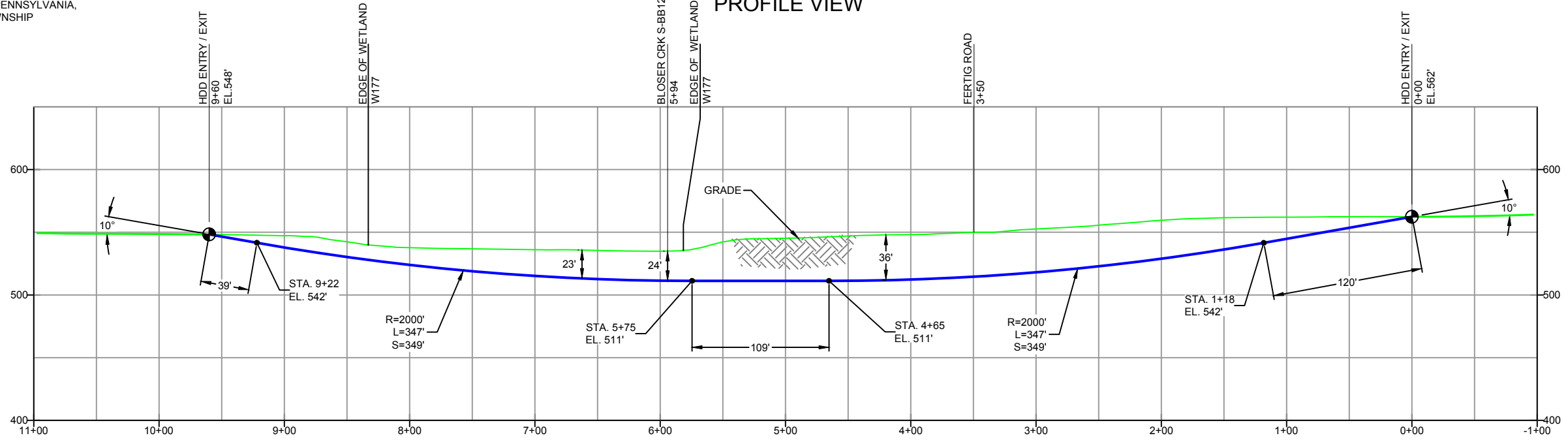


| LEGEND                     |  |
|----------------------------|--|
| PERMANENT ROW              |  |
| TEMPORARY CONSTRUCTION ROW |  |
| TEMPORARY WORKSPACE        |  |
| TEMPORARY ACCESS ROAD      |  |
| PERMANENT ACCESS ROAD      |  |
| SPOIL SPACE ONLY           |  |
| PROPOSED HDD               |  |
| PROPOSED 20" PIPELINE      |  |
| PROPOSED 16" PIPELINE      |  |
| HDD ENTRY-EXIT             |  |
| PEM WETLANDS               |  |
| PSS WETLANDS               |  |
| PFO WETLANDS               |  |

PLAN VIEW

CUMBERLAND COUNTY PENNSYLVANIA,  
UPPER FRANKFORD TOWNSHIP  
S2-0167

PROFILE VIEW



- 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)=966'  
HDD PIPE LENGTH (S)=966'  
20" x 0.456" W.T., X-65, APISL, PSL2, ERW, BFW  
COATING: 14-16 MILS FBE WITH 30-35 MIL ARO (POWERCRETE 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.

| 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 |             | REVISIONS               |                            |
|--------------|-------------|-------------------------|----------------------------|
| ES-4.21      | TO ES-4.22  | EROSION & SEDIMENT PLAN |                            |
| SHEET 13     | TO SHEET 14 | AERIAL SITE PLAN        |                            |
|              |             | EP1                     | REVISED PER PADEP COMMENTS |
|              |             | EP                      |                            |
|              |             | B                       | ISSUED FOR BID             |
|              |             | A                       | ISSUED FOR REVIEW          |
| DWG NO       | DWG NO      | DESCRIPTION             | NO.                        |

**Sunoco Logistics Partners L.P.**

**TETRA TECH ROONEY**  
(303) 792-5911

**SUNOCO PIPELINE, L.P.**

20-INCH HORIZONTAL DIRECTIONAL DRILL  
FERTIG ROAD  
PENNSYLVANIA PIPELINE PROJECT

SCALE: 1"=100'    DWG. NO: PA-CU-0053.0000-RD