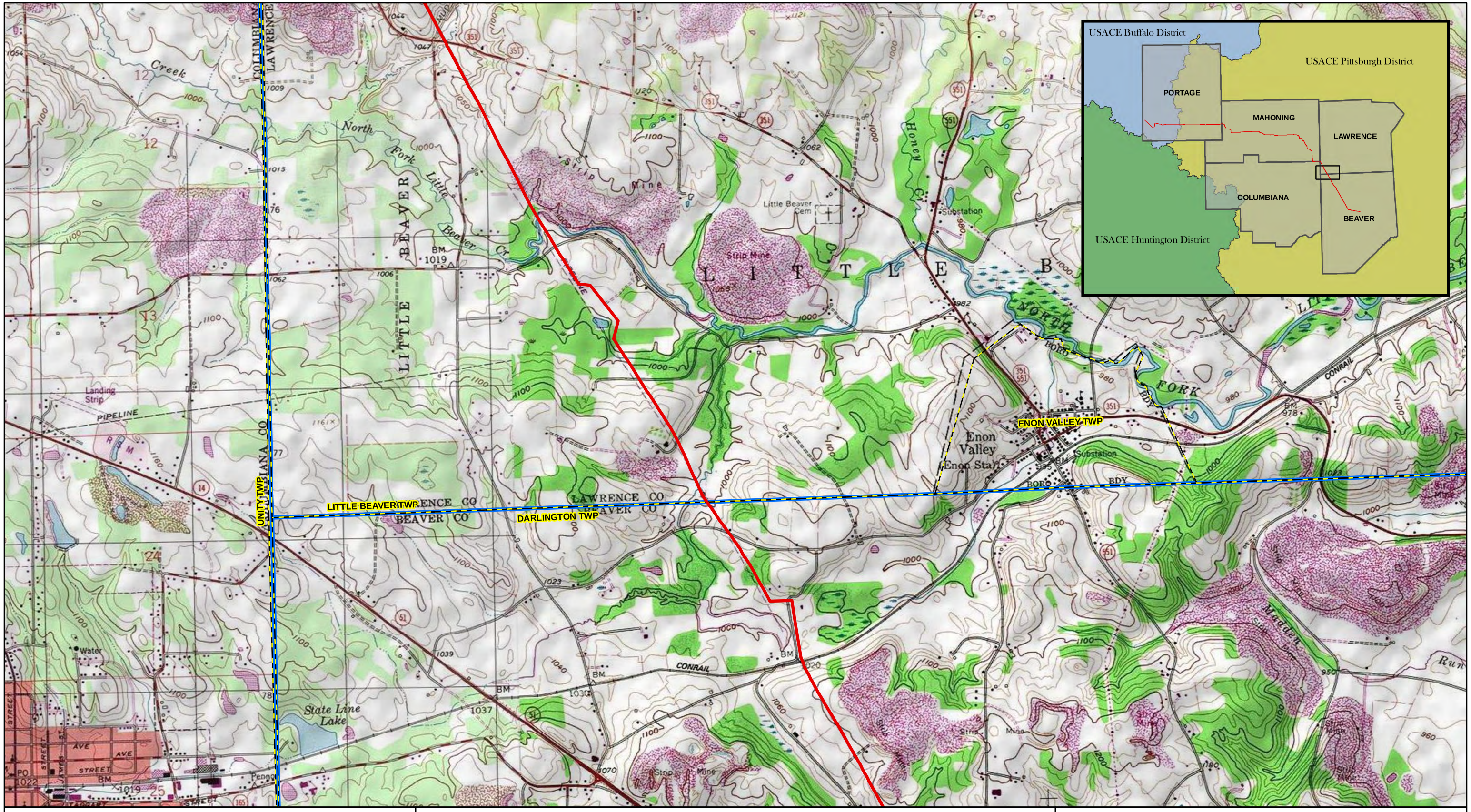


SCALE: 1:24000
(1" = 2000')

0 2,000 4,000 Feet

Main Map Legend

- Mogadore-Vanport (*Proposed Alignment*)
- Township Boundary
- County Boundary
- USACE District Boundary

Inset Map Legend

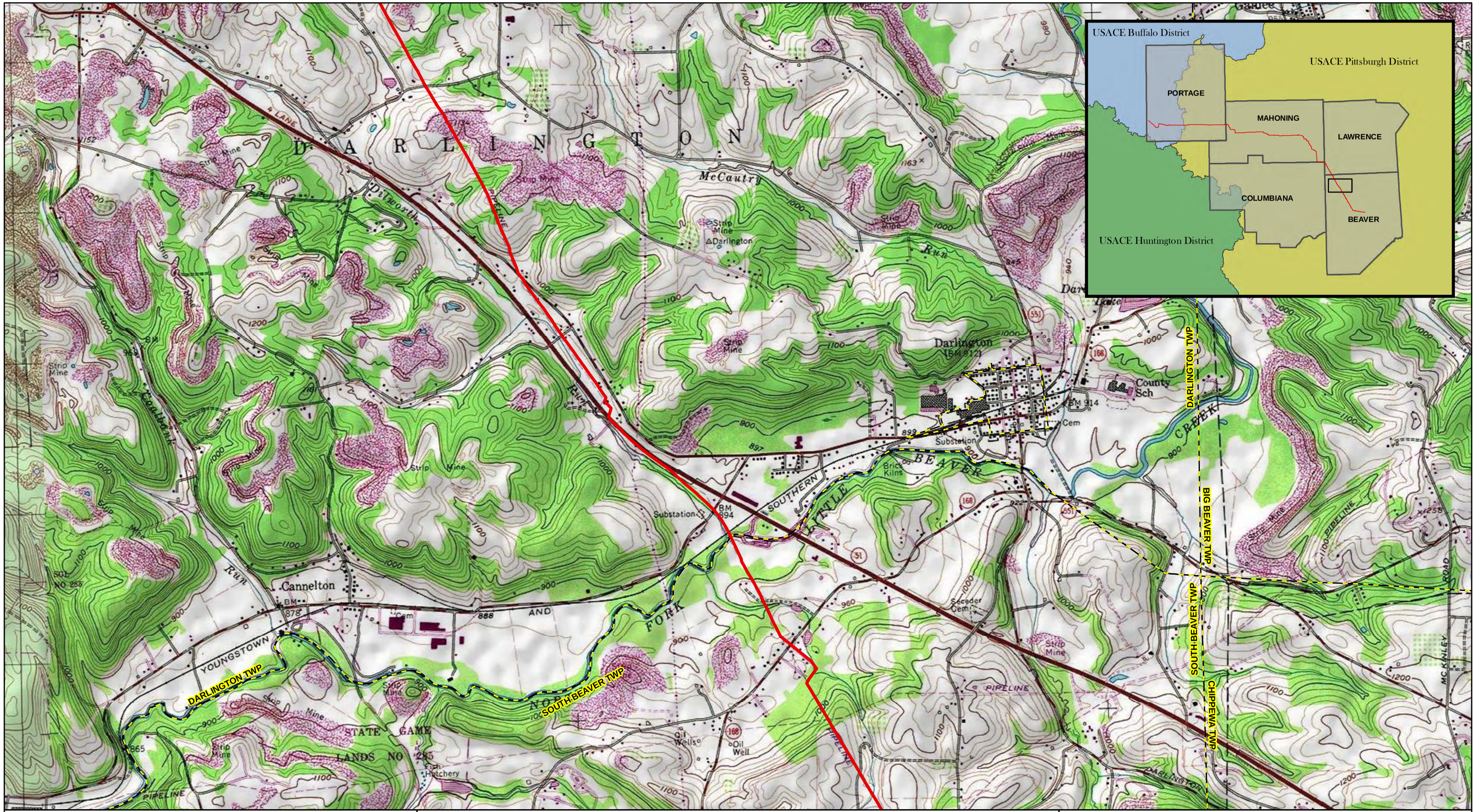
- Mogadore-Vanport (*Proposed Alignment*)
- County
- USACE Buffalo District
- USACE Pittsburgh District
- USACE Huntington District

N

PROJECT LOCATION MAP
ALLEGHENY ACCESS
MOGADORE -to- VANPORT

SOURCE: Esri ArcGIS Online Map Service (USA Topo Maps)
United States Army Corps of Engineers (USACE)
United States Census Bureau (TIGER/Line Data)

CREATED BY: STV Energy Services, Inc.



SCALE: 1:24000
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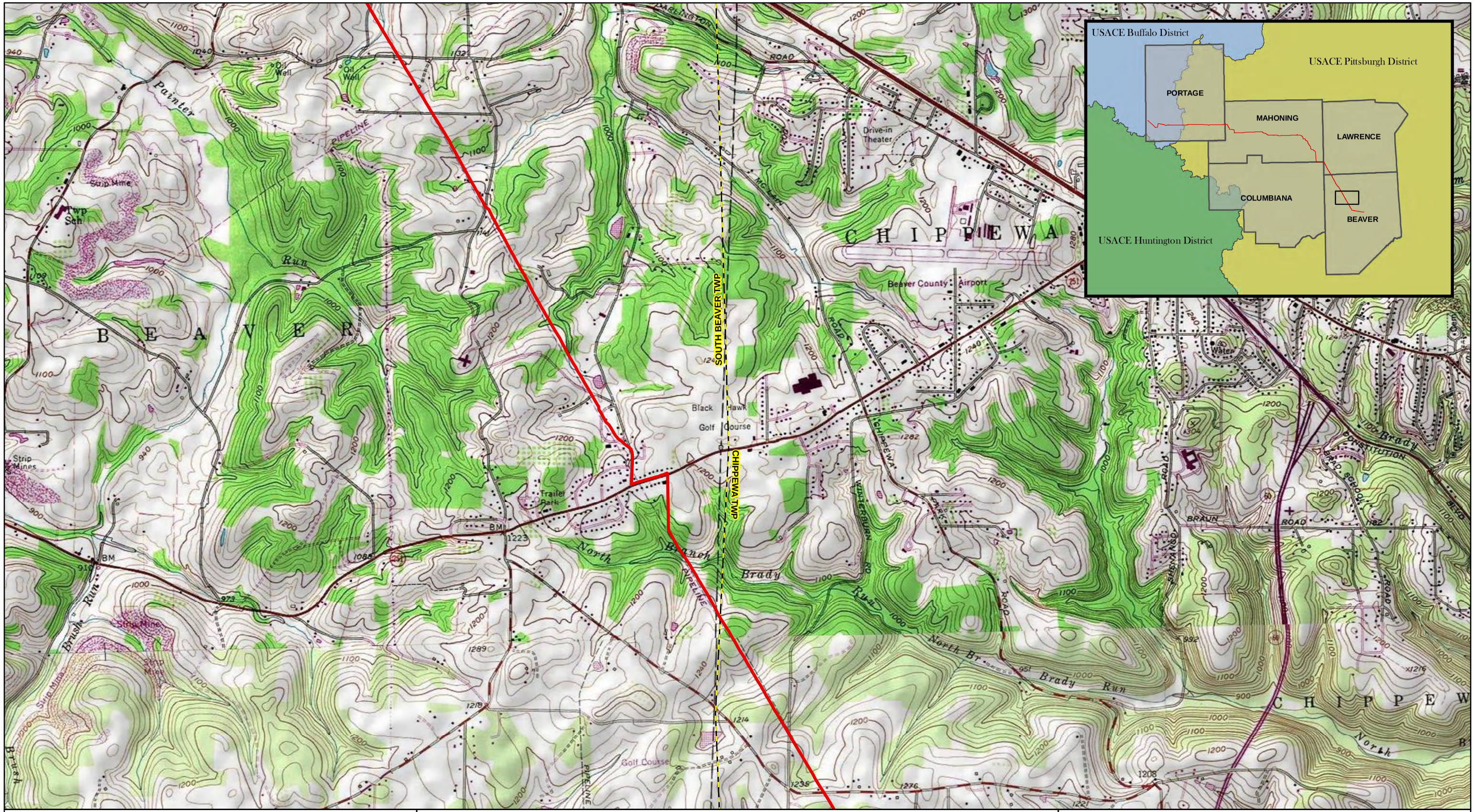
PROJECT LOCATION MAP
ALLEGHENY ACCESS
MOGADORE -to- VANPORT

SOURCE: Esri ArcGIS Online Map Service (USA Topo Maps)
United States Army Corps of Engineers (USACE)
United States Census Bureau (TIGER/Line Data)

CREATED BY: STV Energy Services, Inc.

STV 100 Years



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PROJECT LOCATION MAP
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MOGADORE -to- VANPORT

SOURCE: Esri ArcGIS Online Map Service (USA Topo Maps)
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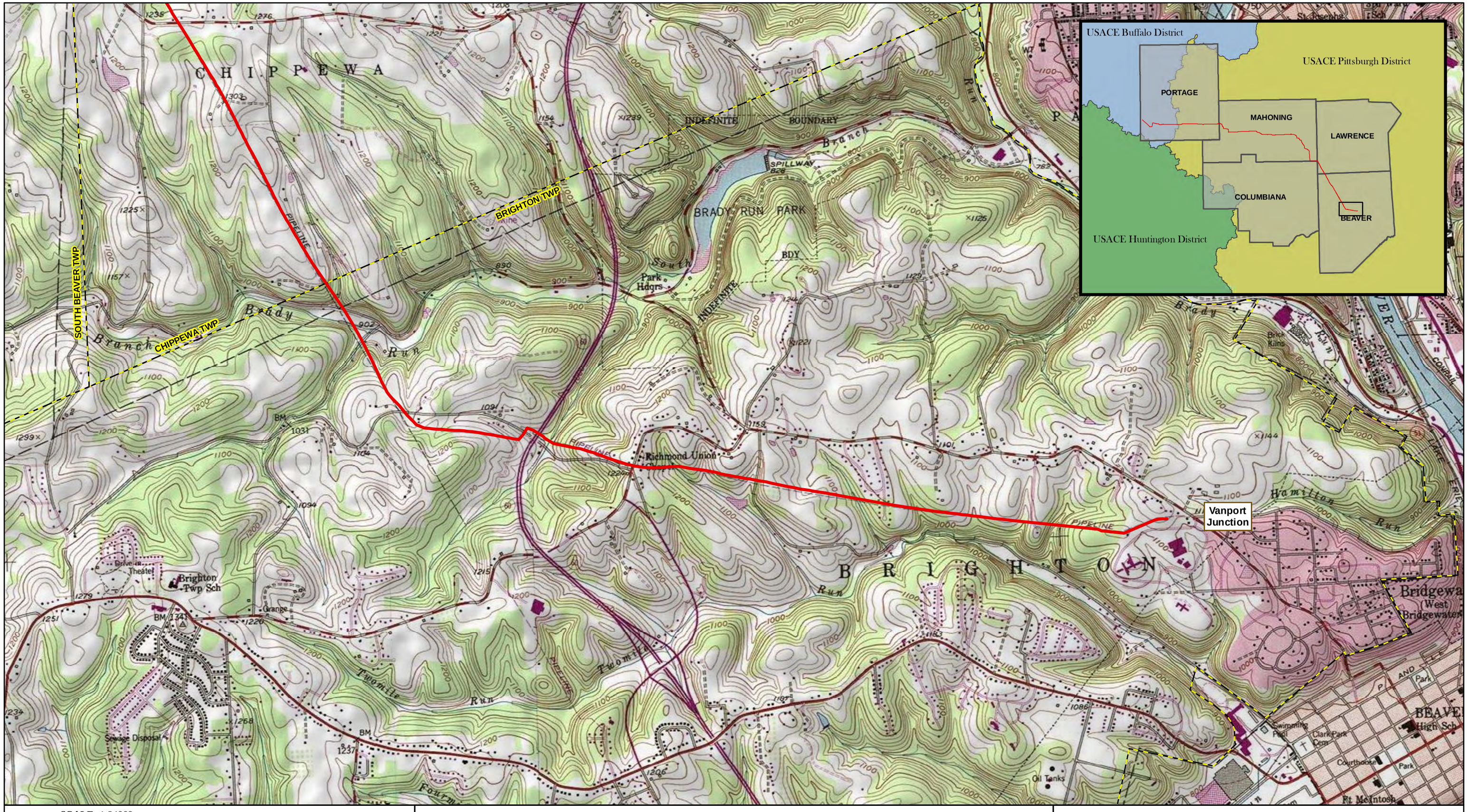
STV 100 Years



SCALE: 1:24000
(1" = 2000')

0 2,000 4,000 Feet

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PROJECT LOCATION MAP
ALLEGHENY ACCESS
MOGADORE -to- VANPORT

SOURCE: Esri ArcGIS Online Map Service (USA Topo Maps)
United States Army Corps of Engineers (USACE)
United States Census Bureau (TIGER/Line Data)

CREATED BY: STV Energy Services, Inc.

STV 100 Years

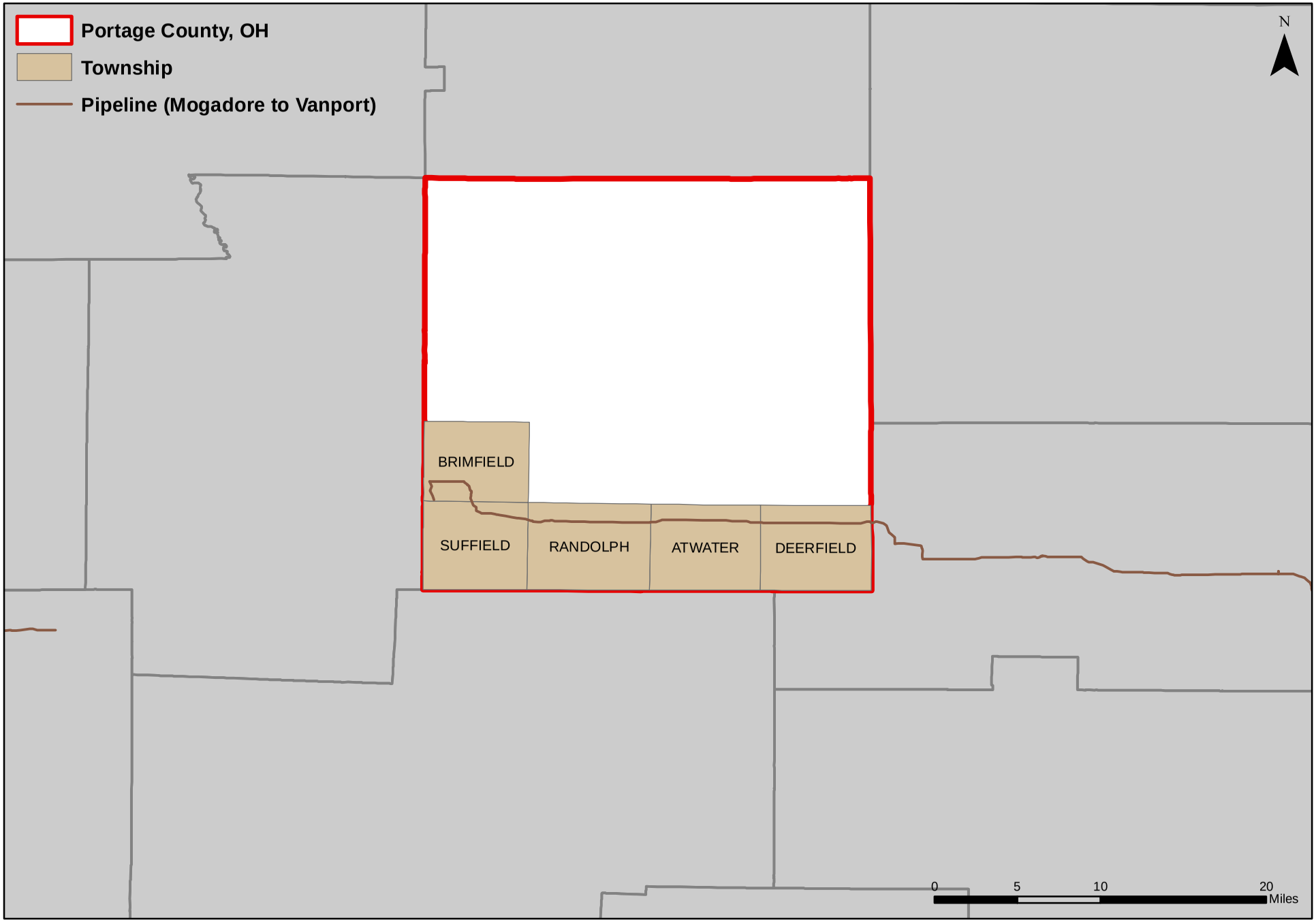
ATTACHMENT 1
PROJECT LOCATION INFORMATION

The following counties and townships are within the project area:

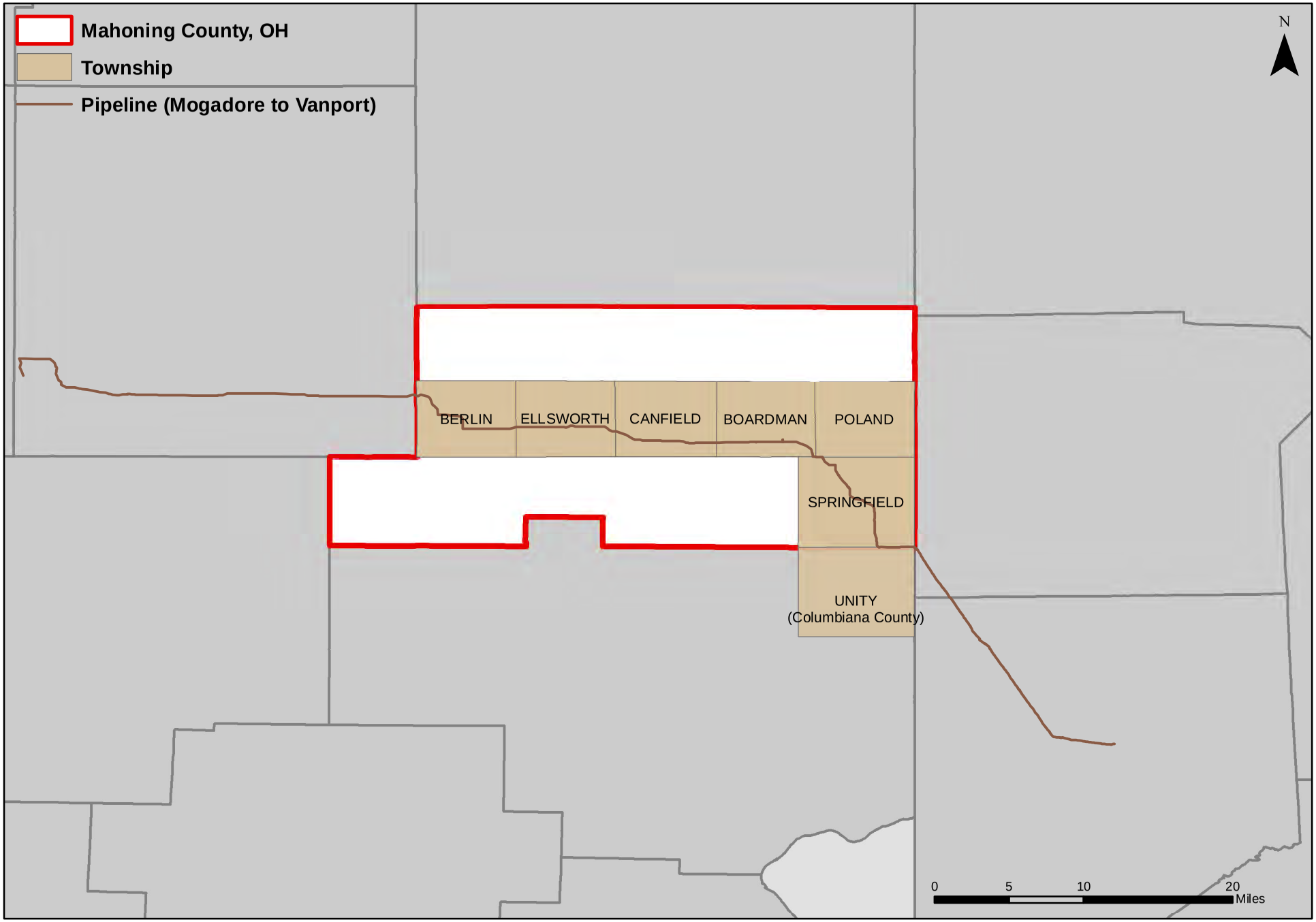
County	Townships
Portage	Brimfield, Suffield, Randolph, Atwater and Deerfield Townships
Mahoning	Berlin, Ellsworth, Canfield, Boardman, Poland and Springfield Townships
Lawrence (PA)	Little Beaver Township
Beaver (PA)	South Beaver, Chippewa, and Brighton Townships

The following watersheds are within the project area:

- Cuyahoga
- Mahoning
- Upper Ohio

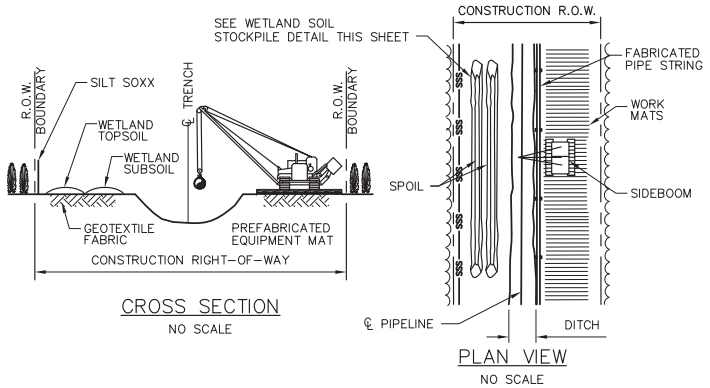


PORTAGE COUNTY LOCATION MAP
Township Reference



MAHONING COUNTY LOCATION MAP
Township Reference

ATTACHMENT 2
Typical Cross Sections



CROSS SECTION

NO SCALE

PLAN VIEW

NO SCALE

WETLAND CROSSING PROCEDURES
CONVENTIONAL WETLAND CONSTRUCTION

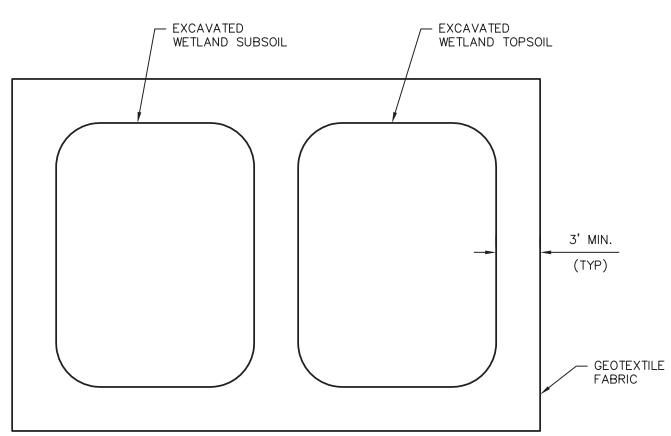
NO SCALE

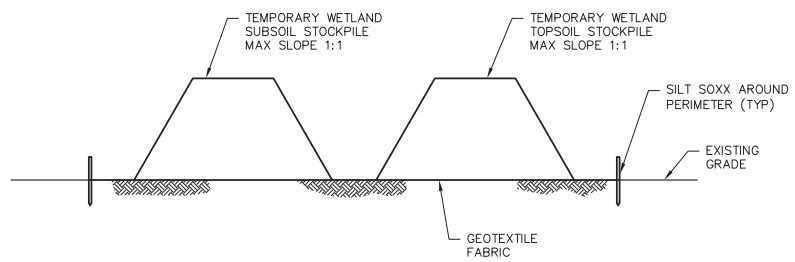
CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES PRIOR TO CLEARING.
2. NO REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPCC PLAN.
3. INSTALL TEMPORARY SLOPE BREAKER UPSLOPE WITHIN 100 FEET OF WETLAND BOUNDARY IF DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
4. MINIMIZE SOIL COMPACTION BY UTILIZING PREFABRICATED EQUIPMENT MATS.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS (SILT SOXX) AT DOWN SLOPE EDGE OF RIGHT-OF-WAY AND ALONG WETLAND EDGE AS REQUIRED.
6. RESTRICT ROOT GRUBBING TO ONLY THAT AREA OVER THE DITCHLINE AND DITCH SPOIL AREAS. GRIND STUMPS IF NECESSARY IN OTHER AREAS TO FACILITATE CONSTRUCTION.
7. WETLAND TOPSOIL SHALL BE STRIPPED AND STOCKPILED SEPARATELY. WETLAND TOPSOIL SHALL BE REPLACED AFTER BACKFILLING OF SUBSOIL.
8. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS.
9. LEAVE HARD PLUGS AT THE EDGE OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
10. INSTALL TIMBER MATS THROUGH ENTIRE WETLAND AREA. EQUIPMENT NECESSARY FOR RIGHT-OF-WAY CLEARING MAY MAKE ONE (1) PASS THROUGH THE WETLAND BEFORE MATS ARE INSTALLED. GEOTEXTILE UNDERLAYMENT SHALL BE USED UNDER TIMBER MATS.
11. TRENCH THROUGH WETLANDS.
12. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND AND ADJACENT TO ALIGNMENT, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN.
13. LOWER-IN PIPE. INSTALL TRENCH PLUGS AT WETLAND EDGES IF DIRECTED BY THE ENVIRONMENTAL INSPECTOR AND BACKFILL IMMEDIATELY.
14. REMOVE ANY TIMBER MATS OR PREFABRICATED MATS FROM WETLANDS UPON COMPLETION.
15. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY, REPLACE TOPSOIL AND INSTALL PERMANENT EROSION CONTROL.
16. GENERALLY, SEEDING IN WETLANDS WILL NOT BE NECESSARY SINCE WETLANDS REVEGETATE QUICKLY AND SOD WILL REMAIN INTACT EXCEPT OVER TRENCH. THE CONTRACTOR SHALL SEED ANY WETLANDS THAT MAY REQUIRE SEEDING AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR.

NOTE:

PIPELINE PLACEMENT WITHIN RIGHT-OF-WAY CONCEPTUAL ONLY.



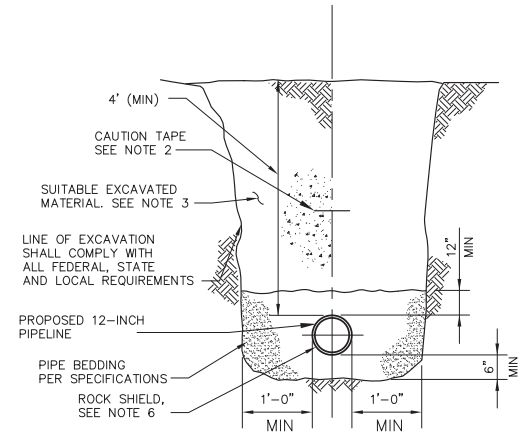


WETLAND SOIL STOCKPILE DETAIL

NO SCALE

NOTES:

1. SOIL STOCKPILES MUST BE PLACED ON A GEOTEXTILE FABRIC.
2. TOPSOIL AND SUBSOIL MUST BE KEPT IN SEPARATE STOCKPILES.
3. EXCAVATED TOPSOIL (WITH THE VEGETATIVE ROOT MASS) SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL (UNLESS THERE IS STANDING WATER OR THE SOIL IS TOO SATURATED TO SEGREGATE).

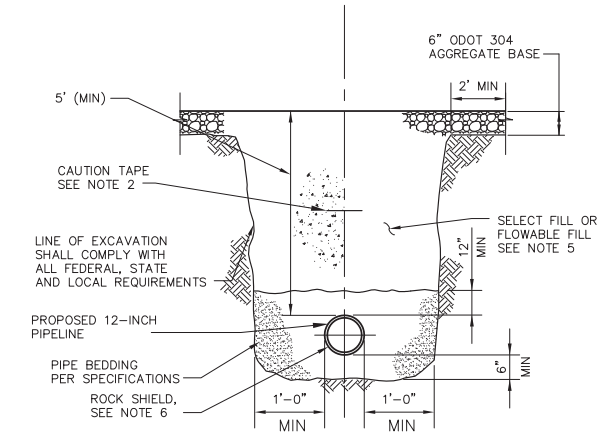


TYPICAL PIPE TRENCH (UNPAVED AREAS)

NO SCALE

NOTES:

1. THE PIPELINE SHALL BE ADEQUATELY SUPPORTED IN THE DITCH WITH SPANS NOT GREATER THAN 25 FEET PRIOR TO BACKFILLING.
2. CAUTION TAPE SHALL BE INSTALLED AT DEPTH OF 2 FEET BELOW THE SURFACE.
3. THE OWNER'S REPRESENTATIVE WILL DETERMINE IF THE BACKFILL IS SUITABLE MATERIAL.
4. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
5. PIPELINE SHALL HAVE A MINIMUM OF 4' OF COVER.
6. THE OWNER'S REPRESENTATIVE WILL FIELD DETERMINE THE LOCATION OF ROCK SHIELD BASED ON FIELD CONDITIONS.

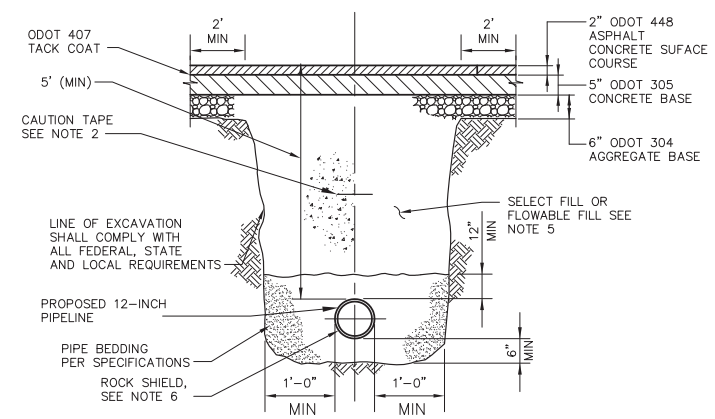


TYPICAL PIPE TRENCH (GRAVEL ROADS)

NO SCALE

NOTES:

1. THE PIPELINE SHALL BE ADEQUATELY SUPPORTED IN THE DITCH WITH SPANS NOT GREATER THAN 25 FEET PRIOR TO BACKFILLING.
2. CAUTION TAPE SHALL BE INSTALLED AT DEPTH OF 2 FEET BELOW THE SURFACE.
3. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
4. PIPELINE SHALL HAVE A MINIMUM OF 5' OF COVER.
5. SELECT FILL SHALL BE ODOT 304 AGGREGATE BASE IN 8" LOOSE LIFTS AND COMPACTED TO 100% OF THE DETERMINED DRY DENSITY.
6. THE OWNER'S REPRESENTATIVE WILL FIELD DETERMINE THE LOCATION OF ROCK SHIELD BASED ON FIELD CONDITIONS.

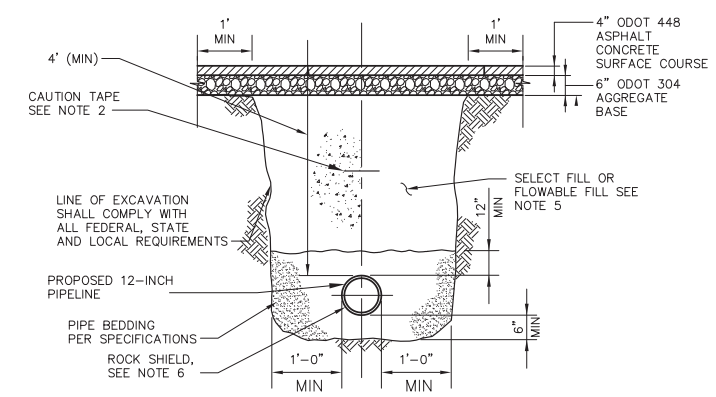


TYPICAL PIPE TRENCH (PAVED ROADS)

NO SCALE

NOTES:

1. THE PIPELINE SHALL BE ADEQUATELY SUPPORTED IN THE DITCH WITH SPANS NOT GREATER THAN 25 FEET PRIOR TO BACKFILLING.
2. CAUTION TAPE SHALL BE INSTALLED AT DEPTH OF 2 FEET BELOW THE SURFACE.
3. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
4. PIPELINE SHALL HAVE A MINIMUM OF 5' OF COVER.
5. SELECT FILL SHALL BE ODOT 304 AGGREGATE BASE IN 8" LOOSE LIFTS TO 100% OF THE DETERMINED DRY DENSITY.
6. THE OWNER'S REPRESENTATIVE WILL FIELD DETERMINE THE LOCATION OF ROCK SHIELD BASED ON FIELD CONDITIONS.

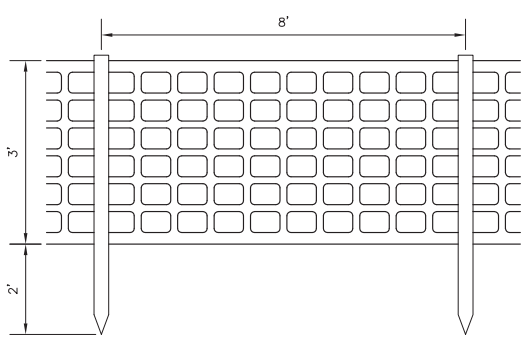


TYPICAL PIPE TRENCH (PAVED DRIVEWAYS)

NO SCALE

NOTES:

1. THE PIPELINE SHALL BE ADEQUATELY SUPPORTED IN THE DITCH WITH SPANS NOT GREATER THAN 25 FEET PRIOR TO BACKFILLING.
2. CAUTION TAPE SHALL BE INSTALLED AT DEPTH OF 2 FEET BELOW THE SURFACE.
3. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS.
4. PIPELINE SHALL HAVE A MINIMUM OF 5' OF COVER.
5. SELECT FILL SHALL BE ODOT 304 AGGREGATE BASE IN 8" LOOSE LIFTS TO 100% OF THE DETERMINED DRY DENSITY.
6. THE OWNER'S REPRESENTATIVE WILL FIELD DETERMINE THE LOCATION OF ROCK SHIELD BASED ON FIELD CONDITIONS.

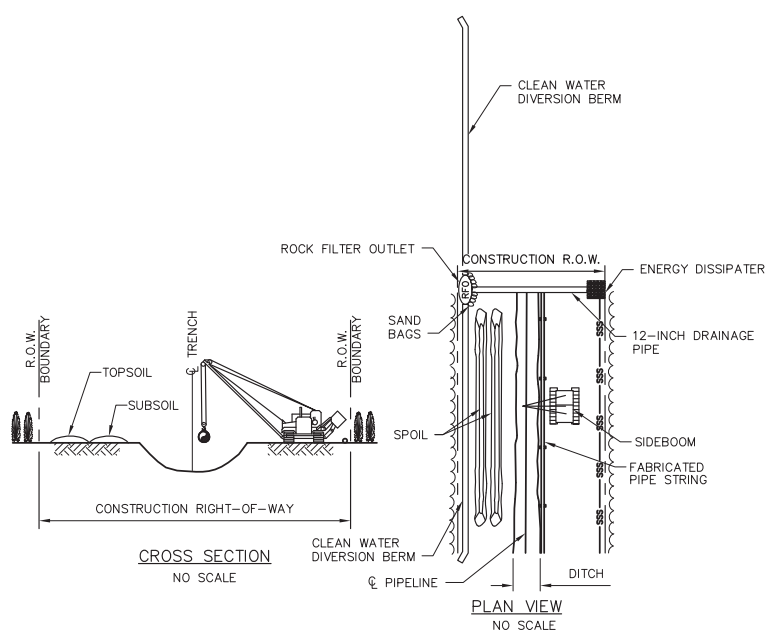


CONSTRUCTION FENCE DETAIL

NO SCALE

NOTES:

1. SHALL BE USED AROUND TRENCH EXCAVATION DURING OVERNIGHT HOURS TO PREVENT AN ACCIDENT.



CROSS SECTION

NO SCALE

PLAN VIEW

NO SCALE

CONVENTIONAL TRENCH CONSTRUCTION

NO SCALE

NOTE:

1. CLEAN WATER DIVERSION BERM SHALL BE SEEDED AND MULCHED, THEN NORTH AMERICAN GREEN EROSION CONTROL BLANKET OR SILT SOXX SHALL BE INSTALLED.

STV

Douglassville, PA Houston, TX Baltimore, MD Williamsport, PA

THE LOCATION OF THE PIPELINE FACILITIES AS SHOWN HEREON MUST BE CONSIDERED AS APPROXIMATE ONLY. BEFORE DIGGING OR FOR AN EXACT LOCATION PLEASE CONTACT YOUR STATES UNDERGROUND UTILITY LOCATION SERVICE.

ENGINEERING RECORD	
DRAWN BY	RFT
CHECKED BY	CDA
APPROVED BY	BJB
DATE	XYZ
SCALE	AS NOTED

REV.	DATE	APP#	DESCRIPTION	APPROVAL

Sunoco Logistics Partners L.P.

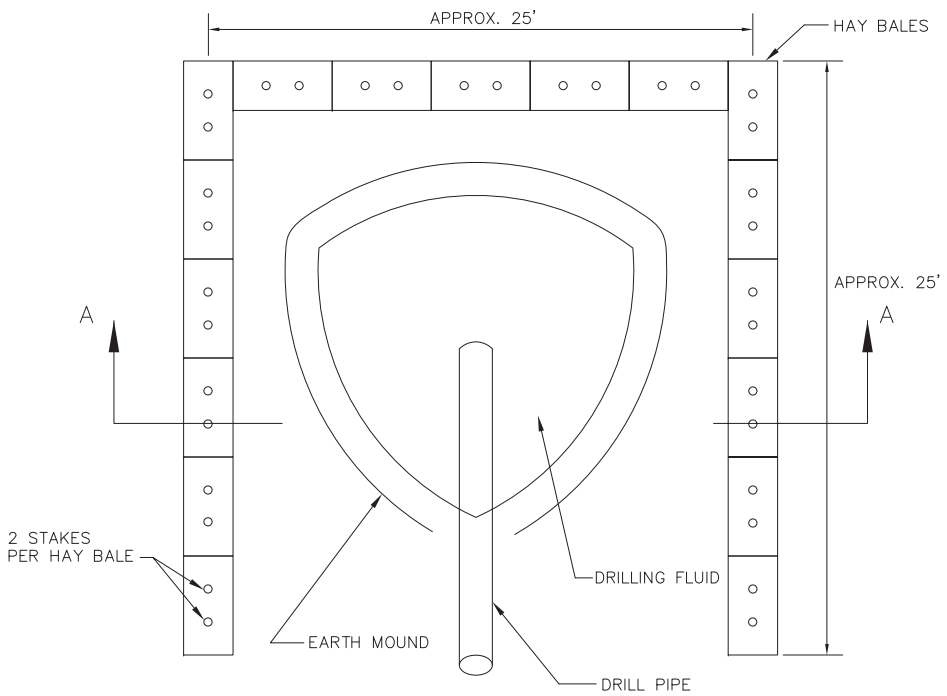
12-INCH MOGADORE TO VANPORT
ALLEGHENY ACCESS PIPELINE PROJECT
CONSTRUCTION DETAILS

PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

DWG. NO. 38-15486-OH-801

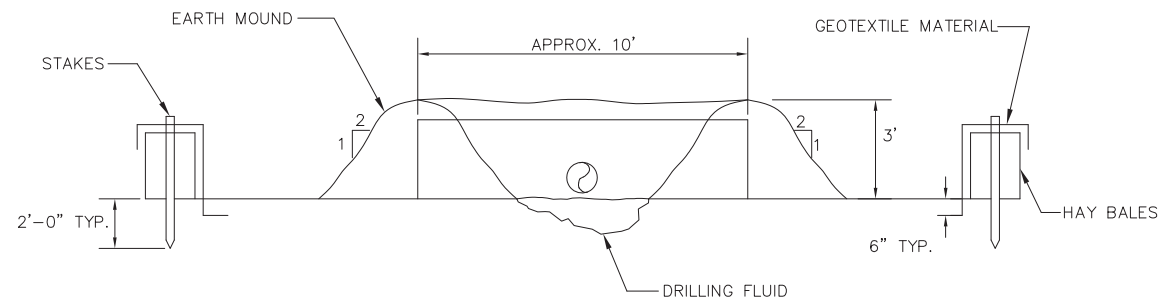
REV. NO. 0



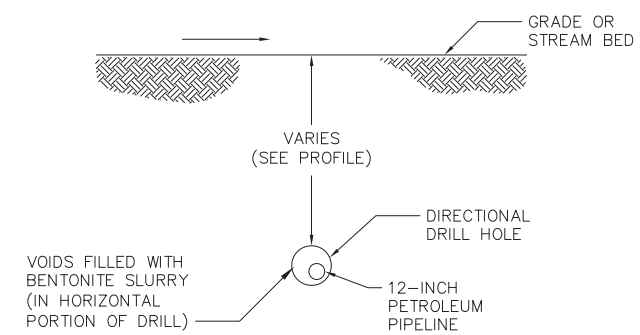
DIRECTIONAL DRILL ENTRY/EXIT POINT DETAIL
NO SCALE

NOTE:

CONTRACTOR SHALL SUBMIT DRILL AND "FRACK OUT" RESPONSE/CLEANUP PLAN TO SUNOCO PRIOR TO BEGINNING CONSTRUCTION.



SECTION A-A
NO SCALE



DIRECTIONAL DRILL 12" ONLY
NO SCALE

STV
Douglassville, PA Houston, TX Baltimore, MD Williamsport, PA

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ENGINEERING RECORD	
DRAWN BY	RFT
CHECKED BY	CDA
APPROVED BY	BJB
DATE	XYZ
SCALE	AS NOTED

REV.	DATE	APP#	DESCRIPTION	APPROVAL

Sunoco Logistics Partners L.P.

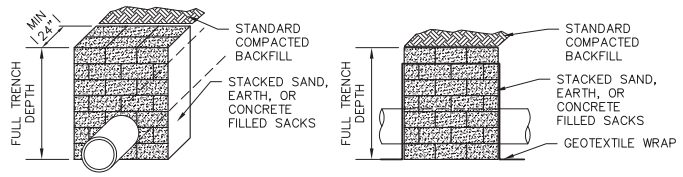
12-INCH MOGADORE TO VANPORT
ALLEGHENY ACCESS PIPELINE PROJECT
CONSTRUCTION DETAILS

PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

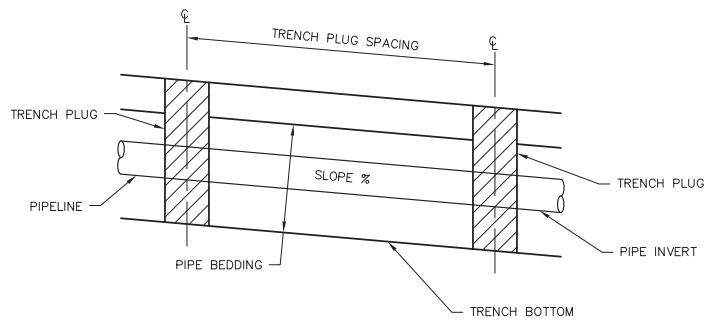
DWG. NO. 38-15486-OH-802

REV. NO. 0



SECTION VIEW
STANDARD TRENCH PLUG DETAIL

SIDE VIEW
MODIFIED TRENCH PLUG DETAIL
(FOR WATER BODY CROSSINGS)



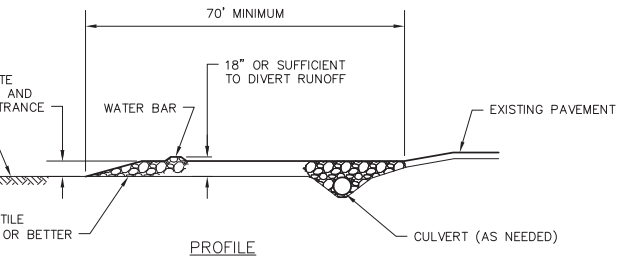
ELEVATION

REQUIRED SPACING AND MATERIALS FOR TRENCH PLUGS		
TRENCH SLOPE (%)	SPACING (FT)	PLUG MATERIALS
<5	* 1000	* ** SAND, EARTH OR CONCRETE FILLED SACKS
5–15	500	** SAND, EARTH OR CONCRETE FILLED SACKS
15–25	300	** SAND, EARTH OR CONCRETE FILLED SACKS
25–35	200	** SAND, EARTH OR CONCRETE FILLED SACKS
35–100	100	** SAND, EARTH OR CONCRETE FILLED SACKS
>100	50	CEMENT FILLED BAGS (WETTED) OR MORTARED STONE

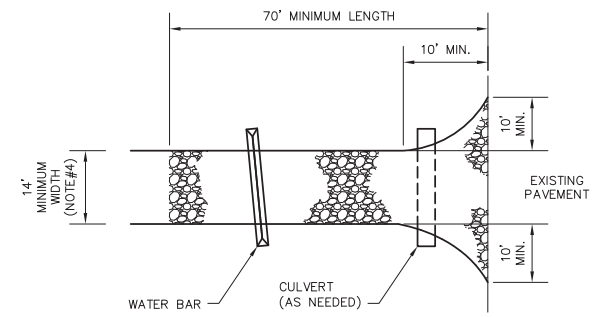
* IMPERVIOUS TRENCH PLUGS ARE REQUIRED ON BOTH SIDES OF ALL STREAM, RIVER, WETLANDS OR OTHER WATER–BODY CROSSINGS REGARDLESS OF TRENCH SLOPE.

** TOP SOIL MAY NOT BE USED TO FILL SACKS.

TRENCH PLUG INSTALLATION
NO SCALE



PROFILE



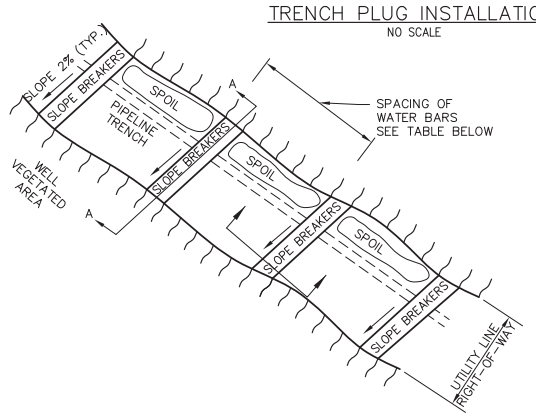
PLAN

STABILIZED CONSTRUCTION ENTRANCE
NO SCALE

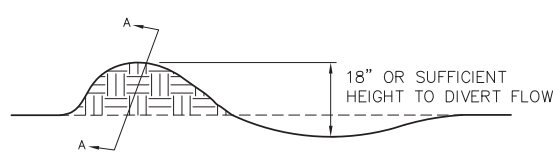
GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 lbs.
MINIMUM PUNTURE STRENGTH	80 psi.
MINIMUM TEAR STRENGTH	50 lbs.
MINIMUM BURST STRENGTH	320 psi.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS <0.6 mm.
PERMITTIVITY	1x10–3 cm/sec.

CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE – ODOT #2 (1.5–2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT.
3. THICKNESS – THE STONE LAYER SHALL BE AT LEAST 10 INCHES FOR HEAVY DUTY USE.
4. WIDTH – THE ENTRANCE SHALL BE AT LEAST 14 FT. WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE – A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT–PROOF POLYMERIC FIBERS. (SEE "GEOTEXTILE SPECIFICATION AND CONSTRUCTION ENTRANCE" TABLE.)
6. TIMING – THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT – A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR – A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE WHERE NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE – TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF–SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL – THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.



PLAN VIEW
NO SCALE



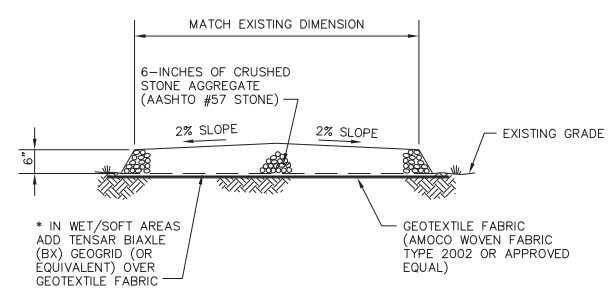
CROSS SECTION
NO SCALE

WATER BAR INSTALLATION
NO SCALE

NOTES:

1. THE MINIMUM WATER BAR DIMENSIONS SHALL BE:
   - TOP WIDTH OF BERM/DIKE – 2 FEET MINIMUM.
   - HEIGHT/DEPTH 18 INCHES UNLESS OTHERWISE NOTED ON PLANS.
   - SIDE SLOPES – SUFFICIENTLY FLAT TO ACCOMMODATE THE EXPECTED TRAFFIC.
2. THE SPACING BETWEEN WATER BARS SHALL BE AS NOTED. (SEE TABLE)
3. THE FIELD LOCATION SHALL BE ADJUSTED AS NEEDED TO PROVIDE A STABILIZED SAFE OUTLET.
4. THE DIVERTING RUNOFF SHALL BE DIRECTED ONTO AN UNDISTURBED VEGETATIVE AREA TO A SETTLING TRAP OR BASIN OR TRAP IF CONTRIBUTING AREA IS STABLE.
5. DIVERSIONS/DIKES SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT DURING CONSTRUCTION.
6. THE WATER BARS SHALL BE ANGLED SLIGHTLY DOWNSLOPE ACROSS THE CENTERLINE OF THE TRAVEL LINE.
7. WATER BARS (SLOPE BREAKERS, INTERCEPTOR DIKES) SHOULD BE INSTALLED ACROSS THE ENTIRE RIGHT–OF–WAY ON SLOPES GREATER THAN 5%.
8. WATER BARS SHOULD BE ORIENTED SO THAT THE DISCHARGE DOES NOT FLOW BACK ONTO THE RIGHT–OF–WAY. OBSTRUCTIONS, (E.G. STRAW BALES, SILT FENCES, ROCK FILTERS, ETC..) SHOULD NOT BE PLACED IN ANY WATER BARS. WHERE NEEDED, THEY SHOULD BE LOCATED BELOW THE DISCHARGE END OF THE WATER BAR.
9. WATER BARS SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS REACHED.
10. WATER BARS SHALL BE INSPECTED EVERYDAY OF CONSTRUCTION AND AFTER EACH RAIN EVENT FOR DEGRADATION IN SIZE OR FOR WATER BUILDUP. IF REPAIR IS NECESSARY, THE WATER BARS SHALL BE REPLACED/RESLOPED TO PREVENT FURTHER WATER BUILDUP.

WATER BAR SPACING	
ROAD GRADE (%)	DISTANCE (FT.)
1	400
2	250
5	135
10	80
15	60
20	45



NOTE:
CONTRACTOR TO REMOVE ACCESS ROADS AND RETURN IMPROVEMENTS TO EXISTING CONDITIONS AT COMPLETION OF PIPELINE INSTALLATION.

ACCESS ROAD MAINTENANCE
NO SCALE

STV
Douglassville, PA Houston, TX Baltimore, MD Williamsport, PA

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ENGINEERING RECORD	
DRAWN BY	RFT
CHECKED BY	CDA
APPROVED BY	BJB
DATE	XYZ
SCALE	AS NOTED

REV.	DATE	APP#	DESCRIPTION	APPROVAL

Sunoco Logistics Partners L.P.

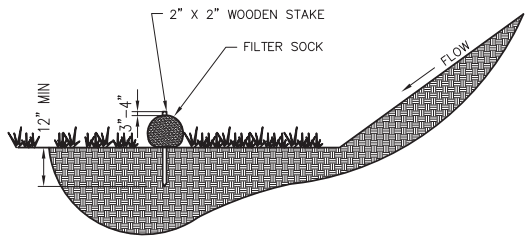
12-INCH MOGADORE TO VANPORT
ALLEGHENY ACCESS PIPELINE PROJECT
EROSION AND SEDIMENTATION CONTROL DETAILS

PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

DWG. NO. 38-15486-OH-803

REV. NO. 0



SILT SOXX
NO SCALE

NOTES:

1. MATERIALS – COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL–DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF PARTICLES RANGING FROM 3/8" TO 2".

2. FILTER SOCKS SHALL BE 3 TO 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH THE COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:

3. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID–SLOPE.

4. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION TO ESTABLISH PERMANENT VEGETATION.

5. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

6. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

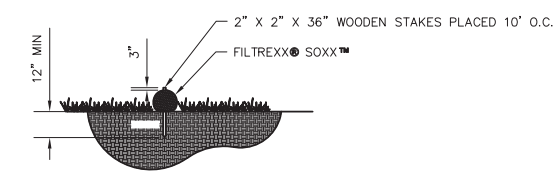
7. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.

8. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.

9. REMOVAL – FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDING.

MAXIMUM SLOPE LENGTH (IN FEET) ABOVE FILTER SOXX AND RECOMMENDED DIAMETER				
SLOPE	RATIO (H:V)	12"	18"	24"
0% – 2%	10% – 20%	250	300	350
2% – 10%	50:1 – 10:1	125	200	250
10% – 20%	10:1 – 5:1	100	150	200
20% – 33%	5:1 – 2:1	50	75	100
>50%	>2:1	25	50	75

NOTE:
FOR LARGER DRAINAGE AREAS, SEE STANDARDS FOR TEMPORARY DIVERSIONS, SEDIMENT TRAPS AND SEDIMENT BASINS.



FILTREXX® SOXX™ STAKING
NO SCALE

STV
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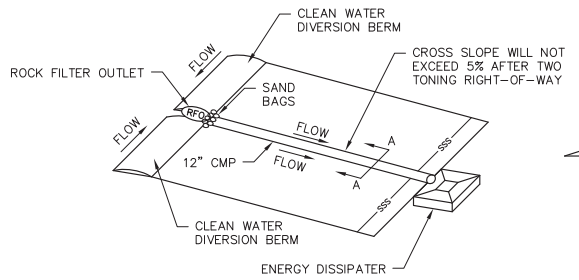
PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

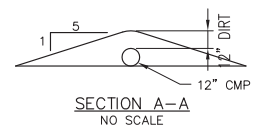
OLD DRAWING NO.

DWG. NO. 38-15486-OH-804

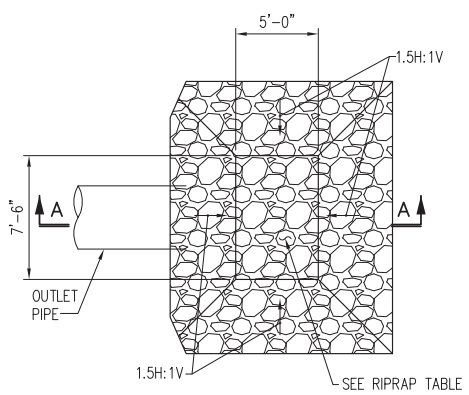
REV. NO. 0



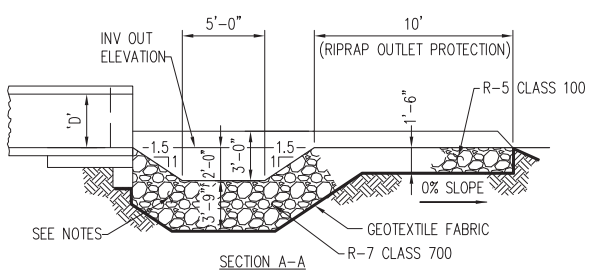
PERPENDICULAR DRAINAGE PIPE DETAIL
NO SCALE



SECTION A–A
NO SCALE



PLAN



SECTION A–A

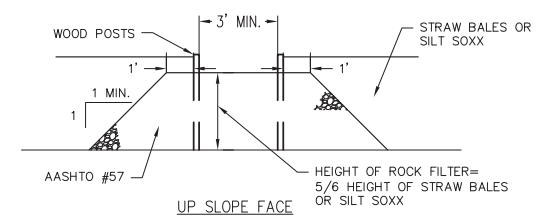
ROCK ENERGY DISSIPATER
NO SCALE

NOTES:

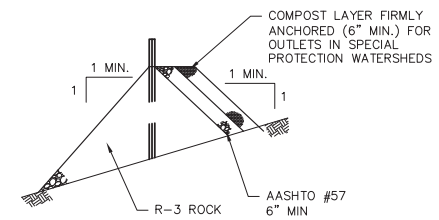
1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOTS, SOD, LOOSE ROCK, OR OTHER MATERIAL.
2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO THE MANFACTURERS' RECOMMENDATIONS.
4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES AND CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12-INCH MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
5. GRAVEL BEDDING SHALL BE AASHTO NO. 67 OR 57 UNLESS SHOWN DIFFERENTLY ON DRAWINGS.
6. RIPRAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
7. RIPRAP MAY BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
8. CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
9. ALL DISTURBED AREAS WILL BE VEGETATED AS SOON AS PRACTICAL.

NOTES:

1. PROVIDE GEOTEXTILE FABRIC ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.
2. GEOTEXTILE FABRIC, AS SPECIFIED IN PENNDOT PUBLICATION 408 – "SPECIFICATIONS", SECTION 735, TABLE A, CLASS 4, TYPE B.



UP SLOPE FACE

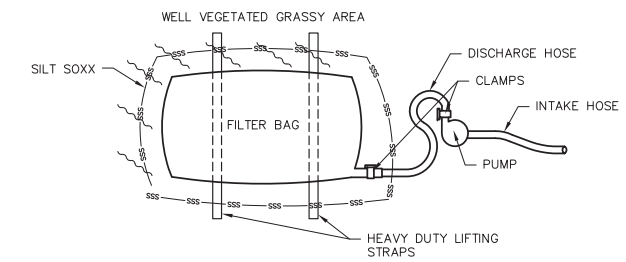


OUTLET CROSS-SECTION

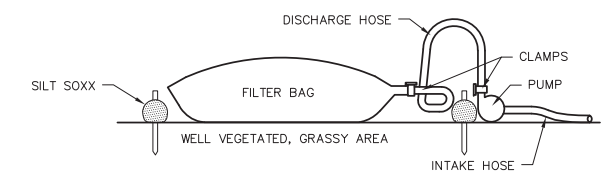
ROCK FILTER OUTLET
NO SCALE

NOTES:

1. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLETS.
2. THE HEIGHT OF THE OUTLET SHOULD EQUAL 5/6 THE HEIGHT OF THE STRAW BALES OF SILT SOXX.
3. IN SPECIAL PROTECTION WATERSHEDS. ADD A SIX-INCH LAYER OF COMPOST OVER THE AASHTO #57 STONE ON THE UPSTREAM SIDE OF THE OUTLET.



PLAN VIEW



ELEVATION VIEW

PUMPED WATER FILTER BAG
NO SCALE

NOTES:

1. 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.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME ½ FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
7. A COMPOST BERM OR COMPOST FILTER SOCK SHALL BE PLACED AROUND ANY BAG DISCHARGING TO A SPECIAL PROTECTION SURFACE WATER OR WITHIN 50 FEET OF ANY SURFACE WATER.

REV.	DATE	APP#	DESCRIPTION	APPROVAL

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Sunoco Logistics Partners L.P.

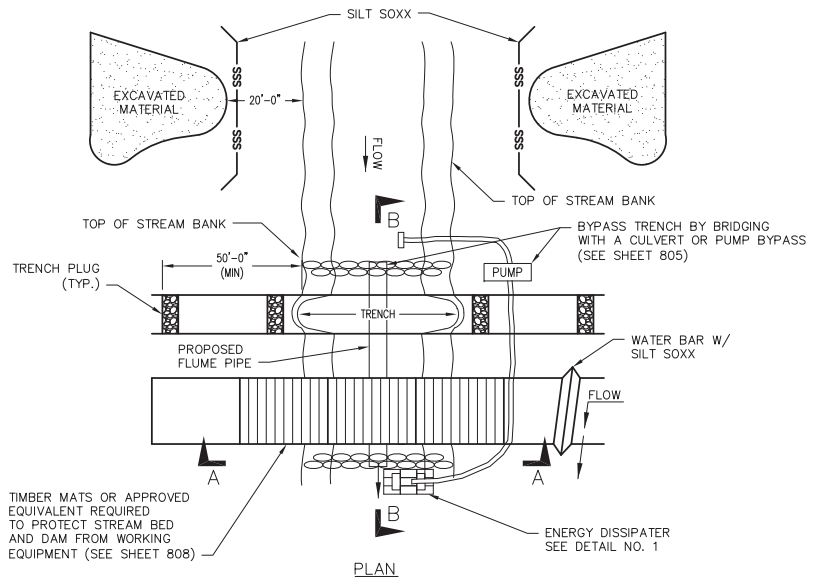
12-INCH MOGADORE TO VANPORT
ALLEGHENY ACCESS PIPELINE PROJECT
EROSION AND SEDIMENTATION CONTROL DETAILS

PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

DWG. NO. 38-15486-OH-805

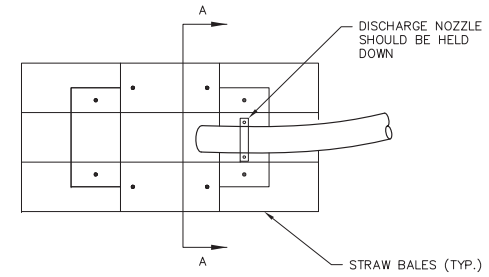
REV. NO. 0



PLAN

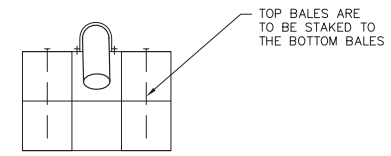
STREAM UTILITY CROSSING

NO SCALE



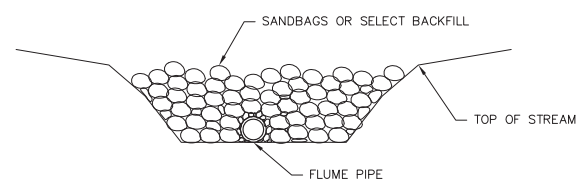
DETAIL NO. 1

NO SCALE



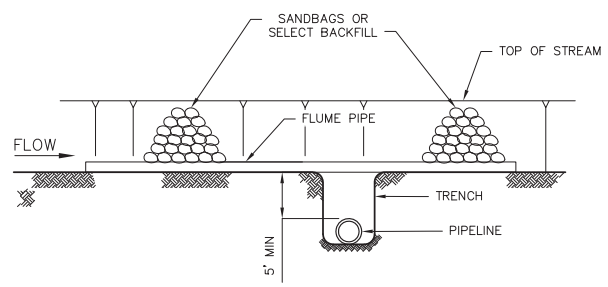
SECTION A–A

NO SCALE



A–A CROSS SECTION

NO SCALE



B–B CROSS SECTION

NO SCALE

SPECIFICATIONS FOR STREAM UTILITY CROSSING

1. WHEN SITE CONDITIONS ALLOW, ONE OF THE FOLLOWING SHALL BE USED TO DIVERT STREAM FLOW OR KEEP THE FLOW AWAY FROM CONSTRUCTION ACTIVITY.
   - DRILL OR BORE THE UTILITY LINES UNDER THE STREAM CHANNEL.
   - ROUTE THE STREAM FLOW AROUND THE WORK AREA BY BRIDGING THE TRENCH WITH A RIGID CULVERT OR A PUMP BYPASS.
2. CROSSING WIDTH – THE WIDTH OF CLEARING SHALL BE MINIMIZED THROUGH THE RIPARIAN AREA. THE LIMITS OF DISTURBANCE SHALL BE AS NARROW AS POSSIBLE INCLUDING NOT ONLY CONSTRUCTION OPERATIONS WITHIN THE CHANNEL ITSELF BUT ALSO CLEARING DONE THROUGH THE VEGETATION GROWING ON THE STREAMBANKS.
3. CLEARING SHALL BE DONE BY CUTTING NOT GRUBBING. THE ROOTS AND STUMPS SHALL BE LEFT IN PLACE TO HELP STABILIZE THE BANKS AND ACCELERATE REVEGETATION.
4. MATERIAL EXCAVATED FROM THE TRENCH SHALL BE PLACED AT LEAST 20 FT. FROM THE STREAMBANKS.
5. TO THE EXTENT OTHER CONSTRAINTS ALLOW, STREAM SHALL BE CROSSED DURING PERIODS OF LOW FLOW.
6. DURATION OF CONSTRUCTION – THE TIME BETWEEN INITIAL DISTURBANCE OF THE STREAM AND FINAL STABILIZATION SHALL BE KEPT TO A MINIMUM. CONSTRUCTION SHALL NOT BEGIN ON THE CROSSING UNTIL THE UTILITY LINE IS IN PLACE TO WITHIN 10 FT. OF THE STREAMBANK.
7. FILL PLACED WITHIN THE CHANNEL – THE ONLY FILL PERMITTED IN THE CHANNEL SHOULD BE CLEAN AGGREGATE, STONE OR ROCK. NO SOIL OR OTHER FINE ERODIBLE MATERIAL SHALL BE PLACED IN THE CHANNEL. THIS RESTRICTION INCLUDES ALL FILL FOR TEMPORARY CROSSINGS, DIVERSIONS, AND TRENCH BACKFILL WHEN PLACED IN FLOWING WATER. IF THE STREAM FLOW IS DIVERTED AWAY FROM CONSTRUCTION ACTIVITY THE MATERIAL ORIGINALLY EXCAVATED FROM THE TRENCH MAY BE USED TO BACKFILL THE TRENCH.
8. STREAMBANK RESTORATIONS – STREAMBANKS SHALL BE RESTORED TO THEIR ORIGINAL LINE AND GRADE AND STABILIZED WITH RIPRAP OR VEGETATIVE BANK STABILIZATION.
9. RUNOFF CONTROL ALONG THE RIGHT–OF–WAY – TO PREVENT SEDIMENT–LADEN RUNOFF FROM FLOWING TO THE STREAM, RUNOFF SHALL BE DIVERTED WITH WATER BAR OR SWALES TO A SEDIMENT TRAPPING PRACTICE A MINIMUM OF 50 FT. FROM THE STREAM.
10. SEDIMENT LADEN WATER FROM PUMPING OR DEWATERING OR PUMPING SHALL NOT BE DISCHARGED DIRECTLY TO A STREAM. FLOW SHALL BE ROUTED THROUGH A SILT BAG OR A FLAT, WELL–VEGETATED AREA ADEQUATE FOR REMOVING SEDIMENT BEFORE THE PUMPED WATER REACHES THE STREAM.
11. DEWATERING OPERATIONS SHALL NOT CAUSE SIGNIFICANT REDUCTIONS IN STREAM TEMPERATURES. IF GROUNDWATER IS TO BE DISCHARGED IN HIGH VOLUMES DURING SUMMER MONTHS, IT SHALL FIRST BE ROUTED THROUGH A SETTLING POND OR OVERLAND THOUGH A FLAT WELL–VEGETATED AREA.
12. PERMITS – IN ADDITION TO THESE SPECIFICATIONS, STREAM CROSSINGS SHALL CONFORM TO THE RULES AND REGULATIONS OF THE U.S. ARMY CORPS OF ENGINEERS FOR IN–STREAM MODIFICATIONS (404 PERMITS) AND OHIO ENVIRONMENTAL PROTECTION AGENCY'S STATE WATER QUALITY CERTIFICATION (401 PERMITS).
13. SEE SHEET 807 FOR TYPICAL PROFILES OF STREAM CROSSINGS.

REV.	DATE	APP#	DESCRIPTION	APPROVAL

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Douglassville, PA Houston, TX Baltimore, MD Williamsport, PA

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Sunoco Logistics Partners L.P.

12-INCH MOGADORE TO VANPORT
ALLEGHENY ACCESS PIPELINE PROJECT
EROSION AND SEDIMENTATION
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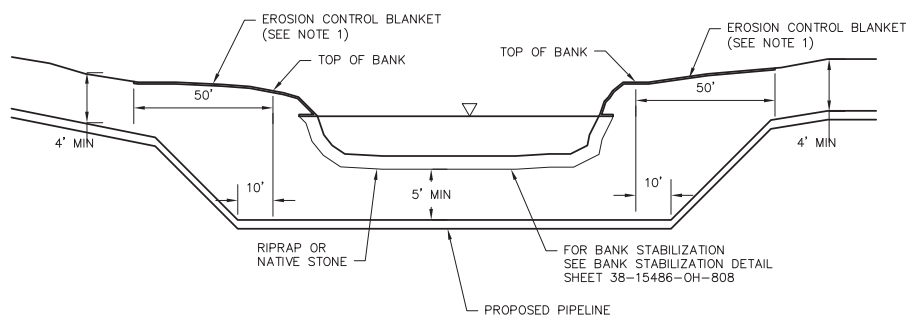
PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

DWG. NO. 38-15486-OH-806

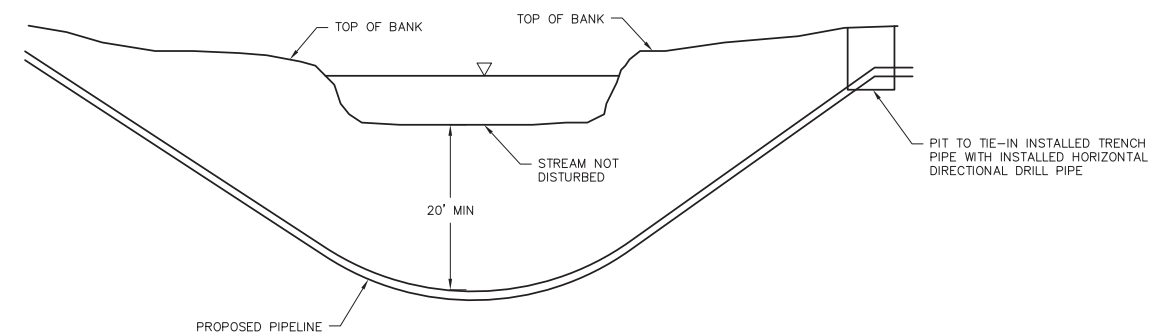
REV. NO. 0



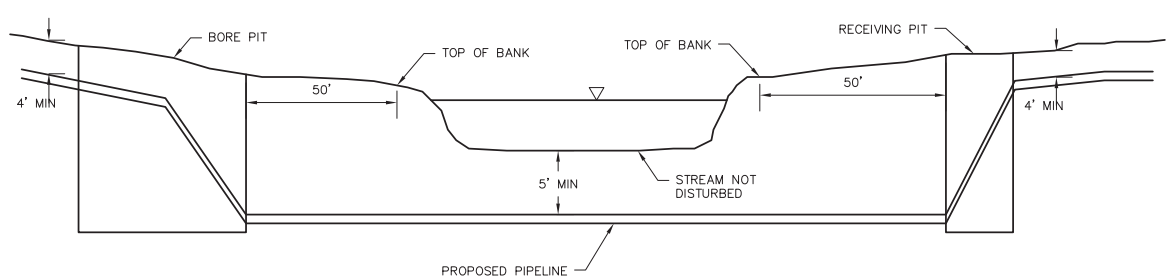
TRENCH PROFILE
NO SCALE

NOTES:

1. EROSION CONTROL BLANKET REQUIRED FROM HIGH WATER ELEVATION TO 50' FROM TOP OF BANK, SEE SHEET 38-15486-OH-809 FOR MATTING DETAILS.



HORIZONTAL DIRECTIONAL DRILL PROFILE
NO SCALE



HORIZONTAL AUGER BORE PROFILE
NO SCALE

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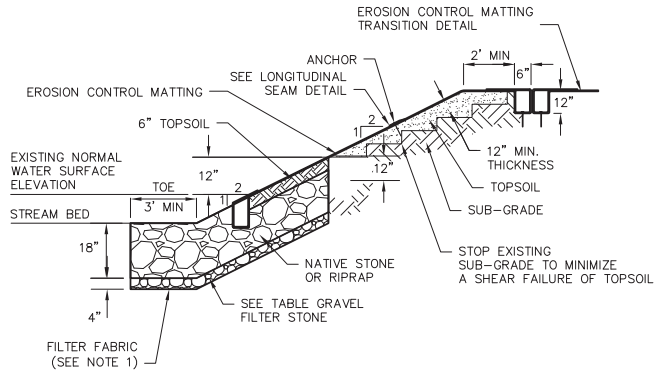
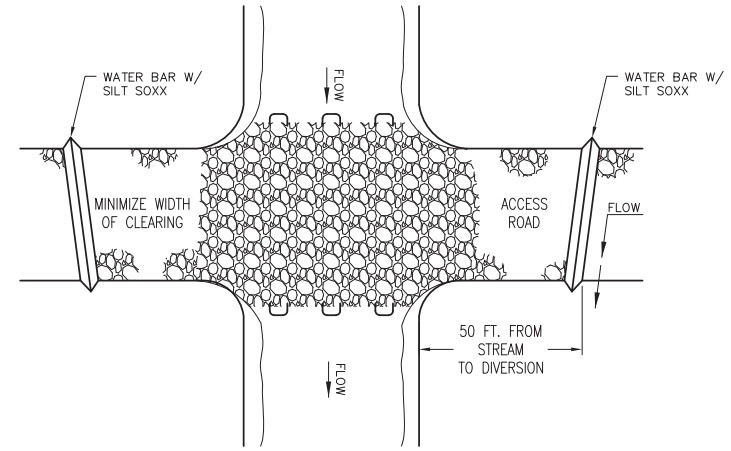


ROCK BANK STABILIZATION DETAIL

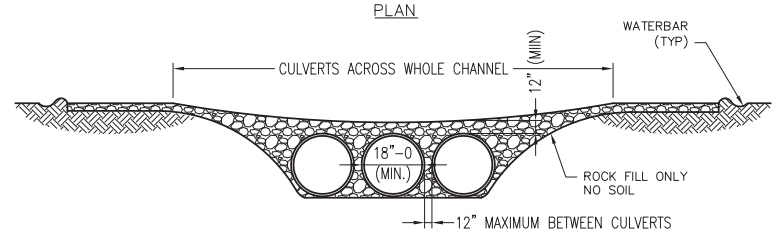
NO SCALE

NOTES:

1. FILTER FABRIC INSTALLED BENEATH NATURAL STONE (AND FILTER STONE) SHALL BE AMOCO NON-WOVEN GEOTEXTILE FABRIC MODEL NO. 4551 OR APPROVED EQUIVALENT.
2. THE EMBANKMENT SHALL BE PERMANENTLY SEEDED PRIOR TO THE INSTALLATION OF THE EROSION CONTROL MATTING.
3. HARVEST NATURAL STONE FROM RIGHT-OF-WAY IF POSSIBLE.
4. NATURAL STONE SIZE SHALL BE EQUIVALENT TO RIP-RAP CLASSIFICATION FOR DESIGNATED STREAM CROSSING.
5. FOR RIPRAP AND EROSION CONTROL BLANKET SUMMARY TABLE, SEE SHEET 812.



PLAN



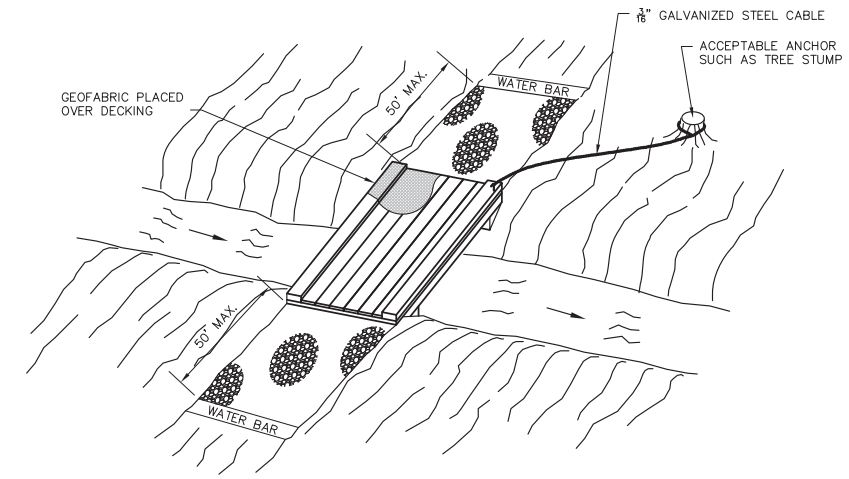
CROSS SECTION

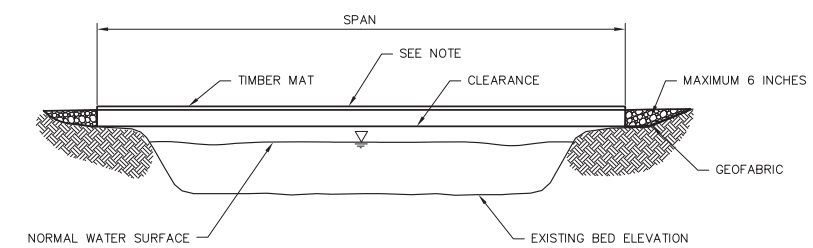
CULVERT STREAM CROSSING

NO SCALE

SPECIFICATIONS FOR CULVERT STREAM CROSSING

1. STREAM DISTURBANCE – DISTURBANCE TO THE STREAM SHALL BE KEPT TO A MINIMUM. STREAMBANK VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICAL AND THE STREAM CROSSING SHALL BE AS NARROW AS PRACTICAL.
2. CLEARING SHALL BE DONE BY CUTTING NOT GRUBBING. THE ROOTS AND STUMPS SHALL BE LEFT IN PLACE TO HELP STABILIZE THE BANKS AND ACCELERATE REVEGETATION.
3. TO MINIMIZE INTERFERENCE WITH FISH SPAWNING AND MIGRATION, CROSSING CONSTRUCTION SHOULD BE AVOIDED WHERE PRACTICAL FROM MARCH 15 THROUGH JUNE 15.
4. WATER SHALL NOT BE ALLOWED TO FLOW ALONG THE ROAD DIRECTLY TO THE STREAM. DIVERSIONS AND SWALES SHALL DIRECT RUNOFF AWAY FROM THE ACCESS ROAD TO A SEDIMENT-CONTROL PRACTICE.
5. PLACEMENT – CULVERTS SHALL BE PLACED ON THE EXISTING STREAMBED TO AVOID A DROP OR WATERFALL AT THE DOWNSTREAM END OF THE PIPE, WHICH WOULD BE A BARRIER TO FISH MIGRATION. CROSSINGS SHALL BE MADE IN SHALLOW AREAS RATHER THAN DEEP POOLS WHERE POSSIBLE.
6. CULVERT SIZE – CULVERT DIAMETER SHALL BE AT LEAST THREE TIMES THE DEPTH OF NORMAL STREAM FLOW AT THE POINT OF THE STREAM CROSSING. IF THE CROSSING MUST BE PLACED IN DEEP, SLOW-MOVING POOLS, THE CULVERT DIAMETER MAY BE REDUCED TO TWICE THE DEPTH OF NORMAL STREAM FLOW. THE MINIMUM SIZE CULVERT THAT MAY BE USED IS 18 IN.
7. NUMBER OF CULVERTS – THERE SHALL BE SUFFICIENT NUMBER OF CULVERTS TO COMPLETELY CROSS THE STREAM CHANNEL FROM STREAMBANK TO STREAMBANK WITH NO MORE THAN A 12-IN. SPACE BETWEEN EACH ONE.
8. FILL AND SURFACE MATERIAL –ALL MATERIAL PLACED IN THE STREAM CHANNEL, AROUND THE CULVERTS AND ON THE SURFACE OF THE CROSSING SHALL BE STONE, ROCK OR AGGREGATE. AASHTO NO. 1 SHALL BE THE MINIMUM ACCEPTABLE SIZE. TO PREVENT WASHOUTS, LARGER STONE AND ROCK MAY BE USED AND THEY MAY BE PLACED IN GABION MATTRESSES. NO SOIL SHALL BE USED IN THE CONSTRUCTION OF A STREAM CROSSING OR PLACED IN THE STEAM CHANNEL.
9. REMOVAL –AGGREGATE STONE AND ROCK USED FOR THIS STRUCTURE DOES NOT NEED TO BE REMOVED. CARE SHOULD BE TAKEN SO THAT ANY AGGREGATE LEFT DOES NOT CREATE AN IMPOUNDMENT OR IMPEDE FISH PASSAGE. ALL PIPES, CULVERTS, GABIONS OR STRUCTURES MUST BE REMOVED.
10. STABILIZATION – STREAMBANKS SHALL BE STABILIZED. PLANTINGS SHALL INCLUDE WOODY VEGETATION WHERE PRACTICAL.
11. FOR CULVERT SUMMARY TABLE, SEE SHEET 812.



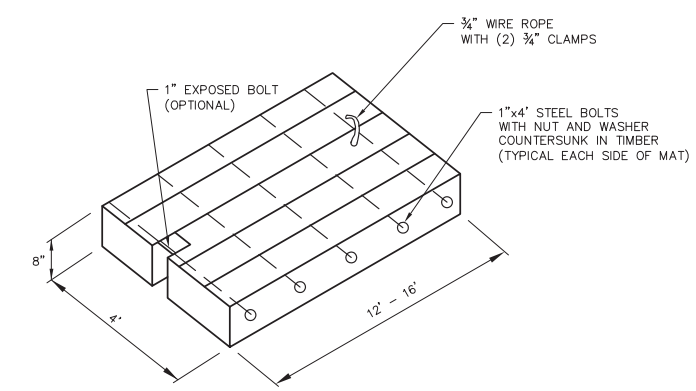


TEMPORARY STREAM CROSSING W/ TIMBER MAT

NO SCALE

TEMPORARY ACCESS BRIDGE

1. STREAM DISTURBANCE – DISTURBANCE TO THE STREAM SHALL BE KEPT TO A MINIMUM. STREAMBANK VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICAL AND THE STREAM CROSSING SHALL BE AS NARROW AS PRACTICAL.
2. CLEARING SHALL BE DONE BY CUTTING NOT GRUBBING. THE ROOTS AND STUMPS SHALL BE LEFT IN PLACE TO HELP STABILIZE THE BANKS AND ACCELERATE REVEGETATION.
3. WATER SHALL BE PREVENTED FROM FLOWING ALONG THE ROAD DIRECTLY TO THE STREAM. DIVERSIONS AND SWALES SHALL DIRECT RUNOFF AWAY FROM THE ACCESS ROAD TO A SEDIMENT-CONTROL PRACTICE.
4. BRIDGES SHALL BE CONSTRUCTED TO SPAN THE ENTIRE CHANNEL. IF THE CHANNEL WIDTH EXCEEDS 8 FT. AS MEASURED FROM THE TOP-OF-BANK, THEN A FOOTING, PIER OR BRIDGE SUPPORT MAY BE CONSTRUCTED WITHIN THE WATERWAY. NO MORE THAN ONE ADDITIONAL FOOTING, PIER OR BRIDGE SUPPORT SHALL BE PERMITTED FOR EACH ADDITIONAL 8-FT. WIDTH OF THE CHANNEL. HOWEVER, NO FOOTING, PIER OR BRIDGE SUPPORT WILL BE PERMITTED WITHIN THE CHANNEL FOR WATERWAYS LESS THAN 8 FT. WIDE.
5. SOME STEEP WATERSHEDS SUBJECT TO FLASH FLOOD EVENTS MAY REQUIRE THAT THE BRIDGE BE CABLED ORE SECURED TO PREVENT DOWNSTREAM DAMAGE OR HAZARD.
6. NO FILL OTHER THAN CLEAN STONE FREE FROM SOIL SHALL BE PLACED WITHIN THE STREAM CHANNEL.



TYPICAL TIMBER MAT DETAIL

NO SCALE

NOTES:

1. MATS ARE BUILT WITH WIRE ROPE TYPICAL EACH END OR EXPOSED BOLT TYPICAL EACH END FOR HANDLING, CONSTRUCTED OF ROUGH CUT HARDWOOD.
2. TIMBER MATS SHALL BE USED IN SOFT AREAS ALONG THE PIPELINE ROUTE

REV.	DATE	APP#	DESCRIPTION	APPROVAL

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Sunoco Logistics Partners L.P.

12-INCH MOGADORE TO VANPORT
ALLEGHENY ACCESS PIPELINE PROJECT
EROSION AND SEDIMENTATION CONTROL DETAILS

PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

DWG. NO. 38-15486-OH-808

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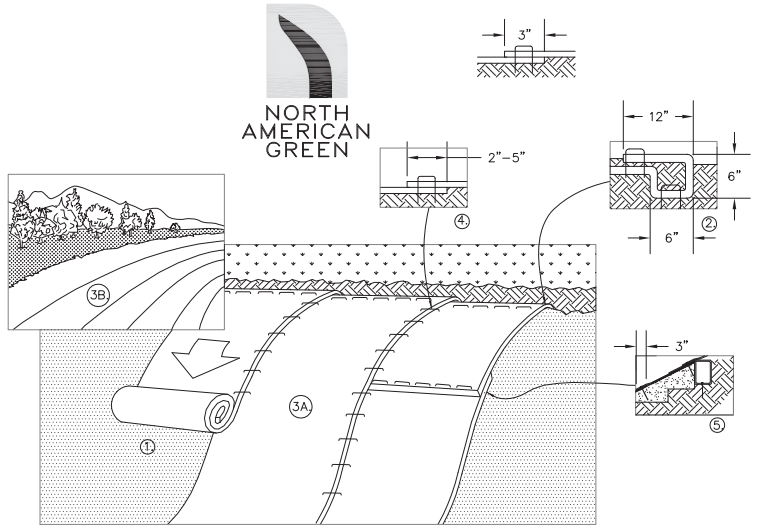

NOTE: REFER TO STAPLE PATTERN GUIDE, STAPLE PATTERN D, FOR STAPLE PATTERN DETAIL.

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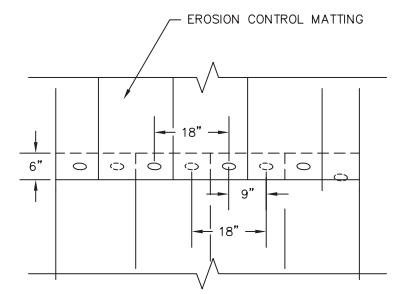
SLOPE INSTALLATION

NO SCALE

SLOPE INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACK FILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE ON THIS SHEET. WHEN USING OPTIONAL DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"–5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.



STAPLE PATTERN DETAIL AT LONGITUDINAL SEAMS

NO SCALE

NOTES:

1. LONGITUDINAL SEAMS SHALL BE ANCHORED AT 18–INCH INTERVAL, AS SHOWN ABOVE.
2. ANCHORS SHALL BE 8" – 11 GAUGE WIRE 'U' STAPLES.

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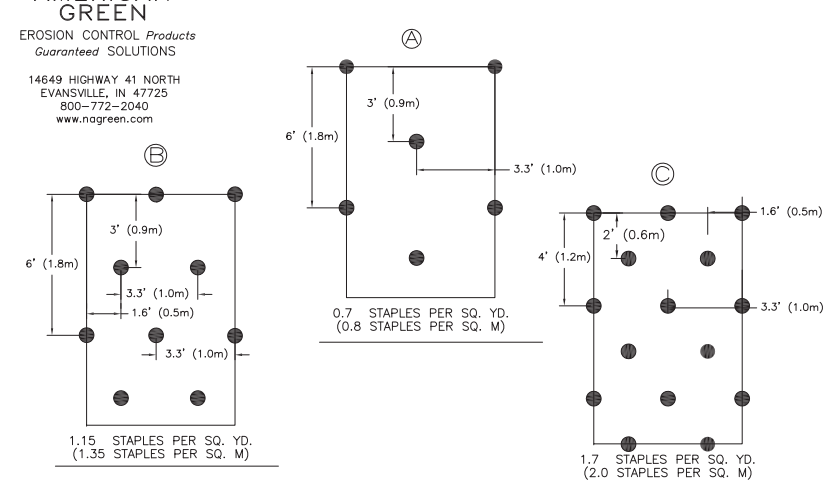
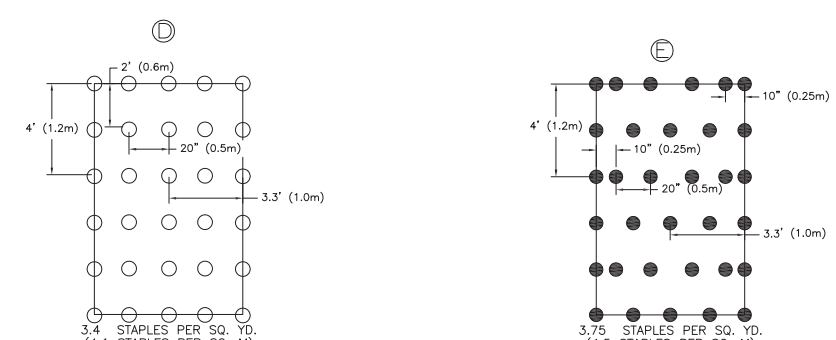
STAPLE PATTERN GUIDE 6.67' (2.03 M) WIDE ROLLS





CHANNEL INSTALLATION

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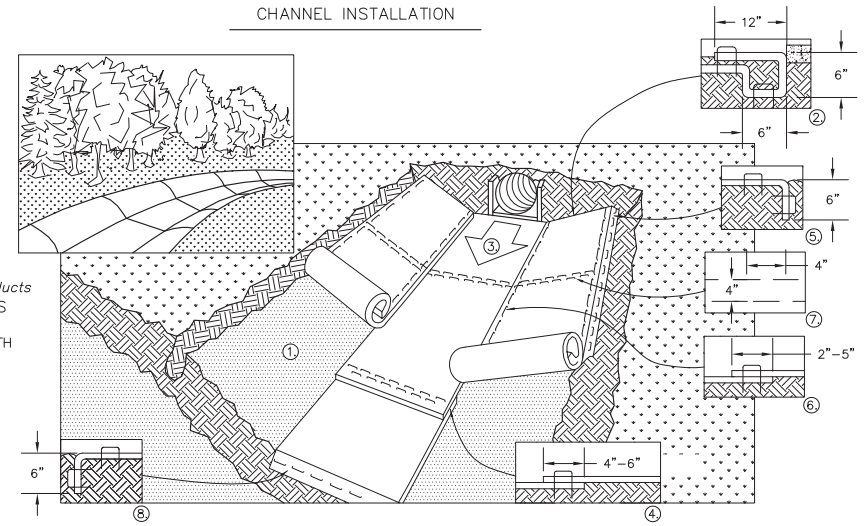
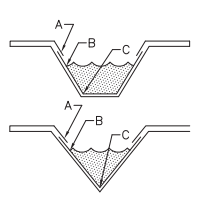


1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM –15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM –12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



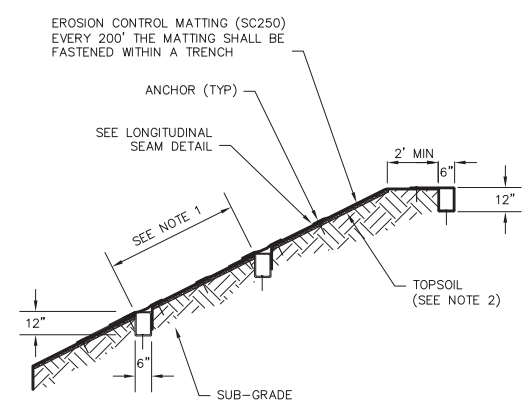
CRITICAL POINTS

A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

NOTE: REFER TO STAPLE PATTERN GUIDE, STAPLE PATTERN E, FOR STAPLE PATTERN DETAIL.



STEEP SLOPE STABILIZATION DETAIL

NO SCALE

NOTES:

1. TRENCH ANCHOR AT BEGINNING AND END OF MATTING ROLLS. OTHERWISE INSTALL TRENCH ANCHORS WITH A MAXIMUM SPACING OF 200'.
2. THE EMBANKMENT SHALL BE DOZER TRACKED AND PERMANENTLY SEEDED PRIOR TO EROSION CONTROL MATTING INSTALLATION.

STV

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SCALE	AS NOTED

REV.	DATE	APP#	DESCRIPTION	APPROVAL

Sunoco Logistics Partners L.P.

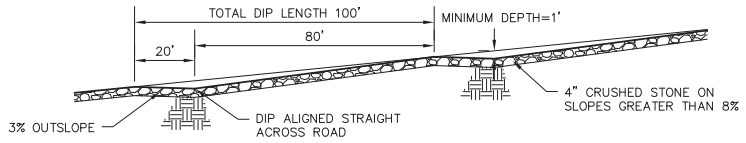
12-INCH MOGADORE TO VANPORT ALLEGHENY ACCESS PIPELINE PROJECT EROSION AND SEDIMENTATION CONTROL DETAILS

PORTAGE, MAHONING AND COLUMBIANA COUNTIES, OHIO

OLD DRAWING NO.

DWG. NO. 38-15486-OH-809

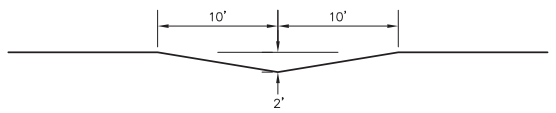
REV. NO. 0



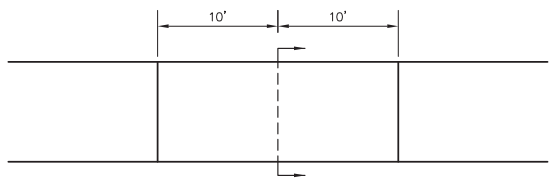
NOTES:

1. BROAD-BASED DIPS SHALL BE USED TO DIRECT RUNOFF FROM ACTIVE ROADWAYS TO WELL-VEGETATED AREAS OR SEDIMENT REMOVAL BMPS SUCH AS SILT SOXX, SEDIMENT BASINS, OR SILT SOXX SEDIMENT TRAPS.
2. DIPS SHALL BE ORIENTED SO AS TO DISCHARGE TO THE LOW SIDE OF THE ROADWAY.
3. DIPS SHALL BE INSPECTED DAILY. DAMAGED OR NON-FUNCTIONING DIPS SHALL BE REPAIRED BY THE END OF THE WORKDAY.
4. SPACING OF BROAD-BASED DIPS SHOULD BE AS SHOWN IN TABLE 3.2.

HIGH GRADIENT (5% – 10%) ROADWAY



PROFILE



PLAN

NOTES:

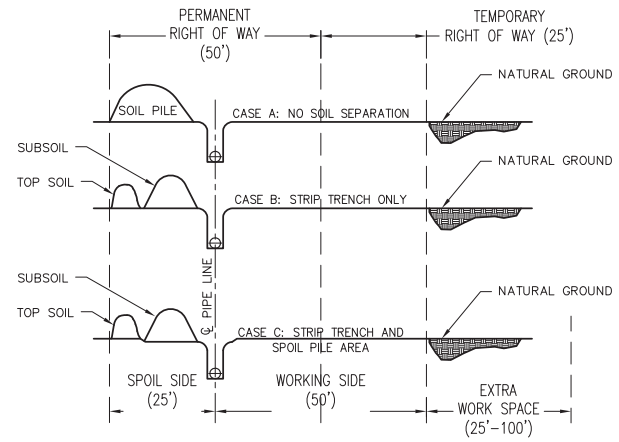
1. BROAD-BASED DIPS SHALL BE USED TO DIRECT RUNOFF FROM ACTIVE ROADWAYS TO WELL-VEGETATED AREAS OR SEDIMENT REMOVAL BMPS SUCH AS SILT SOXX, SEDIMENT BASINS, OR SILT SOXX SEDIMENT TRAPS.
2. DIPS SHALL BE ORIENTED SO AS TO DISCHARGE TO THE LOW SIDE OF THE ROADWAY.
3. DIPS SHALL BE INSPECTED DAILY. DAMAGED OR NON-FUNCTIONING DIPS SHALL BE REPAIRED BY THE END OF THE WORKDAY.

LOW GRADIENT (<5%) ROADWAY

BROAD-BASED DIP DETAIL

NO SCALE

TABLE 3.2 – SPACING OF BROAD-BASED DIPS	
ROAD GRADE (PERCENT)	SPACING BETWEEN DIPS (FEET)
<2	300
3	235
4	200
5	180
6	165
7	155
8	150
9	145
10	140



NOTE:
STRIPPING UNDER THIS SOIL PILE MAY ALSO BE REQUIRED IN CROPLANDS.

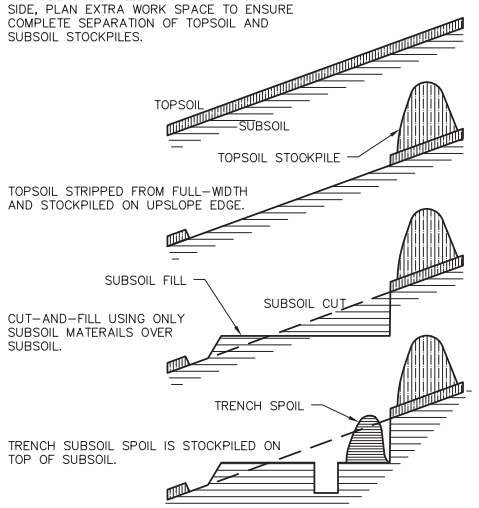
NOTE:
THE RIGHT-OF-WAY SPOIL PILE SHOWN ABOVE IS ONLY REQUIRED WHERE THE EXISTING GRADE IS TOO IRREGULAR TO LAY PIPE.

- CASE A APPLIES TO WOODLANDS AND BRUSHLANDS.
- CASE B SHOULD BE USED IN PERMANENT HAYLAND, PASTURE AND WETLAND.
- CASE C SHOULD BE USED IN NON ACTIVE CROPLANDS WITH DRY STABLE SOILS.

TOPSOIL SEGREGATION

NO SCALE

WHERE THE R/W CROSSES AGRICULTURAL SLOPES AND CONSTRUCTION CUTS AND/OR FILLS WILL OCCUR, STOCKPILE ALL TOPSOIL ON UPSLOPE EDGE OF R/W TO PREVENT BURYING AND MIXING OF TOPSOIL. IF TOPSOIL MUST BE STOCKPILED ON THE DOWNSLOPE SIDE, PLAN EXTRA WORK SPACE TO ENSURE COMPLETE SEPARATION OF TOPSOIL AND SUBSOIL STOCKPILES.



NOTES:

1. SUBSOIL IS REGRADED TO CONTOUR AFTER PIPE INSTALLATION.
2. TOPSOIL IS REPLACED OVER THE R/W AFTER THE SUBSOIL IS DECOMPOSED AND ROCKS/STONES ARE REMOVED.
3. BEDROCK AND BOULDER SPOIL SHALL BE TEMPORARILY PILED IN ACCESS LANES FOR IMMEDIATE REMOVAL

TOPSOIL STOCKPILING ON SLOPES

NO SCALE

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