



# Public Notice

U.S. Army Corps  
of Engineers  
Baltimore District  
PN-16-45

In Reply to Application Number  
CENAB-OPR-P-2015-01664-P06 (Pennsylvania Pipeline Project)

Comment Period:

August 1, 2016 to August 30, 2016

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**THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.**

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act (33 U.S.C. 1344) as described below:

**APPLICANT:** Sunoco Pipeline, L.P.  
535 Fritztown Road  
Sinking Spring, Pennsylvania 19608

**WATERWAY AND LOCATION OF THE PROPOSED WORK:** The proposed Sunoco Pennsylvania Pipeline Project extends approximately 254.6 miles from Marcus Hook, Delaware County, Pennsylvania to Delmont, Westmoreland County, Pennsylvania, and would cross through numerous municipalities in southern Pennsylvania in Delaware, Chester, and Berks (partial) Counties in the Corps of Engineers Philadelphia District; Lancaster, Lebanon, Dauphin, York, Cumberland, Perry, Juniata, Huntingdon, Berks (partial), Blair, and Cambria (partial) Counties in the Corps of Engineers Baltimore District; and Indiana, Westmorland, and Cambria (partial) Counties in the Corps of Engineers Pittsburgh District (See enclosed map – PPP 2 (Enclosure 1)). The project includes multiple stream and wetland crossings in the Susquehanna River, Delaware River, and Ohio River watersheds. The proposed pipeline construction proposes directional drilling under the following navigable waters of the United States: Susquehanna River (3906 linear feet) in the Baltimore District; and Conemaugh River (225 linear feet) in the Pittsburgh District. Approximately 150 miles of the pipeline is proposed within the Corps of Engineers Baltimore District area of responsibility. In addition to the referenced 254.6 mile pipeline, an additional pipeline extending 52 miles from Houston, Pennsylvania to Delmont, Pennsylvania is being reviewed for authorization under the Pennsylvania State Programmatic General Permit - 5 and the Nationwide Permits by the Pittsburgh District of the Corps of Engineers (See enclosed map – PPP 1 (Enclosure 1)).

The purpose of this Public Notice is to solicit comments concerning two of the proposed pipeline crossings of waters and/or wetland, which require authorization under a Department of the Army Individual Permit. One of the crossings is located in North Middleton Township, Cumberland County, (Enclosure 2), while the second crossing is located in Frankstown Township, Blair County, Pennsylvania, (Enclosure 3).

**PURPOSE AND PROPOSED WORK:** Sunoco Pipeline, L.P. is proposing to construct and operate the Pennsylvania Pipeline for the purpose of expanding existing pipeline systems, providing transportation of up to 700,000 barrels of natural gas liquids per day, and interconnecting with the existing Sunoco Mariner East pipelines. The applicant is proposing to install one 20-inch

diameter pipeline and one 16-inch pipeline running parallel to each other for a total distance of 254.6 miles within existing and new right-of-ways (ROWS). Additional supporting infrastructure, including staging areas, pump stations, and access roads are included in the project workspaces. The pipelines would cross an estimated 643 streams/waters and 461 wetlands, resulting in approximately 47,721 linear feet of temporary impact to streams and 32.34 acres of temporary impact to wetlands. Approximately 0.71 acre of permanent conversion of palustrine forested (PFO) wetlands to palustrine emergent (PEM) wetlands is also proposed. In the Baltimore District, the pipelines would cross an estimated 345 streams/waters and 246 wetlands, resulting in approximately 27,451 linear feet of temporary impact to streams; 18.33 acres of temporary impact to wetlands; and permanent conversion of 0.52 acre of PFO wetland to PEM wetland. The applicant has co-located the majority of the project with existing utility right-of-ways (approximately 75% of the overall mileage). Twenty-two percent of proposed impacts to waters and twenty-nine percent of proposed impacts to wetlands are within existing maintained utility right-of-way areas. Re-route alternatives and alternative crossing methods have been presented by the applicant demonstrating wetland, water, and endangered species habitat avoidance and minimization. The construction right-of-way across the majority of water and wetland crossings is proposed to be reduced to a width of 50 feet. Through implementation of construction right-of-way reduction at water and wetland crossings, and the implementation of directionally drilling under certain waters and/or wetlands, the applicant has reduced the potential impact associated with the project by approximately 29,000 linear feet of stream impact and 60 acres of wetland impact. Where possible the applicant would utilize existing access roads to access project workspaces during construction. No permanent filling, or loss of waters and/or wetlands is proposed by the applicant. The applicant proposes to restore all stream crossings to pre-construction contours, and all wetland crossings to the pre-construction contours, with a dominance of wetland vegetation, and adequate wetland hydrology, with the exception of the 0.71 acre of PFO wetland conversion to PEM wetland. This conversion occurs across 21 wetlands located within 11 separate counties. The applicant is currently preparing a compensatory mitigation plan to offset the aquatic functions and services lost as a result of these wetland conversion impacts.

As part of the proposed pipeline project, one crossing in Cumberland County, measuring approximately 1298 linear feet, would result in approximately 1.98 acres of temporary impact to a PEM wetland and a crossing in Blair County, measuring approximately 1,102 linear feet, would result in approximately 1.87 acres of temporary impact to a PEM wetland. Approximately thirty percent of the impact to the wetlands at these crossings is a result of the temporary placement of timber mats, which will be placed on a layer of geo-textile material. The timber mats are proposed to access the trench excavation areas for both pipelines. The proposed right-of-way at these two crossings has been reduced to 50 feet for the purpose of further avoidance and minimization of impacts to the aquatic resources. The purpose of this public notice is to solicit comments regarding these two crossings, including construction of the crossings as depicted on the enclosed plans (Enclosure 4). The remaining crossings of aquatic resources associated with the Pennsylvania Pipeline are being reviewed for authorization under the Pennsylvania State Programmatic General Permit - 5 by the Baltimore, Philadelphia, and Pittsburgh Districts.

If you have any questions concerning this matter, please contact Mrs. Deborah Nizer, at telephone (410) 962-6085, or by mail at USACE, Baltimore District, CENAB-OPR-P, 10 South Howard Street, Baltimore, Maryland, 21203.

The decision whether to issue a permit for these two crossings will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonable may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Written comments concerning the work described above related to the factors listed above, or other pertinent factors must be received by the District Engineer, U.S. Army Corps of Engineers, Baltimore District, CENAB-OPR-P, 10 South Howard Street, Baltimore, Maryland 21201 within the comment period specified above.

**ESSENTIAL FISH HABITAT:** The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). The Corps has determined this project will not affect any EFH.

**WATER QUALITY CERTIFICATION:** The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act from the Pennsylvania Department of Environmental Protection. The Section 401 certifying agency has a statutory limit of one year from the date of this public notice to make its decision.

**COASTAL ZONE MANAGEMENT PROGRAMS:** Where applicable, the applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with the approved Coastal Zone Management (CZM) Program. By this public

notice, we are requesting the State concurrence or objection to the applicant's consistency statement. It should be noted that the CZM Program has a statutory limit of 6 months to make its consistency determination.

The applicant must obtain any State or local government permits which may be required.

**ENDANGERED SPECIES ACT:** A preliminary review of this application indicates that the proposed work is not likely to or will insignificantly affect Federal listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended, provided time of year restrictions and avoidance/conservation measures are implemented. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

**NATIONAL HISTORIC PRESERVATION ACT:** Currently, the Pennsylvania Historical and Museum Commission is reviewing information, including archeological surveys, to determine if the proposed project will impact sites that are eligible for listing or are included in the National Register of Historic Places. Unknown archeological, scientific, prehistoric, or historical data may be lost or destroyed by the work to be accomplished under the request permit.

**TRIBAL COORDINATION:** A formal request for Government to Government consultation regarding the pipeline project was sent to sixteen Federally recognized Tribes on June 2, 2016 in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) and USACE Tribal Policy. On June 24, 2016, additional information regarding the pipeline project, including the technical reports for the cultural resource investigations were provided to the Tribes that confirmed their interest in project review and coordination. At the current time the Tribes are reviewing the information submitted.

The evaluation of the impact for these two crossings on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 of the Clean Water Act.

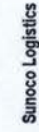
Any person who has an interest which may be adversely affected by the issuance of the permits for these two crossings may request a public hearing. The request, which must be in writing, must be received by the District Engineer, U.S. Army Corps of Engineers, Baltimore District, CENAB-OPR-P, 10 South Howard Street, Baltimore, Maryland 21201, within the comment period as specified above to receive consideration. Also it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected.

It is requested that you communicate this information concerning the proposed work to any persons know by you to be interested and not being known to this office, who did not receive a copy of this notice.

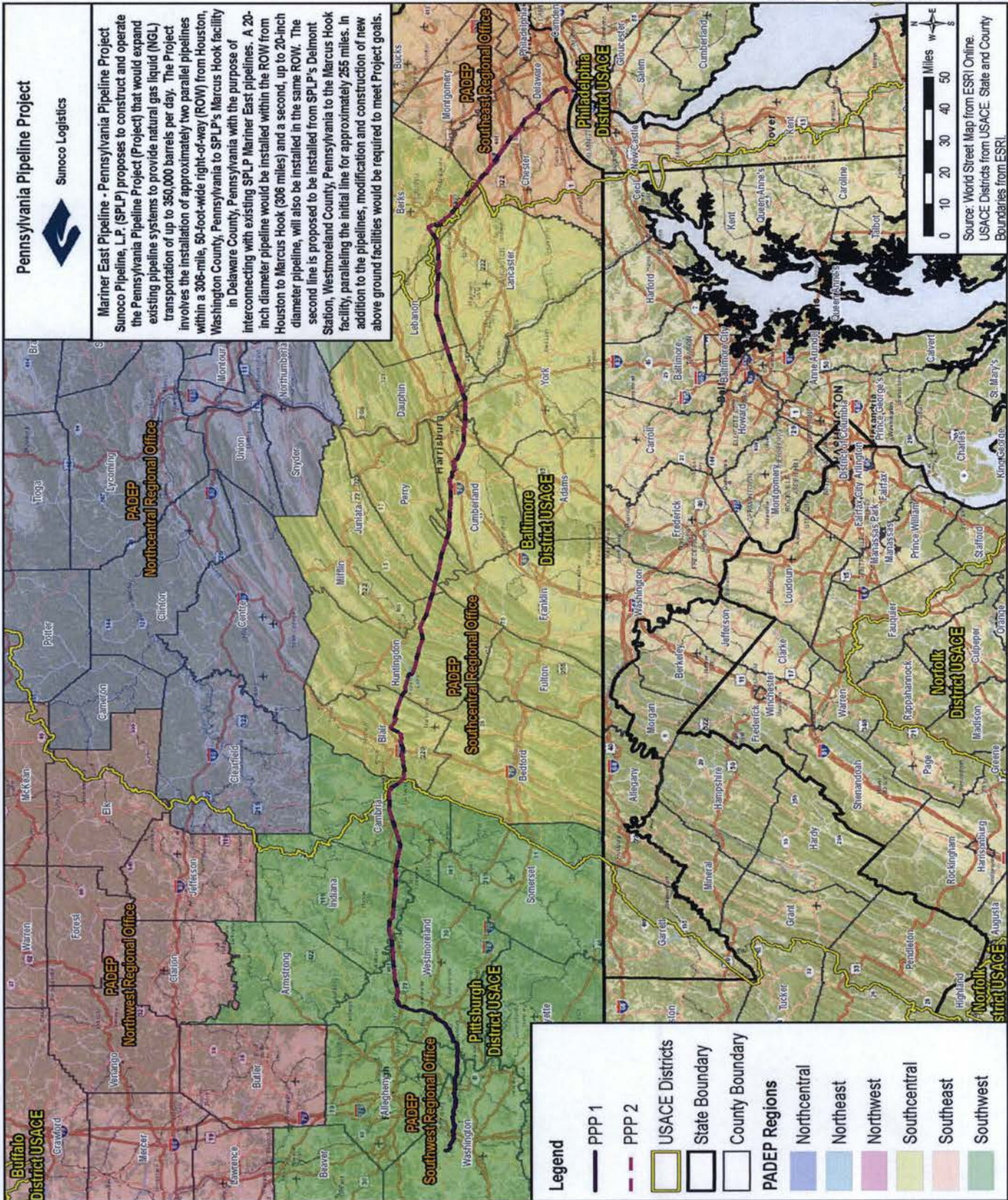
A handwritten signature in blue ink that reads "Wade B. Chandler". The signature is written in a cursive style with a large initial "W" and a long horizontal stroke at the end.

Wade B. Chandler  
Chief, Pennsylvania Section  
Regulatory Branch

# Pennsylvania Pipeline Project

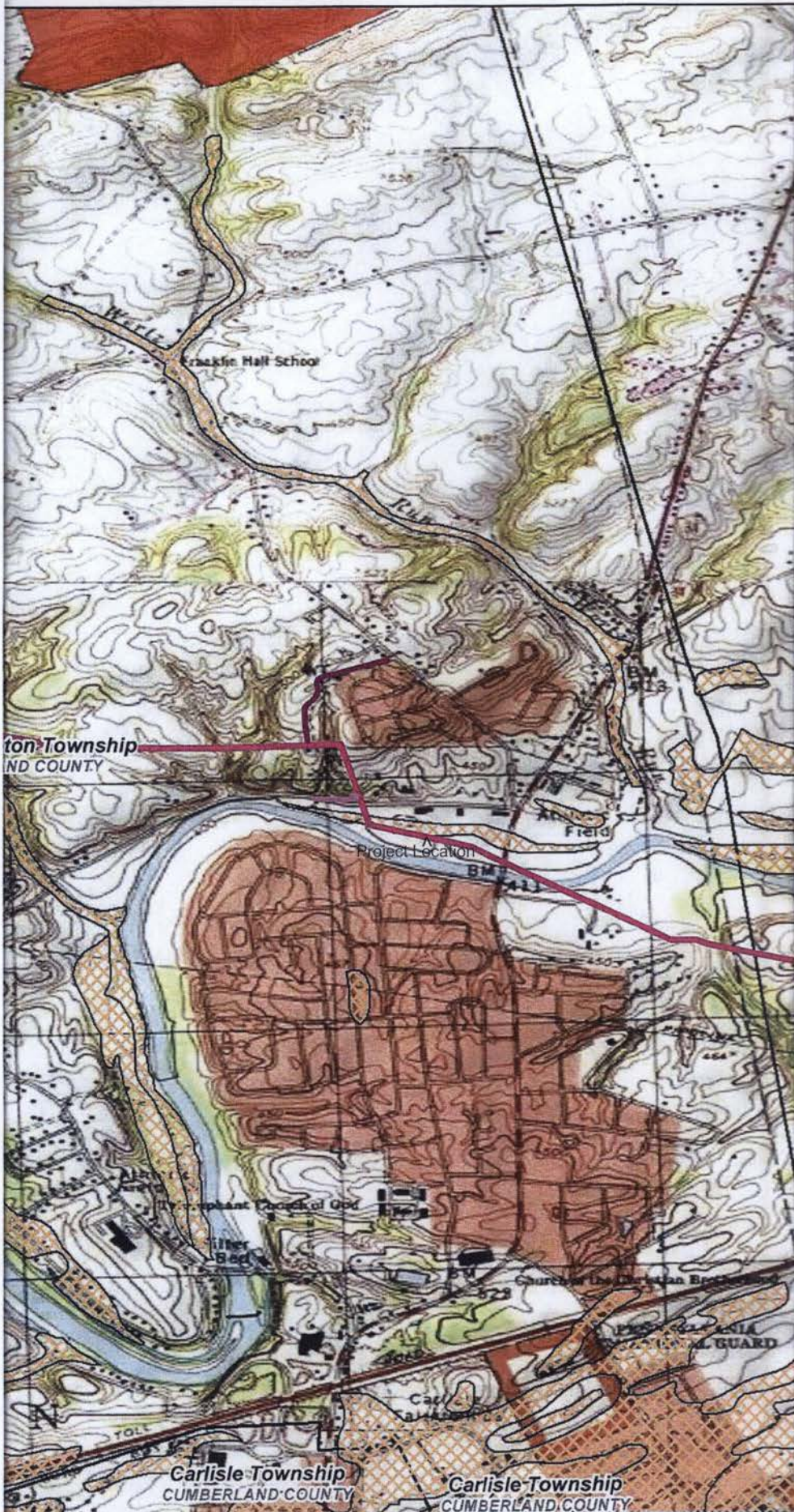


**Mariner East Pipeline - Pennsylvania Pipeline Project**  
 Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project (Project) that would expand existing pipeline systems to provide natural gas liquid (NGL) transportation of up to 350,000 barrels per day. The Project involves the installation of approximately two parallel pipelines within a 306-mile, 60-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania to SPLP's Marcus Hook facility in Delaware County, Pennsylvania with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306 miles) and a second, up to 20-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, Pennsylvania to the Marcus Hook facility, paralleling the initial line for approximately 255 miles. In addition to the pipelines, modification and construction of new above ground facilities would be required to meet Project goals.



0 10 20 30 40 50  
 Miles W E  
 N S

Source: World Street Map from ESRI Online.  
 USACE Districts from USACE. State and County Boundaries from ESRI.



**Legend**

-  Proposed Centerline - 20in
-  Pump Station
-  Permanent Access Road
-  Temporary Access Road
-  County Boundary
-  State Parks
-  State Forest
-  State Gamelands
-  Wild Natural Areas
-  USDA Soils-Prime Farmlands
-  Appalachian National Scenic Trail

Cumberland County


**Sheet Identifier**



0 1,000 2,000

1 inch = 2,000 feet

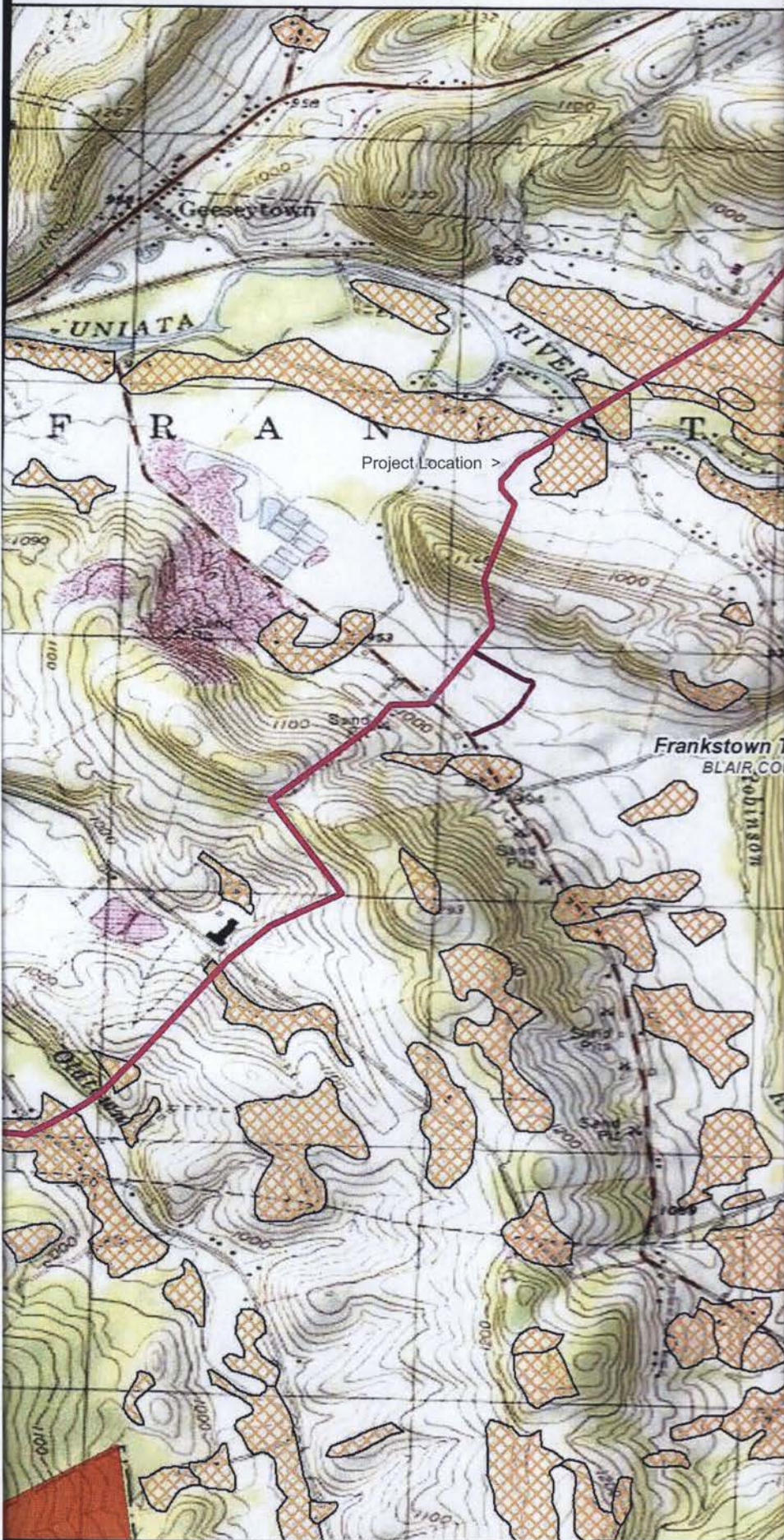
**Pennsylvania Pipeline Project:  
Environmental Assessment  
Enclosure B - Resource Identification  
Sheet 5 of 10**

Prepared By:  TETRA TECH

Prepared for:  Sunoco Logistics

Base Map: ESRI ArcGIS Online  
Coordinate System: NAD 83 UTM 17N

Date:  
**3/2016**



**Legend**

-  Proposed Centerline - 20in
-  Pump Station
-  Permanent Access Road
-  Temporary Access Road
-  County Boundary
-  State Parks
-  State Forest
-  State Gamelands
-  Wild Natural Areas
-  USDA Soils-Prime Farmlands
-  Appalachian National Scenic Trail

Blair County

**Sheet Identifier**



0 1,000 2,000

1 inch = 2,000 feet

**Pennsylvania Pipeline Project:  
Environmental Assessment  
Enclosure B - Resource Identification  
Sheet 5 of 7**

Prepared By:  TETRA TECH

Prepared for:  Sunoco Logistics

Base Map: ESRI ArcGIS Online  
Coordinate System: NAD 83 UTM 17N

Date:  
3/2016



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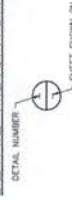
**NOTES:**

1. TOPOGRAPHIC MAPPING AND FEATURES COMPILED FROM WWW.PASDAPSJ.EDU.
2. THE PROJECT TAKES PLACE WITHIN CUMBERLAND COUNTY, PENNSYLVANIA.
3. TOWNSHIP BOUNDARIES TAKEN FROM WWW.PASDAPSJ.EDU.
4. 100-YEAR FEMA FLOODPLAINS FROM WWW.PASDAPSJ.EDU.
5. SEE SHEET ES-0.03 FOR STREAM AND WETLAND CROSSING TABLE.
6. PIPELINE LOCATION AND RIGHT-OF-WAY FROM SUNOCO PIPELINE L.P.
7. USE COMPOST FILTER SOCK AS REQUIRED TO PREVENT RUNOFF FROM SPOIL AREA.
8. GENERAL LOCATION AND SPACING FOR WATERBARS ARE SHOWN ON THE PLAN. WATERBARS MAY BE ADJUSTED IN THE FIELD DUE TO ACTUAL SITE CONDITIONS; HOWEVER, INSTALLATION AND SPACING MUST CONFORM TO THE DETAIL PROVIDED ON THE PLAN SHEET ES-0.06.
9. AT ALL STREAM CROSSINGS, RUNOFF MUST BE DIRECTED TO A SEDIMENT REMOVAL AREA (I.E. COMPOST FILTER SOCKS).
10. 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.
11. GENERAL SOIL STOCKPILE LOCATIONS ARE SHOWN ALONG THE ALIGNMENT. TOPSOIL WILL BE PUSHED TO ONE SIDE OF THE RIGHT OF WAY. THE TOPSOIL WILL BE PUSHED BACK DURING SITE RESTORATION.
12. PAST AND PRESENT LAND USE CONSISTS OF AGRICULTURAL, FORESTED AND RESIDENTIAL AREAS. POST CONSTRUCTION LAND USE WILL BE A MAINTAINED, VEGETATED RIGHT-OF-WAY.
13. ACCUMULATED SEDIMENT ON TIMBER MATS WILL BE REMOVED BY HAND AND PLACED IN THE SOIL STOCKPILES.
14. COMPOST FILTER SOCK INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.
15. CONSTRUCTION IS RESTRICTED IN STOCKED TROUT STREAMS FROM MARCH 1 THROUGH JUNE 15, WILD TROUT STREAMS FROM OCTOBER 1 THROUGH DECEMBER 31 AND LAKE ERIE TRIBUTARIES FROM SEPTEMBER 1 THROUGH DECEMBER 1 UNLESS APPROVAL IS OBTAINED FROM THE FISH AND BOAT COMMISSION'S DIVISION OF ENVIRONMENTAL SERVICES.
16. PROPOSED HORIZONTAL DIRECTIONAL DRILL IN KNOWN BOG TURTLE AREAS NEED TO BE DONE BETWEEN APRIL 1 AND NOVEMBER 1 TO PROTECT THE BOG TURTLE FROM INADVERTENT RETURN IMPACTS DURING THE HIBERNATION SEASON. ACCESS INTO KNOWN BOG TURTLE HABITATS IS NOT PERMITTED.

**LEGEND:**

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING TREE LINE
- EXISTING FENCELINE
- EXISTING STREAM WITH FLOW DIRECTION
- EXISTING ELECTRIC OVERHEAD
- EXISTING ELECTRIC UNDERGROUND
- EXISTING LIGHT POLE
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING DOMINION GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING BUILDING
- PROPERTY LINE
- COUNTY BOUNDARY
- TOWNSHIP BOUNDARY
- 100-YEAR FLOODWAY
- 100-YEAR FEMA FLOODPLAIN
- WATERSHED BOUNDARY
- ORANGE CONSTRUCTION FENCE
- EXISTING PEM WETLAND
- EXISTING PFO WETLAND
- EXISTING PSS WETLAND
- PROPOSED PIPE LOCATION
- PROPOSED RIGHT-OF-WAY
- RIPIARIAN FOREST BUFFER
- LIMIT OF DISTURBANCE/AREA TO BE RESTORED
- AASHTO #1 ROCK CONSTRUCTION ENTRANCE
- AASHTO #1 ROCK CONSTRUCTION ENTRANCE WITH WASH RACKS
- AGGREGATE STOCKPILE
- WATER BAR
- EROSION CONTROL BLANKET
- 12" COMPOST FILTER SOCK
- 18" COMPOST FILTER SOCK
- 24" COMPOST FILTER SOCK
- COMPOST SOCK SEDIMENT TRAP
- SILT FENCE
- SUPER SILT FENCE
- REINFORCED SILT FENCE
- TIMBER MATS/ TEMPORARY EQUIPMENT BRIDGE
- TRENCH PLUGS
- WATER DEFLECTOR
- SOIL STOCKPILE--SEE NOTE 7 UNDER STANDARD EROSION & SEDIMENT CONTROL NOTES ON SHEET ES-0.06
- HORIZONTAL DIRECTIONAL DRILL
- CONVENTIONAL BORE

**DETAIL INDICATOR**



Enclosure 2

DATE:	3/17/17
PROJECT NO.:	112200048
DESIGNED BY:	JR
DRAWN BY:	BR
CHECKED BY:	BS
CORPORATE TECH, INC.	
ES-0.01	

1-20" & 1-18" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES

SUNOCO PIPELINE L.P.  
SINKING SPRING, PENNSYLVANIA

PENNSYLVANIA PIPELINE PROJECT  
CONSTRUCTION SPREAD 4

COUNTY CONSERVATION DISTRICT  
EROSION & SEDIMENT CONTROL PLAN  
GENERAL NOTES & LEGEND

NO.	BY	DATE	REVISIONS



<b>TETRA TECH</b>	
www.tetra-tech.com	
685 ANDERSON DRIVE - FOXBORO PLAZA 7	
PITTSBURGH, PA 15220	
P: (412) 971-7061   F: (412) 971-6448	

**NOTES FOR SITE RESTORATION:**

1. TOPOGRAPHIC MAPPING AND FEATURES COMPILED FROM WWW.PASDA.PS.EDU.
2. THE PROJECT TAKES PLACE WITHIN CUMBERLAND COUNTY, PENNSYLVANIA.
3. TOWNSHIP BOUNDARIES TAKEN FROM WWW.PASDA.PS.EDU.
4. 100-YEAR FEMA FLOODPLAINS FROM WWW.PASDA.PS.EDU.
5. SEE SHEET ES-0.03 FOR STREAM AND WETLAND CROSSING TABLE.
6. PIPELINE LOCATION AND RIGHT-OF-WAY FROM SUNOCO PIPELINE L.P.
7. USE COMPOST FILTER SOCK AS REQUIRED TO PREVENT RUNOFF FROM SPOIL AREA.
8. AT ALL STREAM CROSSINGS, RUNOFF MUST BE DIRECTED TO A SEDIMENT REMOVAL AREA (I.E. COMPOST FILTER SOCKS).
9. THE RIGHTS-OF-WAY 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.
10. PAST AND PRESENT LAND USE CONSISTS OF AGRICULTURAL, FORESTED AND RESIDENTIAL AREAS. POST CONSTRUCTION LAND USE WILL BE A MAINTAINED, VEGETATED RIGHT-OF-WAY.
11. DRAWINGS REPRESENT THE FINAL PLAN FOR CONSTRUCTION.
12. THE EROSION & SEDIMENT CONTROL PLAN AND SITE RESTORATION PLAN, INSPECTION REPORTS, AND MONITORING REPORTS MUST BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR CONSERVATION DISTRICT.

**SITE RESTORATION SCHEDULE:**

1. AGRICULTURAL LIME APPLICATION RATES WILL BE DETERMINED BY FIELD PH TESTING. TESTING WILL BE PERFORMED AT A RATE OF 1 TEST/ACRE (MIN). IN ABSENCE OF FIELD TESTING, APPLY AT 6 TONS/ACRE.
2. APPLY 10-20-20 FERTILIZER AT THE RATE OF 1,000 LB/ACRE, OR AT A RATE DETERMINED BY FIELD TESTING.
3. WORK IN LIME AND FERTILIZER TO A DEPTH OF 4 IN. USING SUITABLE EQUIPMENT.
4. SEED PER PERMANENT SEED MIXTURE.
5. STRAW MULCH SHALL BE APPLIED AT THE RATE OF THREE TONS PER ACRE. CHEMICALLY TREATED OR SALTED STRAW IS NOT ACCEPTABLE AS MULCH.

**SITE RESTORATION:**

FOLLOWING COMPLETION OF PIPELINE INSTALLATION AND TRENCH BACKFILLING, THE AREA SHALL BE RETURNED TO THE GENERAL GRADE PRESENT PRIOR TO PIPELINE INSTALLATION IN ORDER TO MAINTAIN PRECONSTRUCTION DRAINAGE COMPLETELY. THE WORK FOR THIS PROJECT ARE TO BE PERMANENTLY SEED, OR IF SPECIFIED, SODDED, UNLESS OCCUPIED BY STRUCTURES, PAVED, OR DESIGNATED AS A PERMANENT ACCESS ROAD. 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 SEED AND MULCHED IMMEDIATELY, WITH THE EXCEPTION OF THE PERMANENT ACCESS ROADS. IF SEEDING CANNOT BE COMPLETED IMMEDIATELY AFTER THE AREA REACHES FINAL GRADE DUE TO WEATHER CONDITIONS, THE DISTURBED AREAS SHALL BE STABILIZED WITH MULCH. MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS. THIS STRAW SHALL BE ANCHORED USING A METHOD DESCRIBED UNDER MULCHING OF THIS NARRATIVE. TEMPORARY ACCESS ROADS WILL BE RESTORED TO A VEGETATED CONDITION FOLLOWING CONSTRUCTION. THE PROPOSED PERMANENT ACCESS ROADS WILL REMAIN IN PLACE FOLLOWING CONSTRUCTION. AN INFILTRATION BERM OR TRENCH WILL BE SHOWN ON THE PLAN SHEETS TO ACCOUNT FOR THE INCREASE IN STORM WATER RUNOFF. AS A RESULT OF APPLYING THE INFILTRATION BERM OR TRENCH AND RESTORING THE RIGHT OF WAY TO A MEADOW CONDITION, THERE WILL BE NO INCREASE IN STORMWATER RUNOFF RATES OR

**CONSTRUCTION SEQUENCE FOR POST CONSTRUCTION STORMWATER MANAGEMENT CONTROLS:**

REFER TO THE PLAN DRAWINGS FOR THE LOCATION OF THE PROPOSED WORK AND THE ASSOCIATED STORMWATER CONTROLS. A GENERALIZED CONSTRUCTION SEQUENCE IS PROVIDED BELOW. THE CONSTRUCTION SEQUENCE IS INTENDED TO PROVIDE A GENERAL OVERSIGHT OF THE CONSTRUCTION SEQUENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND POST-CONSTRUCTION STORMWATER MANAGEMENT OF THE SITE. 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 PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. THE PAPEP OR APPLICABLE COUNTY CONSERVATION DISTRICT, CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, AND THE PLAN PREPARER MUST BE INVITED TO THIS MEETING AT LEAST SEVEN DAYS IN ADVANCE.

**INFILTRATION BERM**

1. INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL BMPS AS PER THE PENNSYLVANIA EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL.
2. COMPLETE SITE GRADING AND STABILIZE WITHIN THE LIMIT OF DISTURBANCE EXCEPT WHERE THE INFILTRATION BERM WILL BE CONSTRUCTED; MAKE EVERY EFFORT TO MINIMIZE BERM FOOTPRINT AND NECESSARY ZONE OF DISTURBANCE (INCLUDING BOTH REMOVAL OF EXISTING VEGETATION AND DISTURBANCE OF EMPTY SOIL) IN ORDER TO MAXIMIZE INFILTRATION.
3. LIGHTLY SCARIFY THE SOIL IN THE AREA OF THE PROPOSED BERM BEFORE DELIVERING SOIL TO SITE.
4. BRING IN FILL MATERIAL TO MAKE UP THE MAJOR PORTION OF THE BERM. SOIL SHOULD BE ADDED IN 8-INCH LIFTS AND COMPACTED AFTER EACH ADDITION ACCORDING TO DESIGN SPECIFICATIONS. THE SLOPE AND SHAPE OF THE BERM SHOULD BE GRADED OUT AS SOIL IS ADDED.
5. PROTECT THE SURFACE PONDING AREA AT THE BASE OF THE BERM FROM COMPACTION. IF COMPACTION OF THIS AREA DOES OCCUR, SCARIFY SOIL TO A DEPTH OF AT LEAST 8-INCHES.
6. COMPLETE FINAL GRADING OF THE BERM AFTER THE TOP LAYER OF SOIL IS ADDED. TAMP SOIL DOWN LIGHTLY AND SMOOTH SIDES OF THE BERM. THE CREST AND BASE OF THE BERM SHOULD BE AT LEVEL GRADE.
7. PLANT BERM WITH TURF, MEADOW PLANTS, SHRUBS OR TREES, AS DESIRED.
8. MULCH PLANTED AND DISTURBED AREAS WITH COMPOST MULCH TO PREVENT EROSION WHILE PLANTS BECOME ESTABLISHED.

**INFILTRATION TRENCH:**

1. PROTECT INFILTRATION TRENCH AREA FROM COMPACTION PRIOR TO INSTALLATION.
2. IF POSSIBLE, INSTALL INFILTRATION TRENCH DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING, INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
3. EXCAVATE INFILTRATION TRENCH BOTTOM TO A UNIFORM, LEVEL UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
4. INSTALL UPSTREAM AND DOWNSTREAM CLEANOUTS.
5. PLACE UNIFORMLY GRADED, CLEAN-WASHED AGGREGATE IN 8-INCH LIFTS, LIGHTLY COMPACTING BETWEEN LIFTS.
6. INSTALL CONTINUOUSLY PERFORATED PIPE AS INDICATED ON PLANS. BACKFILL WITH UNIFORMLY GRADED, CLEAN-WASHED AGGREGATE IN 8-INCH LIFTS, LIGHTLY COMPACTING BETWEEN LIFTS.
7. FOLD AND SECURE NONWOVEN GEOTEXTILE OVER INFILTRATION TRENCH, WITH MINIMUM OVERLAP OF 18 INCHES.
8. PLACE 6-INCH LIFT OF APPROVED TOPSOIL OVER INFILTRATION TRENCH, AS INDICATED ON PLANS.
9. SEED AND STABILIZE TOPSOIL OVER TRENCH. SEED THE BERM. MULCH PLANTED AND DISTURBED AREAS WITH COMPOST MULCH TO PREVENT EROSION WHILE PLANTS BECOME ESTABLISHED.
10. MULCH PLANTED AND DISTURBED AREAS WITH COMPOST MULCH TO PREVENT EROSION WHILE PLANTS BECOME ESTABLISHED.
11. WHILE PLANTS BECOME ESTABLISHED.

**LONG TERM INSPECTIONS AND MAINTENANCE FOR SITE RESTORATION AND PCSM CONTROLS:**

LONG TERM MAINTENANCE OF THE PROJECT WILL INCLUDE PERIODIC VISUAL INSPECTIONS FOR SUFFICIENT VEGETATIVE GROWTH AND COVER. INSUFFICIENT VEGETATIVE COVER IS DEFINED AS ANY AREA NOT ACHIEVING A UNIFORM 70% PERENNIAL VEGETATIVE COVER. BARE SPOTS AND SORES BEING REVEALED BY WIND OR WATER. INSPECTIONS SHALL BE CONDUCTED AT LEAST 24 HOURS OF DISCOVERY. RESTORATION AREAS WILL BE INSPECTED FOR SIGNS OF EROSION, ESPECIALLY ON STEEP SLOPES. CORRECTIVE MEASURES WILL BE TAKEN AS NEEDED. IF THERE IS EVIDENCE OF TRENCH SETTLING, THE AREA WILL BE REGRADED TO MAINTAIN PRE-CONSTRUCTION DRAINAGE PATTERNS, MULCHED, AND SEEDED.

THE PROPOSED, PERMANENT ACCESS ROAD WHICH WILL REMAIN AS A PERMANENT GRAVEL DRIVE SHALL BE INSPECTED PERIODICALLY. AGGREGATE WILL BE APPLIED TO THE PERMANENT ACCESS ROAD AS NEEDED TO MAINTAIN ADEQUATE THICKNESS. THE INFILTRATION BERM SHALL BE INSPECTED FOR ANY FAILURE TO MAINTAIN PROPER SEEDING. THE INFILTRATION BERM WITH SEDIMENT VEGETATION OVER THE BERM SHALL BE MAINTAINED AS NECESSARY, WHICH MAY REQUIRE ANNUAL MULCHING. ROUTINELY REMOVE ACCUMULATED DEBRIS AND INVASIVE PLANTS AS NEEDED. INSPECT FOR SIGNS OF FLOW CHANNELIZATION AND RESTORE LEVEL GRADIENT IMMEDIATELY AFTER ANY DEFICIENCIES ARE OBSERVED. REGULARLY INSPECT THE INFILTRATION TRENCH TO ENSURE THEY ARE INFILTRATING; MONITOR DRAINDOWN TIME AFTER MAJOR STORM EVENTS. INSPECT ANY STRUCTURAL COMPONENTS, SUCH AS INLET STRUCTURES TO ENSURE PROPER FUNCTIONALITY. IF PLANTED IN TURF GRASS, MAINTAIN BY MOWING. ANNUAL MULCHING WHILE MEADOW PLANTING REQUIRES MAINTENANCE OF MOWING AND CLIPPINGS REMOVAL. AVOID RUNNING HEAVY EQUIPMENT OVER THE INFILTRATION TRENCHES.

A WRITTEN REPORT IS REQUIRED FOR EACH INSPECTION AND FOR EACH REPAIR OR MAINTENANCE ACTIVITY, AND THE REPORT SHOULD SPECIFY HOW TO ACCESS THE SITE. SUNOCO PIPELINE L.P. IS RESPONSIBLE FOR MAINTAINING THE RIGHT OF WAY UNDER THE PROVISIONS OF THIS PERMIT.

**LEGEND**



**DETAIL INDICATOR**

DETAIL NUMBER



1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES

DATE:	3/18/18
PROJECT NO.:	1120029548
DESIGNED BY:	AB
DRAWN BY:	BN
CHECKED BY:	BE
CUSTOMER NO.:	1120029548
SHEET NO. OF:	ES-0.02

COUNTY CONSERVATION DISTRICT  
SITE RESTORATION PLAN  
GENERAL NOTES & LEGEND

SUNOCO PIPELINE L.P.  
SINKING SPRING, PENNSYLVANIA  
PENNSYLVANIA PIPELINE PROJECT  
CONSTRUCTION SPREAD 4



NO.	BY	DATE	REVISIONS	REMARKS

**TETRA TECH**  
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PITTSBURGH, PA 15230  
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**TEMPORARY EROSION AND SEDIMENT CONTROLS**

**INSPECTION AND MAINTENANCE SCHEDULE**

**MAINTENANCE TO BE PERFORMED**

Item	Frequency	Notes
BMP	WEEKLY AND AFTER RAINFALL EVENTS	MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO THE POINT OF OBSTRUCTION. THE BARRIER COMPOST FILTER SOCK SHALL BE REPLACED WHENEVER IT HAS INTERFERED TO SUCH EXTENT THAT IT IS UNABLE TO FILTER SOILS. COMPOST FILTER SOCKS SHALL BE PERMANENTLY STABILIZED. ALL SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE COMPOST FILTER SOCK IS REPLACED.
ROCK CONSTRUCTION ENTRANCE	DAILY	CONTRACTOR SHALL MAINTAIN REPLACE MATERIAL AS NEEDED THROUGHOUT. STRENGTHENING SHALL BE MAINTAINED TO A MINIMUM THICKNESS DURING USE OF ACCESS ROAD. A COPIY OF ROCK WILL BE MAINTAINED ON SITE FOR THIS PURPOSE.
MULCH STABILIZATION	WEEKLY AND AFTER RAINFALL EVENTS	REPAIRS TO MULCH AS NECESSARY. RESTORE SEEDING IN AREAS WHERE MULCH IS NECESSARY.
TIMBER MAT	WEEKLY AND AFTER RAINFALL EVENTS	INSPECT THE TIMBER MAT FOR EROSION AND MAKE ANY NECESSARY REPAIRS.
WATERBARS	WEEKLY AND AFTER RAINFALL EVENTS	WATERBARS SHALL BE INSPECTED WEEKLY (ONLY ON DAYS WHEN THERE IS NO RAINFALL). DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION.
PUMPED WATER FILTER BAGS	DAILY	FILTER BAGS SHALL BE REPLACED WHEN THEY RECEIVE 7/2 FULL OF SEDIMENT IF ANY PROBLEM IS DETECTED. THE PROBLEM IS CORRECTED AND NOT REUSE UNTIL THE BAG IS COMPLETELY EMPTY.
SILT FENCE	WEEKLY AND AFTER RAINFALL EVENTS	MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO THE POINT OF OBSTRUCTION. WHENEVER IT HAS INTERFERED TO SUCH EXTENT THAT IT IS UNABLE TO FILTER SOILS. SILT FENCE SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN STABILIZED AND SEEDING HAS OCCURRED. SEDIMENT ACCUMULATION AT THE SILT FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE SILT FENCE IS REPLACED.

**CONSTRUCTION SEQUENCE**

REFERS TO THE BASIC PLAN DRAWINGS FOR THE LOCATION OF THE PROPOSED WORK AND THE ASSOCIATED BMPs. A GENERALIZED CONSTRUCTION SEQUENCE IS PROVIDED FOR THE PROPOSED WORK AND THE ASSOCIATED BMPs. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE AND FEDERAL AGENCIES.

1. LOCATE STAGING AREAS AND ACCESS POINTS INCLUDING CONSTRUCTION ENTRANCES. INITIAL COMPOST FILTER SOCKS DOWN SLOPE OF THESE AREAS.
2. APPROPRIATELY SIZED SILT FENCE IS AN APPROVED ALTERNATIVE IN AREAS THAT ARE NOT SPECIAL PROTECTION WATERSHEDS. INSTALL COMPOST FILTER SOCKS DOWN SLOPE OF THESE AREAS.
3. INSTALL ROCK CONSTRUCTION ENTRANCES AS NEEDED. REFER TO THE ROCK CONSTRUCTION ENTRANCE DETAIL ON DRAWINGS FOR SUGGESTED DIMENSIONS.
4. FLAG PROPOSED LIMITS OF DISTURBANCE AND CLEAR VEGETATION ALONG THE PERIMETER ROUTE.
5. INSTALL COMPOST FILTER SOCKS ALONG THE PERIMETER OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS. INSTALLATIONS SIZING, AND SPACING MUST CONFORM TO THE CHART AND DETAILS PROVIDED ON PLAN SHEET ES-07.
6. MAINTAIN TOTAL AREA OF DISTURBANCE. MAINTAIN TEMPORARY SOIL STABILIZATION WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD DISTURBANCE OCCUR, REPAIR DISTURBED AREAS IMMEDIATELY. MAINTAIN TEMPORARY SOIL STABILIZATION WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD DISTURBANCE OCCUR, REPAIR DISTURBED AREAS IMMEDIATELY.
7. INSTALL PIPE, RAFFER, AND COVER WITH TOPSOIL (WHERE TOPSOIL WAS SEPARATED).
8. INSTALL TRENCH PILES IN ACCORDANCE WITH THE DETAIL ON DRAWING ES-08.
9. INSTALL TRENCH PILES IN ACCORDANCE WITH THE DETAIL ON DRAWING ES-09.
10. INSTALL TRENCH PILES IN ACCORDANCE WITH THE DETAIL ON DRAWING ES-10.
11. IN ACCORDANCE WITH THE DETAIL FOR PERMANENT WATERBARS ON PLAN SHEET ES-107, IMMEDIATELY SEED AND MULCH DISTURBED AREAS OR PREPARE FOR PAVING IN ROADWAY AREAS.
12. DISCONTINUE WORK ON ALL AREAS 31' OR GREATER AND WITHIN 100 FEET OF SPECIAL PROTECTION WATERS OF 50 FEET OF NON SPECIAL PROTECTION WATERS. LOCATIONS ARE SHOWN ON PLAN SHEET ES-107.
13. MAINTAIN EROSION AND SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.
14. REMOVE SOIL AND EROSION SEDIMENT CONTROL DEVICES UPON ESTABLISHMENT OF A UNIFORM 70% VEGETATIVE COVER OVER THE DISTURBED AREA.
15. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL EROSION AND SEDIMENT CONTROL.

**FOR STREAM CROSSINGS THAT WILL BE OPEN CUT, THE FOLLOWING STEPS SHALL BE INSERTED IN THE GENERAL CONSTRUCTION SEQUENCE ABOVE, BASED ON THE NUMBERING PROVIDED:**

- 8A. FOR DRY CREEKS INSTALL PIPEBARS HOSE, PUMP, OR CONTAINER AS DESCRIBED IN STREAM CROSSING DETAILS AROUND THE WORK AREA.
- 8B. FOR STREAMS WITH WATER, PUMP, OR CONTAINER AS DESCRIBED IN STREAM CROSSING DETAILS AROUND THE WORK AREA.
- 8C. STABILIZE CHANNEL, EXCAVATION AND STREAM BANKS PRIOR TO REDUCING STREAM FLOW.
- 8D. REMOVE PIPE, HOSE, PUMP, AND TEMPORARY DAM AS NEEDED. REPEAT STEPS 3-10 FOR EACH WORK AREA.

**FOR STREAM CROSSINGS THAT WILL BE BORED, THE FOLLOWING STEPS SHALL BE INSERTED IN THE GENERAL CONSTRUCTION SEQUENCE ABOVE, BASED ON THE NUMBERING PROVIDED:**

- 8A. INSTALL COMPOST FILTER SOCKS DOWNSTREAM OF THE BORE PIT.
- 8B. BORE PITS WILL BE LOCATED A MINIMUM OF 50' FROM THE NEAREST FLOW OF BANK, WHERE TECHNICALLY FEASIBLE.
- 8C. BORE PITS WILL BE LOCATED A MINIMUM OF 50' FROM THE NEAREST FLOW OF BANK, WHERE TECHNICALLY FEASIBLE.
- 8D. BORE PITS WILL BE LOCATED A MINIMUM OF 50' FROM THE NEAREST FLOW OF BANK, WHERE TECHNICALLY FEASIBLE.

**IF WORKING WITHIN A WETLAND AREA, FOLLOW THE GENERALIZED CONSTRUCTION SEQUENCE BELOW:**

1. LOCATE STAGING AREAS AND ACCESS POINTS. STAGING AREAS SHOULD BE LOCATED AT LEAST 30 FEET FROM THE EDGE OF THE WETLAND. INITIAL INSTALLATION OF EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE CHART AND DETAILS PROVIDED ON PLAN SHEET ES-07.
2. MAINTAIN TOTAL AREA OF DISTURBANCE. MAINTAIN TEMPORARY SOIL STABILIZATION WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD DISTURBANCE OCCUR, REPAIR DISTURBED AREAS IMMEDIATELY. MAINTAIN TEMPORARY SOIL STABILIZATION WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD DISTURBANCE OCCUR, REPAIR DISTURBED AREAS IMMEDIATELY.
3. CONSTRUCTION DRAWINGS, INCLUDING DETAIL OF WETLAND AND SEDIMENT BARRIERS ALONG THE PERIMETER OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
4. EXCAVATE AND BACKFILL BARRIERS WITHIN THE WETLAND AREAS AS SHOWN ON THE CONSTRUCTION DRAWINGS. BARRIERS MUST BE RESTORED AFTER EXCAVATION FROM WETLAND AREAS SHALL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL SHOULD BE PLACED IN A SEPARATE STOCKPILE AREA.
5. SOIL EXCAVATED FROM WETLAND AREAS SHALL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL SHOULD BE PLACED IN A SEPARATE STOCKPILE AREA.
6. INSTALL PIPE, RAFFER, AND COVER WITH TOPSOIL (WHERE TOPSOIL WAS SEPARATED).
7. INSTALL PIPE, RAFFER, AND COVER WITH TOPSOIL (WHERE TOPSOIL WAS SEPARATED).
8. INSTALL TRENCH PILES IN WETLAND AREAS TO PREVENT THE TRENCH FROM DRAINING THE WETLAND OR CHANGING ITS HYDROLOGY.
9. COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO SOIL EROSION AND SEDIMENT CONTROLS AND TO PREPARE DISTURBED AREAS FOR PERMANENT TRENCH RESTORATION.
10. REMOVE SOIL AND EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.
11. REMOVE SOIL AND EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.
12. REMOVE SOIL AND EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.

**FOR TEMPORARY EQUIPMENT STREAM AND WETLAND CROSSINGS, FOLLOW THE GENERALIZED CONSTRUCTION SEQUENCE BELOW:**

1. LOCATE STAGING AREAS AND ACCESS POINTS. STAGING AREAS SHOULD BE LOCATED AT LEAST 30 FEET FROM THE EDGE OF THE WETLAND. INITIAL INSTALLATION OF EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE CHART AND DETAILS PROVIDED ON PLAN SHEET ES-07.
2. MAINTAIN TOTAL AREA OF DISTURBANCE. MAINTAIN TEMPORARY SOIL STABILIZATION WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD DISTURBANCE OCCUR, REPAIR DISTURBED AREAS IMMEDIATELY. MAINTAIN TEMPORARY SOIL STABILIZATION WITHIN EXISTING SOIL EROSION AND SEDIMENT CONTROLS. SHOULD DISTURBANCE OCCUR, REPAIR DISTURBED AREAS IMMEDIATELY.
3. CONSTRUCTION DRAWINGS, INCLUDING DETAIL OF WETLAND AND SEDIMENT BARRIERS ALONG THE PERIMETER OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
4. EXCAVATE AND BACKFILL BARRIERS WITHIN THE WETLAND AREAS AS SHOWN ON THE CONSTRUCTION DRAWINGS. BARRIERS MUST BE RESTORED AFTER EXCAVATION FROM WETLAND AREAS SHALL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL SHOULD BE PLACED IN A SEPARATE STOCKPILE AREA.
5. SOIL EXCAVATED FROM WETLAND AREAS SHALL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL SHOULD BE PLACED IN A SEPARATE STOCKPILE AREA.
6. INSTALL PIPE, RAFFER, AND COVER WITH TOPSOIL (WHERE TOPSOIL WAS SEPARATED).
7. INSTALL PIPE, RAFFER, AND COVER WITH TOPSOIL (WHERE TOPSOIL WAS SEPARATED).
8. INSTALL TRENCH PILES IN WETLAND AREAS TO PREVENT THE TRENCH FROM DRAINING THE WETLAND OR CHANGING ITS HYDROLOGY.
9. COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO SOIL EROSION AND SEDIMENT CONTROLS AND TO PREPARE DISTURBED AREAS FOR PERMANENT TRENCH RESTORATION.
10. REMOVE SOIL AND EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.
11. REMOVE SOIL AND EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.
12. REMOVE SOIL AND EROSION SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERMANENT VEGETATIVE COVER IS ESTABLISHED.

**REVISIONS**

NO.	BY	DATE	REVISIONS

**ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED WETLAND AREAS.**

DATE: 3/7/17  
PROJECT NO.: 112020298  
DESIGNED BY: JR  
DRAWN BY: BR  
CHECKED BY: RJS  
APPROVED BY: RJS

ES-0.06

COUNTY CONSERVATION DISTRICT  
EROSION & SEDIMENT CONTROL NOTES

1-20" x 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES

**STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES**

1. ALL EARTH DISTURBANCE, INCLUDING CLEARING AND GRUBBING AS WELL AS DIRT AND FILL SHALL BE DONE IN ACCORDANCE WITH THE APPROVED EAS PLAN. A COPY OF THE APPROVED DRAWINGS (STANDARD, ZONED AND LATED BY THE RECEIVING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE RECEIVING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE EAS PLAN THAT MAY AFFECT THE APPROVED EAS PLAN. THE RECEIVING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL NOTIFY ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE EAS PLAN REVIEWER AND/OR THE LOCAL CONSERVATION DISTRICT AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
3. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNDISTURBED UTILITIES, THE OPERATOR SHALL NOTIFY AT 1-800-346-1176 FOR THE LOCATION OF EXISTING UNDISTURBED UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL BE APPROVED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DRAINAGE FROM ROADWAY DISTURBANCE MUST BE PROVIDED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT OF TRANSPORTATION.
5. AREAS TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBSTRUCTIONAL MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OF PHASE OF THE CONSTRUCTION AS DESCRIBED IN THIS EAS PLAN.
7. 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 FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS.
8. BEFORE CLEARING OR VEGETATION SHALL BE STOPPED AT THE LOCATIONS SHOWN ON THE PLAN MAPS. 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 25 FEET. STOCKPILE SLOPES SHALL BE PROTECTED BY THE SLOPES SHOWN ON THE PLAN DRAWINGS.
9. ALL DISTURBED AREAS SHALL BE PROTECTED BY THE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE FEDERAL OFFICE OF THE DEPARTMENT OF AGRICULTURE AND FORESTRY.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE LOCAL CONSERVATION DISTRICT AND/OR THE FEDERAL OFFICE OF THE DEPARTMENT OF AGRICULTURE AND FORESTRY. BUILDING MATERIALS AND WASTES ON UNSTABILIZED AREAS SHALL BE BURIED, STAKED, OR COVERED ON THE SITE.
11. ALL OFF-SITE WASTE AND BARRIERS MUST BE MAINTAINED AS EAS PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT ON THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FULL FLOW P-300 MUST BE RETURNED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT NOT INCLUDING AS CLEAN PER USE TO ANALYTICAL TESTING.
13. ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED WETLAND AREAS.

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SUNOCO PIPELINE LP.  
SINKING SPRING, PENNSYLVANIA  
PENNSYLVANIA PIPELINE PROJECT  
CONSTRUCTION SPREAD 4

1-20" x 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES

COUNTY CONSERVATION DISTRICT  
EROSION & SEDIMENT CONTROL NOTES

DATE: 3/7/17  
PROJECT NO.: 112020298  
DESIGNED BY: JR  
DRAWN BY: BR  
CHECKED BY: RJS  
APPROVED BY: RJS

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COUNTY CONSERVATION DISTRICT  
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COUNTY CONSERVATION DISTRICT  
EROSION & SEDIMENT CONTROL NOTES

1-20" x 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES

COUNTY CONSERVATION DISTRICT  
EROSION & SEDIMENT CONTROL NOTES

DATE: 3/7/17  
PROJECT NO.: 112020298  
DESIGNED BY: JR  
DRAWN BY: BR  
CHECKED BY: RJS  
APPROVED BY: RJS

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COUNTY CONSERVATION DISTRICT  
EROSION & SED

**TEMPORARY SEEDING**

- TEMPORARY GRASS COVER SHALL BE ESTABLISHED IN THE FOLLOWING AREAS:
- WHERE SOIL STOCKPILES ARE TO BE DROPPED FOR A PERIOD GREATER THAN FOUR (4) DAYS, THE STOCKPILE SHALL BE SEED.
  - WHERE VEGETATIVE FILTERS MUST BE ESTABLISHED BELOW FILTER BASIN, A MINIMUM DISTANCE OF 10 FT SPREAD BEHIND DOWN SLOPE OF THE TRAP GOULCH.

**TEMPORARY COVER**

SEED MIXTURE FOR TEMPORARY COVER SHALL CONSIST OF 100% ANNUAL RYEGRASS. SEED SHALL BE APPLIED AT RATES REPRESENTATIVE OF THE SOIL TO BE 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.

**MULCHING**

- THE PURPOSE OF MULCH IS TO REDUCE RUNOFF AND EROSION, PREVENT SURFACE COMPACTION OR CRUSTING, AND TO PROTECT SOIL FROM EXCESSIVE WIND AND SUN. MULCH SHALL BE APPLIED TO ALL EXPOSED SOIL IN ANY AREA SUBJECT TO EROSION, OR WHICH HAS UNFAVORABLE CONDITIONS FOR PLANT ESTABLISHMENT AND CONSERVATION PRACTICES, SUCH AS TRENCHES, POND, SEEDBANKS, TRAPS ON CRITICAL AREA PLANTING, OR SEVERELY DISTURBED AREAS WHERE THE PERIOD OF EXPOSURE IS LESS THAN TWO (2) MONTHS. MULCH MATERIALS SHALL BE APPLIED ACCORDING TO THE FOLLOWING GUIDELINES:
- THE RATE OF THREE TONS PER ACRE, CHEMICALLY TREATED OR SALTED STRAW MULCH SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION BY AT LEAST ONE OF THE FOLLOWING METHODS:
    - "COMBED" INTO THE SOIL USING TRACTOR DRIVEN EQUIPMENT (STRAIGHT BLADED COLLAR OR SIMILAR EQUIPMENT) OR BY HAND.
    - CONTRAPING OF MULCH OR STRAW BY RUNNING IT OVER WITH TRACKED MACHINERY IS NOT RECOMMENDED.
  - ASPHALT, EITHER EMULSIFIED OR CUT-BACK, CONTAINING NO SOLVENTS OR OTHER DILUING AGENTS TOXIC TO PLANT OR ANIMAL LIFE, UNLESS APPLIED AT THE RATE OF 31 GALLONS PER 1000 FT<sup>2</sup>.
  - SYNTHETIC BINDERS (CHEMICAL BINDERS) MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO BIND MULCH TO THE SOIL. THE MANUFACTURER'S RECOMMENDATIONS SHALL BE USED TO SHOW THAT IT IS NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES.
  - 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 PERCENTAGE OF THE MULCHING IS ACHIEVED. DAMAGED PORTIONS OF THE MULCH OR ICE-DOWN MATERIALS SHALL BE REPLACED UPON DISCOVERY.

**VEGETATION**

LIMING RATES FOR ACRE AT 100% EFFECTIVE NEUTRALIZING VALUE (E N VALUE) UNLESS THE SOIL TEST DETERMINES THAT A LESSER AMOUNT IS NEEDED. TO DETERMINE THE ACTUAL AMOUNT OF REQUIRED LIME TO APPLY, A SOIL TEST MUST BE CONDUCTED. LIME IS REQUIRED FOR THE LIME USED IN BANK DUCKS 6 BY 0.88 RESULTING IN 1.6 TONS PER ACRE. THE AMOUNT OF MACHINERY N.T. OVERS THE AMOUNT CALLED FOR BY THE SOIL TEST BY THE CALCIUM CARBONATE EQUIVALENT (C.C.E.) LISTED FOR THE PRODUCT INSTEAD OF GREATER EFFECT PER POUND THAN THE CALCIUM IN REGULAR LIME.

NOTE: WHEN A SOIL TEST REQUIRES MORE THAN 1000 POUNDS OF LIME PER ACRE, THE LIME MUST BE MIXED INTO THE TOP 6 INCHES OF SOIL.

FERTILIZATION RATES 600 POUNDS/ACRE, IF TOP DRESSED, OR 1000 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 1000 SQ. FT. PER 1000 LB. SOIL	NOTES
AGRICULTURAL LIME	2400 LBS.	OR AS PER SOIL TEST; MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
10-20-20 FERTILIZER	210 LBS.	REQUIRED IN AGRICULTURAL FIELDS

**RECOMMENDED SEED MIXTURES**

MIXTURE NO.	SPECIES	PERCENTAGE (%)	SEEDS PER 1000 SQ. FT.
1 (2)	SPRING OATS (SPRING), OR 84 SR ANNUAL RYEGRASS (SPRING) OR 84 SR WINTER RYE (FALL) OR 84 SR	100	84
2 (3)	FALL FESCUE OR 75 KENTUCKY BLUEGRASS PLUS 25 30 REDTOP (AL), OR 30 BIRMGROFT TEELOUS	75	75
3	FALL FESCUE, PLUS 10 BIRMGROFT TEELOUS, 9 10	30	30
4	BIRMGROFT TEELOUS, PLUS 10 CROCKFORD PALS	10	10
5 (5)	FALL FESCUE, OR 20 PERENNIAL RYEGRASS, 20 CROCKFORD PALS, 20 ANNUAL RYEGRASS	20	20
6 (6A)	FALL FESCUE, PLUS 10 BIRMGROFT TEELOUS, 10 15 CROCKFORD PALS	10	15
7 (5)	BIRMGROFT TEELOUS, PLUS 10 CROCKFORD PALS, 10 20	20	20
8	FLATPEA, PLUS 30 PERENNIAL RYEGRASS, 20 20	20	20
9 (7)	SERROGA LESPEDEZA, PLUS 10 20 TALL FESCUE, PLUS 20 20	20	20
10	TALL FESCUE, PLUS 40 60	60	60
11	PINE FESCUE, PLUS 10 BIRMGROFT TEELOUS, 10 15 CROCKFORD PALS	10	15
12 (6)	SWITCHGRASS, OR 15 20 BIRMGROFT TEELOUS, 15 10	15	10
13	SMOOTH BROMOGRASS, OR 20 20 BIRMGROFT TEELOUS	20	20

**NOTES:**

- PERCENTAGE SEED PER ACRE IS THE PERCENTAGE OF THE PERCENTAGE OF PURE SEED. THIS PERCENTAGE GERMINATION DIVIDED BY 100. FOR EXAMPLE, TO SECURE THE ACTUAL PLANTING RATE FOR SWITCHGRASS, DIVIDE 12 POUNDS PLS SHOWN ON THE SEED TAG BY THIS, IF THE PERCENTAGE GERMINATION IS 80%. THE RESULTING RATE IS 15 POUNDS PER ACRE. THE PERCENTAGE OF SEED REQUIRED TO PLANT ONE ACRE. ALL MIXTURES IN THIS TABLE ARE SHOWN 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. SEEDING RATES BELOW 80 PERCENT, INCREASE THESE SUGGESTED SEEDING RATES BY 0.5 BUSHEL PER ACRE.
- THIS MIXTURE IS SUITABLE FOR FREQUENT MOWING. DO NOT CUT SHORTER THAN FOUR INCHES.
- 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 BIRMGROFT TEELOUS AND REDTOP, DOUTE VERY DRY SANDS, SAND, RICE FIELDS, BACKWATER HILLS, ETC.
- SEED MIXTURES CONTAINING GRASS WHEAT SHOULD NOT BE USED IN AREAS ADJACENT TO HIGHWAYS OR OTHER AREAS WHERE WHEAT IS NOT WANTED TO BE ESTABLISHED.
- USE FOR HIGHWAY SLOPES AND SMOOKS AFTER ESTABLISHMENT IS DROWNED.
- ESTABLISHMENT IS DROWNED, SEEDING OF SERROGA SOUTHWESTERN PA. SERROGA LESPEDEZA IS NOT WELL ADAPTED TO MOST OF PA.
- DO NOT MOW SHORTER THAN NINE TO 10 INCHES.

SEED MIXTURE (SELECT ONE MIXTURE)	MIXTURE GROUP	SITE CONDITIONS
3, 5, 8, OR 12 (1)	1 PLUS 1 PLUS	SLOPES AND BANKS (NOT MOWED), VARIABLE DITCHES, SLOPES AND BANKS (MOWED)
2 OR 10	1 PLUS	SLOPES AND BANKS (GRAZED/MAY)
2, 3, OR 12 (1)	1 PLUS	WELL-DRAINED, NON-MOWED AREAS, ROADWAYS (2)
2, 3, OR 4	1 PLUS	500 WATERWAYS, SPLUMS, FREQUENT WATER FLOW AREAS
2, 3, OR 4	1 PLUS	DRAINAGE DITCHES DEEPER THAN THREE FEET DEEP
2, 3, OR 7	1 PLUS	POND BANKS, LEVEES, DAMS, DIVERSION CHANNELS, WELLS, WATER FLOW AREAS
2 OR 3	1 PLUS	NON-MOWED AREAS FOR HAY OR SLUDGE ON DIVERSION CHANNELS AND ROADWAYS (2)
3 OR 13	1 PLUS	WELL-DRAINED AREAS FOR GRAZING/MAY
5, 7, 8, OR 10	1 PLUS	SPILLS, ANIMAL WASTES, FLY ASH, SLAG, SETTLING BASIN RESIDUES AND OTHER SEVERELY DISTURBED AREAS (LIME TO SEVERELY DISTURBED AREAS FOR GRAZING/MAY)
3, OR 4	1 PLUS	UTILITY ROWS
5, 8, OR 12 (1)	1 PLUS	WELL-DRAINED AREAS FOR GRAZING/MAY
3, OR 4	1 PLUS	SPILLS, ANIMAL WASTES, FLY ASH, SLAG, SETTLING BASIN RESIDUES AND OTHER SEVERELY DISTURBED AREAS (LIME TO SEVERELY DISTURBED AREAS FOR GRAZING/MAY)
3, 4, 5, 7, 8, 9, 11 (1) OR 12 (1)	1 PLUS	SEVERELY DISTURBED AREAS FOR GRAZING/MAY

**NOTES:**

- FOR SEED MIXTURES 11 AND 12, ONLY USE SPRING OATS OR WINTER RYEGRASS (INCLUDED IN MIX) AS NURSE CROP.
- CONTACT THE PA DEPARTMENT OF TRANSPORTATION DISTRICT ROADSIDE SPECIALIST FOR SPECIFIC SUGGESTIONS ON TREATMENT TECHNIQUES AND MANAGEMENT PRACTICES.
- SEED MIXTURES CONTAINING GROUND WHEAT SHOULD NOT BE USED IN AREAS ADJACENT TO WETLANDS OR STREAM CHANNELS DUE TO THE INVASIVE NATURE OF THIS SPECIES.

**MULCH APPLICATION RATES**

MULCH TABLE	APPLICATION RATE (TONS/ACRE)	NOTES
STRAW	140 LBS.	OTHER WHEAT OR OAT STRAW, FREE OF WHEAT OR OAT STRAW, MUST BE USED.
HAY	140 LBS.	OTHER NATIVE PRAIRIE GRASSES
WOODCHIPS	180 TO 220 LBS.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES
HARDWOODS	1 LB.	SET LIGHTWOODS ASIDE

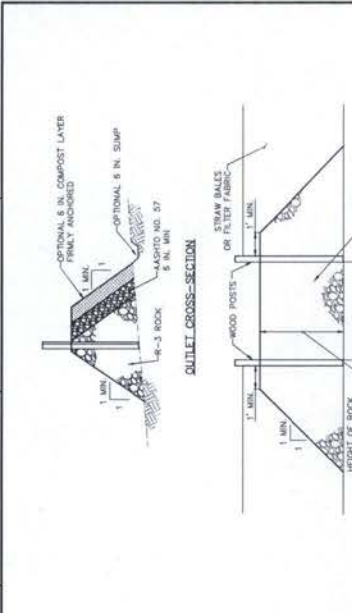


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10 9 8 7 6 5 4 3 2 1



**SECTION VIEW**

NOTES:

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

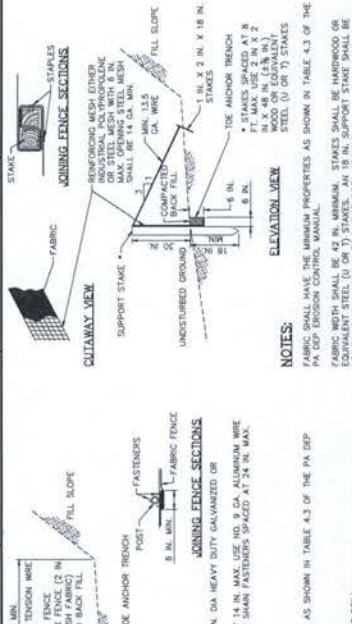
FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.

SILT FENCE SHALL BE PLACED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

SILT FENCE IS NOT TO BE USED IN HQ, EQ, OR SITUATION IMPAIRED WATERSHEDS.



**SECTION VIEW**

NOTES:

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

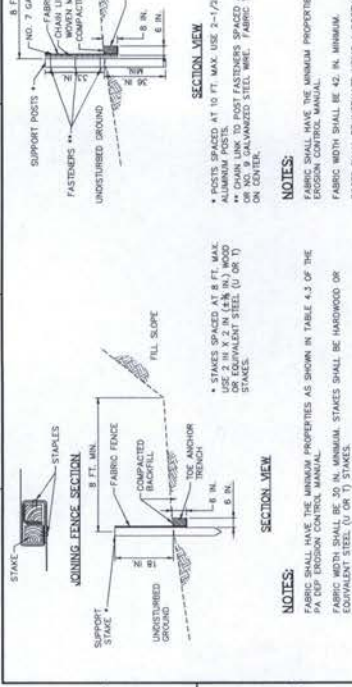
FABRIC WIDTH SHALL BE 42 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.

SILT FENCE SHALL BE PLACED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

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SILT FENCE SHALL BE PLACED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPAIRED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4-6).

FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

SILT FENCE IS NOT TO BE USED IN HQ, EQ, OR SITUATION IMPAIRED WATERSHEDS.



**CROSS-SECTION VIEW**

NOTES:

PROVIDE 50' STABILIZED ACCESS TO CROSSING ON BOTH SIDES OF STREAM CHANNEL. (SEE STANDARD CONSTRUCTION DETAIL #3-12).

PIPES SHALL EXTEND BEYOND THE TOE OF THE ROADWAY.

RUNOFF FROM THE ROADWAY SHALL BE DIVERTED OFF THE ROADWAY AND INTO A SEDIMENT REMOVAL BMP BEFORE IT REACHES THE ROCK APPROACH TO THE CROSSING.

**MAINTENANCE**

1. TEMPORARY STREAM CROSSINGS SHALL BE INSPECTED ON A DAILY BASIS.

2. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF THE INSPECTION.

3. SEDIMENT DEPOSITS ON THE CROSSING OR ITS APPROACHES SHALL BE REMOVED WITHIN 24 HOURS OF THE INSPECTION.

4. AS ALL MATERIALS SHALL BE DISPOSED OF PROPERLY AND DIVULGED AREAS STABILIZED.



**PLAN VIEW**

NOTES:

WATERSHEDS AND BROAD-BASED DIPS SHALL DISCHARGE TO SEDIMENT REMOVAL FACILITY.

CLEAN ROCK SHALL CONFORM TO CHAPTER 105 PERMITTING REQUIREMENTS.

FOLLOW PERMIT CONDITIONS REGARDING REMOVAL OF CROSSING.



**TYPICAL WETLAND CROSSING**

NOT TO SCALE

IF SPILL RISK IS LOW AND CAN BE CONTAINED WITHIN THE ROCK, INSTALL FILTER FENCE (BMP 5) AT THE EDGE OF THE CONSTRUCTION TRENCH.

NOTES:

1. REQUIREMENTS DO NOT APPLY TO ACTIVE WETLANDS.

2. POST SOAK-IN FIELDING WITHIN THE APPROPRIATE DISTANCE (PROVIDE). STABILIZATION SHALL BE INSTALLED AFTER METAL GROUND DISTURBANCE AND SOAK-IN.

3. ALL CONTROLS WILL BE INSTALLED AFTER METAL GROUND DISTURBANCE AND SOAK-IN.

4. ARE STABILIZED UNTIL TO WHICH USE UNLESS OTHER STAMPS CAUSE AN UNSAFE FILTER SOCK (BMP 4A,B,C).

5. RESTORE TO ORIGINAL CONTOUR AND DRAINAGE, RESTORE TROPIC.

6. REPAIR AND STABILIZE SOAK-IN PER PERMIT REQUIREMENTS.

RIGHT OF WAY

INSTALL NO MORE THAN TWO TRENCHES TO REMAIN RE PLACE AND RESTORE TO ORIGINAL TROPIC. RESTORE TO ORIGINAL TROPIC. RESTORE TO ORIGINAL TROPIC.



**ROCK FILTER OUTLET**

NOT TO SCALE



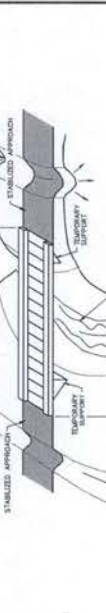
**TEMPORARY WETLAND CROSSING**

NOT TO SCALE



**TEMPORARY STREAM CROSSING**

NOT TO SCALE



**SECTION A-A**

**GEOTEXTILE**

**TIMBER MAT CROSSING DETAIL**

NOT TO SCALE

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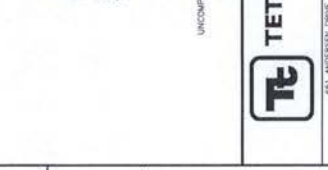
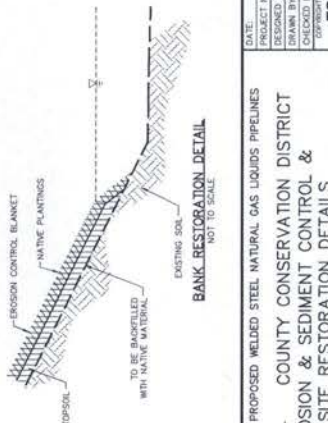
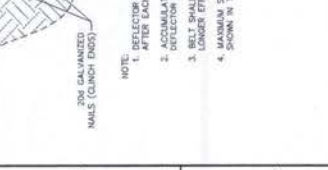
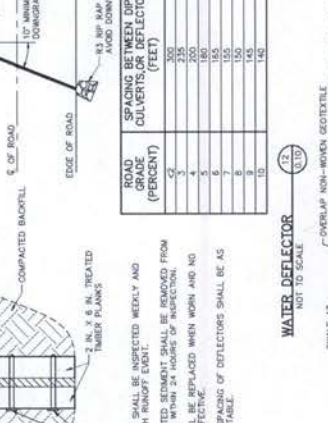
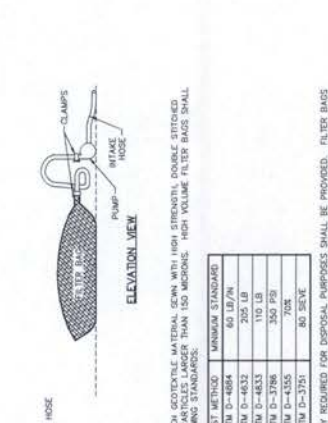
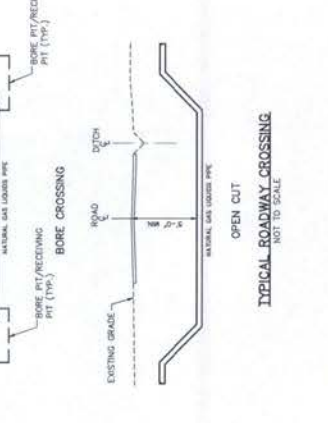
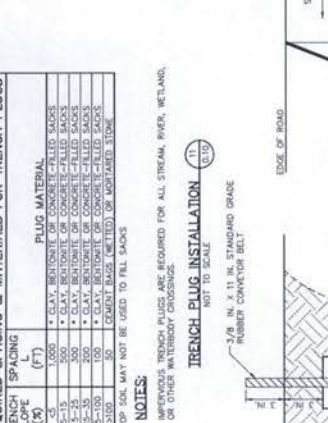
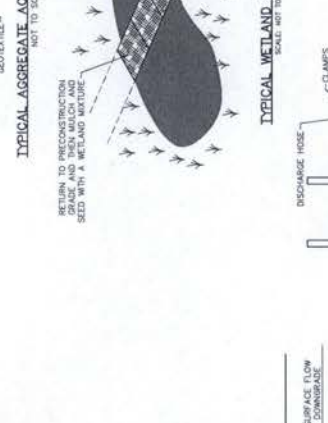
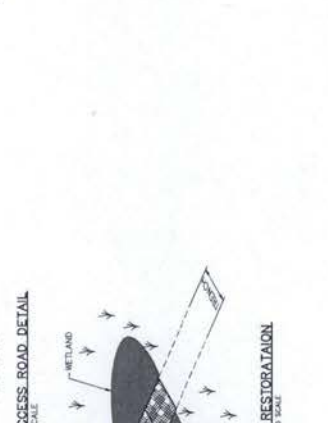
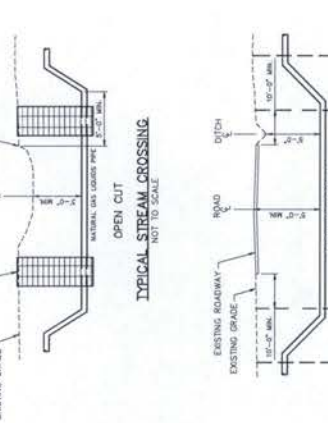
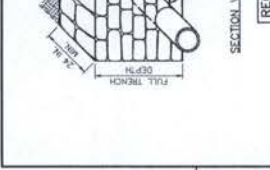
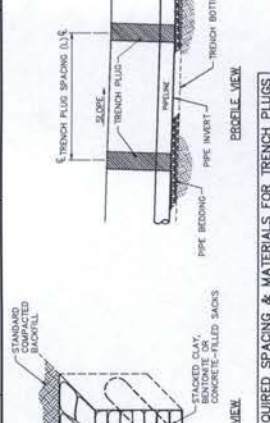
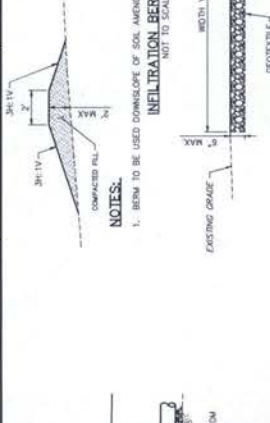
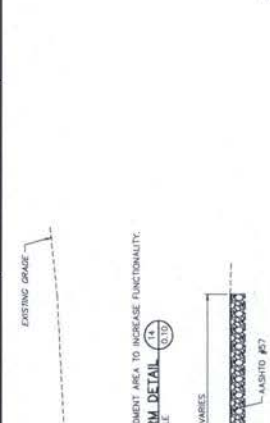
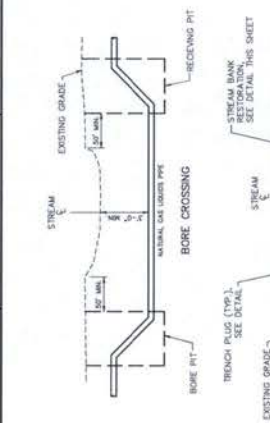
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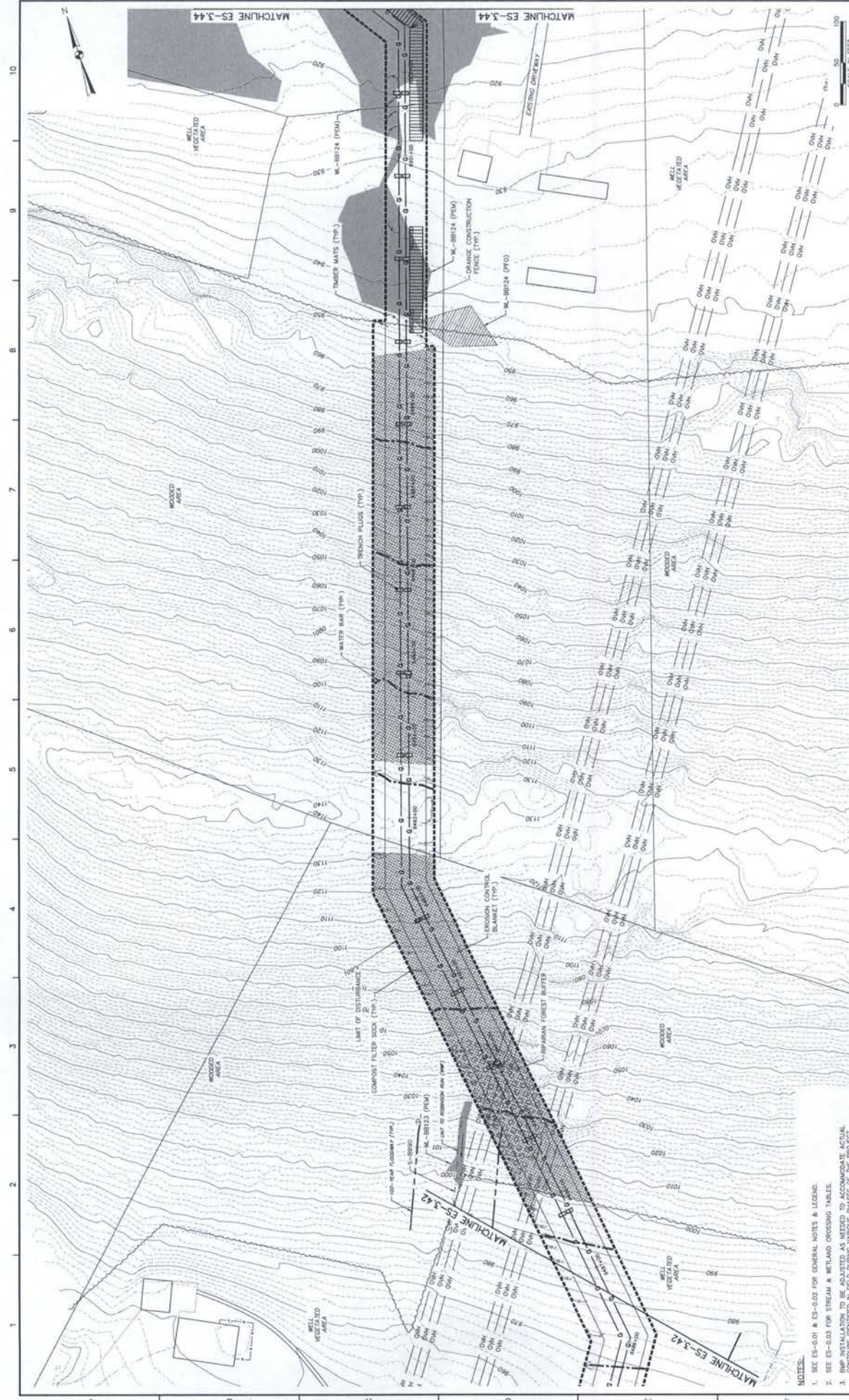
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PROJECT NO.: 112020558  
DESIGNED BY: JH  
DRAWN BY: BH  
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COMPUTER AIDED: YES  
ES-0.10  
SHEET NO. OF 3

1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES  
- COUNTY CONSERVATION DISTRICT  
EROSION & SEDIMENT CONTROL &  
SITE RESTORATION DETAILS  
SHEET 3 OF 3

SUNOCO PIPELINE L.P.  
SINKING SPRING, PENNSYLVANIA  
PENNSYLVANIA PIPELINE PROJECT  
CONSTRUCTION SPREAD 4

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 COPYRIGHT YEAR: 2018  
 SHEET: 3.43 OF 73

1-20" & 1-18" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES  
 BLAIR COUNTY CONSERVATION DISTRICT  
 EROSION & SEDIMENT CONTROL &  
 SITE RESTORATION PLAN  
 SHEET 43 OF 73

SUNOCO PIPELINE L.P.  
 SINKING SPRING, PENNSYLVANIA  
 PENNSYLVANIA PIPELINE PROJECT  
 CONSTRUCTION SPREAD 3

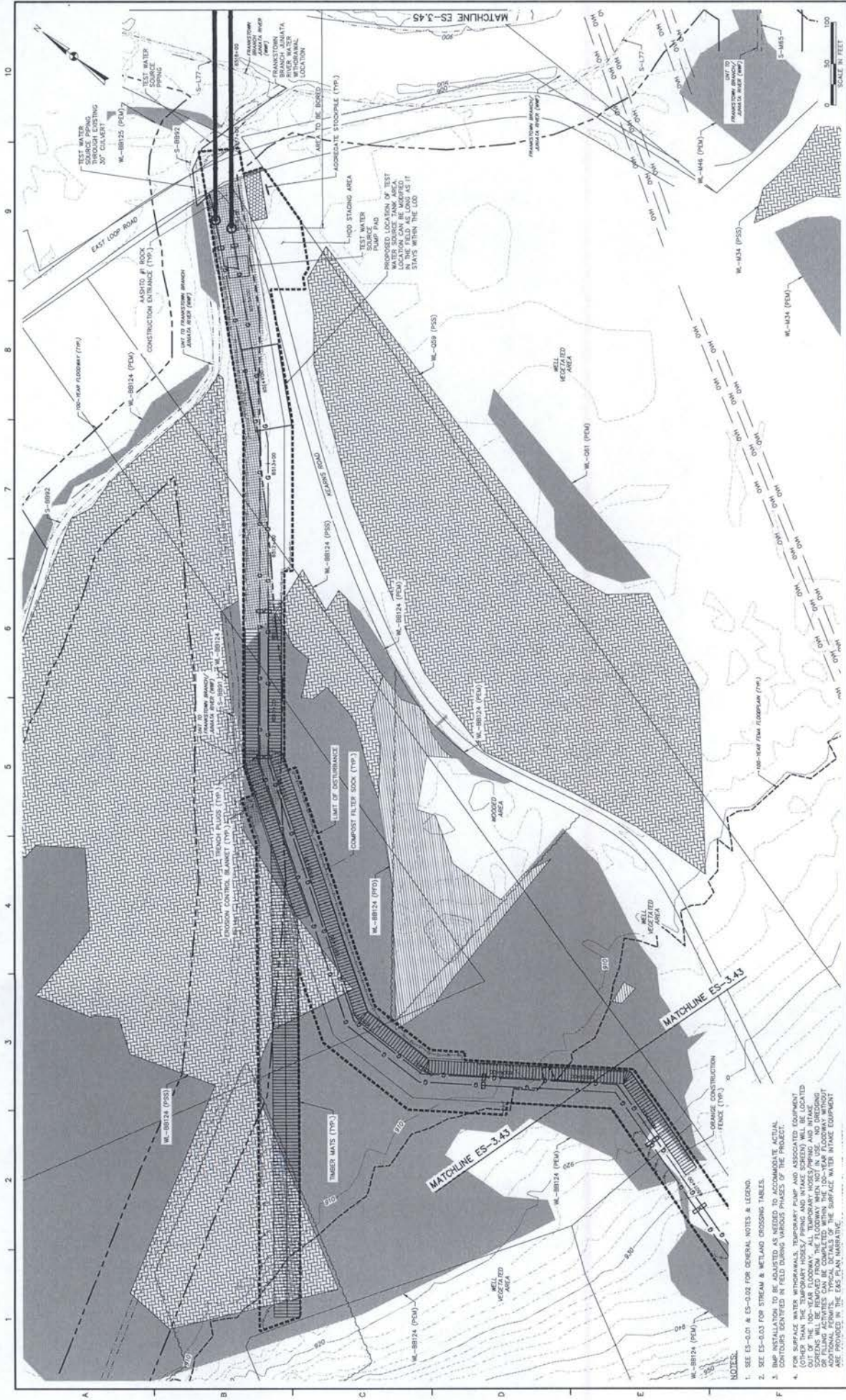


NO.	BY	DATE	REVISIONS	REMARKS

**TETRA TECH**  
 687 ANDERSON DRIVE - FISHER BLAZA 7  
 PITTSBURGH, PA 15220  
 T: (412) 321-7598 | F: (412) 321-4660

- NOTES:
- SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.
  - SEE ES-0.03 FOR STREAM & WETLAND CROSSING TABLES.
  - PROP. INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.





**1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES**  
**BLAIR COUNTY CONSERVATION DISTRICT**  
**EROSION & SEDIMENT CONTROL & SITE RESTORATION PLAN**  
**SHEET 44 OF 73**

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**SUNOCO PIPELINE LP.**  
**SINKING SPRING, PENNSYLVANIA**  
**PENNSYLVANIA PIPELINE PROJECT**  
**CONSTRUCTION SPREAD 3**

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**TETRA TECH**  
 801 ANDRUSKA DRIVE - COSSEX PLAZA 7  
 PITTSBURGH, PA 15220  
 T: (412) 307-7888 F: (412) 307-6480  
[www.tetra-tech.com](http://www.tetra-tech.com)

NO.	BY	DATE	REVISIONS	REMARKS

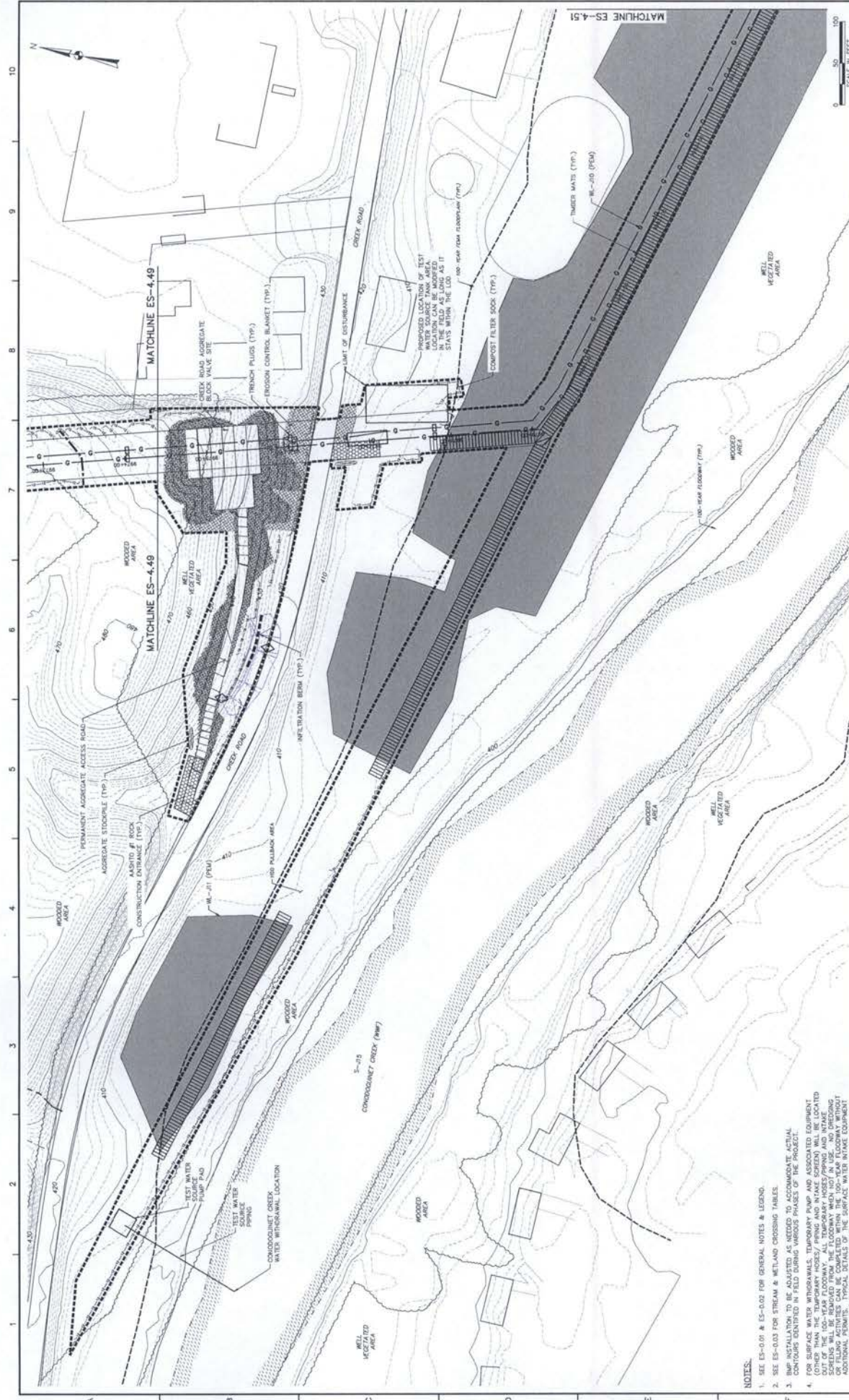
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DATE: 3/18/17  
 PROJECT NO.: 112000528  
 DESIGNED BY: AB  
 DRAWN BY: BH  
 CHECKED BY: KES  
 COMPANY: TETRA TECH, INC.  
 SHEET 44 OF 73  
**ES-3.44**

SCALE IN FEET  
 0 50 100

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**NOTES:**  
 1. SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.  
 2. SEE ES-0.01 FOR STREAM & WETLAND CROSSING TABLES.  
 3. BMP INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.  
 4. FOR SURFACE WATER WITHDRAWALS, TEMPORARY PUMP AND ASSOCIATED EQUIPMENT (OTHER THAN THE TEMPORARY HOSE/ PUMP AND INTAKE SCREEN) WILL BE LOCATED UPSTREAM FROM THE FLOWWAY WHEN NOT IN USE. NO DRUGGING OPERATIONS WILL BE PERMITTED FROM THE FLOWWAY. ADDITIONAL PERMITS MAY BE REQUIRED FOR THE SURFACE WATER INTAKE EQUIPMENT. SEE THE ERS PLAN NARRATIVE.



DATE: 3/18/18  
 PROJECT NO.: 15202958  
 DESIGNED BY: BH  
 DRAWN BY: BH  
 CHECKED BY: BH  
 COMPANY: TETRA TECH, INC.  
**ES-4.50**  
 SHEET 50 OF 101

1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES  
 CUMBERLAND COUNTY CONSERVATION DISTRICT  
 EROSION & SEDIMENT CONTROL &  
 SITE RESTORATION PLAN

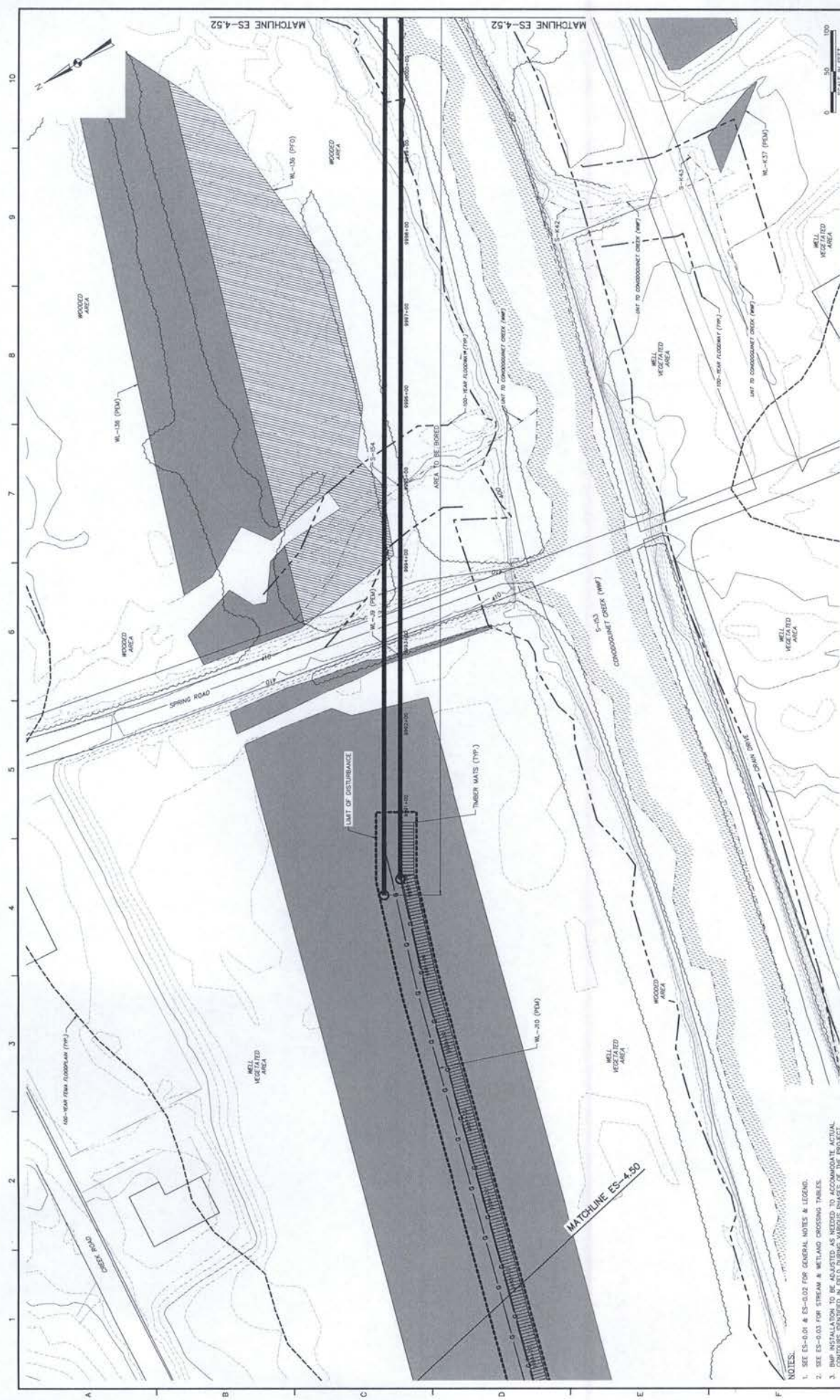
SUNOCO PIPELINE L.P.  
 SINKING SPRING, PENNSYLVANIA  
 PENNSYLVANIA PIPELINE PROJECT  
 CONSTRUCTION SPREAD 4



NO.	BY	DATE	REVISIONS	REMARKS

**TETRA TECH**  
 807 ANDRUSKI DRIVE - 15087 PLAZA 7  
 PITTSBURGH, PA 15220  
 T: (412) 321-2596 | F: (412) 321-4540

- NOTES:**
- SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.
  - SEE ES-0.03 FOR STREAM & WETLAND CROSSING TABLES.
  - BMP INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS DETERMINED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.
  - CONSTRUCTION MATERIALS AND EQUIPMENT TO BE STORED IN TEMPORARY STORAGE AREAS AND IN TAKE AREAS SHALL BE LOCATED OUT OF THE 100-YEAR FLOODWAY. ALL TEMPORARY ROSES/PILING AND INTAKE OF FILLING ACTIVITIES CAN BE COMPLETED WITHIN THE 100-YEAR FLOODWAY WITHOUT ADDITIONAL PERMITS. TYPICAL DETAILS OF THE SURFACE WATER INTAKE EQUIPMENT ARE PROVIDED IN THE EAST PENN. MANUAL.



DATE: 3/18/23  
 PROJECT NO.: 15200958  
 DESIGNED BY: JH  
 DRAWN BY: JH  
 CHECKED BY: JH  
 COMPANY: TETRA TECH  
 SHEET NO.: ES-4.51  
 SCALE: 1" = 40'

1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES  
 CUMBERLAND COUNTY CONSERVATION DISTRICT  
 EROSION & SEDIMENT CONTROL &  
 SITE RESTORATION PLAN  
 SHEET 51 OF 101

SUNOCO PIPELINE LP.  
 SINKING SPRING, PENNSYLVANIA  
 PENNSYLVANIA PIPELINE PROJECT  
 CONSTRUCTION SPREAD 4



NO.	BY	DATE	REVISIONS	REMARKS

**TETRA TECH**  
 661 ANGENEN DRIVE - COCKER PLAZA 2  
 PITTSBURGH, PA 15229  
 T: (412) 251-7226 F: (412) 251-4040  
 www.tetra-tech.com

NOTES:  
 1. SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.  
 2. SEE ES-0.03 FOR STREAM & WETLAND CROSSING TABLES.  
 3. BMP INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.