ft.) (upstream to downstream)	Material Type (RCP, CMP, etc.)	Waterway Opening (sq. ft.) (cross section/area)	Span (ft.)	Underclearance (ft.)	Length (ft.) (upstream to downstream)	Material Type (RCP, CMP, etc.)
1	91.8	20.4	4.5	12.2	Steel	91.8	20.4	4.5	12.2	Steel
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										

*For multiple structures attach additional sheets that provide the same information requested in the chart.
**The number used for a particular water obstruction from 3150-PM-BWEW0552A should match the number in 3150-PM-BWEW0552B for the same water obstruction.

3150-PM-BWEW0557 7/2016

Aquatic Resource Impact Table

Applicant's Name / Client: ___Toboyne Township Supervisors____________

Project / Site Name: Back Hollow Road Bridge Repair Project (GP-11)

Date: January 2018

DEP / Corps use only			Project Information								Corps / 404					PADEP / 105		
PADEP Permit Number *leave blank*	**Single and Complete Project** *leave blank*	**Crossing Number** *leave blank*	**Structure / Activity** unique identifier	**Aquatic Resource** being impacted	**Aquatic Resource TYPE**	**Latitude** *dd nad83*	**Longitude** *dd nad83*	**Work Proposed / Impact Type**	**Waters Name**	**PA Code Chapter 93 Designation**	**Corps Impact TYPE** *temp / perm*	**Stream Impact WIDTH** linear feet	**Stream Impact LENGTH** linear feet	**Stream Impact AREA** square feet	**Wetland Impact AREA** square feet	**DEP Impact TYPE** *temp / perm*	**Floodway Impact AREA** square feet	**Wetland Impact AREA** square feet
			Shaeffer Run - 1	Stream	Perennial	40.269167	-77.549475	Aerial	Shaeffer Run	HQ-CWF	Perm	20.4	12.2	249	N/A	Perm	N/A	N/A
			Shaeffer Run - 1	Stream	Perennial	40.269167	-77.549475	Fill	Shaeffer Run	HQ-CWF	N/A	N/A	N/A	N/A	N/A	Perm	2218	N/A
			Shaeffer Run - 1	Stream	Perennial	40.269167	-77.549475	Fill	Shaeffer Run	HQ-CWF	N/A	N/A	N/A	N/A	N/A	Temp	3518	N/A

TETRA TECH

PITT-12-17-028

December 22, 2017

Project Number 212IC-BF-00037

Perry County
P.O. Box 37
25 West Main Street
New Bloomfield, PA 17068

Reference: Sunoco Pipeline, L.P. (SPLP)
Pennsylvania Pipeline Project
Back Hollow Road Bridge Repair Project
Toboyne Township, Perry County

To Whom It May Concern:

This municipal notice, under the requirements of Acts 14, 67, 68, and 127, is to inform you that Toboyne Township, intends to submit a Chapter 105 permit application to the Pennsylvania Department of Environmental Protection, Pittsburgh Regional Office (PADEP) for the following project:

Project Name: Back Hollow Road Bridge Construction

Applicant Name: Toboyne Township
50 Lower Buck Ridge Road
Blain, PA 17006

Project Description: The project concerns the repair of the Back Hollow Road Bridge that crosses Schaeffer Run located in Toboyne Township, Perry County, Pennsylvania. The repair was made to enhance the structural integrity of the bridge during the construction activities associated with the SPLP Pennsylvania Pipeline Project. The effort consisted of a pre-engineered decking installed on top of the existing bridge decking. The bridge spans approximately 40-feet and the new decking will remain in place for use by the general public.

Site Location: Back Hollow Road, Toboyne Township, Perry County, PA.

Enclosed please find a location map with the site indicated and the General Permit Registration Form. Please submit any comments concerning this project within 30 days from date of receipt of this letter to:

Pennsylvania Department of Environmental Protection (PA DEP)
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110-8200
Phone: (717) 705-4700

Should you have questions regarding this correspondence, please do not hesitate to contact me at 412.921.8163 or via e-mail at Robert.Simcik@tetratech.com.

Sincerely,

Robert F. Simcik, P.E.
E&S Task Manager

Enclosure: General Registration Form; Site Location Map

cc: File 212IC-BF-00037

Tetra Tech
661 Andersen Drive, Pittsburgh, PA 15220-2700
Tel 412.921.7090 Fax 412.921.4040 www.tetratech.com

FedEx® Tracking

771076882178

Ship date:
Fri 12/22/2017

Tetra Tech, Inc.
ADMIN OFFICE
661 Andersen Drive
Foster Plaza Building 7
Pittsburgh, PA US 15220
412 921-7090

Delivered
Signed for by: K.ADKINS

Actual delivery:
Wed 12/27/2017 11:07 am

Perry County
25 West Main Street
NEW BLOOMFIELD, PA US 17068
412 921-7090

Travel History

Date/Time	Activity	Location
- 12/27/2017 - Wednesday		
11:07 am	Delivered	NEW BLOOMFIELD, PA
7:58 am	On FedEx vehicle for delivery	MIDDLETOWN, PA
7:17 am	At local FedEx facility	MIDDLETOWN, PA
- 12/26/2017 - Tuesday		
9:53 am	At local FedEx facility	MIDDLETOWN, PA
9:23 am	Delivery exception Business closed - No delivery attempt	MIDDLETOWN, PA
7:36 am	At local FedEx facility	MIDDLETOWN, PA
- 12/24/2017 - Sunday		
8:13 pm	At destination sort facility	MIDDLETOWN, PA
5:42 pm	Departed FedEx location	MEMPHIS, TN
- 12/23/2017 - Saturday		
11:06 am	Arrived at FedEx location	MEMPHIS, TN
- 12/22/2017 - Friday		
8:30 pm	Left FedEx origin facility	PITTSBURGH, PA
6:47 pm	Picked up	PITTSBURGH, PA
1:33 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771076882178	**Service**	FedEx Priority Overnight
Weight	0.5 lbs / 0.23 kgs	**Signature services**	Adult signature required
Delivery attempts	1	**Delivered To**	Receptionist/Front Desk
Total pieces	1	**Total shipment weight**	0.5 lbs / 0.23 kgs
Terms	Not Available	**Purchase order number**	Astfalk / Simcik
Shipper reference	212IC-BF-00037	**Packaging**	FedEx Envelope
Special handling section	Deliver Weekday, Adult Signature Required	**Standard transit**	12/27/2017 by 4:30 pm

TETRA TECH

PITT-12-17-029

December 22, 2017

Project Number 212IC-BF-00037

Dean Beaston
Chair of the Board of Supervisors
Toboyne Township
50 Lower Buck Ridge Road
Blain, PA 17006

Reference: Sunoco Pipeline, L.P. (SPLP)
Pennsylvania Pipeline Project
Back Hollow Road Bridge Repair Project
Toboyne Township, Perry County

Mr. Dean Beaston:

This municipal notice, under the requirements of Acts 14, 67, 68, and 127, is to inform you that Toboyne Township, intends to submit a Chapter 105 permit application to the Pennsylvania Department of Environmental Protection, Pittsburgh Regional Office (PADEP) for the following project:

Project Name: Back Hollow Road Bridge Repair

Applicant Name: Toboyne Township
50 Lower Buck Ridge Road
Blain, PA 17006

Project Description: The project concerns the repair of the Back Hollow Road Bridge that crosses Schaeffer Run located in Toboyne Township, Perry County, Pennsylvania. The repair was made to enhance the structural integrity of the bridge during the construction activities associated with the SPLP Pennsylvania Pipeline Project. The effort consisted of a pre-engineered decking installed on top of the existing bridge decking. The bridge spans approximately 40-feet and the new decking will remain in place for use by the general public.

Site Location: Back Hollow Road, Toboyne Township, Perry County, PA.

Enclosed please find a location map with the site indicated and the General Permit Registration Form. Please submit any comments concerning this project within 30 days from date of receipt of this letter to:

Pennsylvania Department of Environmental Protection (PA DEP)
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110-8200
Phone: (717) 705-4700

Should you have questions regarding this correspondence, please do not hesitate to contact me at 412.921.8163 or via e-mail at Robert.Simcik@tetratech.com.

Sincerely,

Robert F. Simcik, P.E.
E&S Task Manager

Enclosure: General Registration Form; Site Location Map

cc: File 212IC-BF-00037

Tetra Tech
661 Andersen Drive, Pittsburgh, PA 15220-2700
Tel 412.921.7090 Fax 412.921.4040 www.tetratech.com

FedEx® Tracking

771076505160

Ship date:
Fri 12/22/2017

Tetra Tech, Inc.
ADMIN OFFICE
661 Andersen Drive
Foster Plaza Building 7
Pittsburgh, PA US 15220
412 921-7090

Delivered
Signed for by: A.BEASTON

Actual delivery:
Thu 12/28/2017 11:51 am

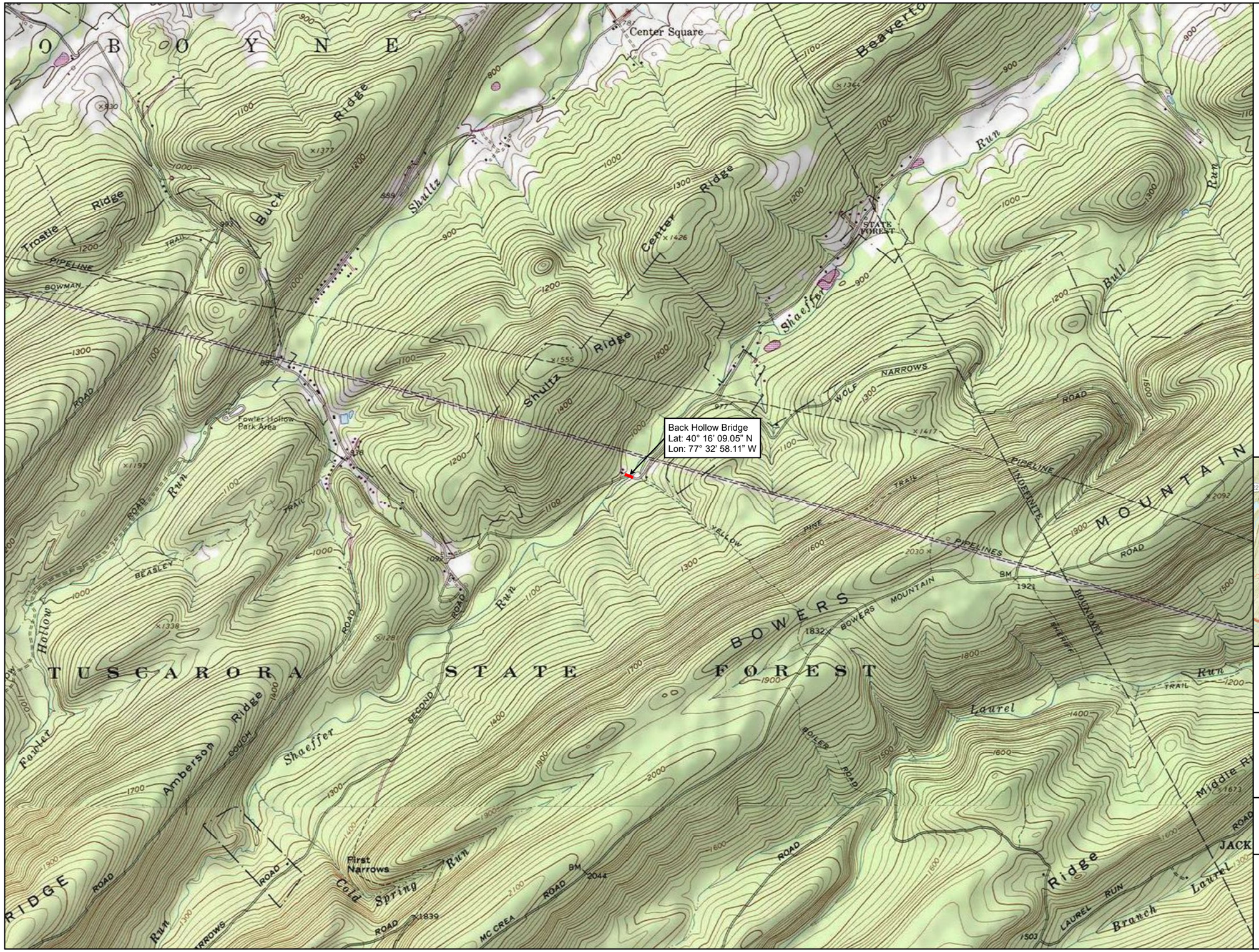
Toboyne Township
Dean Beaston
50 Lower Buck Ridge Road
BLAIN, PA US 17006
412 921-7090

Travel History

Date/Time	Activity	Location
- 12/28/2017 - Thursday		
11:51 am	Delivered	BLAIN, PA
8:33 am	On FedEx vehicle for delivery	MIDDLETOWN, PA
7:20 am	At local FedEx facility	MIDDLETOWN, PA
- 12/27/2017 - Wednesday		
4:57 pm	At local FedEx facility	MIDDLETOWN, PA
3:31 pm	Delivery exception Customer not available or business closed	MIDDLETOWN, PA
8:00 am	On FedEx vehicle for delivery	MIDDLETOWN, PA
6:45 am	At local FedEx facility	MIDDLETOWN, PA
- 12/26/2017 - Tuesday		
4:46 pm	At local FedEx facility	MIDDLETOWN, PA
3:25 pm	Delivery exception Customer not available or business closed	MIDDLETOWN, PA
8:03 am	On FedEx vehicle for delivery	MIDDLETOWN, PA
7:48 am	At local FedEx facility	MIDDLETOWN, PA
- 12/24/2017 - Sunday		
8:13 pm	At destination sort facility	MIDDLETOWN, PA
5:42 pm	Departed FedEx location	MEMPHIS, TN
- 12/23/2017 - Saturday		
11:06 am	Arrived at FedEx location	MEMPHIS, TN
- 12/22/2017 - Friday		
8:30 pm	Left FedEx origin facility	PITTSBURGH, PA
6:47 pm	Picked up	PITTSBURGH, PA
1:02 pm	Shipment information sent to FedEx	

Shipment Facts

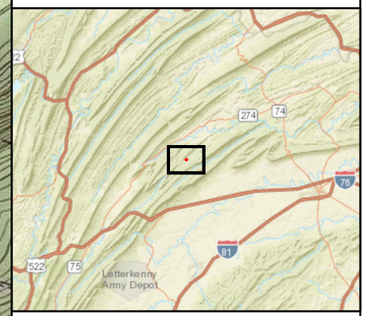
Tracking Number	771076505160	**Service**	FedEx Priority Overnight
Door tag number	DT104395111463, DT104395111430	**Weight**	0.5 lbs / 0.23 kgs
Signature services	Adult signature required	**Delivery attempts**	3
Delivered To	Receptionist/Front Desk	**Total pieces**	1
Total shipment weight	0.5 lbs / 0.23 kgs	**Terms**	Not Available
Purchase order number	Astfalk / Simcik	**Shipper reference**	212IC-BF-00037
Packaging	FedEx Envelope	**Special handling section**	Deliver Weekday, Adult Signature Required
Standard transit	12/26/2017 by 4:30 pm		



Legend

Limit of Disturbance

Sheet Identifier



Feet
0 1,000 2,000

Meters
0 304.8 609.6

FIGURE 1
USGS PROJECT LOCATION MAP
BACK HOLLOW BRIDGE
PENNSYLVANIA PIPELINE
SUNOCO PIPELINE, LP (SPLP)
PERRY COUNTY, PENNSYLVANIA

TETRA TECH

Notes:
1) Topographic map provided by ESRI's ArcGIS Online USA Topo Maps map service (© 2013 National Geographic Society, i-cubed).
2) Quadrangles displayed are Blain and Newburg.

Back Hollow Road Bridge Repair Project Site Photographs

Photo 1 – 12/18/2017 – Looking southwest at bridge.

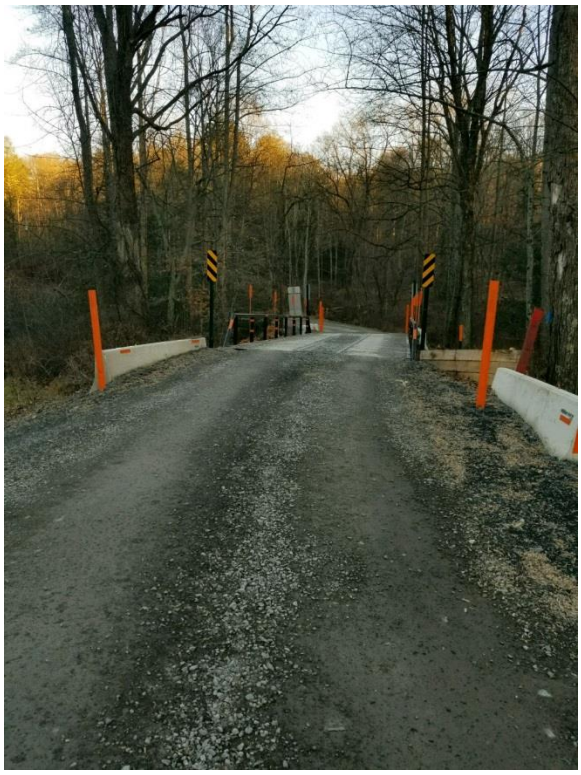


Photo 2 – 12/18/2017 – Looking east across bridge.

Photo 3 – 12/18/2017 – Looking west across bridge.

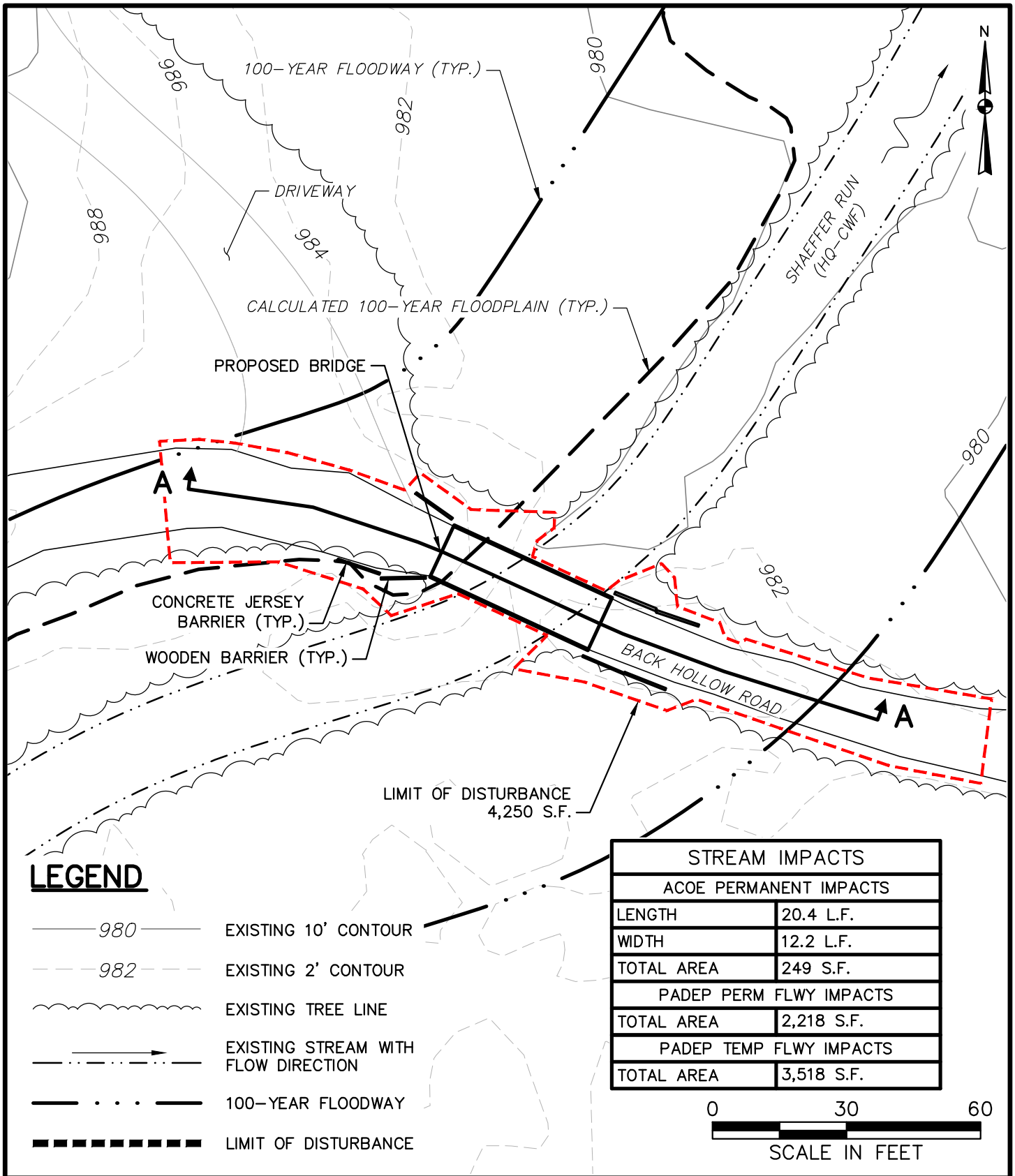
Photo 4 – 12/18/2017 – Looking southeast at bridge.

Photo 5 – 12/18/2017 – Looking northwest across bridge.

Project Description: Back Hollow Road Bridge Repair Project

Toboyne Township proposes to repair the Back Hollow Road Bridge that across Shaeffer Run located in Toboyne Township, Perry County, Pennsylvania. The repair was made to ensure structural integrity of the bridge during the construction activities associated with the Sunoco Pennsylvania Pipeline Project. The effort consisted of a pre-engineered decking installed on top of the existing bridge decking. The bridge spans approximately 40-feet and the new decking will remain in place for use by the general public.

PADEP/105 impacts associated with the GP-11 will include 2,218 square feet of permanent floodway impacts, and 0 square feet of permanent wetland impacts. Corps/404 impacts associated with GP-11 will include 20.4 linear feet and 249 square feet of permanent stream impacts and 0 square feet of permanent wetland impacts. PADEP/105 impacts associated with GP-11 will include 3,518 square feet of temporary floodway impacts, and 0 square feet of temporary wetland impacts. Corps/404 impacts associated with GP-11 will include 0 square feet of temporary wetland or stream impacts.



LEGEND

- 980 — EXISTING 10' CONTOUR
- 982 — EXISTING 2' CONTOUR
- EXISTING TREE LINE
- EXISTING STREAM WITH FLOW DIRECTION
- 100-YEAR FLOODWAY
- LIMIT OF DISTURBANCE

STREAM IMPACTS	
ACOE PERMANENT IMPACTS	
LENGTH	20.4 L.F.
WIDTH	12.2 L.F.
TOTAL AREA	249 S.F.
PADEP PERM FLWY IMPACTS	
TOTAL AREA	2,218 S.F.
PADEP TEMP FLWY IMPACTS	
TOTAL AREA	3,518 S.F.

0 30 60

SCALE IN FEET

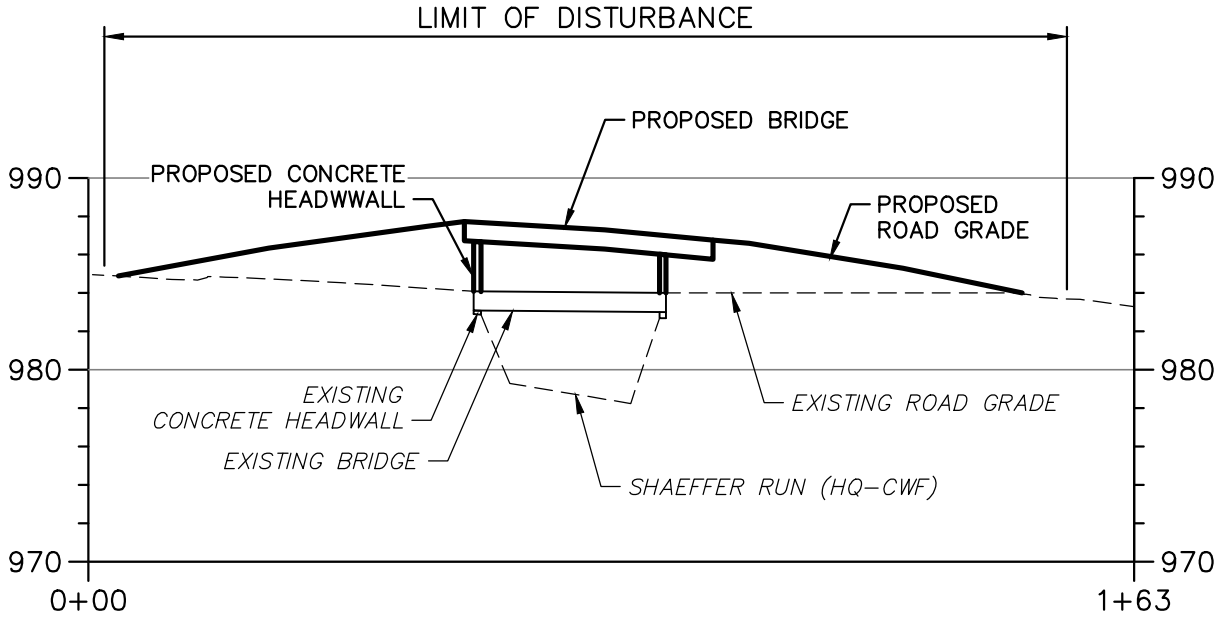
TETRA TECH
WWW.TETRATECH.COM
661 ANDERSEN DRIVE – FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA
BACK HOLLOW ROAD BRIDGE REPAIR PROJECT
GP-11 PLAN

DATE:	1/10/18
PROJECT NO.:	112IC05958
DESIGNED BY:	EJR
DRAWN BY:	BH
CHECKED BY:	RS
SHEET: 1 OF 2	

FIGURE 1

R:_Marcellus Shale Projects\Sunoco\5958 – Penn Pipeline Project\10 – Perry\Back Hollow Road\GP\5958GP0001.dwg PIT NICHOLE.NAJESKI 1/11/2018 3:28:59 PM



PROFILE A–A'

0 30 60
HORIZONTAL SCALE IN FEET

0 10 20
VERTICAL SCALE IN FEET

TETRA TECH
WWW.TETRATECH.COM
661 ANDERSEN DRIVE – FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

BACK HOLLOW ROAD BRIDGE
REPAIR PROJECT
GP-11 PROFILE

DATE:	1/2/18
PROJECT NO.:	112IC05958
DESIGNED BY:	EJR
DRAWN BY:	BH
CHECKED BY:	RS
SHEET: 2 OF 2	

FIGURE 2

TETRA TECH
www.tetratech.com
661 ANDERSEN DRIVE – FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

REVISIONS

NO.	BY	DATE	REMARKS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ROBERT F. SIMCIK
ENGINEER
PE-080435-E

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

BACK HOLLOW ROAD BRIDGE REPAIR PROJECT

GP-11 SITE PLAN

DATE:	1/10/18
PROJECT NO.:	112IC05958
DESIGNED BY:	EJR
DRAWN BY:	BH
CHECKED BY:	RS

SHEET SP-1
SHEET 1 OF 1

R:_Marcellus Shale Projects\Sunoco\5958 – Penn Pipeline Project\10 – Perry\Back Hollow Road\Site Plan\5958SP001.dwg PIT NICHOLE.NAJESKI 1/11/2018 3:30:35 PM

1. PROJECT INFORMATION

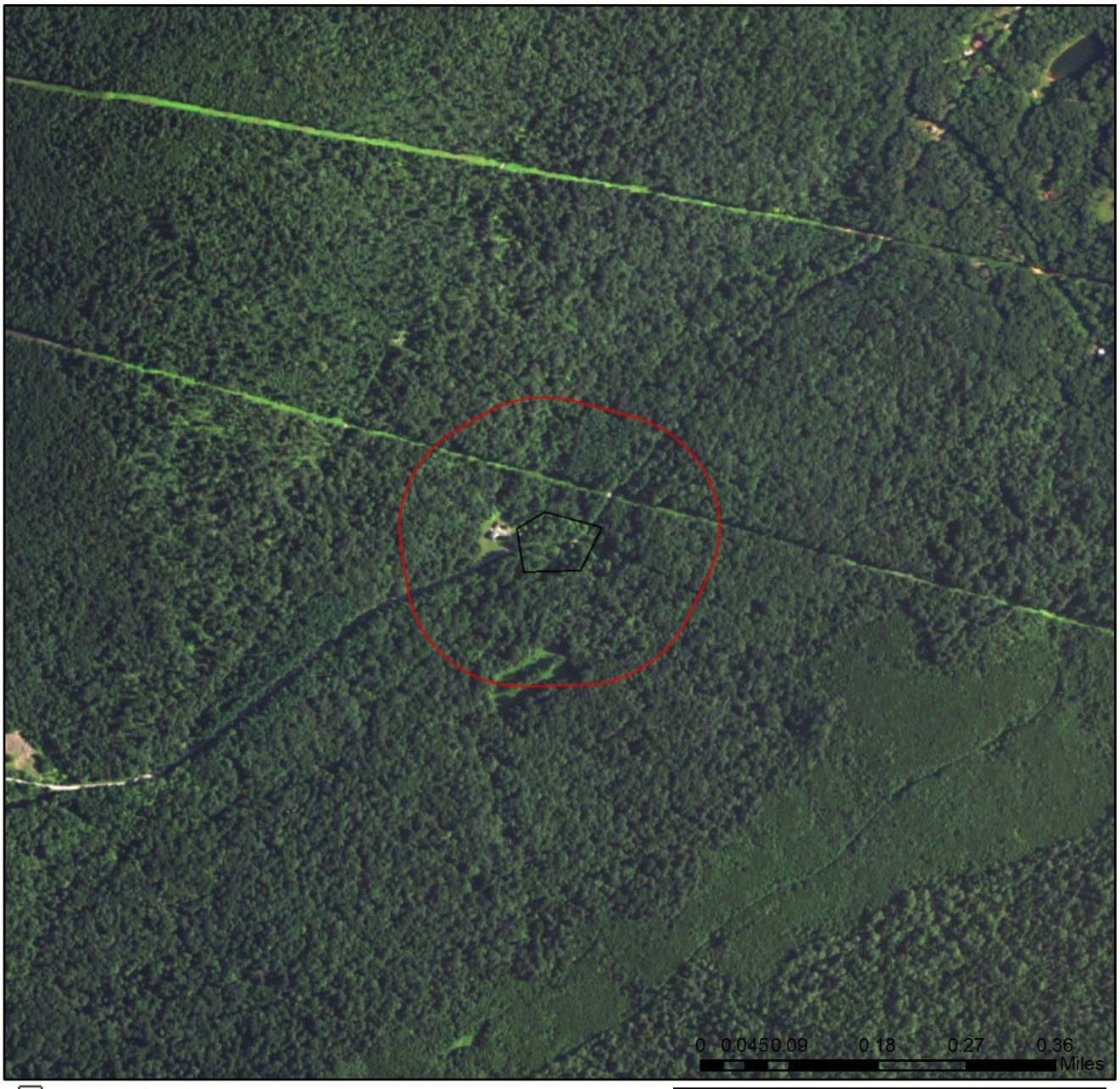
Project Name: **Perry County Bridge**
Date of Review: **12/20/2017 01:59:21 PM**
Project Category: **Transportation, Structures and Bridges, Bridge Preservation, Restoration and/or Rehabilitation**
Project Area: **2.54 acres**
County(s): **Perry**
Township/Municipality(s): **TOBOYNE**
ZIP Code: **17071**
Quadrangle Name(s): **BLAIN**
Watersheds HUC 8: **Lower Susquehanna-Swatara**
Watersheds HUC 12: **Bull Run**
Decimal Degrees: **40.269351, -77.548910**
Degrees Minutes Seconds: **40° 16' 9.6621" N, 77° 32' 56.775" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Perry County Bridge

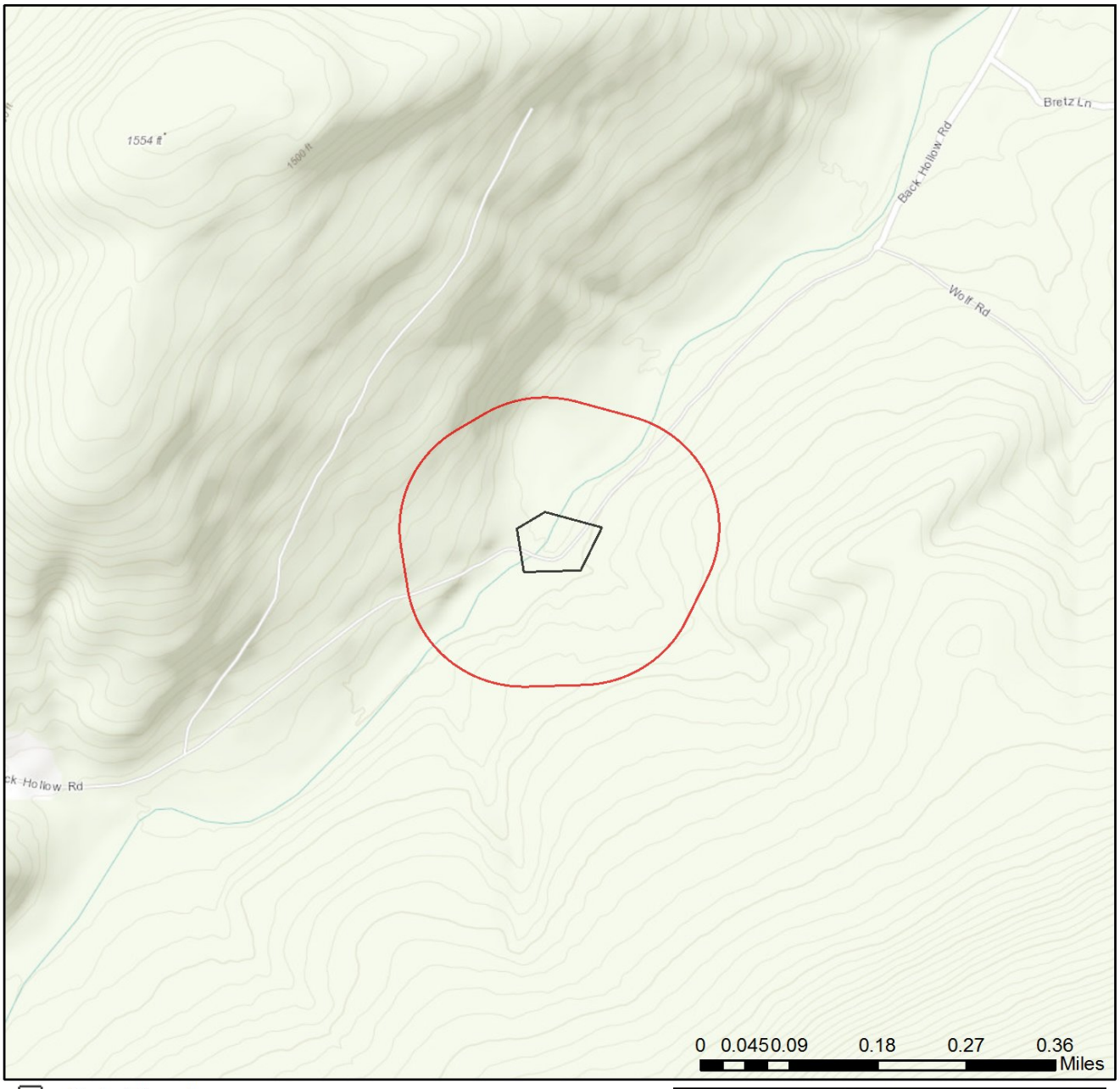


Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user

Perry County Bridge



Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Edward J Regula JR
Company/Business Name: Tetra Tech
Address: 661 Anderson Dr #500
City, State, Zip: Pittsburgh PA 15220
Phone:(412) 921 8750 Fax:( )
Email: ej.regula@tetratech.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Edward J Regula JR. 1-02-2018

applicant/project proponent signature date

TETRA TECH

Aquatic Resources Survey

For Shaeffer Run
Toboyne Township
Perry County, Pennsylvania

January 2018

complex world

CLEAR SOLUTIONS™

Sunoco Pipeline, LP Pennsylvania Pipeline Project

Black Hollow Bridge Repair Project Aquatic Resource Survey

Technical Memo

January 11, 2018

Tetra Tech, Inc. (Tetra Tech) conducted a field review along the Black Hollow Bridge Repair Project alignment to verify wetland boundaries, wetland Cowardin classifications, and the presence or absence of wetlands or streams within the project area.

The field review took place in Perry County on January 10, 2018. The survey area included the Black Hollow Bridge site Limit of Disturbance (LOD), and a 25 feet survey outside the LOD, shown in the attached figure.

A site figure, photographs, and field data forms are attached at the end of this memo. The attached figure shows one wetland and two stream features in the survey area. Only one feature, Stream JA1 (Shaeffer Run), is within the LOD. The identified wetland is outside of the proposed work area (LOD).

Summaries of each feature are provided below.

Stream JA1

Stream JA1 (S-JA1) is Schaeffer Run, a perennial tributary to Bull Run (Figure 1). The stream bank is 15 feet wide. The left bank height is 1 foot and the right bank height is 2.5 feet. The stream bed contains a boulder, cobble, gravel, sand, silt, and clay substrate. At the time of the field investigation, the stream exhibited an average water depth of 1 foot.

Stream JA2

Stream JA2 (S-JA2) is an ephemeral unnamed tributary to Schaeffer Run (Figure 1). The stream bank is 15 feet wide. The bank height is 1.5 feet. The stream bed contains a cobble, gravel, sand, silt, and clay substrate. The stream exhibited no flow at the time of the field investigation.

Wetland JA1

Wetland JA1 (W-JA1) is a 1,828 square foot PEM wetland (Figure 1). Indicators of wetland hydrology include surface water, a high water table, saturation within the upper 12 inches of the soil profile, oxidized rhizospheres, drainage patterns, geomorphic position, and a positive FAC-neutral test. Dominant vegetation consists of an unidentified sedge species (*Carex* sp.), reed canary grass (*Phalaris arundinacea*), skunk-cabbage (*Symplocarpus foetidus*), and purple-leaf willowherb (*Epilobium coloratum*). The soil between 0 and 1 inches exhibits a low-chroma matrix (10YR 3/1) with a silt loam texture. The soil between 1 and 14 inches exhibits a low-chroma matrix (10YR 4/2) with a sandy silt loam texture that contains redoximorphic features (7.5YR 5/6). The soil between 14 and 20 inches exhibits a low-chroma matrix (10YR 4/2) with a silt loam texture that contains redoximorphic features (7.5YR 5/6).

FIGURE

PGH P:\GIS\SUNOCO\MARINER EAST 2\MXD\PENNPIPELINE_BACKHOLLOWBRIDGE_DETAIL.MXD 01/11/18 SP

Legend

Photo Location

- Stream Photo Location
- Wetland Photo Location
- Sample Location
- Culvert Pipe
- Stream

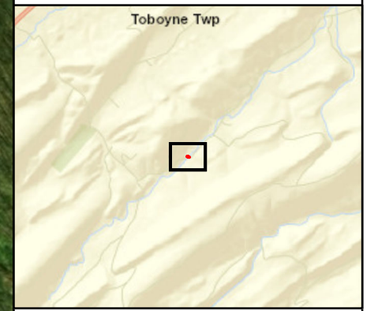
Wetland Continuation

- PEM

Wetland

- PEM
- Limit of Disturbance
- Survey Area

Sheet Identifier



N

0 100 200 Feet

0 30.48 60.96 Meters

AQUATIC RESOURCES LOCATION MAP
FIGURE 1
BACK HOLLOW BRIDGE PROJECT
PENNSYLVANIA PIPELINE
SUNOCO PIPELINE, LP (SPLP)
PERRY COUNTY, PENNSYLVANIA

TETRA TECH

Notes:
1) Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2015 ESRI and its data suppliers).
2) R indicates right bank and L indicates left bank.

FIELD DATA SHEETS

STREAM ID S-JA1		**STREAM NAME** Shaeffer Run	
CLIENT Sunoco Logistics, L.P.		**PROJECT NAME** PPP	
LAT 40.269175	**LONG** -77.549548	**DATE** 01/10/2018	**COUNTY** Perry
INVESTIGATORS JB			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 15.0 ft
Top of Bank Height:
LB 1.0 ft RB 2.5 ft
Water Depth: 12.00 in
Water Width: 8.0 ft
Ordinary High Water Mark (Width): 10.0 ft
Ordinary High Water Mark (Height): 1.5 in
Flow Direction: Northeast

Sinuosity ✔ Low ___Medium ___High

Gradient ✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

Stream Erosion
✔None ___Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔No

Culvert Present ___Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ✔ Moderate
___Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 55 % Run 45 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	15
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	5
Silt	0.004-0.06 mm	15
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ✔ Residential
___ ROW ___Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

Canopy Cover
___Open ✔ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

STREAM ID S-JA2		**STREAM NAME** UNT to Shaffer Run	
CLIENT Sunoco Logistics, L.P.		**PROJECT NAME** PPP	
LAT 40.269316	**LONG** -77.549538	**DATE** 01/10/2018	**COUNTY** Perry
INVESTIGATORS JB			
WATER TYPE TNW ☐ RPW ☐ NRPW ☑		**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑	

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: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 0.5 in
Flow Direction: East

Sinuosity ☑ Low ☐ Medium ☐ High

Gradient ☑ Flat (0.5/100 ft) ☐ Moderate (2 ft/100 ft) ☐ Severe (10 ft/100 ft)

Stream Erosion
☑ None ☐ Moderate ☐ Heavy

Artificial, Modified or Channelized
☑ Yes ☐ No

Within Roadside Ditch
☑ Yes ☐ No

Culvert Present ☑ Yes ☐ No
Culvert Material: Corrugated Plastic
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
☑ No water, stream bed dry
☐ Stream bed moist
☐ Standing water
☐ Flowing water

Velocity
☐ Fast ☐ Moderate
☐ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
☐ Clear ☐ Slightly turbid ☐ Turbid
☐ Other

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	15
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	35
Clay	< 0.004 mm (slick)	30

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☐ Commercial
☐ Field/Pasture ☐ Industrial
☐ Agricultural ☑ Residential
☐ ROW ☐ Other:

Canopy Cover
☑ Open ☐ Partly shaded
☐ Shaded

Floodplain Width
☐ Wide > 30ft ☐ Moderate 15-30ft
☑ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Flows into S-JA1

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: PPP City/County: Perry Sampling Date: 01/10/2018

Applicant/Owner: Sunoco State: PA Sampling Point: W-JA1

Investigator(s): JB Section, Township, Range: Toboyne Twp.

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRRN Lat: 40.269032 Long: -77.549093 Datum: NAD 83

Soil Map Unit Name: Ernest 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 ✔	No ____	**Is the Sampled Area within a Wetland?** **Yes** ✔ **No** ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks: Cowardin Code: PEM HGM: Riverine Water Type: RPWWD

Wetland abuts a stream outside of survey area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 ✔	No ____	Depth (inches): 3
Water Table Present?	Yes ✔	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

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-JA1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5')			
1. Carex sp.	25	✔	ND
2. Phalaris arundinacea	20	✔	FACW
3. Symplocarpus foetidus	15	✔	OBL
4. Epilobium coloratum	15	✔	FACW
5. Agrimonia parviflora	10		FACW
6. Scirpus atrovirens	5		OBL
7. Juncus effusus	5		FACW
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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	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 =

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** ___

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

ND - Not Determined

*Vegetation not identified down to species level not included in the dominance test

SOIL Sampling Point: W-JA1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/1	100					SIL	
1-14	10YR 4/2	80	7.5YR 5/6	20	C	M/PL	SSIL	
14-20	10YR 4/2	90	7.5YR 5/6	10	C	M	SIL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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 Soils[3]:

- ___ 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)

[3]Indicators 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: PPP City/County: Perry Sampling Date: 01/10/2018

Applicant/Owner: Sunoco State: PA Sampling Point: W-JA1 UP

Investigator(s): JB Section, Township, Range: Tobyne Twp.

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0-1

Subregion (LRR or MLRA): LRRN Lat: 40.269067 Long: -77.549123 Datum: NAD 83

Soil Map Unit Name: Albrights 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 _____	No ✔	**Is the Sampled Area within a Wetland?** **Yes** ✔ **No** _____
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks: Cowardin Code: UPLAND HGM: Water Type:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 _____	No ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

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-JA1 UP

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 15')			
1. Berberis thunbergii	3		FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	3 = Total Cover		
50% of total cover: 1.5	20% of total cover: 0.6		
Herb Stratum (Plot size: 5')			
1. Phalaris arundinacea	25	✔	FACW
2. Berberis thunbergii	20	✔	FACU
3. Rubus alleghenensis	15	✔	FACU
4. Rosa multiflora	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

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 =

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 ✔

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

SOIL

Sampling Point: W-JA1 UP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
								No soil, restrictive layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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 Soils[3]:

- ___ 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)

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

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 0

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

PHOTOGRAPHS

Photograph 1. S-JA1 facing southwest

Photograph 2. S-JA1, facing northeast.

Photograph 3. S-JA2. Facing east.

Photograph 4. S-JA2 Facing west.

Photograph 5. W-JA1 Facing north.

Photograph 6. W-JA1 Facing southwest.

TETRA TECH

Erosion and Sediment Control Plan

Back Hollow Road Bridge Repair Project

Sunoco Pipeline L.P.

Toboyne Township, Perry County, Pennsylvania

January 2018

complex world

CLEAR SOLUTIONS™

TABLE OF CONTENTS

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Erosion & Sediment Control (E&SC) Plan for Toboyne Township. The Plan addresses activities associated with the Back Hollow Road Bridge Repair Project. The project is located in Toboyne Township, Perry County Pennsylvania. A site location map is provided in Attachment 1. This E&SC Plan, if properly implemented, will provide for effective erosion and sediment controls throughout construction.

1.1 PROJECT DESCRIPTION

The purpose of this project is to repair the Back Hollow Road Bridge that across Shaeffer Run located in Toboyne Township, Perry County, Pennsylvania. The repair was made to ensure structural integrity of the bridge during the construction activities associated with the Sunoco Pennsylvania Pipeline Project. The effort consisted of a pre-engineered decking installed on top of the existing bridge decking. The bridge spans approximately 40-feet and the new decking will remain in place for use by the general public. The total limit of disturbance is 4,250 SF.

1.2 APPROACH AND OVERVIEW

This E&SC Plan was developed using Pennsylvania Department of Environmental Protection (DEP) guidance documents and sound engineering judgment. When implemented properly, the erosion and sediment control practices identified herein will minimize uncontrolled surface water runoff from disturbed areas and minimize the migration of construction-generated sediment. The following general principals apply:

- **Planning**. Site topography, soil types, and potential effects of construction-related activities on erosion and sediment migration have been considered in developing this E&SC Plan. Areas of steep, erodible slopes and erodible soils, if encountered during construction activities, will not be disturbed without instituting proper engineering controls to minimize these concerns.
- **Minimize Land Disturbance.** To the extent possible and practical, disturbed areas and the duration of exposure to erosion elements will be minimized. Clearing of vegetation will be limited to only those areas of the site to be disturbed at a given time. To the extent possible and practical, existing vegetation will be retained and protected.
- **Installation of Erosion and Sediment Controls.** Erosion and sediment control best management practices (BMPs) will be constructed, stabilized, and functional before earth disturbance activities begin within the tributary areas of those BMPs.

- **Maintenance of Erosion and Sediment Controls.** Until the site is stabilized, erosion and sediment controls will be properly maintained. Maintenance will entail inspections of erosion and sediment control features on a weekly basis and after runoff events. Preventative and corrective maintenance work, including clean out, repair, replacement, regrading, reseeding, and remulching must be performed as soon as practical. If erosion and sediment controls fail to perform as expected, replacements or modifications of those installed will be required.
- **Stabilization of Disturbed Areas**. If a cessation of earth disturbance activities lasts 4 days or longer, the site will be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation. BMPs will remain in place and be maintained until permanent stabilization is achieved. Disturbed areas will be stabilized as soon as is practical, including areas disturbed during the removal of BMPs. Temporary and permanent vegetation, mulch, gravel cover, repaving or a combination of these measures, will be employed immediately following the completion of backfilling and final grading activities.

2.0 SITE DESCRIPTION

The Back Hollow Road Bridge Repair Project is located in Toboyne, Township, Perry County Pennsylvania. The project will involve upgrading an existing bridge on Back Hollow Road that spans Shaeffer Run. Past and present land use includes primarily forested and existing gravel roadway. Future land use will be a maintained in like kind gravel road.

Relevant topographic features including streams, streets, wooded areas and other significant items along the project are indicated on the construction plans, where applicable.

2.1 TOPOGRAPHY

The work zone is located on ground of varying elevations. Site elevations vary from 980 to 986 feet above mean sea level based on the Pennsylvania Spatial Data Access (PASDA). The construction plans show the topography of the site and the surrounding area.

2.2 GEOLOGY AND SOILS

The soils and geologic formations surrounding the site are shown on the figures provided in Attachment 2. Attachment 2 also provides the soil descriptions and properties of the soils found at the site. In general, the following actions will be taken to counteract soil limitations:

- E&S BMPs will be in place and functional prior to earth disturbance to counteract erodible soils. Prompt stabilization practices will be implemented.
- Soils will be evaluated throughout the construction process to determine whether additional measures will need to be taken to make the soil suitable for its intended use on site.
- Soil amendments will be added to site soils to promote vegetative growth.
- A wetland delineation and stream investigation has been conducted to determine the presence and location of hydric soils.

To prevent sediment from leaving the site, erosion and sediment controls will be in place and functional prior to earth disturbances, and stabilization practices will be implemented in disturbed areas as soon as practical. Geologic formations or soil conditions that may have the potential to cause pollution after earth disturbance were not observed during field activities.

2.3 SURFACE WATER HYDROLOGY

The project area surface water runoff drains to Shaeffer Run. The receiving water is designated as High Quality Cold Water Fishes (HQ-WWF) under PA Code 25 Chapter 93. This E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) BMPs to maintain the designated

use of the receiving waters. The locations of the receiving waters relative to the project area can be seen on plan drawing ES-1.

3.0 EROSION AND SEDIMENT CONTROL PRACTICES

Two general types of erosion and sediment controls will be used on site during construction: stabilization controls and structural controls. Stabilization controls are implemented as needed to preserve existing vegetation or disturbed areas. Structural controls are used to divert or convey runoff, prevent sediment migration, and reduce the erosive runoff forces. For the purposes of this plan, structural controls are mainly temporary; however, some of the controls may be permanent. The following sections describe the construction sequence and the erosion and sediment controls.

3.1 CONSTRUCTION SEQUENCE

Refer to the E&SC Plan drawings for the location of the proposed work and the associated BMPs. A generalized construction sequence is provided below. The construction sequence is intended to provide a general course of action in order to conform to the applicable regulatory agency requirements for temporary and permanent soil erosion and sedimentation controls. Necessary parts for proper and complete execution of work pertaining to this plan, whether specifically mentioned or not, are to be performed by the contractor. It is not intended that the drawings and this report show detailed information on methods and materials. The contractor shall comply with all requirements listed in this section. The contractor may be required to alter controls based on effectiveness of controls or differing conditions encountered in the field.

A preconstruction meeting is required prior to the start of any construction activity. The PADEP, contractors, the landowner, appropriate municipal officials, and the E&S plan preparer must be invited to this meeting at least seven days in advance.

CONSTRUCTION SEQUENCE

1. Make all appropriate notifications as indicated in general notes on plan sheet es-0.01.
2. Flag or fence project limits of disturbance and approved access. Sign and flag wetland boundaries and streams, where appropriate.
3. Locate staging areas and access points including construction entrances. Install compost filter socks down slope of these areas.
4. Install compost filter socks as shown on the construction drawings. Installations sizing, and spacing must conform to the chart and details provided on plan sheet es-0.04.
5. Regardless of slope, erosion control blankets shall be used for all seeded areas within 100 feet of a high quality or exceptional value surface water. for all slopes that are 3h:1v or steeper or where

potential exists for sediment pollution to receiving waters, erosion control blankets shall be used for all seeded areas within 50 feet of a surface water.

6. Construct the proposed bridge. Install gravel fill to bring the road to the elevation of installed bridge. Install jersey barriers were specified on plans.

7. Minimize total area of disturbance.

8. Backfill excavated area and cover with topsoil (where topsoil was segregated).

9. Restore grade of road to installed bridge elevation, as soon as practicable following competition of installation of bridge. Immediately seed and mulch disturbed areas, construct finishing gravel course of roadway areas.

10. Maintain erosion and sedimentation control devices until site work is complete and a uniform 70% perennial vegetative cover is established. Remove soil and erosion sediment control measures upon establishment of a uniform 70% perennial vegetative coverage over the disturbed area. Re-grade and revegetate areas disturbed during the removal of the soil erosion and sediment controls.

11. In accordance with 25 pa code 102.7, upon completion of all construction activities, a notice of termination form will be submitted to terminate the authorization of coverage indicating all activities under this permit have been completed.

3.2 BEST MANAGEMENT PRACTICES

An effective method to minimize erosion and sediment migration is to promote and implement BMPs. BMPs are relatively simple, inexpensive, and cost-effective protocols to prevent erosion and sediment migration. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimize the time that soil is exposed.
- Prevent the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilize disturbed soils as soon as possible.
- Slow down the runoff flowing across the site.
- Remove sediment from surface water runoff before it leaves the site.

3.3 SEQUENCE OF BMP INSTALLATION

General stabilization and structural controls will be used in sediment and erosion control practices to 1) divert stormwater flows away from exposed areas, 2) convey runoff, 3) prevent sediments from moving off-site, and 4) reduce the erosive forces of runoff waters. Compost filter socks and other structural controls that will be utilized during construction activities will include the following:

Vegetative Stabilization Controls

Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures or paved. A temporary cessation of earth disturbance activities that lasts four days or longer requires temporary stabilization. Disturbed areas, which are at final grade, shall be seeded and mulched immediately.

If seeding cannot be completed immediately after the area reaches final grade due to weather conditions, the disturbed area shall be stabilized and mulched with straw at the rate of three tons per acre. This straw shall be anchored using a method described under Mulching of this narrative.

Structural Controls

Temporary control facilities to be utilized during construction include the use of compost filter socks. Other structural controls as described below may also be used as deemed necessary based on conditions encountered in the field. Installation guidelines and locations for the above devices are as shown on standard drawings and plans. The temporary control measures that will be utilized on this project include, but are not limited to:

- **Compost Filter Socks -** This temporary sedimentation control measure consists of wood or metal posts driven through a compost filled mesh tube. Filter socks will be located as needed on side-slope and down-slope boundaries of disturbed areas. Compost filter socks will be sized using the DEP Construction Detail provided in Attachment 3.
- **Pumped Water Filter Bag** – Pumped water filter bags may be used to filter water pumped from disturbed areas prior to discharging to surface waters. Compost filter socks shall be installed within 50 feet of any receiving surface water or where grassy area is not available. Filter bags will be installed according to the details shown in the DEP Construction Detail provided in Attachment 3.
- **Erosion Control Blanket -** A manufactured erosion control blanket shall be installed on all slopes 3:1 (H:V) or steeper and within 100 feet of stream banks, where applicable. The blanket shall be biodegradable but capable of providing protection for two growing seasons. Straw or similar fiber material shall be placed between two biodegradable nets. The top net shall be heavyweight and UV stabilized; the bottom net shall be a lightweight netting. Erosion control blankets shall be anchored and stapled in place in accordance with the manufacturer's recommendations and the detail on the construction drawings. For slopes between 3:1 and 1:1 (H:V) use erosion control blanket SC 150 as manufactured by North American Green or Owner approved equal material or equal method.

- **Additional Requirements** – Any additional requirements to adequately control erosion and sediment pollution shall be the responsibility of the contractor and shall be considered incidental to construction activities.

3.4 PRIMARY CONSTRUCTION ACTIVITIES

Vegetation

Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, unless occupied by structures or paved. Any temporary cessation of earth disturbance activities which lasts for four days or longer requires temporary stabilization. Disturbed areas, which are at final grade, shall be seeded and mulched immediately.

If seeding cannot be completed immediately after the area reaches final grade due to weather conditions, the disturbed area shall be stabilized and mulched with straw at the rate of 3 tons per acre. This straw shall be anchored using a method described under Mulching of this narrative.

Seeded areas shall be inspected weekly and after each runoff event. Necessary repairs shall be made by the end of the week.

Permanent Seeding

Seeding Mixtures

Follow with recommended seed mixture table and notes, then Penndot formula, then wetland, then application guidance, then rates, then notes.

Liming Rates

Minimum 6 tons per acre at 100% effective neutralizing value (%ENV), unless the soil test determines that a lesser amount is needed. to determine the actual amount of regular lime to apply, divide the amount called for by the soil test by the %ENV for the product used. For example, if 6 tons per acre is needed and the %ENV for the lime used is 88%, divide 6 by 0.88 resulting in 6.8 tons needing to be applied.

For dolomitic lime, which has a significant amount of magnesium in it, divide the amount called for by the soil test by the % calcium carbonate equivalent (%CCE) listed for the product instead of the %ENV. The %CCE may be above 100% which accounts for the fact that magnesium has a greater effect per pound than the calcium in regular lime.

Note: when a soil test requires more than 8,000 pounds of lime per acre, the lime must be mixed into the top 6 inches of soil.

Fertilization rates

Apply 10-20-20 at 600 pounds/acre, if top dressed or 1,000 pounds/ac, if incorporated, unless the soil test determines that the rate can be less than these minimums.

SITE CONDITIONS	NURSE CROP	SEED MIXTURE (SELECT ONE MIXTURE)
SLOPES AND BANKS (NOT MOWED)		
WELL-DRAINED	1 PLUS	3, 5, 8, OR 12 (1)
VARIABLE DRAINAGE	1 PLUS	3 OR 7
SLOPES AND BANKS (MOWED)	1 PLUS	2 OR 10
WELL-DRAINED		
SLOPES AND BANKS (GRAZED/HAY)	1 PLUS	2,3, OR 13
WELL-DRAINED		
GULLIES AND ERODED AREAS	1 PLUS	3, 5, 7, OR 12 (1)
EROSION CONTROL FACILITIES (BMPS)		
SOD WATERWAYS, SPILLWAYS, FREQUENT WATER FLOW AREAS	1 PLUS	2, 3, OR 4
DRAINAGE DITCHES	1 PLUS	2, 3, OR 4
SHALLOW, LESS THAN THREE FEET DEEP	1 PLUS	5 OR 7
DEEP, NOT MOWED		
POND BANKS, DIKES, LEVEES, DAMS, DIVERSION CHANNELS,	1 PLUS	2 OR 3
AND OCCASIONAL WATER FLOW AREAS	1 PLUS	5 OR 7
MOWED AREAS		
NON-MOWED AREAS	1 PLUS	3 OR 13
FOR HAY OR SILAGE ON DIVERSION CHANNELS AND OCCASIONAL WATER FLOW AREAS		
HIGHWAYS (2)		
NON-MOWED AREAS		
WELL-DRAINED	1 PLUS	5, 7, 8, 9, OR 10

SITE CONDITIONS	NURSE CROP	SEED MIXTURE (SELECT ONE MIXTURE)
VARIABLE DRAINED	1 PLUS	3 OR 7
POORLY DRAINED	1 PLUS	3 OR 9
AREAS MOWED SEVERAL TIMES PER YEAR	1 PLUS	2, 3, OR 10
UTILITY ROW		
WELL-DRAINED	1 PLUS	5, 8, OR 12 (1)
VARIABLE DRAINED	1 PLUS	3 OR 7
WELL-DRAINED AREAS FOR GRAZING/HAY	1 PLUS	2, 3, OR 13
EFFLUENT DISPOSAL AREAS	1 PLUS	3 OR 4
SANITARY LANDFILLS	1 PLUS	3, 5, 7, 11 (1), OR 12 (1)
SURFACE MINES		
SPOILS, MINE WASTES, FLY ASH, SLAG, SETTLING BASIN RESIDUES AND OTHER SEVERELY DISTURBED AREAS (LIME TO SOIL TEST)	1 PLUS	3, 4, 5, 7, 8, 9,11 (1) OR 12(1)
SEVERELY DISTURBED AREAS FOR GRAZING/HAY	1 PLUS	3 OR 13

RECOMMENDED SEED MIXTURES			
MIXTURE NO.	SPECIES	SEEDING RATES – PLS (1)	
		MOST SITES	ADVERSE SITES
1 (2)	spring oats (spring), or 64 96	64	96
	annual ryegrass (spring or fall),	10	15
	or	90	120
	winter wheat (fall), or	56	112
2 (3)	winter rye (fall)	60	75
	big bluestem, or 75	35	40
	fine fescue, or 40	25	30
	kentucky bluegrass, plus 25 30	3	3
	redtop(4), or	15	20

RECOMMENDED SEED MIXTURES			
MIXTURE NO.	**SPECIES**	**SEEDING RATES – PLS (1)**	
		MOST SITES	ADVERSE SITES
3	perennial ryegrass	6	10
	birdsfoot trefoil, plus 6 10	30	35
4	big bluestem	6	10
	birdsfoot trefoil, plus	10	15
5 (5)	Canada wildrye	10	15
	Big Bluestemor	20	25
	perennial ryegrass	20	25
6 (5,6)	Big Bluestem, plus	10	15
	annual ryegrass	20	25
7 (5)	birdsfoot trefoil, plus	20	30
	Big Bluestem, plus	20	30
	tall fescue	20	25
8	flat pea plus big blue stem or	20	30
	perennial ryegrass	20	30
	round-headed bush clover, plus	20	25
9 (7)	big bluestem , plus	10	20
	redtop(4)	20	25
	big blue stem, plus	3	3
10	fine fescue	40	60
	deertongue, plus	10	15
11	birdsfoot trefoil	15	20
	switchgrass, or	6	10
12(8)	big bluestem, plus	15	20
	birdsfoot trefoil	15	20
	orchardgrass, or	6	10
13	smooth bromegrass, plus	20	30
	birdsfoot trefoil	25	35
		6	10

1. Pure live seed (pls) is the product of the percentage of pure seed times percentage germination divided by 100. For example, to secure the actual planting rate for switchgrass, divide 12 pounds pls shown on the seed tag. Thus, if the pls content of a given seed lot is 35 percent, divide 12 pls by 0.35 to obtain 34.3 pounds of seed required to plant one-acre. All mixtures in this table are shown in terms of pls.
2. If high-quality seed is used, for most sites seed spring oats at a rate of two bushels per acre, winter wheat at 11.5 bushels per acre, and winter rye at one bushel per acre. If germination is below 90 percent, increase these suggested seeding rates by 0.5 bushel per acre.
3. This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches.
4. Keep seeding rate to that recommended in table. These species have many seeds per pound and are very competitive. To seed small quantities of small seeds such as weeping lovegrass and redtop, dilute with dry sawdust, sand, rice hulls, buckwheat hulls, etc.
5. Use for highway slopes and similar sites where the desired species after establishment is Big Bluestem.
6. Use only in extreme southeastern or extreme southwestern PA. Serecia lespedeza is not well adapted to most of PA.
7. Do not mow shorter than 9 to 10 inches.
8. Only seeds of native plants to be used.

PENNDOT FORMULA B				
Seeding Rate	3 lbs. per 1,000 square feet			
Species	**% by Weight**	**Purity %**	**Minimum % Germination**	**Maximum % Weed Seed**
Kentucky Bluegrass	50	98	80	0.20
Perennial Rye	20	98	90	0.15
Red Fescue	30	98	85	0.15

Temporary Seeding

Temporary grass cover shall be established in the following areas:

1. Upon temporary cessation of an earth disturbance activity or any stage or phase of an activity where cessation of earth disturbance activities in non-special protection watersheds will exceed 4 days, the site shall be immediately seeded, mulched or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities. In a special protection watershed temporary stabilization shall be immediate.

2. Where soil stockpiles are to be exposed for a period greater than four (4) days, the stockpile shall be seeded.

3. Where vegetative filters must be established below filter bags, a minimum distance of 10 ft shall be seeded down slope of the trap outlet.

4. Seed mixture for temporary cover shall consist of 100% annual ryegrass. Seed shall be applied at the rate of 40 lb/acre or as recommended by a local recognized seed supplier approved by the owner's representative. Unless explicitly restricted (e.g., wetlands) prior to seeding, apply 1 ton of agricultural grade limestone per acre plus 10-10-10 fertilizer at the rate of 500 lb. per acre and work into soil.

5. Temporary revegetation can also be used during unfavorable growing season for permanent mixes. Apply permanent seeding during first favorable growing season.

The purpose of mulch is to reduce runoff and erosion, prevent surface compaction or crusting, conserve moisture, aid in establishing plant cover, and control weeds. Mulch shall be applied on any area subject to erosion, or which has unfavorable conditions for plant establishment and growth. The practice may be used alone or in conjunction with other structural and vegetative conservation practices, such as waterways, ponds, sedimentation traps or critical area planting. On sediment producing areas where the period of exposure is less than two (2) months, mulch materials shall be applied according to the following guidelines:

Mulching

The purpose of mulch is to reduce runoff and erosion, prevent surface compaction or crusting, conserve moisture, aid in establishing plant cover, and control weeds. Mulch shall be applied on any area subject to erosion, or which has unfavorable conditions for plant establishment and growth. The practice may be used alone or in conjunction with other structural and vegetative conservation practices, such as waterways, ponds, sedimentation traps or critical area planting. On sediment producing areas where the period of exposure is less than two (2) months, mulch materials shall be applied according to the following guidelines:

1. Straw mulch shall be applied at the rate of three tons per acre. Chemically treated or salted straw is not acceptable as mulch.
2. Straw mulch shall be anchored immediately after application by at least one of the following methods.
   A. “Crimped” into the soil using tractor drawn equipment (straight bladed coulter or similar). This method is limited to slopes no steeper than 3:1. Machinery should be operated on the contour. (Crimping of hay or straw by running it over with tracked machinery is not recommended)
   B. Synthetic binders (chemical binders) may be used as recommended by the manufacturer to anchor mulch provided sufficient documentation is provided to show that it is non-toxic to native plant and animal species.

C. Lightweight plastic, fiber, or paper nets may be stapled over the mulch according to the manufacturer's recommendations.

Mulched areas shall be checked periodically and after each runoff event (e.g. rain, snowmelt, etc) for damage until the desired purpose of the mulching is achieved. Damaged portions of the mulch or tie-down material shall be repaired upon discovery.

Protection of Streams and Wetlands

If a stream or wetland crossing or encroachment is required, work will be in accordance with all PADEP permits. Refer to E&SC detail sheets for stream and wetland crossing details for diversion of stream channel flow and protection of wetlands.

1. Contractor will minimize construction area through and along streams. When wetland areas are temporarily disturbed, isolate and stockpile soil for replacement after grading is completed.
2. Native stream bed material will be separated from other spoil for reinstallation after restoration (see the E&S Plan provided in Attachment 12). An evaluation was completed for sheer stress of stream flow against restored native stream bed material. If the evaluation indicated that the stream will not be stable with native material, then rip rap will be used. Site specific waterbody crossing and restoration plans providing direction for the installation of rip rap at these streams are included within the E&S Plans provided in Attachment 12. In these cases where rip rap is used and the stream bed is composed of rock, cobble, or gravel, then the native stone will be used for the top six inches of rip rap. Every effort will be made to segregate the entire top layer of native stone in streams with less than six inches of native stone where rip rap is proposed.

   Furthermore, stream restoration will involve the application of rip rap for bank stabilization must comply with site specific drawings included within the E&S Plan provided in Attachment 12. Rip rap will be used to the minimum extent necessary to stabilize the stream bank, which is typically no more than 12 inches above the normal flow depth often evidenced by a lack of vegetation or a strand line. Stream banks above this elevation will be stabilized with erosion control blanket and revegetated.
3. Immediately upon completion of encroachment or crossing, stabilize stream bed and banks (i.e. seeding, erosion blanket, and native substrate material) prior to removal of temporary E&SC devices.
4. Should excavation extend to within 50 feet of the stream bank, construct compost filter socks (Standard Details on construction plans) parallel to the stream, a minimum of 1 foot beyond disturbed earth, to protect the stream. Disturbed areas within 50 feet of a stream or wetland will be blanketed or matted within 24 hours of initial disturbance for minor streams or 48 hours of

initial disturbance for major streams unless otherwise authorized. Seed and mulch all disturbed areas.

Waste Considerations

The operator shall remove from the site, recycle, or dispose of all building materials and wastes in accordance with the Department's solid waste management regulations at 25 PA Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. The contractor shall not illegally bury, dump, or discharge building material or wastes at the site. Excess material brought into the site areas to facilitate construction access will be completely removed prior to rough grading and final surface stabilization. Expected construction wastes will consist of packaging material and sediment cleaned from BMPs. Packaging from the materials brought on site will be disposed of by a licensed hauler. Sediment removed from BMPs will either be spread in a protected area to dry and then recycled as fill material or disposed of off-site. In cases where disposal is necessary, waste materials are to be disposed of at an approved DEP waste site.

Thermal Impacts

Potential pollution to surface waters from thermal impacts will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

Riparian Forest Buffers

The majority of the proposed project is located within an already cleared roadway. The portion of the proposed LOD outside of the existing right-of-way does not impact riparian forest buffers. No existing Riparian Forest Buffers are present within the LOD.

Stormwater Runoff Analysis

The pre-construction drainage patterns surrounding the project will be maintained. No additional gravel area was added to the site and areas that were not existing gravel are being restored to meadow in good condition. The project limit of disturbance was minimized where ever possible to be 4,250 square feet. As a result there will be no increase in stormwater runoff rate or volume attributed to the project.

3.5 MAINTENANCE AND INSPECTION PROCEDURES

Maintenance to the temporary erosion and sedimentation control structures will be performed by the Contractor during the construction period.

Compost Filter Socks

- Accumulated sediment shall be removed as required, and in all cases where uniform accumulations are ½ the above ground height of the filter sock. Any accumulated earth behind the filter sock will be disposed of by the Contractor in such a manner that the removed earth will not be excessively eroded and transported into a waterbody.
- The filter sock installation should be inspected weekly and after every runoff event. Loosened support stakes shall be removed and new stakes driven. Filter socks shall be maintained and repaired as per manufacturer specifications.
- Temporary erosion and sedimentation controls will be removed by the Contractor only after a uniform 70% perennial vegetative coverage has been established across the disturbed area. Temporary E & S controls shall be disposed of by the Contractor at an approved DEP waste site.

Pumped Water Filter Bags

- Filter bags shall be replaced when they become ½ full of sediment.
- Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

Vegetation

Seeded areas shall be inspected weekly and after each runoff event. Necessary repairs shall be made immediately.

Mulch

Mulched areas shall be checked periodically and after severe storms for damage until the desired purpose of the mulching is achieved. Damaged portions of the mulch or tie-down material shall be repaired upon discovery.

Inspection and Maintenance

Until the site is stabilized, erosion and sediment control BMP's must be maintained properly. Preventative and corrective maintenance work, including clean-out, repair, replacement, regrading, reseeding, remulching, and renetting must be performed as soon as practical. If erosion and sedimentation control BMP's fail to perform as expected, replacement BMP's, or modifications to those installed will be required. The following inspection and maintenance practices will be used to maintain erosion and sediment controls on-site during activities.

- Erosion and sediment control measures will be in-place and inspected at the end of the workday. Erosion and sediment control measures will also be inspected after each runoff event. The Contractor shall immediately repair any deficiencies.
- Maintenance and inspection of sediment control facilities shall conform to DEP Chapter 102 and 105 rules and regulations.
- Sediment must be removed when it accumulates ½ the aboveground height of the compost filter sock. Repair all undercutting of erosion of the toe anchor with compacted backfill material. Adhere to the manufacturer's recommendations for replacing filter socks due to weathering.
- Sediment removed from filter socks and any other control devices shall be mixed in with the other waste soil on the construction site and properly disposed of as discussed in Section 3.4.
- Re-vegetated areas shall be inspected for bare spots, washouts, and healthy growth during the construction. Identified bare spots and washouts shall be repaired as soon as practical.
- The Contractor shall make certain that all runoff is directed to the sedimentation control devices.
- All sedimentation control measures shall remain in place until the disturbed areas are stabilized and a uniform 70% perennial vegetative cover is established. Any area not achieving a 70% vegetative cover shall be re-seeded and mulched within 24 hours of detection.

If E&S BMPs are found to be inoperative or ineffective during an inspection, PADEP should be contacted within 24 hours, followed by the submission of a written noncompliance report to PADEP within 5 days of the initial contact.

3.6 ANTIDEGRADATION

Earth disturbance activities associated with the Back Hollow Road Bridge Repair Project project will be located within a high quality watershed. A combination of non-discharge alternatives and the use of ABACT BMPs onsite will protect and maintain the existing water quality of the receiving waters.

Non-discharge alternatives were evaluated to minimize accelerated erosion and sedimentation and achieve zero net change in runoff between the pre and post-construction conditions. The extent of the disturbed area will be minimized, and the duration of disturbance will be minimized by stabilizing disturbed areas as soon as practicable. ABACT BMPs will be used onsite to protect and maintain the existing water quality of receiving waters.

The following ABACT E&S BMPs will be used onsite:

- Compost filter sock used in place of silt fence,
- Erosion control blanket on slopes 3H:1V or steeper and within 100 feet of receiving waters.

4.0 REFERENCES

Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Office of Water Management, March 2012.

Stormwater Management for Construction Activities - Developing Pollution Prevention Plans and Best Management Practices, United States Environmental Protection Agency, Office of Water, 1993.

Blain Quadrangle, Pennsylvania – Perry County, Geological Survey, United States Department of Interior.

Soil Survey of Perry County, Pennsylvania, United States Department of Agriculture, Soil Conservation Service.

Pennsylvania Stormwater Best Management Practices Manual Draft, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, October, 2009.

Attachment 1 USGS Location Map

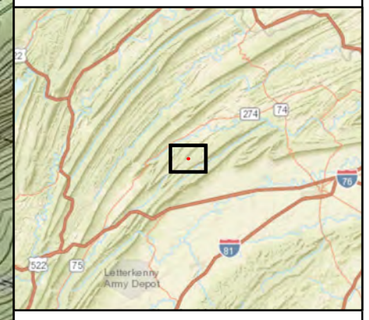
PGH P:\GIS\SUNOCO\MARINER EAST 2\MXD\PPP ESCGP\PENNPIPELINE_BACKHOLLOWBRIDGE_USGS_ESCGP.MXD 01/11/18 GIS

Back Hollow Bridge
Lat: 40° 16' 09.05" N
Lon: 77° 32' 58.11" W

Legend

Limit of Disturbance

Sheet Identifier



N

Feet
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Meters
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USGS PROJECT LOCATION MAP
ATTACHMENT 1
BACK HOLLOW BRIDGE
PENNSYLVANIA PIPELINE
SUNOCO PIPELINE, LP (SPLP)
PERRY COUNTY, PENNSYLVANIA

TETRA TECH

Notes:
1) Topographic map provided by ESRI's ArcGIS Online USA Topo Maps map service (© 2013 National Geographic Society, i-cubed).
2) Quadrangles displayed are Blain and Newburg.

Attachment 2 Soils Map, Soil Descriptions, Geologic Formations Map

PGH P:\GIS\SUNOCO\MARINER EAST 2\MXD\PPP ESCGP\PENNPIPELINE_BACKHOLLOWBRIDGE_SOILS_ESCGP.MXD 01/11/18 GIS

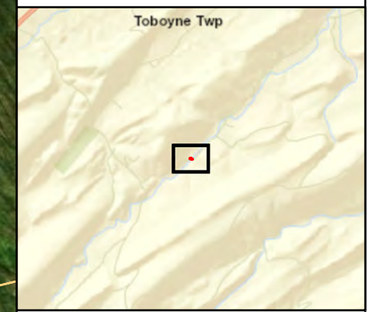
HfF
CaD
WkF
AbC
CaD
Bc
Back Hollow Rd
Back Hollow Rd
Back Hollow Bridge
Lat: 40° 16' 09.05" N
Lon: 77° 32' 58.11" W
Back Hollow Rd
HfF
EtC
EtB
BhD
WeD
Mf

Legend

Limit of Disturbance

NRCS Soils & Code

Sheet Identifier



N

Feet
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Meters
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NRCS SOILS MAP
ATTACHMENT 2
BACK HOLLOW BRIDGE
PENNSYLVANIA PIPELINE
SUNOCO PIPELINE, LP (SPLP)
PERRY COUNTY, PENNSYLVANIA

TETRA TECH

Notes:
1) Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2015 ESRI and its data suppliers).

Soils Table
Back Hollow Road Bridge Repair Project
Toboyne Township, Perry County, PA

MAP UNIT SYMBOL	SOIL NAME	EASILY ERODIBLE	CUTBANKS CAVE	CORROSVE TO CONCRETE/ STEEL	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	LOW STRENGTH/ LANDSLIDE PRONE	PIPING	POOR SOURCE OF TOPSOIL	HYDRIC/ HYDRIC INCLUSIONS	POTENTIAL SINKHOLE
AbC	Albrights	X	X	C/S	X	X	X	X	X	
Bc	Basher		X	C/S	X	X	X	X	X	

Actions taken to counteract soil limitations

(1) Erodible Soils - E&S BMPs will be in place and functional prior to earth disturbance. Prompt stabilization practices

(2) Cut Banks Caves -Almost all Pennsylvania soils are susceptible to caving of cut banks. Cut slopes will be stabilized as soon as possible with seed and mulch or erosion control blankets to prevent sliding. Slopes

(3) Corrosive to concrete or steel pipe - Pipes to be used on site shall be either

(4) High Water Table -Should a high ground water table be encountered during construction, water will be drained away from disturbed areas to a well vegetated area or a placed compost filter sock prior to being discharged off site. Saturated soils the require compaction will be dried prior to being used on site.

(5) Low Strength - Most of Pennsylvania soils (73%) have relatively low strength. Precautions will be taken to prevent slope failures due to improper construction practices. Soils will be evaluated during construction

(6) Piping Tendencies -Piping is the erosion by percolating waters or seepage in layer of subsoil resulting in caving and the formation of tunnels or pipes thorough which the soluble or granular material is removed.

(7) Poor Topsoil -Soil amendments will be added to site soils to promote vegetative growth.

(8) Potentially Hydric -A wetland delineation has been performed to determine the presence of wetlands.

(9) Potential Sinkhole - Should a sinkhole be encountered during construction, repair should be done under the direct observation and supervision of a professional geologist or licensed geotechnical engineer. Site

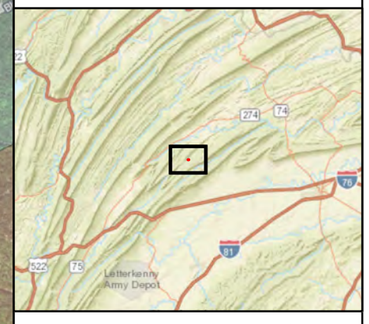
Legend

Limit of Disturbance

Geologic Units

- Juniata and Bald Eagle Formations undivided (Ojb)
- Bloomsburg and Mifflintown Formations undivided (Sbm)
- Clinton Group (Sc)
- Tuscarora Formation (St)
- Wills Creek Formation (Swc)

Sheet Identifier



N

Feet
0 1,000 2,000

Meters
0 304.8 609.6

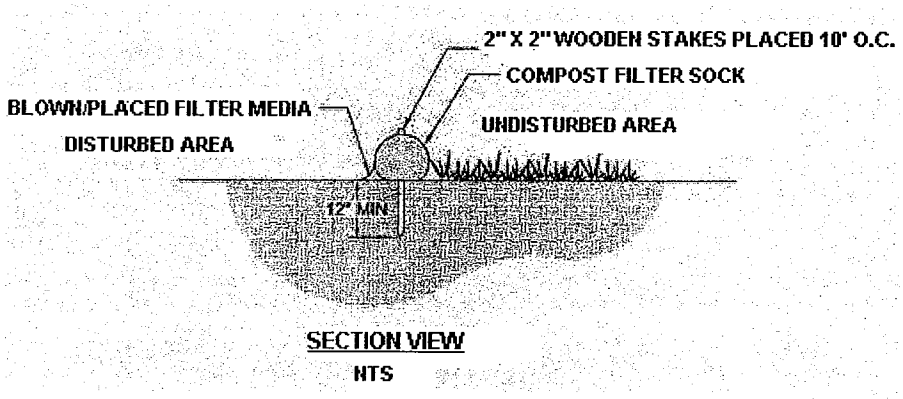
GEOLOGIC UNIT MAP
ATTACHMENT 2
BACK HOLLOW BRIDGE
PENNSYLVANIA PIPELINE
SUNOCO PIPELINE, LP (SPLP)
PERRY COUNTY, PENNSYLVANIA

TETRA TECH

Notes:
1) Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2015 ESRI and its data suppliers).

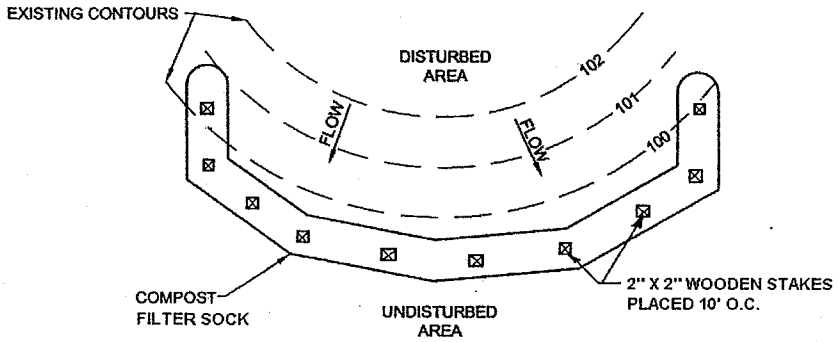
Attachment 3
Construction Details

J. COMPOST FILTER SOCK



SECTION VIEW

NTS



PLAN VIEW

NTS

Compost shall meet the following standards:

Organic Matter Content	**80% - 100% (dry weight basis)**
Organic Portion	**Fibrous and elongated**
pH	**5.5 – 8.0**
Moisture Content	**35% – 55%**
Particle Size	**98% pass through 1" screen**
Soluble Salt Concentration	**5.0 dS Maximum**

Compost Filter Sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment. Maximum slope length above any 18" diameter sock shall not exceed that shown on above table for reinforced silt fence. Maximum slope length for a 24" diameter sock shall not exceed that for super silt fence.

Traffic shall not be permitted to cross filter socks.

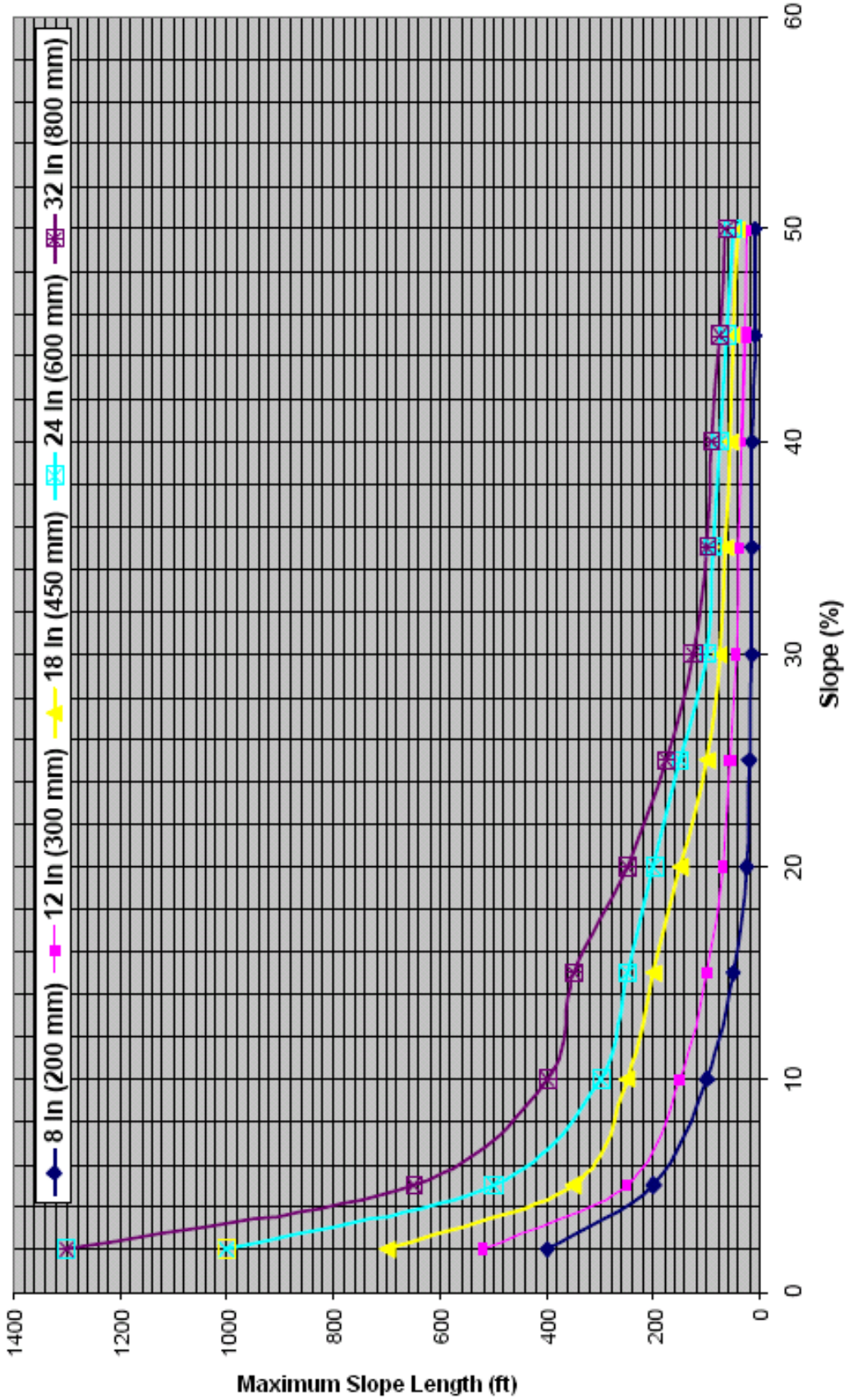
Accumulated Sediment shall be removed when it reaches ½ the above ground height of the sock and disposed in the manner described elsewhere in the plan.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter sock shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

FIGURE 4.2
MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS



NOTE: 8" diameter socks should only be used to control small (≤ ¼ acre) disturbed areas on individual house lots).

Adapted from Filtrexx

STANDARD E&S WORKSHEET #1

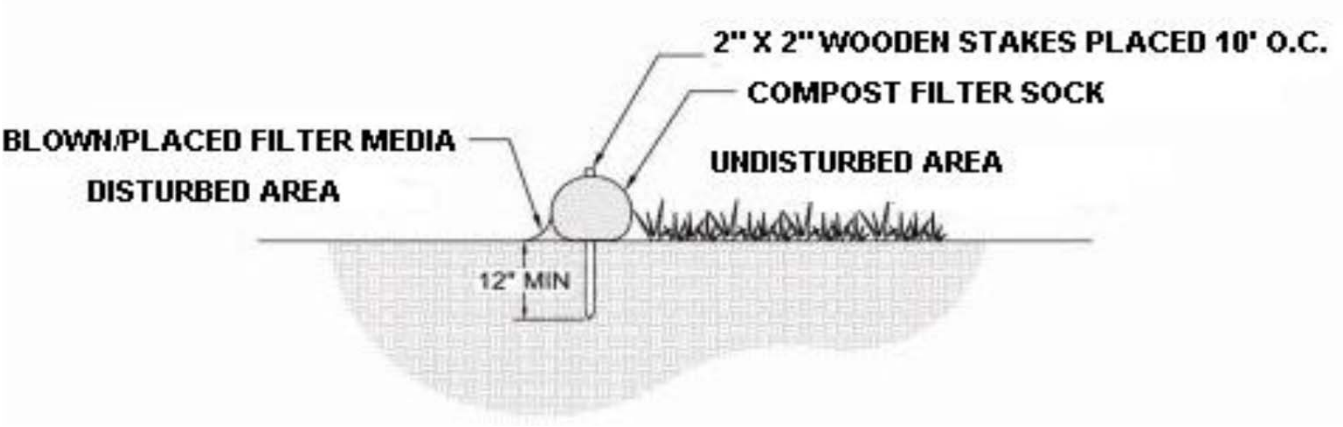
Compost Filter Socks

PROJECT NAME: Back Hollow Road Bridge Repair Project

LOCATION: Perry County, PA

PREPARED BY: EJR DATE: Jan 2018

CHECKED BY: RS DATE: Jan 2018



SOCK NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
1	12	Western Side of Bridge	3.1	65
2	12	Eastern Side of Bridge	3.8	80
3				
4				
5				
6				
7				
8				
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10				
11				
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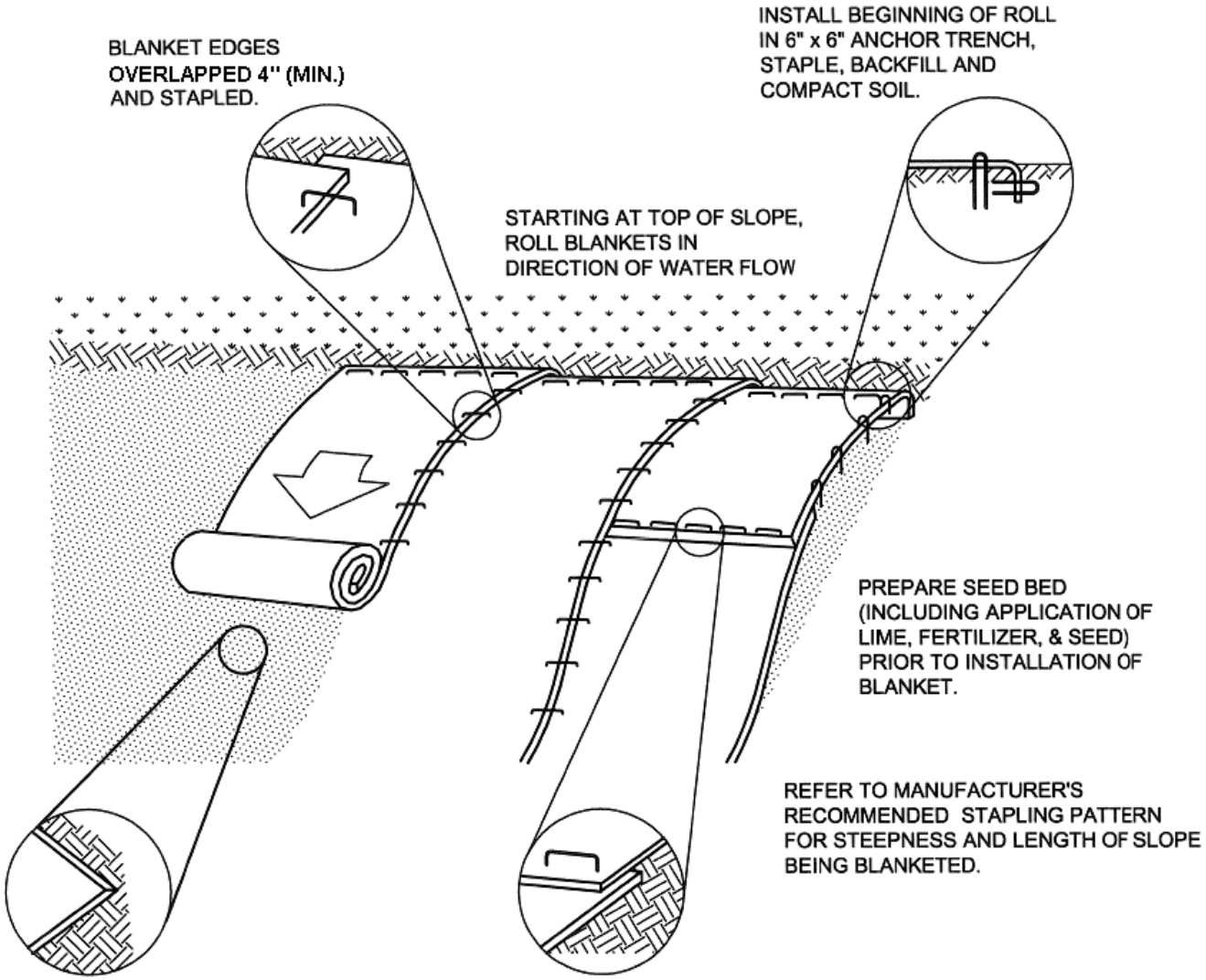
STANDARD CONSTRUCTION DETAIL # 11-1
Erosion Control Blanket Installation



Source Unknown

Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

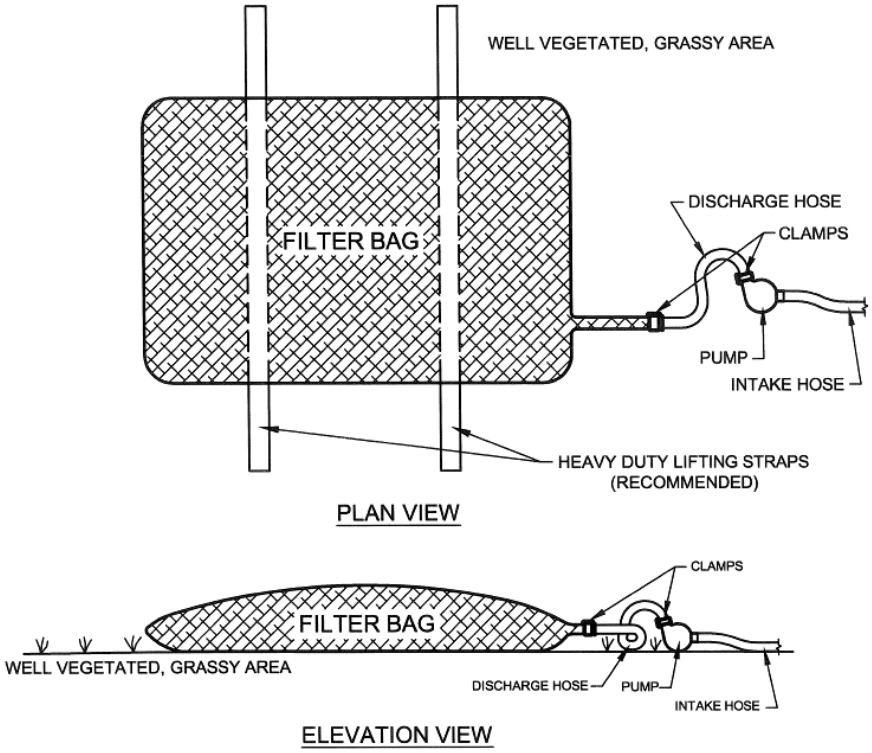
Slope surface shall be free of rocks, clods, sticks, and grass.

Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

STANDARD CONSTRUCTION DETAIL # 3-16
Pumped Water Filter Bag



PA DEP

Low volume filter bags shall be made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. They shall be capable of trapping particles larger than 150 microns. High volume filter bags shall be made from woven geotextiles that meet the following standards:

Property	Test Method	Minimum Standard
Avg. Wide Width Strength	ASTM D-4884	60 lb/in
Grab Tensile	ASTM D-4632	205 lb
Puncture	ASTM D-4833	110 lb
Mullen Burst	ASTM D-3786	350 psi
UV Resistance	ASTM D-4355	70%
AOS % Retained	ASTM D-4751	80 Sieve

A suitable means of accessing the bag with machinery required for disposal purposes shall be provided. Filter bags shall be replaced when they become ½ full of sediment. Spare bags shall be kept available for replacement of those that have failed or are filled. Bags shall be placed on straps to facilitate removal unless bags come with lifting straps already attached.

Bags shall be located in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile underlayment and flow path shall be provided. Bags may be placed on filter stone to increase discharge capacity. Bags shall not be placed on slopes greater than 5%. For slopes exceeding 5%, clean rock or other non-erodible and non-polluting material may be placed under the bag to reduce slope steepness.

No downslope sediment barrier is required for most installations. Compost berm or compost filter sock shall be installed below bags located in HQ or EV watersheds, within 50 feet of any receiving surface water or where grassy area is not available.

(Additional Notes for Standard Construction Detail # 3-16)

The pump discharge hose shall be inserted into the bags in the manner specified by the manufacturer and securely clamped. A piece of PVC pipe is recommended for this purpose.

The pumping rate shall be no greater than 750 gpm or ½ the maximum specified by the manufacturer, whichever is less. Pump intakes shall be floating and screened.

Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

SUMP PIT **- Sediment Removal Efficiency: LOW. This device is not an ABACT for special protection watersheds unless used in conjunction with a pumped water filter bag.** For sites where large volumes of water of low to moderate turbidity (i.e. not flowing from or through work areas) must be pumped from work areas, and many filter bags would be required, sump pits (Standard Construction Detail #3-17) can provide a means of filtering the water. They may also be used in conjunction with filter bags to reduce the amount of sediment being pumped into the bags, reducing the number of bags required. Sump pits used in conjunction with filter bags may also be used as an ABACT BMP in special protection watersheds. Sump pits should not be used alone where highly turbid waters are being pumped such as typically results from active work areas.

Sump pits should be located at a low point in the work area so that the water naturally drains toward the pit. The size of the pit required depends upon the amount of water that must be pumped from the work area and the space available.

When used in conjunction with a filter bag, the intake of the pump going to the filter bag should be inserted into the standpipe of the sump pit.

Attachment 4
ES Plan Sheets

BACK HOLLOW ROAD BRIDGE REPAIR PROJECT

PERRY COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL PLAN

JANUARY 2018

DRAWING INDEX	
SHEET No.	DRAWING TITLE
ES-0.01	EROSION & SEDIMENT CONTROL PLAN
ES-0.02	EROSION & SEDIMENT CONTROL NOTES
ES-0.03	EROSION & SEDIMENT CONTROL SEEDING SPECIFICATIONS
ES-0.04	EROSION & SEDIMENT CONTROL DETAILS

PREPARED BY:

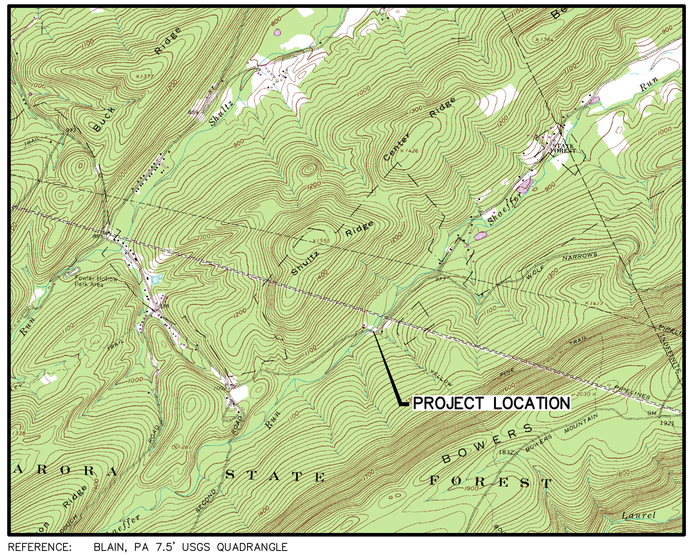
TETRA TECH

complex world | CLEAR SOLUTIONS™

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

PREPARED FOR:

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA



REFERENCE: BLAIN, PA 7.5' USGS QUADRANGLE

LOCATION MAP

0 2000 4000
SCALE IN FEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
ROBERT F. SIMCK
PE-085418-E

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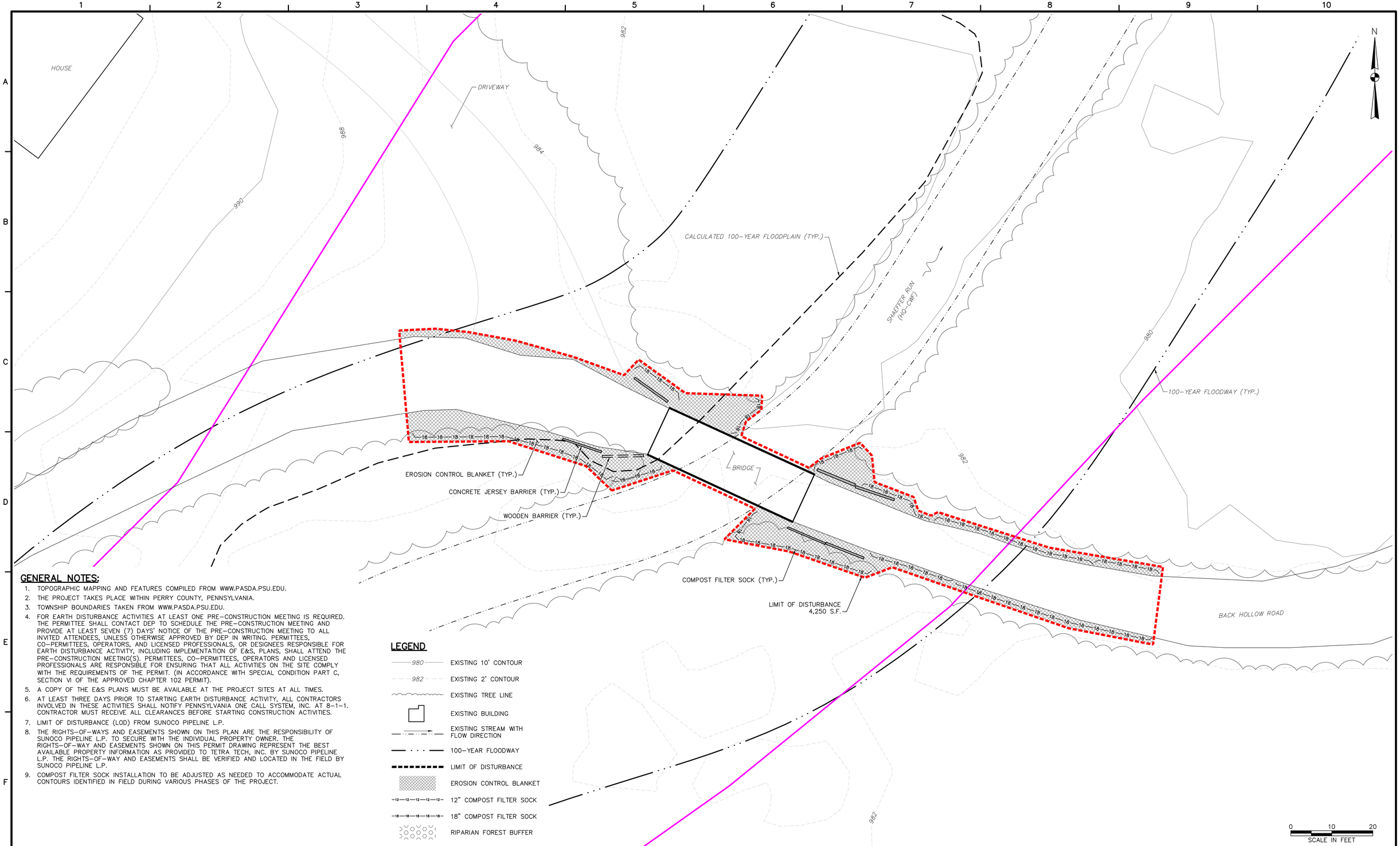

GENERAL NOTES:

1. TOPOGRAPHIC MAPPING AND FEATURES COMPILED FROM WWW.PASDA.PSU.EDU.
2. THE PROJECT TAKES PLACE WITHIN PERRY COUNTY, PENNSYLVANIA.
3. TOWNSHIP BOUNDARIES TAKEN FROM WWW.PASDA.PSU.EDU.
4. FOR EARTH DISTURBANCE ACTIVITIES AT LEAST ONE PRE-CONSTRUCTION MEETING IS REQUIRED. THE PERMITTEE SHALL CONTACT DEP TO SCHEDULE THE PRE-CONSTRUCTION MEETING AND PROVIDE AT LEAST SEVEN (7) DAYS' NOTICE OF THE PRE-CONSTRUCTION MEETING TO ALL INVITED ATTENDEES, UNLESS OTHERWISE APPROVED BY DEP IN WRITING. PERMITTEES, CO-PERMITTEES, OPERATORS, AND LICENSED PROFESSIONALS, OR DESIGNEES RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITY, INCLUDING IMPLEMENTATION OF E&S, PLANS, SHALL ATTEND THE PRE-CONSTRUCTION MEETING(S). PERMITTEES, CO-PERMITTEES, OPERATORS AND LICENSED PROFESSIONALS ARE RESPONSIBLE FOR ENSURING THAT ALL ACTIVITIES ON THE SITE COMPLY WITH THE REQUIREMENTS OF THE PERMIT. (IN ACCORDANCE WITH SPECIAL CONDITION PART C, SECTION VI OF THE APPROVED CHAPTER 102 PERMIT).
5. A COPY OF THE E&S PLANS MUST BE AVAILABLE AT THE PROJECT SITES AT ALL TIMES.
6. AT LEAST THREE DAYS PRIOR TO STARTING EARTH DISTURBANCE ACTIVITY, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL NOTIFY PENNSYLVANIA ONE CALL SYSTEM, INC. AT 8-1-1. CONTRACTOR MUST RECEIVE ALL CLEARANCES BEFORE STARTING CONSTRUCTION ACTIVITIES.
7. LIMIT OF DISTURBANCE (LOD) FROM SUNOCO PIPELINE L.P.
8. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF SUNOCO PIPELINE L.P. TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH, INC. BY SUNOCO PIPELINE L.P. THE RIGHTS-OF-WAY AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY SUNOCO PIPELINE L.P.
9. COMPOST FILTER SOCK INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.

LEGEND

- 980 — EXISTING 10' CONTOUR
- 982 — EXISTING 2' CONTOUR
- EXISTING TREE LINE
- EXISTING BUILDING
- EXISTING STREAM WITH FLOW DIRECTION
- 100-YEAR FLOODWAY
- LIMIT OF DISTURBANCE
- EROSION CONTROL BLANKET
- 12" COMPOST FILTER SOCK
- 18" COMPOST FILTER SOCK
- RIPARIAN FOREST BUFFER

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661 ANDERSEN DRIVE – FOSTER PLAZA 7
PITTSBURGH, PA 15220
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REVISIONS

NO.	BY	DATE	REMARKS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ROBERT F. SIMCIK
ENGINEER
PE-090435-E

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

BACK HOLLOW ROAD BRIDGE REPAIR PROJECT

PERRY COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL PLAN

DATE:	1/10/18
PROJECT NO.:	112IC05958
DESIGNED BY:	EJR
DRAWN BY:	BH
CHECKED BY:	RS

ES-0.01
SHEET 1 OF 4

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STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES:

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING, CUTS, FILLS, TRENCHING, AND TEMPORARY ROAD CONSTRUCTION OR IMPROVEMENT, SHALL BE DONE IN ACCORDANCE WITH AN APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. FOR EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, AT LEAST ONE PRE-CONSTRUCTION MEETING IS REQUIRED. THE PERMITTEE SHALL CONTACT DEP TO SCHEDULE THE PRE-CONSTRUCTION MEETING AND PROVIDE AT LEAST SEVEN (7) DAYS' NOTICE OF THE PRE-CONSTRUCTION MEETING TO ALL INVITED ATTENDEES, UNLESS OTHERWISE APPROVED BY DEP IN WRITING. PERMITTEES, CO-PERMITTEES, OPERATORS, AND LICENSED PROFESSIONALS, OR DESIGNEES RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITY, INCLUDING IMPLEMENTATION OF E&S, PCSM AND PPC PLANS AND CRITICAL STAGES OF IMPLEMENTATION OF THE APPROVED PCSM PLAN, SHALL ATTEND THE PRE-CONSTRUCTION MEETING(S). PERMITTEES, CO-PERMITTEES, OPERATORS AND LICENSED PROFESSIONALS ARE RESPONSIBLE FOR ENSURING THAT ALL ACTIVITIES ON THE SITE COMPLY WITH THE REQUIREMENTS OF THE PERMIT.
3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
5. THE STAGING OF EARTH DISTURBANCE ACTIVITIES AND MAINTENANCE REQUIREMENTS CONTAINED IN THE APPROVED E&S PLAN MUST BE FOLLOWED.
6. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
7. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING SHALL NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE E&S PLAN FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THE E&S PLAN.
8. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND/OR FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
9. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER. SEGREGATION OF TOPSOIL SHALL OCCUR WHERE TOPSOIL EXISTS WITHIN THE WORK AREA.
10. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
11. ALL BUILDING MATERIALS AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED IN ACCORDANCE WITH DEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE CHAPTER 260A (RELATING TO HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL), CHAPTER 271 (RELATED TO MUNICIPAL WASTE MANAGEMENT SYSTEM -- GENERAL PROVISIONS), AND CHAPTER 287 (RELATING TO RESIDUAL WASTE MANAGEMENT SYSTEM -- GENERAL PROVISIONS). NO BUILDING MATERIAL OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT OR FROM THE SITE.
12. AN E&S PLAN OR OTHER AUTHORIZATION MEETING THE REGULATORY REQUIREMENTS DETAILED IN 25 PA. CODE § 102.4(B) SHALL BE RECEIVED AND APPROVED BY DEP OR AN AUTHORIZED CONSERVATION DISTRICT AND IMPLEMENTED FOR ALL SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
13. CLEAN FILL REQUIREMENTS -- ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE DEP FORM FP-001 (CERTIFICATION OF CLEAN FILL) TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIALS AS CLEAN FILL. THE FORM MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. FILL MATERIAL NOT QUALIFYING AS CLEAN FILL IS REGULATED FILL AND MUST BE MANAGED IN ACCORDANCE WITH DEP'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 271 OR 287, WHICHEVER IS APPLICABLE.
14. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
15. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPS AND AT LEAST THREE (3) DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR THE CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO DEP OR AN AUTHORIZED CONSERVATION DISTRICT.
16. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, RE-MULCH AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
17. NO SOIL AMENDMENTS SUCH AS AGRICULTURAL LIME, FERTILIZER, ETC. WILL BE USED WITHIN WETLAND AREAS.
18. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
19. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE AT THE END OF EACH DAY, OR AS NEEDED, OR AS DIRECTED BY THE CONSERVATION DISTRICT OR LOCAL MUNICIPALITY, AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
20. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
21. IN AREAS OF TOPSOIL SEGREGATION THE TOPSOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES -- 6 TO 12 INCHES ON COMPACTED SOILS -- PRIOR TO THE RESTORATION OF THE TOPSOIL. AREAS TO BE REVEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILLOUT SLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
22. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
23. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.
24. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
25. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
26. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
27. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
28. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 100 FEET OF A SPECIAL PROTECTION SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
29. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE CESSATION OF EARTH DISTURBANCE ACTIVITIES IN NON-SPECIAL PROTECTION WATERSHEDS WILL EXCEED 4 DAYS, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES IN A SPECIAL PROTECTION WATERSHEDS TEMPORARY STABILIZATION SHALL BE IMMEDIATE.
30. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
31. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
33. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORM WATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
34. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
35. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO$10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
36. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
37. REGARDLESS OF SLOPE, EROSION CONTROL BLANKETS SHALL BE USED FOR ALL SEEDED AREAS WITHIN 100 FEET OF A HIGH QUALITY OR EXCEPTIONAL VALUE SURFACE WATER. FOR ALL SLOPES THAT ARE 3H:1V OR STEEPER OR WHERE POTENTIAL EXISTS FOR SEDIMENT POLLUTION TO RECEIVING WATERS, EROSION CONTROL BLANKETS SHALL BE USED FOR ALL SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER.
38. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY IN A SPECIAL PROTECTION WATERSHED, THAT PORTION OF THE PROJECT SITE TRIBUTARY TO THE SPECIAL PROTECTION WATERS MUST BE IMMEDIATELY STABILIZED.
39. IF COAL OR OTHER ACID-PRODUCING ROCK IS ENCOUNTERED AT THE PROJECT SITE, THE ACID PRODUCING ROCK WILL EITHER BE REMOVED FROM THE SITE OR HANDLED ONSITE. IF COAL OR OTHER ACID-PRODUCING ROCK MUST BE HANDLED ON SITE IS SHOULD BE SAMPLED AND ANALYZED FOR TOTAL PERCENT SULFUR IN ACCORDANCE WITH PADEPS GUIDANCE. ON-SITE HANDLING METHODS SHOULD BE BASED ON TESTING AND PADEP GUIDANCE.
40. IF A SINKHOLE IS ENCOUNTERED, REPAIR SHOULD BE DONE UNDER THE DIRECT OBSERVATION AND SUPERVISION OF A PROFESSIONAL GEOLOGIST OR LICENSED GEOTECHNICAL ENGINEER. SITE SPECIFIC SINKHOLE REPAIRS SHOULD BE DEVELOPED ON A CASE BY CASE BASIS.

TEMPORARY EROSION & SEDIMENT CONTROLS INSPECTION & MAINTENANCE SCHEDULE

BMP	INSPECTION FREQUENCY	MAINTENANCE TO BE PERFORMED
COMPOST FILTER SOCK	WEEKLY AND AFTER RUNOFF EVENTS	MAINTENANCE SHALL BE PERFORMED AS NEEDED, SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BARRIER. COMPOST FILTER SOCK SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF COMPOST FILTER SOCK IS REDUCED. COMPOST FILTER SOCKS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATION AT THE COMPOST FILTER SOCK SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE COMPOST FILTER SOCK IS REMOVED.
MULCH STABILIZATION	WEEKLY AND AFTER RUNOFF EVENTS	REPLACE MULCH AS REQUIRED. RESTORE SEEDING IN AFFECTED AREA IF NECESSARY.
PUMPED WATER FILTER BAGS	DAILY	FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

CONSTRUCTION SEQUENCE:

REFER TO THE E&SC PLAN DRAWINGS FOR THE LOCATION OF THE PROPOSED WORK AND THE ASSOCIATED BMPS. A GENERALIZED CONSTRUCTION SEQUENCE IS PROVIDED BELOW. THE CONSTRUCTION SEQUENCE IS INTENDED TO PROVIDE A GENERAL COURSE OF ACTION IN ORDER TO CONFORM TO THE APPLICABLE REGULATORY AGENCY REQUIREMENTS FOR TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENTATION CONTROLS. NECESSARY PARTS FOR PROPER AND COMPLETE EXECUTION OF WORK PERTAINING TO THIS PLAN, WHETHER SPECIFICALLY MENTIONED OR NOT, ARE TO BE PERFORMED BY THE CONTRACTOR. IT IS NOT INTENDED THAT THE DRAWINGS AND THIS REPORT SHOW DETAILED INFORMATION ON METHODS AND MATERIALS. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS LISTED IN THIS SECTION. THE CONTRACTOR MAY BE REQUIRED TO ALTER CONTROLS BASED ON EFFECTIVENESS OF CONTROLS OR DIFFERING CONDITIONS ENCOUNTERED IN THE FIELD.

1. MAKE ALL APPROPRIATE NOTIFICATIONS AS INDICATED IN GENERAL NOTES ON PLAN SHEET ES-0.01.
2. FLAG OR FENCE PROJECT LIMITS OF DISTURBANCE AND APPROVED ACCESS. SIGN AND FLAG WETLAND BOUNDARIES AND STREAMS, WHERE APPROPRIATE.
3. LOCATE STAGING AREAS AND ACCESS POINTS INCLUDING CONSTRUCTION ENTRANCES. INSTALL COMPOST FILTER SOCKS DOWN SLOPE OF THESE AREAS. .
4. INSTALL COMPOST FILTER SOCKS AS SHOWN ON THE CONSTRUCTION DRAWINGS. INSTALLATIONS SIZING, AND SPACING MUST CONFORM TO THE CHART AND DETAILS PROVIDED ON PLAN SHEET ES-0.04.
5. REGARDLESS OF SLOPE, EROSION CONTROL BLANKETS SHALL BE USED FOR ALL SEEDED AREAS WITHIN 100 FEET OF A HIGH QUALITY OR EXCEPTIONAL VALUE SURFACE WATER. FOR ALL SLOPES THAT ARE 3H:1V OR STEEPER OR WHERE POTENTIAL EXISTS FOR SEDIMENT POLLUTION TO RECEIVING WATERS, EROSION CONTROL BLANKETS SHALL BE USED FOR ALL SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER.
6. CONSTRUCT THE PROPOSED BRIDGE. INSTALL GRAVEL FILL TO BRING THE ROAD TO THE ELEVATION OF INSTALLED BRIDGE. INSTALL JERSEY BARRIERS WERE SPECIFIED ON PLANS.
7. MINIMIZE TOTAL AREA OF DISTURBANCE.
8. BACKFILL EXCAVATED AREA AND COVER WITH TOPSOIL (WHERE TOPSOIL WAS SEGREGATED).
9. RESTORE GRADE OF ROAD TO INSTALLED BRIDGE ELEVATION, AS SOON AS PRACTICABLE FOLLOWING COMPETITION OF INSTALLATION OF BRIDGE. IMMEDIATELY SEED AND MULCH DISTURBED AREAS, CONSTRUCT FINISHING GRAVEL COURSE OF ROADWAY AREAS.
10. MAINTAIN EROSION AND SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ESTABLISHED. REMOVE SOIL AND EROSION SEDIMENT CONTROL MEASURES UPON ESTABLISHMENT OF A UNIFORM 70% PERENNIAL VEGETATIVE COVERAGE OVER THE DISTURBED AREA. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL EROSION AND SEDIMENT CONTROLS.
11. IN ACCORDANCE WITH 25 PA CODE 102.7, UPON COMPLETION OF ALL CONSTRUCTION ACTIVITIES, A NOTICE OF TERMINATION FORM WILL BE SUBMITTED TO TERMINATE THE AUTHORIZATION OF COVERAGE INDICATING ALL ACTIVITIES UNDER THIS PERMIT HAVE BEEN COMPLETED.

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REVISIONS

NO.	BY	DATE	REMARKS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ROBERT F. SIMCIK — ENGINEER PE-090435-E

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

BACK HOLLOW ROAD BRIDGE REPAIR PROJECT

PERRY COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL NOTES

DATE:	1/2/18
PROJECT NO.:	112IC05958
DESIGNED BY:	EJR
DRAWN BY:	BH
CHECKED BY:	RS

ES-0.02
SHEET 2 OF 4

R:_Marcellus Shale Projects\Sunoco\5958 – Penn Pipeline Project\10 – Perry\Back Hollow Road\E&S\5958ES000.02.dwg PIT NICHOLE.NAJESKI 1/11/2018 3:26:36 PM

TEMPORARY REVEGETATION

TEMPORARY GRASS COVER SHALL BE ESTABLISHED IN THE FOLLOWING AREAS:

1. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE CESSATION OF EARTH DISTURBANCE ACTIVITIES IN NON-SPECIAL PROTECTION WATERSHEDS WILL EXCEED 4 DAYS, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES. IN A SPECIAL PROTECTION WATERSHED TEMPORARY STABILIZATION SHALL BE IMMEDIATE.
2. WHERE SOIL STOCKPILES ARE TO BE EXPOSED FOR A PERIOD GREATER THAN FOUR (4) DAYS, THE STOCKPILE SHALL BE SEEDED.
3. WHERE VEGETATIVE FILTERS MUST BE ESTABLISHED BELOW FILTER BAGS, A MINIMUM DISTANCE OF 10 FT SHALL BE SEEDED DOWN SLOPE OF THE TRAP OUTLET.
4. SEED MIXTURE FOR TEMPORARY COVER SHALL CONSIST OF 100% ANNUAL RYEGRASS. SEED SHALL BE APPLIED AT THE RATE OF 40 LB/ACRE OR AS RECOMMENDED BY A LOCAL RECOGNIZED SEED SUPPLIER APPROVED BY THE OWNER'S REPRESENTATIVE. UNLESS EXPLICITLY RESTRICTED (E.G., WETLANDS) PRIOR TO SEEDING, APPLY 1 TON OF AGRICULTURAL GRADE LIMESTONE PER ACRE PLUS 10-10-10 FERTILIZER AT THE RATE OF 500 LB. PER ACRE AND WORK INTO SOIL.
5. TEMPORARY REVEGETATION CAN ALSO BE USED DURING UNFAVORABLE GROWING SEASON FOR PERMANENT MIXES. APPLY PERMANENT SEEDING DURING FIRST FAVORABLE GROWING SEASON.

MULCHING

THE PURPOSE OF MULCH IS TO REDUCE RUNOFF AND EROSION, PREVENT SURFACE COMPACTION OR CRUSTING, CONSERVE MOISTURE, AID IN ESTABLISHING PLANT COVER, AND CONTROL WEEDS. MULCH SHALL BE APPLIED ON ANY AREA SUBJECT TO EROSION, OR WHICH HAS UNFAVORABLE CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. THE PRACTICE MAY BE USED ALONE OR IN CONJUNCTION WITH OTHER STRUCTURAL AND VEGETATIVE CONSERVATION PRACTICES, SUCH AS WATERWAYS, PONDS, SEDIMENTATION TRAPS OR CRITICAL AREA PLANTING. ON SEDIMENT PRODUCING AREAS WHERE THE PERIOD OF EXPOSURE IS LESS THAN TWO (2) MONTHS, MULCH MATERIALS SHALL BE APPLIED ACCORDING TO THE FOLLOWING GUIDELINES:

1. STRAW MULCH SHALL BE APPLIED AT THE RATE OF THREE TONS PER ACRE. CHEMICALLY TREATED OR SALTED STRAW IS NOT ACCEPTABLE AS MULCH.
2. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION BY AT LEAST ONE OF THE FOLLOWING METHODS.
   a. "CRIMPED" INTO THE SOIL USING TRACTOR DRAWN EQUIPMENT (STRAIGHT BLADED COULTER OR SIMILAR). THIS METHOD IS LIMITED TO SLOPES NO STEEPER THAN 3:1. MACHINERY SHOULD BE OPERATED ON THE CONTOUR. (CRIMPING OF HAY OR STRAW BY RUNNING IT OVER WITH TRACKED MACHINERY IS NOT RECOMMENDED)
   b. ASPHALT, EITHER EMULSIFIED OR CUT-BACK, CONTAINING NO SOLVENTS OR OTHER DILUTING AGENTS TOXIC TO PLANT OR ANIMAL LIFE, UNIFORMLY APPLIED AT THE RATE OF 31 GALLONS PER 1000 FT2.
   c. SYNTHETIC BINDERS (CHEMICAL BINDERS) MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THAT IT IS NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
   d. LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

MULCHED AREAS SHALL BE CHECKED PERIODICALLY AND AFTER EACH RUNOFF EVENT (E.G. RAIN, SNOWMELT, ETC.) FOR DAMAGE UNTIL THE DESIRED PURPOSE OF THE MULCHING IS ACHIEVED. DAMAGED PORTIONS OF THE MULCH OR TIE-DOWN MATERIAL SHALL BE REPAIRED UPON DISCOVERY.

PERMANENT REVEGETATION

SEEDING MIXTURES

FOLLOW WITH RECOMMENDED SEED MIXTURE TABLE AND NOTES, THEN PENNDOT FORMULA, THEN WETLAND, THEN APPLICATION GUIDANCE, THEN RATES, THEN NOTES.

LIMING RATES

MINIMUM 6 TONS PER ACRE AT 100% EFFECTIVE NEUTRALIZING VALUE (%ENV), UNLESS THE SOIL TEST DETERMINES THAT A LESSER AMOUNT IS NEEDED. TO DETERMINE THE ACTUAL AMOUNT OF REGULAR LIME TO APPLY, DIVIDE THE AMOUNT CALLED FOR BY THE SOIL TEST BY THE %ENV FOR THE PRODUCT USED. FOR EXAMPLE, IF 6 TONS PER ACRE IS NEEDED AND THE %ENV FOR THE LIME USED IS 88%, DIVIDE 6 BY 0.88 RESULTING IN 6.8 TONS NEEDING TO BE APPLIED.

FOR DOLOMITIC LIME, WHICH HAS A SIGNIFICANT AMOUNT OF MAGNESIUM IN IT, DIVIDE THE AMOUNT CALLED FOR BY THE SOIL TEST BY THE % CALCIUM CARBONATE EQUIVALENT (%CCE) LISTED FOR THE PRODUCT INSTEAD OF THE %ENV. THE %CCE MAY BE ABOVE 100% WHICH ACCOUNTS FOR THE FACT THAT MAGNESIUM HAS A GREATER EFFECT PER POUND THAN THE CALCIUM IN REGULAR LIME.

NOTE: WHEN A SOIL TEST REQUIRES MORE THAN 8,000 POUNDS OF LIME PER ACRE, THE LIME MUST BE MIXED INTO THE TOP 6 INCHES OF SOIL.

FERTILIZATION RATES

APPLY 10-20-20 AT 600 POUNDS/ACRE, IF TOP DRESSED OR 1,000 POUNDS/AC, IF INCORPORATED, UNLESS THE SOIL TEST DETERMINES THAT THE RATE CAN BE LESS THAN THESE MINIMUMS.

SOIL AMENDMENT APPLICATION RATE EQUIVALENTS

SOIL AMENDMENT	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YDS.	NOTES
PERMANENT SEEDING APPLICATION RATE				
AGRICULTURAL LIME	6 TONS	240 LBS.	2,480 LBS.	OR AS PER SOIL TEST; MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
10-20-20 FERTILIZER	1,000 LBS.	25 LBS.	210 LBS.	OR AS PER SOIL TEST; MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS

MULCH APPLICATION RATES

MULCH TABLE	APPLICATION RATE (MINIMUM) PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YDS.	NOTES
STRAW	3 TONS	140 LBS.	1,240 LBS.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN
HAY	3 TONS	140 LBS.	1,240 LBS.	TIMOTHY, MIXED CLOVER AND TIMOTHY OR OTHER NATIVE FORAGE GRASSES
WOODCHIPS	4 TO 6 TONS	185 TO 275 LBS.	1,650 TO 2,500 LBS.	MAY PREVENT GERMINATION OF GRASSES & LEGUMES
HYDROMULCH	1 TON	47 LBS.	415 LBS.	SEE LIMITATIONS ABOVE

RECOMMENDED SEED MIXTURES

MIXTURE NO.	SPECIES	SEEDING RATES - PLS(1) MOST SITES	ADVERSE SITES
1 (2)	SPRING OATS (SPRING), OR 64 96	64	96
	ANNUAL RYEGRASS (SPRING OR FALL), OR	10	15
	WINTER WHEAT (FALL), OR	90	120
	WINTER RYE (FALL)	56	112
2 (3)	BIG BLUESTEM, OR 75	60	75
	FINE FESCUE, OR 40	35	40
	KENTUCKY BLUEGRASS, PLUS 25 30	25	30
	REDTOP(4), OR	3	3
	PERENNIAL RYEGRASS	15	20
3	BIRDSFOOT TREFOIL, PLUS 6 10	6	10
	BIG BLUESTEM,	30	35
4	BIRDSFOOT TREFOIL, PLUS	6	10
	CANADA WILDRYE	10	15
5 (5)	BIG BLUESTEM, OR	10	15
	PERENNIAL RYEGRASS	20	25
		20	25
6 (5,6)	BIG BLUESTEM, PLUS	10	15
	ANNUAL RYEGRASS	20	25
7 (5)	BIRDSFOOT TREFOIL, PLUS	20	30
	BIG BLUESTEM,	20	30
		20	25
8	FLATPEA, PLUS	20	30
	BIG BLUESTEM, , OR	20	30
	PERENNIAL RYEGRASS	20	25
9 (7)	ROUND-HEADED BUSH CLOVER, PLUS	10	20
	BIG BLUESTEM, PLUS	20	25
	REDTOP(4)	3	3
10	BIG BLUESTEM, PLUS	40	60
	FINE FESCUE	10	15
11	DEERTONGUE, PLUS	15	20
	BIRDSFOOT TREFOIL	6	10
12(8)	SWITCHGRASS, OR	15	20
	BIG BLUESTEM, PLUS	15	20
	BIRDSFOOT TREFOIL	6	10
13	ORCHARDGRASS, OR	20	30
	SMOOTH BROMEGRASS, PLUS	25	35
	BIRDSFOOT TREFOIL	6	10

NOTES:

1. PURE LIVE SEED (PLS) IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATION DIVIDED BY 100. FOR EXAMPLE, TO SECURE THE ACTUAL PLANTING RATE FOR SWITCHGRASS, DIVIDE 12 POUNDS PLS SHOWN ON THE SEED TAG. THUS, IF THE PLS CONTENT OF A GIVEN SEED LOT IS 35 PERCENT, DIVIDE 12 PLS BY 0.35 TO OBTAIN 34.3 POUNDS OF SEED REQUIRED TO PLANT ONE-ACRE. ALL MIXTURES IN THIS TABLE ARE SHOWN IN TERMS OF PLS.
2. IF HIGH-QUALITY SEED IS USED, FOR MOST SITES SEED SPRING OATS AT A RATE OF TWO BUSHELS PER ACRE, WINTER WHEAT AT 11.5 BUSHELS PER ACRE, AND WINTER RYE AT ONE BUSHEL PER ACRE. IF GERMINATION IS BELOW 90 PERCENT, INCREASE THESE SUGGESTED SEEDING RATES BY 0.5 BUSHEL PER ACRE.
3. THIS MIXTURE IS SUITABLE FOR FREQUENT MOWING. DO NOT CUT SHORTER THAN FOUR INCHES.
4. KEEP SEEDING RATE TO THAT RECOMMENDED IN TABLE. THESE SPECIES HAVE MANY SEEDS PER POUND AND ARE VERY COMPETITIVE. TO SEED SMALL QUANTITIES OF SMALL SEEDS SUCH AS WEEPING LOVEGRASS AND REDTOP, DILUTE WITH DRY SAWDUST, SAND, RICE HULLS, BUCKWHEAT HULLS, ETC.
5. USE FOR HIGHWAY SLOPES AND SIMILAR SITES WHERE THE DESIRED SPECIES AFTER ESTABLISHMENT IS BIG BLUESTEM.
6. USE ONLY IN EXTREME SOUTHEASTERN OR EXTREME SOUTHWESTERN PA. SERECIA LESPEDEZA IS NOT WELL ADAPTED TO MOST OF PA.
7. DO NOT MOW SHORTER THAN NINE TO 10 INCHES.
8. ONLY SEEDS OF NATIVE PLANTS TO BE USED.

SEED MIX APPLICATION GUIDE

SITE CONDITIONS	NURSE CROP	SEED MIXTURE (SELECT ONE MIXTURE)
SLOPES AND BANKS (NOT MOWED)		
WELL-DRAINED	1 PLUS	3, 5, 8, OR 12 (1)
VARIABLE DRAINAGE	1 PLUS	3 OR 7
SLOPES AND BANKS (MOWED)		
WELL-DRAINED	1 PLUS	2 OR 10
SLOPES AND BANKS (GRAZED/HAY)		
WELL-DRAINED	1 PLUS	2,3, OR 13
GULLIES AND ERODED AREAS	1 PLUS	3, 5, 7, OR 12 (1)
EROSION CONTROL FACILITIES (BMPS)		
SOD WATERWAYS, SPILLWAYS, FREQUENT WATER FLOW AREAS	1 PLUS	2, 3, OR 4
DRAINAGE DITCHES		
SHALLOW, LESS THAN THREE FEET DEEP	1 PLUS	2, 3, OR 4
DEEP, NOT MOWED	1 PLUS	5 OR 7
POND BANKS, DIKES, LEVEES, DAMS, DIVERSION CHANNELS, AND OCCASIONAL WATER FLOW AREAS		
MOWED AREAS	1 PLUS	2 OR 3
NON-MOWED AREAS	1 PLUS	5 OR 7
FOR HAY OR SILAGE ON DIVERSION CHANNELS AND OCCASIONAL WATER FLOW AREAS	1 PLUS	3 OR 13
HIGHWAYS (2)		
NON-MOWED AREAS		
WELL-DRAINED	1 PLUS	5, 7, 8, 9, OR 10
VARIABLE DRAINED	1 PLUS	3 OR 7
POORLY DRAINED	1 PLUS	3 OR 9
AREAS MOWED SEVERAL TIMES PER YEAR	1 PLUS	2, 3, OR 10
UTILITY ROW		
WELL-DRAINED	1 PLUS	5, 8, OR 12 (1)
VARIABLE DRAINED	1 PLUS	3 OR 7
WELL-DRAINED AREAS FOR GRAZING/HAY	1 PLUS	2, 3, OR 13
EFFLUENT DISPOSAL AREAS	1 PLUS	3 OR 4
SANITARY LANDFILLS	1 PLUS	3, 5, 7, 11 (1), OR 12 (1)
SURFACE MINES		
SPOILS, MINE WASTES, FLY ASH, SLAG, SETTLING BASIN RESIDUES AND OTHER SEVERELY DISTURBED AREAS (LIME TO SOIL TEST)	1 PLUS	3, 4, 5, 7, 8, 9,11 (1) OR 12(1)
SEVERELY DISTURBED AREAS FOR GRAZING/HAY	1 PLUS	3 OR 13
	NONE	WETLAND SEED MIX
WETLAND	1 PLUS	SEE WETLAND SEED MIX
RESIDENTIAL/LAWN	1 PLUS	PENN DOT FORMULA B

NOTES:

1. FOR SEED MIXTURES 11 AND 12, ONLY USE SPRING OATS OR WEEPING LOVEGRASS (INCLUDED IN MIX) AS NURSE CROP.
2. CONTACT THE PA DEPARTMENT OF TRANSPORTATION DISTRICT ROADSIDE SPECIALIST FOR SPECIFIC SUGGESTIONS ON TREATMENT TECHNIQUES AND MANAGEMENT PRACTICES.
3. SEED TYPICAL WETLAND RESTORATION DETAIL ON PLAN SHEET ES-0.15 FOR ADDITIONAL NOTES, DETAIL, AND SPECIAL AREA RESTORATIONS.
4. DO NOT LIME OR FERTILIZE IN WETLAND.

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REVISIONS

NO.	BY	DATE	REMARKS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ROBERT F. SIMCIK ENGINEER PE-090435-E

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

BACK HOLLOW ROAD BRIDGE REPAIR PROJECT

PERRY COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL
SEEDING SPECIFICATIONS

DATE: 1/2/18
PROJECT NO.: 112IC05958
DESIGNED BY: EJR
DRAWN BY: BH
CHECKED BY: RS

ES-0.03
SHEET 3 OF 4

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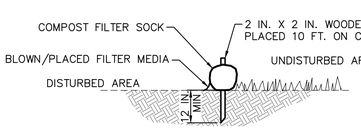

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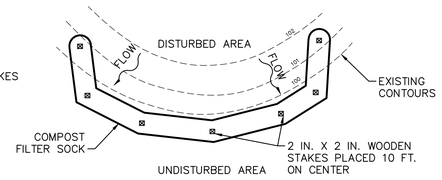


PLAN VIEW

NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE EPA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXITING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ½ THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCK SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

MAXIMUM SLOPE LENGTHS FOR COMPOST FILTER SOCK			
% SLOPE	12" DIAMETER	18" DIAMETER	24" DIAMETER
2 (OR LESS)	520	700	1000
5	250	340	500
10	150	250	300
15	100	200	250
20	70	140	200
25	50	100	140
30	45	70	100
35	40	60	90
40	35	45	60
45	30	40	50
50	20	30	40

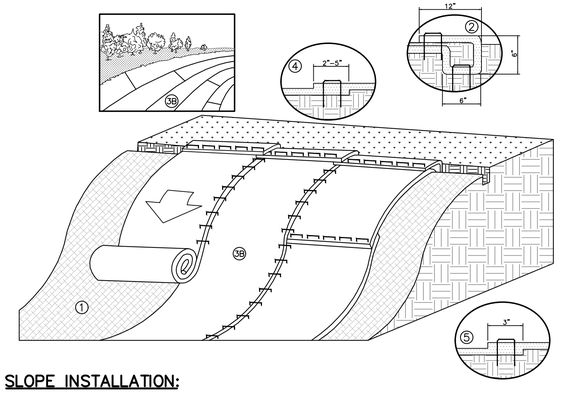
TABLE 4.1

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS					
MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL BIO-DEGRADABLE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO-PLY SYSTEMS					
INNER CONTAINMENT NETTING	HDPE BIAXIAL NET				
	CONTINUOUSLY WOUND				
	FUSION-WELDED JUNCTURES				
	3/4" X 3/4" MAX. APERTURE SIZE				
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)				
	3/16" MAX. APERTURE SIZE				
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.					

TABLE 4.2

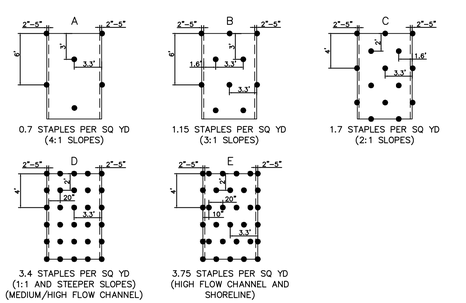
COMPOST STANDARDS	
ORGANIC MATTER CONTENT	25%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
PH	5.5-8.5
MOISTURE CONTENT	30%-60%
PARTICLE SIZE	30%-50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/XM) MAXIMUM

COMPOST FILTER SOCK
NOT TO SCALE



SLOPE INSTALLATION:

1. PREPARE SOIL BEFORE INSTALLING RECPs, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6 IN. DEEP X 6 IN. WIDE TRENCH WITH APPROXIMATELY 12 IN. OF RECPs EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12 IN. APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12 IN. PORTION OF RECPs BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12 IN. APART ACROSS THE WIDTH OF THE RECPs.
3. ROLL THE RECPs (3A) DOWN OR (3B) HORIZONTALLY ACROSS THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY REPLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH AN APPROXIMATELY 2 IN. – 5 IN. OVERLAP DEPENDING ON THE RECP TYPE.
5. CONSECUTIVE RECP SPLICED DOWN THE SLOPE MUST BE END-OVER-END (SHINGLE STYLE) WITH AN APPROXIMATE 3 IN. OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 IN. APART ACROSS ENTIRE RECPs WIDTH.

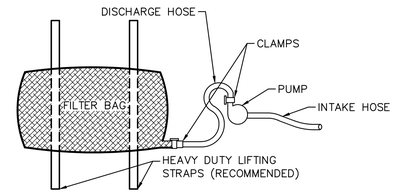


STAPLE PATTERN GUIDE

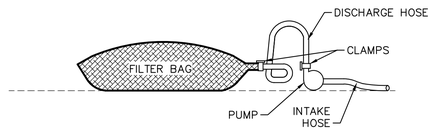
NOTES:

1. FOR SLOPES BETWEEN 3:1 AND 1:1, USE NORTH AMERICAN GREEN ERONET SC 150 OR OWNER APPROVED EQUAL MATERIAL/METHOD.
2. IN AREAS WHERE LIVESTOCK ARE KEPT, USE NORTH AMERICAN GREEN BIONET SC 150 BN OR OWNER APPROVED EQUAL MATERIAL/METHOD.
3. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
4. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE
5. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
6. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE PROJECT LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
7. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS,
8. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

EROSION CONTROL BLANKET – SLOPE INSTALLATION
NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-3751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME ½ FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NO POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACE DON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACE UNDER THE GAB TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

WHERE COMPOST FILTER SOCK IS NECESSARY TO ELEVATE THE PUMPED WATER FILTER BAG TO AN ABACT E&S BMP, THE COMPOST FILTER SOCK SHALL BE PLACED TO SUFFICIENT LENGTH TO MANAGE ALL FLOW FROM THE PUMPED WATER FILTER BAG

PUMPED WATER FILTER BAG
NOT TO SCALE

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REVISIONS

NO.	BY	DATE	REMARKS

COMMONWEALTH OF PENNSYLVANIA – REGISTERED PROFESSIONAL – ROBERT F. SIMCIK – ENGINEER PE 084363-E

SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA

BACK HOLLOW ROAD BRIDGE REPAIR PROJECT

PERRY COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL DETAILS

DATE:	1/2/18
PROJECT NO.:	112IC05958
DESIGNED BY:	EJR
DRAWN BY:	BH
CHECKED BY:	RS

ES-0.04
SHEET 4 OF 4

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