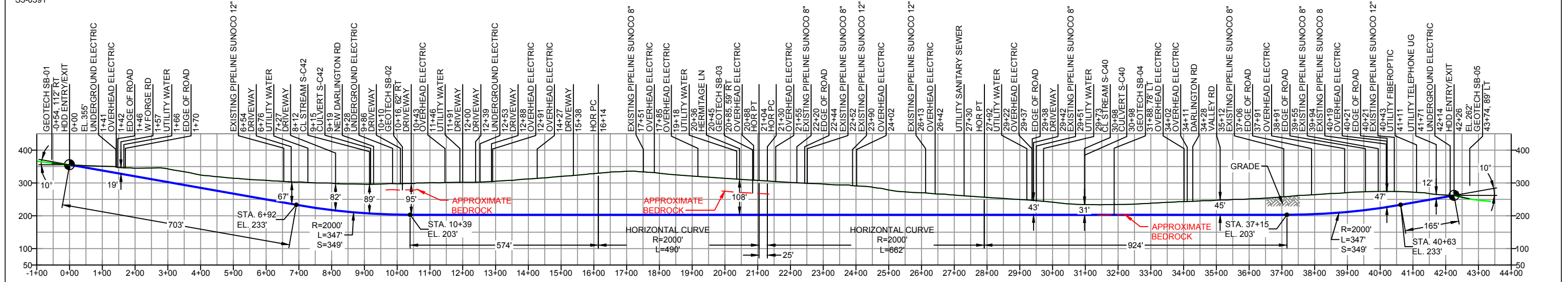


PLAN VIEW

DELAWARE COUNTY PENNSYLVANIA, MIDDLETOWN TOWNSHIP
S3-0591



PROFILE VIEW

GEOTECH SB-01	GEOTECH SB-02	GEOTECH SB-03
-NG EL. 358'	-NG EL. 295'	-NG EL. 309'
-FRACTURED GNEISS (0.0' - 4.0')	-TOPSOIL (0' - 0.3')	-TOPSOIL (0' - 0.1')
-TOPSOIL (4.0' - 5.5')	-ML (0.3' - 11.5')	-GROUNDWATER (10.0')
-SM (5.5' - 21.5')	-SM (11.5' - 18.5')	-SM (0.1' - 40.0')
-SM (21.5' - 29.9')	-BEDROCK (18.5')	-GROUNDWATER (35.0')
-COMPLETION DEPTH EL. 328'	AUGER REFUSAL	-BEDROCK (40.0')
	COMPLETION DEPTH EL. 276.5'	AUGER REFUSAL
		-COMPLETION DEPTH EL. 269'

DESIGN AND CONSTRUCTION:

- CONTRACTOR SHALL FIELD 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)=4226'
HDD PIPE LENGTH (S)=4242'
20" x 0.456" WT., X-85, API5L, PSL2, ERW, BFW
COATING: 14-16 MILS FBE WITH 30-35 MIL ARO (POWERCURE R95) INTERNAL DESIGN
PRESSURE 1480 PSIG (SEAM FACTOR 1.0, DESIGN FACTOR 0.50).
- 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 1850 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.

GEOTECH SB-04	GEOTECH SB-05
-NG EL. 238'	-NG EL. 267'
-TOPSOIL (0' - 0.1')	-TOPSOIL (0' - 0.1')
-ML (0.1' - 6.0')	-ML (0.1' - 30.0')
-SM (6.0' - 23.5')	-SM (0.1' - 30.0')
-SM (23.5' - 31.0')	-SM (0.1' - 30.0')
-GROUNDWATER (28.0')	-SM (0.1' - 30.0')
-FRACTURED GNEISS (31.0' - 38.0')	-SM (0.1' - 30.0')
-COMPLETION DEPTH EL. 200'	-COMPLETION DEPTH EL. 237'

NOTE: REFER TO TEST BORING LOG S3-0591 FOR COMPLETE SOIL MATERIAL DESCRIPTION

NOTES	
1.	ALL COORDINATES SHOWN ARE IN LATITUDE AND LONGITUDE. ALL MSL ELEVATIONS ARE NAD83
2.	STATIONING IS BASED ON HORIZONTAL DISTANCES
3.	ROONEY ENGINEERING, INC. AND SUNOCO PIPELINE, LP 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, LP. FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
4.	CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES. CONTACT ONE CALL AT 811 PRIOR TO DIGGING.
5.	SUNOCO EMERGENCY HOTLINE NUMBER IS #1-800-786-7440.

REF. DRAWING	DESCRIPTION
ES-6.11 TO ES-6.14	EROSION & SEDIMENT PLAN
SHEET 7 TO SHEET 9	AERIAL SITE PLAN

REVISIONS	
EP2	REVISED PER PADEP COMMENTS RECEIVED 09-06-16
EP1	REVISED PER PADEP COMMENTS
EP	
C	ISSUED FOR BID
B	ISSUED FOR BID
A	ISSUED FOR REVIEW

Sunoco Logistics Partners L.P.

TETRA TECH ROONEY
(303) 792-5911

SUNOCO PIPELINE, L.P.

20-INCH HORIZONTAL DIRECTIONAL DRILL
VALLEY ROAD
PENNSYLVANIA PIPELINE PROJECT

SCALE: 1"=300' DWG. NO. PA-DE-0046.0000-RD