

July 30, 2019

Via Electronic Mail

Mr. Scott R. Williamson
Program Manager, Waterways & Wetlands Program
Pennsylvania Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200

**Re: DEP School House Rd. HDD Re-Evaluation Report - Request for Additional Information
School House Road Crossing 16" Horizontal Directional Drill (S3-0091-16)
Permit No. E38-194
South Londonderry Township, Lebanon County**

Dear Mr. Williamson:

In compliance with the Corrected Stipulated Order dated August 10, 2017, a Re-Evaluation Report on the above-referenced horizontal directional drill (HDD) was submitted to the Department on February 20, 2019. In a letter dated March 28, 2019, the Department requested further information to which SPLP responded on May 21, 2019. On July 24, 2019 the Department emailed a list of four (4) items commenting on SPLP's May 21st response, or requesting additional information. Please accept this letter as a response to those emailed items. Your comments or requests are bolded below followed by Sunoco Pipeline, LP (SPLP) responses.

1. The first sentence on Page 2 states: "... (IR) information presented graphically on Figure 1 in Attachment 2..." This should say Attachment 1, please revise.

Within the completed Re-Evaluation Report submitted on February 20, 2019, the inadvertent return (IR) data is provided on every HDD profile within the report. These include Figure 1 in Attachment 1 of the report prepared by Rettew, and Figures 1 and 2 within Attachment 2 of the analysis and discussion prepared by SPLP. No revision is necessary.

2. The third paragraph on Page 2, last sentence states: "... maximizing the entry/exit angles, which has been done on the revised HDD profile." Provide DEP with the revised figure that demonstrates these new maximized entry/exit angles for the HDD profile.

Upon review, it appears that the pdf file for the revised profile was corrupted when it was inserted into the Re-Evaluation Report. The revised HDD profile illustrating the 16 degree entry and exit angles is attached to this response.

3. The DEP needs more detail on the geologic data they collected along the entire path of the 20-inch drill. Provide the data used to support the conclusions regarding potential fluid communication between the 20-inch bore and the planned 16-inch bore and especially the part of the 20-inch bore where the IR occurred.

The geologic data collected during the directional drill by the monitoring geologists is intended to verify the nature of the bedrock material determined through examination of the cuttings as they are discharged by the recycling unit at the drilling rig. Secondary analysis of the geologic materials is made by recording of the drilling rate of progress over time. Where the rate of advancement of the pilot or reaming tool is high, it can be deduced the bedrock materials are weak or weathered. Where the advancement is slow, it can be deduced the tool is in competent bedrock. These observations are compared to the known or reported geology and location of the tool with the profile to make deductions concerning the character of the geology along the HDD profile.

4. How will SPLP monitor/adjust the mud pressure for the 16-inch bore when they approach the area of the IR that occurred with the 20-inch bore? What was the mud pressure of the 20-inch bore when they reached area the IR occurred?

The IR event during drilling for installation of the 20-inch pipeline was a “punch out” IR during pilot hole drilling occurring at or near the colluvium/bedrock interface approximately 50 foot before the completed exit point.

The only means to reduce the risk of a “punch out” IR is for the driller to diligently monitor the “torque” against the tool face while advancing, and knowing the tool is nearing exit from competent bedrock, and as soon as torque or resistance against the tool face drops, reduce the mud flows to minimum pressure or stop completely. The driller can then assess if the pilot tool can be pushed to the exit, or if not, then engage the mud motor at the base operating pressure required to rotate the tool face for cutting of any rock remaining before the exit.

While drilling the pilot hole for the 20-inch pipeline, the drilling fluids were being circulated at a rate of 330 gallons per minute or the equivalent of approximately 1000-1200 lbs of pressure at the mud unit. The base flow pressure to rotate the mud motor and cut rock is 700-750 lbs of pressure.

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SPLP submits that we have been, and are, in complete compliance with the agreed terms and analysis requirements of the Order, as agreed to by the Department, and that no further analysis is required for the Department to consent to this HDD. SPLP requests that the Department approve the Re-Evaluation Report for the School House Road Crossing Horizontal Directional Drill (S3-0091) as soon as possible.

Sincerely,



Larry J. Gremminger, CWB
Vice-President – Environmental, Health & Safety
Energy Transfer Partners
Mariner East 2 Pipeline Project

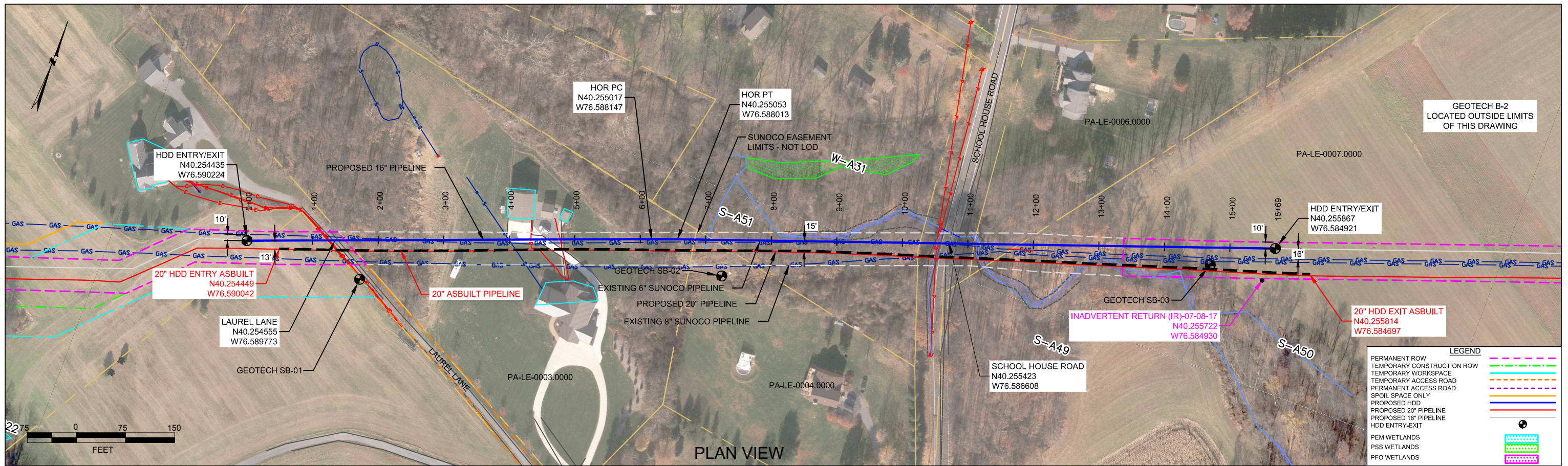
Pertaining to the practice of geology and information conveyed.



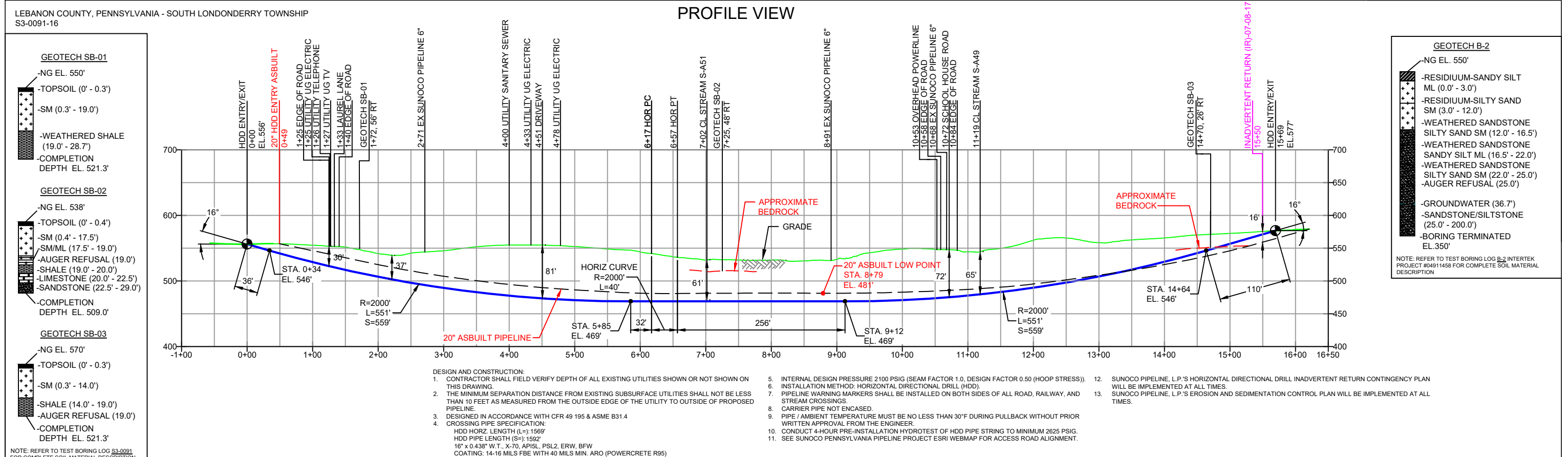
Douglas J. Hess, P.G.
License No. PG-000186-G
Skelly and Loy, Inc.
Director of Groundwater and Site Characterization
Geo-Environmental Services

7/30/2019
Date





PLAN VIEW



PROFILE VIEW

LEBANON COUNTY, PENNSYLVANIA - SOUTH LONDONDERRY TOWNSHIP
S3-0091-16

- GEOTECH SB-01**
- NG EL. 550'
 - TOPSOIL (0' - 0.3')
 - SM (0.3' - 19.0')
 - WEATHERED SHALE (19.0' - 28.7')
 - COMPLETION DEPTH EL. 521.3'
- GEOTECH SB-02**
- NG EL. 538'
 - TOPSOIL (0' - 0.4')
 - SM (0.4' - 17.5')
 - SM/ML (17.5' - 19.0')
 - AUGER REFUSAL (19.0')
 - SHALE (19.0' - 20.0')
 - LIMESTONE (20.0' - 22.5')
 - SANDSTONE (22.5' - 29.0')
 - COMPLETION DEPTH EL. 509.0'
- GEOTECH SB-03**
- NG EL. 570'
 - TOPSOIL (0' - 0.3')
 - SM (0.3' - 14.0')
 - SHALE (14.0' - 19.0')
 - AUGER REFUSAL (19.0')
 - COMPLETION DEPTH EL. 521.3'

- GEOTECH B-2**
- NG EL. 550'
 - RESIDUUM-SANDY SILT ML (0.0' - 3.0')
 - RESIDUUM-SILTY SAND SM (3.0' - 12.0')
 - WEATHERED SANDSTONE SILTY SAND SM (12.0' - 16.5')
 - WEATHERED SANDSTONE SANDY SILT ML (16.5' - 22.0')
 - WEATHERED SANDSTONE SILTY SAND SM (22.0' - 25.0')
 - AUGER REFUSAL (25.0')
 - GROUNDWATER (36.7')
 - SANDSTONE/SILTSTONE (25.0' - 200.0')
 - BORING TERMINATED EL. 350'
- NOTE: REFER TO TEST BORING LOG S3-0091 FOR COMPLETE SOIL MATERIAL DESCRIPTION

- DESIGN AND CONSTRUCTION:**
- CONTRACTOR SHALL VERIFY DEPTH OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THIS DRAWING.
 - THE MINIMUM SEPARATION DISTANCE FROM EXISTING SUBSURFACE UTILITIES SHALL NOT BE LESS THAN 10 FEET AS MEASURED FROM THE OUTSIDE EDGE OF THE UTILITY TO OUTSIDE OF PROPOSED PIPELINE.
 - DESIGNED IN ACCORDANCE WITH CFR 49 195 & ASME B31.4
 - CROSSING PIPE SPECIFICATION:
HDD HORZ. LENGTH (L)= 1569'
HDD PIPE LENGTH (S)= 1592'
16" X 0.438" W.T., X-70, API 5L, PSL2, ERW, BFW
COATING: 14-16 MILS FBE WITH 40 MILS MIN. ARO (POWERCRETE R95)
 - INTERNAL DESIGN PRESSURE 2100 PSIG (SEAM FACTOR 1.0, DESIGN FACTOR 0.50 (HOOP STRESS)).
 - INSTALLATION METHOD: HORIZONTAL DIRECTIONAL DRILL (HDD).
 - PIPELINE WARNING MARKERS SHALL BE INSTALLED ON BOTH SIDES OF ALL ROAD, RAILWAY, AND STREAM CROSSINGS.
 - CARRIER PIPE NOT ENCASED.
 - PIPE / AMBIENT TEMPERATURE MUST BE NO LESS THAN 30°F DURING PULLBACK WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
 - CONDUCT 4-HOUR PRE-INSTALLATION HYDROTEST OF HDD PIPE STRING TO MINIMUM 2625 PSIG.
 - SEE SUNOCO PENNSYLVANIA PIPELINE PROJECT ESRI WEBMAP FOR ACCESS ROAD ALIGNMENT.
 - SUNOCO PIPELINE, L.P.'S HORIZONTAL DIRECTIONAL DRILL INADVERTENT RETURN CONTINGENCY PLAN WILL BE IMPLEMENTED AT ALL TIMES.
 - SUNOCO PIPELINE, L.P.'S EROSION AND SEDIMENTATION CONTROL PLAN WILL BE IMPLEMENTED AT ALL TIMES.

NOTES

- ALL COORDINATES SHOWN ARE IN LATITUDE AND LONGITUDE. ALL MSL ELEVATIONS ARE NAD83
- STATIONING IS BASED ON HORIZONTAL DISTANCES
- ROONEY ENGINEERING, INC. AND SUNOCO PIPELINE, L.P. ARE NOT RESPONSIBLE FOR LOCATION OF FOREIGN UTILITIES SHOWN IN PLOT PLAN OR PROFILE. THE INFORMATION SHOWN HEREON IS FURNISHED WITHOUT LIABILITY ON THE PART OF ROONEY ENGINEERING, INC. AND SUNOCO PIPELINE, L.P. FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES. CONTACT ONE CALL AT 811 PRIOR TO DIGGING.
- SUNOCO EMERGENCY HOTLINE NUMBER IS #1-800-786-7440.

REF. DRAWING		REVISIONS	
DWG NO	DESCRIPTION	NO.	DESCRIPTION
ES-5.04	EROSION & SEDIMENT PLAN	EP5	ADDED IR INFORMATION
SHEET 24	AERIAL SITE PLAN	EP4	DESIGN CHANGE - EXTENDED DRILL AND ADDED GEOTECH INFORMATION
		EP3	UPDATED TO MATCH 16" IFC DESIGN AND NOTE 5 AND 10 PER INCREASED 16" MOP
		EP2	REVISED PER PADEP COMMENTS RECEIVED 09-06-16
		EP1	REVISED PER PADEP COMMENTS
		EP	

**Sunoco Logistics
Partners L.P.**

SUNOCO PIPELINE, L.P.

HORIZONTAL DIRECTIONAL DRILL
SCHOOL HOUSE RD
PENNSYLVANIA PIPELINE PROJECT

TETRA TECH ROONEY
(303) 792-5911

SCALE: 1"=150'

DWG. NO: PA-LE-0005.0000-RD-16