MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1 – General Project Description

November 2018 (Docket No. CP19-14-000)

Amended February 2025

MVP Southgate Amendment Project
Resource Report 1 – General Project Description

Resource Report 1 – Filing Requirements	
Information	**Location in Resource Report**
Minimum Filing Requirements	
1. Provide a detailed description and location map of the Project facilities (§ 380.12(c)(1)). • Include all pipeline and aboveground facilities. • Include support areas for construction or operation. • Summarize the total acreage of land affected by construction and operation of the project.	Section 1.2 Figure 1.2-1 Section 1.3 Resource Report 8
2. Describe any non-jurisdictional facilities that would be built in association with the Project. (§ 380.12(c)(2)). • Include auxiliary facilities (See § 2.55(a)). • Describe the relationship to the jurisdictional facilities. • Include ownership, land requirements, gas consumption, megawatt size, construction status, and an update of the latest status of federal, state, and local permits/approvals. • Include the length and diameter of any interconnecting pipeline. • Apply the four-factor test to each facility (see § 380.12(c)(2)(ii)).	Section 1.9
3. Provide current, original United States Geological Survey (USGS) 7.5-minute series topographic maps with mileposts showing the Project facilities (§ 380.12(c)(3)). • Maps of equivalent details are acceptable if legible (check with staff). • Show locations of all linear project elements, and label them. • Show locations of all significant aboveground facilities, and label them.	Appendix 1-B (full sized USGS quadrangles maps)
4. Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the Project facilities. (§ 380.12(c)(3)). • No more than one-year old. • Scale no smaller than 1:6,000.	Appendix 1-A (alignment sheets)
5. Provide plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within one mile (§ 380.12(c)(3,4)). • Scale no smaller than 1:3,600. • Show reference to topographic maps and aerial alignments provided above.	N/A
6. Describe construction and restoration methods (§ 380.12(c)(6)).	Section 1.4
7. Identify the permits required for construction across surface waters (§ 380.12(c)(9)). • Include the status of all permits. • For construction in the federal offshore area, be sure to include consultation with the MMS. File with the MMS for rights-of-way grants at the same time or before you file with FERC.	Section 1.7 Table 1.7-1
8. Provide the names and addresses of all affected landowners as required and certify that all affected landowners will be notified. • Affected landowners are defined in § 157.6(d)(2). • Provide an electronic copy directly to the environmental staff.	Appendix 1-J (landowner line list) (CUI//PRIV)
Additional Information Often Missing and Resulting in Data Requests	
9. Describe all authorizations required to complete the proposed action and the status of applications for such authorizations.	Section 1.7 Table 1.7-1

Resource Report 1 – Filing Requirements	
Information	**Location in Resource Report**
10. Provide plot/site plans of all other aboveground facilities that are not completely within the right-of-way.	Appendix 1-C2 (plot plans) (CUI//CEII)
11. Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent rights-of-way, and temporary construction rights-of-way.	Appendix 1-C1 (typicals)
12. Summarize the total acreage of land affected by construction and operation of the Project.	Section 1.3
13. If Resource Report 5 - Socioeconomics is not provided, provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread.	Resource Report 5
14. Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects (OEP).	Appendix 1-A (alignment sheets)

RESOURCE REPORT 1
GENERAL PROJECT DESCRIPTION

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

ac.	acre(s)
Amendment Project	MVP Southgate Amendment Project
APE	Area of Potential Effect
API	American Petroleum Institute
ATWS	additional temporary workspace
BMPs	best management practices
Certificate	Certificate of Public Convenience and Necessity
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Duke	Duke Energy Carolinas, LLC
E&SC	Erosion and Sediment Control
East Tennessee	East Tennessee Natural Gas, LLC
Eden Loop	31-mile segment of the Southeast Supply Enhancement Project in Pittsylvania County, Virginia
EI	Environmental Inspector
EJ	Environmental Justice
FERC or Commission	Federal Energy Regulatory Commission
FERC Guidance Manual	*Guidance Manual for Environmental Report Preparation*
FEIS	Final Environmental Impact Statement
GHG	greenhouse gas
HDD	horizontal directional drill
HUC	Hydrologic Unit Code
Mainline Project	Mountain Valley Pipeline Project
MLV	mainline valve
Mountain Valley	Mountain Valley Pipeline, LLC
MP	milepost
NCDEQ	North Carolina Department of Environmental Quality
NCDOT	North Carolina Department of Transportation
NC HPO	North Carolina Historic Preservation Office
NGA	Natural Gas Act
NRHP	National Register of Historic Places
Original Certificated Project	MVP Southgate Project, as approved June 18, 2020
Plan	*Upland Erosion Control, Revegetation, and Maintenance Plan*
Procedures	*Wetland and Waterbody Construction and Mitigation Procedures*
PSNC	Public Service Company of North Carolina, Inc. (d/b/a Enbridge Gas North Carolina)
Salem Loop	24-mile segment of Southeast Supply Enhancement Project in Guilford, Forsyth, and Davidson Counties, North Carolina
SSE	Southeast Supply Enhancement Project
SER	Supplemental Environmental Report
SWPPP	Stormwater Pollution Prevention Plan
Transco	Transcontinental Gas Pipe Line Company, LLC
U.S.	United States

USACE	U.S. Army Corps of Engineers
USGS	U.S, Geological Survey
VADEQ	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation
VDHR	Virginia Department of Historic Resources

RESOURCE REPORT 1
GENERAL PROJECT DESCRIPTION

1.1 INTRODUCTION

On June 18, 2020, in Docket No. CP19-14-000, the Federal Energy Regulatory Commission ("FERC" or "Commission") issued a Certificate of Public Convenience and Necessity ("Certificate") pursuant to Section 7(c) of the Natural Gas Act to Mountain Valley Pipeline, LLC ("Mountain Valley") authorizing Mountain Valley to construct and operate the MVP Southgate Project (or "Original Certificated Project"). The Project included 75.1 miles of new 24- and 16-inch-diameter natural gas pipeline in Pittsylvania County, Virginia, and Rockingham and Alamance Counties, North Carolina. A Final Environmental Impact Statement ("FEIS") was issued by FERC on February 14, 2020. On June 15, 2023, Mountain Valley requested an extension of time to construct the Original Certificated Project due, in part, to permitting delays and legal challenges with respect to the Mountain Valley Pipeline Project (referred to herein as the "Mainline Project"). On December 19, 2023, the Commission granted an extension of time, until June 18, 2026, to complete construction of the Original Certificated Project. On December 29, 2023, Mountain Valley submitted an update on the status of the Original Certificated Project, indicating that it had entered into precedent agreements for a redesigned Southgate Project.

Mountain Valley is currently seeking to amend the Original Certificated Project by truncating the pipeline to approximately 31.3 miles, incorporating certain route deviations, increasing the diameter of the pipeline, removing the Lambert Compressor Station, and modifying the proposed meter station. The proposed MVP Southgate Amendment Project ("Amendment Project") now consists of approximately 31.3 miles of 30-inch-diameter natural gas pipeline (H-650), four meter stations, and other ancillary facilities (e.g., mainline valves ["MLVs"], contractor yards, and access roads) required for the safe and reliable operation of the pipeline. This Supplemental Environmental Report ("SER") describes any changes in environmental impacts, including the reduction of scope, resulting from the amended project scope as compared to the impacts already considered in the 2020 FEIS and as authorized in the Certificate.

Where information has changed since the FEIS, revisions necessary to accurately reflect the Amendment Project scope are provided in this SER. In areas where the existing resources, construction procedures, and/or impacts and mitigation discussions have not changed, the text refers back to the language in the FEIS. This SER also includes appendices necessary to show the Amendment Project scope and the Mountain Valley construction plans that have also been revised.

The Amendment Project facilities will be located in Pittsylvania County, Virginia, and Rockingham County, North Carolina. Table 1.1-1 summarizes the changes to facilities from the Original Certificated Project and the proposed Amendment Project.

Table 1.1-1

Table of Amendment Project Facility Changes

Project Facility	Original Certificated Project	Amendment Project
Pipe Diameter (inch)	16 and 24	30
Approximate Length (miles)	75.1	31.3
Compressor Station	Lambert	None
Meter Stations	Lambert N 3600 T-15 Dan River T-21 Haw River	Lambert LN 3600 Dan River Interconnect #1 Dan River Interconnect #2
Mainline Valves	MLV 1-8	MLV 1-4
Groundbeds	4	2

1.1.1 Environmental Resource Report Organization

The FERC's National Environmental Policy Act review process requires Mountain Valley to submit an Environmental Report consisting of 12 individual resource reports for natural gas pipeline projects, including those that are amending a previously approved project. Each resource report addresses particular aspects of the environment in the Amendment Project area and evaluates the potential effects of the construction and operation of the Amendment Project on those aspects. Resource Reports are prepared and organized according to the FERC (2017a) *Guidance Manual for Environmental Report Preparation*. Information presented in each Resource Report has not changed from that analyzed in the FEIS except where noted.

This report consists of a complete summary of the Amendment Project since the 2020 FEIS and Certificate issuance for facilities.

1.1.2 Purpose and Need of the Proposed Amendment Project

The purpose of the Amendment Project is to transport natural gas from an interconnection point with the Mainline Project in southern Virginia to an interconnection point with the East Tennessee Natural Gas Transmission, LLC system ("East Tennessee") in North Carolina, and then to two new delivery points in Rockingham County, North Carolina, in order to meet the specific requests for natural gas transportation service of Foundation Shippers Public Service Company of North Carolina, Inc. (d/b/a Enbridge Gas North Carolina) ("PSNC"), a local natural gas distribution company serving customers in North Carolina (300,000 dekatherms per day), and Duke Energy Carolinas, LLC ("Duke"), an electric utility in North Carolina (250,000 dekatherms per day). The Amendment Project will provide firm natural gas transportation services for PSNC and Duke to meet growing supply and resiliency needs via the interconnections referenced above. The Amendment Project is expected to be in service by mid-2028. The Amendment Project is a separate project from the 303-mile Mountain Valley Pipeline (the "Mainline Project") that began operation on June 14, 2024.

The Amendment Project is not designed to provide natural gas to any liquefied natural gas export terminal. The Amendment Project terminates at an inland location more than 185 miles from the nearest coastal Virginia port, 225 miles from the nearest coastal North Carolina port, and even farther from the nearest liquefied natural gas export terminal.

1.2 LOCATION AND DESCRIPTION OF FACILITIES OF THE AMENDMENT PROJECT

The Amendment Project includes construction of the underground pipeline and aboveground facilities located in Virginia and North Carolina. These facilities will be designed, constructed, tested, operated, and maintained in accordance with the requirements of 49 Code of Federal Regulations ("CFR"), Part 192, Transportation of Natural Gas and Other Gas by Pipeline; Minimum Safety Standards; 18 CFR § 380.15, Site and Maintenance Requirements; and other applicable federal and state regulations.

1.2.1 Pipeline Facilities

The revised H-650 pipeline is a new, 30-inch-diameter, approximately 31.3-mile-long natural gas pipeline that will extend from the proposed Lambert Interconnect and traverse Pittsylvania County, Virginia, in a southwest direction for approximately 26.1 miles. The pipeline will then continue southwest into Rockingham County, North Carolina, for approximately 5.2 miles to proposed delivery interconnects (Dan River Interconnect #1 and Dan River Interconnect #2) located at approximately MP 31.3. Figure 1.2-1 provides an overview of the proposed Project facilities. The Amendment Project follows the route previously certificated by the Commission, with minor deviations in certain locations, as discussed below.

The pipeline will receive natural gas from the Mainline Project (milepost ["MP"] 0.0) and from an interconnect with the East Tennessee pipeline (at MP 28.2). The H-650 pipeline will be designed for a Maximum Allowable Operating Pressure of 1,440 pounds per square inch gauge and will be constructed in compliance with 49 CFR Part 192.

Table 1.2-1 identifies the counties crossed by the proposed pipeline route by milepost. The locations that deviate from the certificated route are provided in Table 1-1.1. Appendix 1-A contains alignment sheets, and Appendix 1-B contains full-size U.S Geological Society ("USGS") quadrangle maps for the Amendment Project. Appendix 1-C1 contains applicable Typical Right-of-way Configurations and Construction Detail Drawings.

The pipeline will be constructed of high-strength carbon steel pipe manufactured in accordance with the American Petroleum Institute's ("API") specification API 5L PSL2, Specification for Line Pipe. Mountain Valley will protect the Amendment Project pipe from corrosion with a fusion-bonded epoxy coating and an impressed-current cathodic protection system during operation. Weld joints and other piping that are not factory-coated will be field-coated per applicable standards.

Figure 1.2-1 Project Overview Map

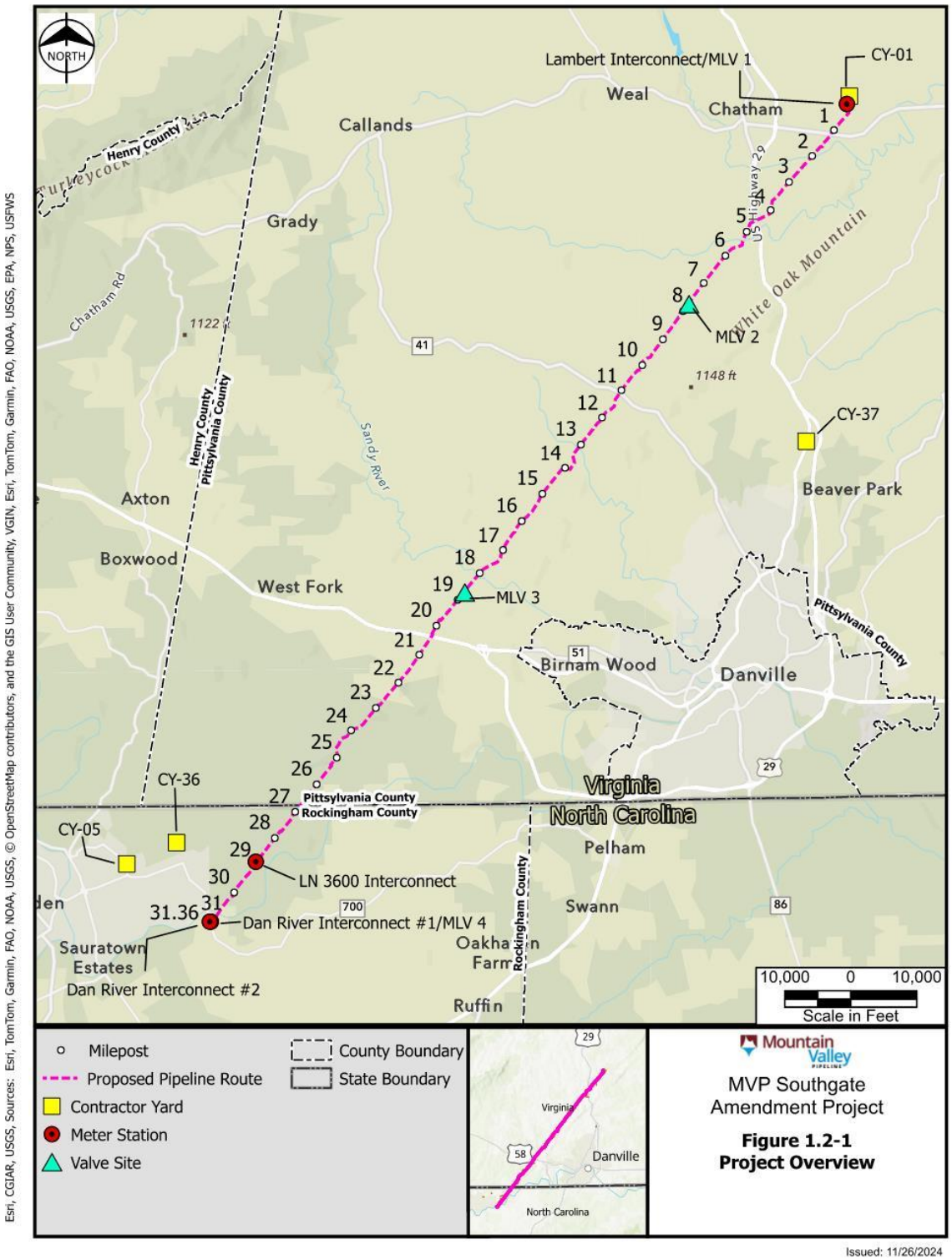


Table 1.2-1

Amendment Project Pipeline Facilities

Approximate MP	Pipeline / Diameter	County, State	Approximate Length (miles)
0.0 – 26.8	H-650 Pipeline / 30-inch	Pittsylvania, Virginia	26.8
26.8 – 31.3	H-650 Pipeline / 30-inch	Rockingham, North Carolina	4.5
		Amendment Project Total	**31.3**

1.2.2 Aboveground Facilities

Table 1.2-2 provides a summary of the proposed aboveground facilities, which consist of four meter (interconnect) stations, one of which will include a pig launcher and another of which will include a pig receiver.

Table 1.2-2

Amendment Project Aboveground Facilities

Interconnects a/	Approximate MP
Lambert Interconnect b/	0.0
LN 3600 Interconnect	28.9
Dan River Interconnect #1 c/	31.3
Dan River Interconnect #2	31.3

a/ Amendment Project MLV locations are shown in Table 1.2-3.
b/ Facility includes a pig launcher
c/ Facility includes a pig receiver

1.2.2.1 Compressor Station

The Lambert Compressor Station has been removed from the Amendment Project. No compression is required for the Amendment Project.

1.2.2.2 Pig Launcher and Receiver

The Amendment Project includes launching and receiving facilities to accommodate in-line inspection tools (smart pigs) for periodic internal inspections of the pipeline during operations (see Table 1.2-2 above). A pig launcher is located at the origination point inside the Lambert Interconnect fenceline in Pittsylvania County, Virginia. The corresponding pig receiver will be located at the Dan River Interconnect #1 at MP 31.3 in Rockingham County, North Carolina. The locations of these facilities are included on the alignment sheets located in Appendix 1-A. The impacts associated with construction and operation of the pig launcher and receiver facilities are anticipated to be minimal, as they are located within the limits of disturbance associated with the aboveground facilities described in this Resource Report. The land required for these facilities is included in the operation acreages of each respective facility.

1.2.2.3 Mainline Valves and Meter Stations

Mainline Valves

The Amendment Project includes installation of MLVs at intermediate locations as necessary to meet operational needs and the design and installation requirements described in 49 CFR § 192.179(a) –

Transmission Line Valves, which require minimum distances to the nearest valve based on pipeline location class. Table 1.2-3 identifies the location of MLVs along the proposed pipeline route.

MLVs will be located within the permanent right-of-way of the pipeline or the permanent limits of other aboveground facilities. With the exception of those located at meter station locations, MLVs will be buried with aboveground extensions and equipped with valve actuators to allow for local or remote operation. Each MLV will be contained within a fenced, gated, and locked area. Mountain Valley will monitor the pipeline operating conditions 24 hours a day, 7 days a week, by personnel in control centers using a Supervisory Control and Data Acquisition computer system.

Table 1.2-3

Amendment Project Mainline Valve Locations

Name	County, State	Approximate MP Location
MLV 1 / Lambert Interconnect a/	Pittsylvania, VA	0.0
MLV 2	Pittsylvania, VA	7.8
MLV 3	Pittsylvania, VA	18.8
MLV 4 / Dan River Interconnect #1	Rockingham, NC	31.3

a/ MLVs will be 30 feet by 30 feet in area and will be wholly contained within the permanent right-of-way. MLVs at the Lambert Interconnect and the Dan River Interconnect #1 will be located within the fenceline of those facilities.

Meter Stations

The Amendment Project includes the installation of meter (interconnect) stations consisting of, but not limited to, custody-transfer flow meter, pressure/flow regulator, over-pressure protection, isolation valves, heaters, odorization, and associated instrumentation and controls at the proposed gas receipt and delivery points to measure the flow of natural gas between the Amendment Project and the interconnect (see Table 1.2-2). Each interconnect will consist of one or more meter runs located inside a fenced and gated site and will contain flow or pressure control. The metering sites will be located as close as practicable to the actual intersection of the Amendment Project and the receipt/delivery facilities to keep the length of the interconnecting piping to a minimum. The locations of these facilities are shown on the alignment sheets in Appendix 1-A and maps located in Appendix 1-B.

The meter stations will include upstream and downstream piping to connect to third-party pipelines.

1.2.2.4 Telecommunications

The Amendment Project will have primary and backup telecommunications services for the meter stations and MLV sites. Each interconnect site will utilize cellular communications equipment. Backup satellite receivers may be installed in the event of poor cellular connections.

1.2.2.5 Electric Utility Service

Mountain Valley intends to purchase commercial electric power for the Amendment Project's meter stations, MLVs, and cathodic protection sites.

1.3 LAND REQUIREMENTS

A summary of the Amendment Project land requirements is included in Table 1.3-1. Additional information on land uses affected by the Amendment Project is included in Resource Report 8.

Table 1.3-1

Land Requirements for the Pipeline Facilities Associated with the Amendment Project

Facility	Land Required for Construction (acres ["ac."])	Land Required for Operation (ac.)
H-650 Pipeline	350.30 a/	186.16 b/
Additional Temporary Workspace	135.02	0.00
Cathodic Protection c/	1.15	1.15
Contractor Yards	43.05	0.00
Access Roads d/	46.31	3.12
Amendment Project Total e/	**575.83**	**190.42**

a/ Based on a 100-foot right-of-way, which includes the 50-foot permanent right-of-way (which has been reduced to 3 feet in between horizontal directional drill entry and exits), temporary workspace, and aboveground facility workspace.
b/ Based on a 50-foot permanent right-of-way.
c/ Acreage includes locations of proposed groundbeds, which will be located as part of the permanent right-of-way.
d/ Acreage based on a 25-foot road width for temporary and permanent access roads.
e/ Sums may not equal the total of addends due to rounding.

1.3.1 Pipeline

The pipeline will generally require a 100-foot-wide construction right-of-way consisting of a 50-foot permanent right-of-way and 50 feet of temporary workspace. The temporary workspace is necessary for worker safety, the safe travel of construction vehicles and equipment, stockpiling soil, and installation of erosion and sediment controls. The Interstate Natural Gas Association of America recommends the use of a 95-foot baseline width and increasing or decreasing this baseline width for special conditions (Gulf Interstate Engineering 1999).

Mountain Valley has generally reduced the Amendment Project's construction right-of-way width at wetland and waterbody crossings to 75 feet. Mountain Valley will implement the FERC (2013a; 2013b) *Upland Erosion Control, Revegetation, and Maintenance Plan* ("Plan") and *Wetland and Waterbody Construction and Mitigation Procedures* ("Procedures") and its project-specific Erosion and Sediment Control ("E&SC") plan that comply with state-specific regulations to minimize impacts during construction. Mountain Valley is preparing a project-specific E&SC plan that will comply with Virginia and North Carolina erosion control regulations. Additional information on wetland and waterbody construction impacts is located in Resource Report 2, Sections 2.3.6 and 2.4.4, respectively.

A list of the additional temporary workspaces ("ATWS") areas required for the Amendment Project, including milepost location, dimensions, current land use, and justification, is included in Appendix 1-D. Certain areas of ATWS have been modified since the Original Certificated Project due to route adjustments, updated survey data, and landowner negotiations.

The pipeline is collocated with existing infrastructure for approximately 64 percent (approximately 20 miles) of the proposed alignment. Where collocation with existing utility rights-of-way is proposed, the Amendment Project has designed the workspace such that the permanent right-of-way for the pipeline is located immediately adjacent to or partially within the existing right-of-way of the pipeline or electric transmission utility wherever feasible. Mountain Valley is proposing to use up to 25 feet of temporary workspace within the adjacent utility rights-of-way where possible; however, the final design and use of

workspace within these areas is dependent on successful negotiation with the easement owner(s). Locations where segments of the Amendment Project are collocated or parallel to existing utility corridors and other rights-of-way are shown in Appendix 1-E1. Appendix 1-E2 provides information on where the proposed alignment deviates from existing corridors.

1.3.2 Aboveground Facilities

Land requirements for the meter stations are included in Table 1.3-2. MLVs and pig launcher/receiver sites will be entirely contained within the permanent pipeline right-of-way or within the fenceline of the proposed meter stations and will not, therefore, require any additional land disturbance.

Table 1.3-2

Land Requirements for the Amendment Project Aboveground Facilities

Facility Name	Approximate MP	Land Required for Construction (ac.)	Land Required for Operation (ac.)
Meter Stations			
Lambert Interconnect/MLV 1 a/	0.0	0.72	0.72
LN 3600 Interconnect	28.9	0.28	0.28
Dan River Interconnect #1/MLV 4 a/	31.3	0.68	0.68
Dan River Interconnect #2	31.3	0.47	0.47
Mainline Valves b/			
MLVs 2 and 3	**Various**	0.04	0.04
Total c/	**---**	**2.19**	**2.19**

Note: Impact calculations do not include associated facility access roads.
a/ Pig Launcher/Receiver will be within the aboveground facility sites (i.e., the Lambert Interconnect and Dan River Interconnect #1); therefore, acreage calculations for the pig launcher and receiver are included with those facilities.
b/ See Table 1.2-3 for milepost locations of MLVs. MLVs contained within the fenceline of a proposed meter station (MLV 1 at the Lambert Interconnect and MLV 4 at the Dan River Interconnect #1) will not require any additional land disturbance. MLVs 2 and 3 are within the pipeline permanent right-of-way; however, the acreages associated with those facilities have been excluded from the right-of-way acreage (i.e., MLV sites are not double counted within the total Amendment Project impacts).
c/ Sums may not equal the total of addends due to rounding.

Cathodic Protection

Mountain Valley intends to install two rectifiers for cathodic protection (see Table 1.3-3). Groundbeds (approximate dimensions of 50 feet wide by 500 feet long) will be located perpendicular to the permanent easement.

Table 1.3-3

Amendment Project Potential Rectifier and Groundbed Locations

Nearest MP	County, State	Cathodic Protection Section	Cathodic Protection Groundbed Type
9.7	Pittsylvania, VA	1	Conventional (Anodes & Cable)
20.5	Pittsylvania, VA	2	Conventional (Anodes & Cable)

1.3.3 Access Roads

Mountain Valley will leverage the use of existing roads for the Amendment Project; however, new access roads are required in locations that do not parallel existing linear infrastructure. Lengths of new and existing roads to provide access to the pipeline right-of-way during the construction and operation of the Amendment Project facilities are provided in Appendix 1-F. This list includes private roads, drives, lanes, and other roads that will be utilized during construction and operation. Other roads may include existing access roads installed for agricultural or well or construction access, farm roads, all-terrain vehicle paths/trails, etc.

Maintenance or upgrading may be required on some of the existing roads prior to use by construction equipment. A number of the existing dirt or gravel access roads will be graded and maintained to prevent rutting. Others may require widening or placement of additional stabilization means, including but not limited to gravel or crushed stone on the existing surface, to ensure safe travel conditions. Additional information for access roads is provided in Section 8.2.1.4 of Resource Report 8.

1.3.4 Additional Temporary Workspace

ATWS areas will be required for construction activities requiring space outside the standard 100-foot construction right-of-way. Construction activities or areas that may require ATWS include but are not limited to:

- Areas requiring extra depth of cover over the pipeline;
- Timber storage areas;
- Areas with unstable soil;
- Installation of erosion and sediment controls and other stormwater management facilities;
- Road and railroad crossings;
- Winch hills;
- Wetland and waterbody crossings;
- Conventional bores;
- Horizontal directional drills (“HDD”);
- Foreign pipeline crossings and interconnects;
- Foreign utility crossings;
- Areas requiring full-width topsoil segregation;
- To accommodate a specific request of the landowner;
- Areas with steep side slopes, rock, or other difficult terrain;
- Pipeline access and truck turnarounds;
- Fabrication and staging areas; and
- Hydrostatic test water withdrawal and discharge locations.

Mountain Valley determined the extent of ATWS for the Amendment Project on a site-specific basis. The ATWS areas will be restricted to the minimum size necessary to safely construct the pipeline with respect to the existing conditions anticipated at the time of construction. The ATWS will be used during construction for the purpose of material storage, storage of excess spoil at crossings, parking, vehicle turning radius, or other worker safety issues. In the case of wetlands and waterbodies, the ATWS will be located in accordance with the setback requirements contained in the FERC Procedures and through

consultation with other federal and state agencies. Based on field reconnaissance, certain locations do not allow for a 50-foot setback from wetlands and/or waterbodies. Mountain Valley is requesting alternative measures to the FERC Procedures for these areas. Additional information regarding alternative measures to the FERC Procedures V.B.2.b and VI.B.1.a is provided in Resource Report 2 in Appendix 2-E.

Proposed ATWS and ancillary sites required for the Amendment Project are provided on the alignment sheets and maps in Appendix 1-A and Appendix 1-B, respectively. Appendix 1-D includes a table that lists all ATWS by milepost, landowner (private, state, federal), area (square feet), current land use, and purpose of the ATWS (road crossing, etc.).

1.3.5 Contractor Yards

Mountain Valley has identified potential contractor staging yards for temporary use during the construction of the Amendment Project. These yards were selected to avoid streams, wetlands, and other sensitive habitats where possible. Pipe storage yards will be used to stockpile pipe and fabricate facilities, as necessary. Contractor yards will be used during construction to stage construction operations, store materials, park equipment, and set up temporary construction offices. The contractor yards were selected due to their proximity to existing roads, railways, and rail yards and primarily open industrial/commercial land uses. Depending upon the condition of these yards and their current use, some surface grading, drainage improvements, placement of surface materials (e.g., crushed rock), and internal roadways may be required. Table 1.34 details land requirements, MP, land ownership, current land use, total size of the contractor yards, and the amount of forest that will be cleared for each contractor yard where forest is part of the existing land use. Contractor yards will be acquired through temporary easement agreements with individual landowners. Contractor yard locations are shown on the USGS quadrangle maps in Appendix 1-B.

Table 1.3-4

Contractor Yards along the Amendment Project Pipeline

Name	Type	Approx. MP	County, State	Municipality	Parcel	Land Use a/	Ac.
CY-01	Contractor Yard/ Laydown Yard	0.0	Pittsylvania, VA	Chatham	VA-PI-001.000	CI, OW, OL	22.03
CY-37 b/	Contractor Yard/ Laydown Yard	8 miles east of 7.8	Pittsylvania, VA	Blairs	VA-PI-037.100 VA-PI-037.101 VA-PI-037.102 VA-PI-037.103 VA-PI-037.104 VA-PI-037.105 VA-PI-037.106 VA-PI-037.107 VA-PI-037.108 VA-PI-037.109	CI, FW	9.20
CY-36	Contractor Yard/ Laydown Yard	2.1 miles west of 30.7	Rockingham, NC	Eden	NC-RO-CY-036	CI, FW	4.12
CY-05	Contractor Yard/ Laydown Yard	2.8 miles west of 31.4	Rockingham, NC	Eden	NC-RO-001.200.CY NC-RO-001.300.CY	CI	7.70
						Amendment Project Total	**43.05**

Table 1.3-4

Contractor Yards along the Amendment Project Pipeline

Name	Type	Approx. MP	County, State	Municipality	Parcel	Land Use a/	Ac.

a/ CI = Commercial/Industrial; OL = Open Land; OW = Open Water; FW = Upland Forest/Woodland
b/ Contractor yard was utilized as part of the Mainline Project and is previously disturbed.

1.4 CONSTRUCTION PROCEDURES

Mountain Valley will adopt the FERC Plan and Procedures for the Amendment Project to minimize impacts on the environment. Mountain Valley will also develop its own project-specific E&SC plan that will outline best management practices ("BMPs") to minimize impacts. Construction personnel will be trained in the environmental restrictions and/or requirements applicable to their particular job duties. Mountain Valley will provide construction management personnel and environmental inspectors ("EIs") with the appropriate environmental information/materials specific to the Amendment Project. Any hazardous materials stored or encountered during construction will be handled in accordance with the project-specific Spill, Prevention, Control, and Countermeasures Plan and Unanticipated Discovery of Contamination Plan (Appendix 1-G). All waste will be disposed of at an approved, off-site facility.

Mountain Valley does not expect that construction activities for the Amendment Project will occur in frozen ground conditions; however, construction could occur during times of occasional snowfall in Virginia and North Carolina. Section 1.4.1.2 below outlines procedures for construction activities during the inclement winter season in the Mid-Atlantic region and measures to secure the right-of-way and protect it from erosion or other damages during the winter months. Mountain Valley anticipates that it will employ the following procedures to construct the Amendment Project; however, deviations are possible based on actual field conditions or to comply with regulatory or landowner requirements.

1.4.1 Construction Plans

In addition to the construction procedures described below and more fully within the FEIS, Mountain Valley will implement several of its construction plans previously accepted and incorporated as part of the Original Certificated Project. These plans have been revised to incorporate the Amendment Project scope and are provided in Appendix 1-G. A table of the construction plans is provided in Table 1.4-1 below. Only plans that have been revised are included in this Amendment Application. Other plans that were reviewed and approved previously, which are still applicable to the Amendment Project and did not require updating, are also listed below. These plans are not included herein and should be considered approved. Other plans no longer applicable to the Amendment Project are also listed below.

Table 1.4-1

Construction Plans Applicable to the Amendment Project

Plan Name	Revised (Yes/No)	Included in this Filing (Appendix 1-G)
Bat Incidental Take Plan	No	Not filed in February 2025. No longer applicable to the Amendment Project.
Blasting Plan Prepared for Williams	No	Not filed in February 2025. The plan is applicable to the Amendment Project but has not changed from the FEIS.

Table 1.4-1

Construction Plans Applicable to the Amendment Project

Plan Name	Revised (Yes/No)	Included in this Filing (Appendix 1-G)
Blasting Plan Prepared for Duke Energy	No	Not filed in February 2025. No longer applicable to the Amendment Project.
Emergency Response Plan	Yes	Yes
Exotic and Invasive Species Control Plan	Yes	Yes
Fire Prevention and Suppression Plan	Yes	Yes
General Blasting Plan	Yes	Yes
Hill View Farm Protection Plan	Yes	Yes
Horizontal Directional Drill Contingency Plan	Yes	Yes
Landowner Complaint Resolution Procedure	Yes	Yes
Landslide Mitigation Report	No	Not filed in February 2025. Landslide Mitigation Report will be revised based on the Amendment Project scope and filed with FERC in Q1 2025.
Wetland and Waterbody Procedures	Yes	Yes
Upland, Erosion Control and Revegetation and Maintenance Plan	Yes	Yes
Naturally Occurring Radioactive Materials Report	No	Not filed in February 2025; the plan is applicable to the Amendment Project but has not changed from the FEIS.
Nighttime Construction Noise Management Plan	Yes	Yes
Pipeline Stream Crossing Burial Recommendations	Yes	Not filed in February 2025. Pipeline Stream Crossing Burial Recommendations will be revised based on the Amendment Project scope and filed with FERC in Q1 2025.
Plan for Unanticipated Discovery of Historic Properties and Human Remains	No	Not filed in February 2025. Unanticipated Discovery of Historic Properties and Human Remains will be revised based on the Amendment Project scope and filed with FERC in Q1 2025.
Public, Stakeholder, and Agency Participation Plan	Yes	Yes
Results of Bat Surveys and Recommended Voluntary Best Management Practices to Avoid or Minimize Incidental Take of the Tricolored Bat and Little Brown Bat	No	Not filed in February 2025. No longer applicable to the Amendment Project.
Spill Prevention, Control and Countermeasure Plan and Unanticipated Discovery of Contamination Plan for Construction Activities in Virginia and North Carolina	Yes	Yes
Traffic and Transportation Management Plan	Yes	Yes
Unanticipated Plan for Paleontological Resources	Yes	Yes
Winter Construction Plan	Yes	Yes
Water Resources Identification and Testing Plan	Yes	Yes
Wetland, Streambank, and Riparian Buffer Repair and Stabilization Plan	No	Not filed in February 2025. No longer applicable to the Amendment Project.

1.4.2 Pipeline

Construction of the Amendment Project will follow industry-accepted practices and procedures, as described in the FEIS.

1.4.2.1 Standard Construction and Restoration Techniques

Typical Upland Pipeline Construction Procedures

Construction of the Amendment Project will be conducted in accordance with applicable federal and state regulations and guidelines, as well as the specific requirements of applicable permits. Mountain Valley will employ for the Amendment Project the same procedures for typical upland pipeline construction as described in the FEIS.

In addition to adopting the FERC Plan and Procedures, Mountain Valley will develop a project-specific E&SC plan based on field conditions and applicable state requirements and employed in conjunction with the FERC Plan and Procedures. Mountain Valley has identified several locations or activities where alternative measures to the FERC Plan and Procedures will be required during construction. These proposed alternative measures are listed in Appendix 2-E of Resource Report 2 and described according to the specific performance standard. Additionally, Mountain Valley provides justification as to why the proposed alternative measure is necessary.

Mountain Valley is proposing to use one construction spread to construct the pipeline. Up to two small additional spreads will be required by a facilities contractor to construct the meter stations. Table 1.4-2 provides the beginning and ending MP, length, and construction year for each spread. The final details of each construction spread will be determined prior to construction. Specialized construction techniques for crossing sensitive resources such as wetlands and waterbodies are also provided in the following sections.

Table 1.4-2

Construction Spreads for the Amendment Project

Spread	Facility	Begin MP	Ending MP	Spread Length (miles)	Construction Year	Peak Workforce
1	H-650 Pipeline	0.0	31.3	31.3	2027 - 2028a/	300
2/3	Meter Stations	NA	NA	NA	2027-2028	100

a/ As described in Table 1.4-3, clearing/pre-construction activities may commence in 2026, with mainline construction activities beginning in 2027.

Following backfilling of the trench, Mountain Valley will hydrostatically test the pipeline to ensure that it is capable of safely operating at the design pressure. Hydrostatic testing procedures will be the same as those described in the FEIS. Information related to water sources and hydrostatic water discharge locations is included in Resource Report 2. Mountain Valley will comply with General Permit NCG010000 (to discharge stormwater under the National Pollutant Discharge Elimination System for Construction Activities) in North Carolina.

In compliance with the Amendment Project's site-specific E&SC plans, hydrostatic test water in Virginia will be released to well-vegetated upland areas through energy-dissipating structures. No hydrostatic test water will be released directly to waterbodies, wetlands, or other identified environmentally sensitive areas. Accordingly, a Virginia Pollution Discharge Elimination System discharge permit is not required for the hydrostatic test water releases. Compliance with General Permit No. VAG83 (Petroleum Contaminated Sites, Groundwater Remediation and Hydrostatic Tests General Permit) in Virginia is covered under Mountain Valley's stormwater plans for the Amendment Project.

Typical Wetland Pipeline Construction

Typical wetland pipeline construction information has not changed from that described in the FEIS.

Typical Waterbody Crossings

An updated Appendix 2-A of Resource Report 2 includes a table with milepost crossing locations, crossing width measured at the time of the environmental survey, significance for fisheries or other aquatic resources as reported by each state, and proposed crossing method. Crossing methods for each feature have been revised from the FEIS based on an updated evaluation of each crossing considering current information and the United States ("U.S.") Army Corps of Engineers' ("USACE") regulatory requirements for stream and wetland impacts. Crossing methods may be subject to change upon determinations by the USACE and state resources agencies under their respective Clean Water Act authorities. The following waterbody crossing techniques and procedures associated with each crossing type have not changed from those described in the FEIS.

- Crossing methods, including Conventional Crossing
- Dam and Pump Crossing Method
- Flume Crossing Method
- Conventional Bore Crossing Method
- HDD

Typical Road and Railroad Crossings

Typical road and railroad crossing information has not changed from that described in the FEIS. Revised road and railroad crossing locations are provided in Table 8.2.5 of Resource Report 8. Typical details of road and railroad crossings are provided in Appendix 1-C1.

Typical Foreign Pipeline Crossings

The process for typical foreign pipeline crossings has not changed from that described in the FEIS. The locations of known foreign pipelines and other identified underground utilities in relation to the proposed pipeline are listed in Appendix 1-H.

Typical Construction in Residential Areas

Construction procedures in residential areas have not changed from that described in the FEIS.

Additional details regarding residential construction, including proposed mitigation measures to be used in residential areas, are provided in Resource Report 8. Site-specific plans for residential structures within 25 feet of construction work areas are included in Appendix 8-C of Resource Report 8. Section 8.2.3.6 of Resource Report 8 describes the measures that will be implemented for residences located within 50 feet of the Amendment Project construction workspace.

Typical Construction in Commercial and Industrial Areas

Typical construction methods in commercial and industrial areas have not changed from that described in the FEIS.

Typical Topsoil Segregation

Methods for topsoil segregation have not changed from that described in the FEIS. Additional information regarding topsoil segregation is provided in Resource Report 7.

1.4.2.2 Special Construction Procedures

Blasting

Typical blasting methods have not changed from that described in the FEIS. Locations of proposed blasting have been revised from the FEIS and are provided in Resource Report 6. Blasting will be conducted in accordance with the Amendment Project General Blasting Plan (Appendix 1-G), which is consistent with applicable federal and state regulatory agencies. Pre- and post- blasting structural surveys will be conducted of occupied structures, water supply wells, and water supply springs that are specified in the Amendment Project General Blasting Plan. Additional information on geologic resources and blasting, and depth to bedrock, is included in Resource Report 6 and Resource Report 7.

Steep Terrain

Steep terrain construction techniques have not changed from that described in the FEIS.

Karst Area

Karst terrain is not anticipated to be encountered during the construction of the Amendment Project, as concluded in the FEIS. Information on potential karst areas is provided in Resource Report 6.

Trench Dewatering

Trench dewatering plans have not changed from that described in the FEIS.

Winter Construction

Winter construction methods have not changed from that described in the FEIS. The Amendment Project's current construction schedule includes clearing of vegetation and grading in Q4 2026. The Amendment Project Winter Construction Plan (Appendix 1-G) identifies BMPs for construction activities in frozen and snow-covered ground conditions.

1.4.3 Aboveground Facilities Construction

Typical construction activities associated with the installation of the aboveground facilities have not changed from that described in the FEIS.

1.4.4 Restoration

Following the construction of the Amendment Project, the areas disturbed by construction will be restored to their original grades, condition, and use to the greatest extent practicable, as presented in the FEIS.

1.4.5 Construction Schedule and Workforce

The order in which each facility will be constructed may vary, depending upon numerous factors, including the receipt of necessary authorizations, the capabilities of each contractor, available workforce, and optimized logistics. Mountain Valley anticipates clearing to start in the fourth quarter of 2026, contingent

upon receipt of necessary approvals, and pipeline construction will begin in late 2026 or early 2027 to achieve a target in-service date of mid-2028.

A preliminary Construction Duration Schedule is provided in Table 1.4-3. Mountain Valley expects the construction workforce for 2027 for the Amendment Project to include approximately 400 qualified personnel.

In general, construction activities will occur six days per week from 7:00 a.m. to 7:00 p.m. or daylight hours, except where the pipeline would be installed using HDD and conventional bore methods, which require around-the-clock operations and typically will last a few days to a few weeks. Other specific activities that would require around-the-clock operations include hydrostatic testing and subsequent pig runs to clean and dry the pipe, as well as tie-in welds. In spring, summer, and fall, when sunset occurs later in the evening, construction activities may continue after 7:00 p.m. but will be limited to daylight hours.

Table 1.4-3

Construction Schedule for Major Components of the Amendment Project

Component	Commence Activity a/	Complete Activity
Clearing/Pre-Construction Activities	Q4 2026	Q4 2026
Pipeline Construction	Q4 2026	Q3 2027
Hydrostatic Testing	Q3 2027	Q4 2027
Restoration b/	Q4 2027	Q4 2027

a/ Subject to receipt of all major authorizations
b/ Restoration in this table is defined as final grading and reseeding of disturbed areas. Post-construction restoration monitoring will continue, as necessary, in accordance with the FERC Plan and Procedures.

1.5 OPERATION AND MAINTENANCE

Mountain Valley will operate and maintain the Amendment Project and aboveground facilities in compliance with Federal regulations provided at 49 CFR Part 192, FERC regulations at 18 CFR § 380.15, and maintenance provisions of the FERC Plan and Procedures and its project-specific E&SC plan. The operation and maintenance of the pipeline and aboveground facilities has not changed from that described in the FEIS.

1.6 FUTURE PLANS AND ABANDONMENT

The Mountain Valley currently has no plans for either future expansion or abandonment of the Amendment Project facilities. Should Mountain Valley propose any future expansion or abandonment of Amendment Project facilities, it will seek the appropriate authorizations from FERC and other federal and state agencies as applicable.

1.7 PERMITS AND APPROVALS

Mountain Valley sought various regulatory approvals as part of the Original Certificated Project. However, new regulatory approvals will be obtained that cover the construction of the Amendment Project facilities. Applicable federal, state, and local permits and approvals, responsible agencies, and the anticipated

schedule for filing these applications or documentation for these permits and approvals for the Amendment Project are summarized in Table 1.7-1. Appendix 1-I contains agency correspondence to date.

Table 1.7-1

Anticipated Permits and Consultations for the Amendment Project

Agency	Permit/Approval/ Consultation a/	Anticipated Submittal/ Initiation Date	Anticipated Permit Receipt/ Completion Date
Federal			
Federal Energy Regulatory Commission	Natural Gas Act, Section 7; Amendment Certificate for construction and operation of interstate natural gas pipeline	February 2025	December 2025
U.S. Army Corps of Engineers Norfolk District Wilmington District	Individual Section 404 Permit for impacts on waters of the U.S., including wetlands	March 2025	May 2026
U.S. Fish and Wildlife Service Virginia North Carolina	Consultation under Section 7 of the Endangered Species Act for potential impacts on federally protected species Consultation regarding impacts on migratory birds and eagles	April 2025	March 2026
Virginia			
Virginia Department of Historic Resources ("VDHR"), Division of Review and Compliance	Consultation and clearance regarding potential impacts on pre-historic and historic resources eligible for listing on the National Register of Historic Places	August 2024	February 2025
Virginia Department of Environmental Quality ("VADEQ"), Water Division	Individual Section 401 Water Quality Certification and Water Protection Permit	March 2025	December 2025
VADEQ, Water Division	Standards and Specifications for the discharge of construction stormwater	April 2017	July 2023 b/
Virginia Department of Conservation and Recreation, Division of Natural Heritage	Consultation for state-threatened and endangered plant and insect species and other state-designated "Natural Heritage" resources	July 2024	March 2025
Virginia Department of Wildlife Resources, Wildlife and Environmental Services Division	Consultation for state-threatened and endangered animal and aquatic species	July 2024	March 2025
Virginia Department of Transportation ("VDOT")	Road bonds and crossing permits	[TBD] Prior to Construction	[TBD] Prior to Construction
North Carolina			
North Carolina Department of Environmental Quality ("NCDEQ"), Division of Water Resources	Individual 401 Water Quality Certification, Isolated/non-404 wetlands and water permit, and Buffer authorization	March 2025	December 2025

Table 1.7-1

Anticipated Permits and Consultations for the Amendment Project

Agency	Permit/Approval/ Consultation a/	Anticipated Submittal/ Initiation Date	Anticipated Permit Receipt/ Completion Date
NCDEQ, Division of Energy, Mineral and Land Resources	General Permit NCG010000 to discharge stormwater under the National Pollutant Discharge Elimination System for Construction Activities	[TBD] Prior to construction	[TBD] Prior to construction
NCDEQ, Natural Heritage Program	Consultation for state-threatened and endangered species	July 2024	March 2025
North Carolina Wildlife Resources Commission	Consultation for state-threatened and endangered species	December 2024	March 2025
North Carolina Historic Preservation Office ("NC HPO")	Consultation and clearance regarding potential impacts on pre-historic and historic resources eligible for listing on the National Register of Historic Places ("NRHP")	August 2024	February 2025
North Carolina Department of Transportation ("NCDOT")	Road bonds and crossing permits	[TBD] Prior to construction	[TBD] Prior to construction

a/ Consultations will occur continuously throughout the development of the Amendment Project.
b/ The Standards and Specifications, which are periodically revised and reapproved by VADEQ, apply to the Mainline Project and the Amendment Project.
TBD = to be determined

1.8 AFFECTED STAKEHOLDERS

Mountain Valley has continued for the Amendment Project the comprehensive Public, Stakeholder, and Agency Participation Plan previously incorporated and documented in the FEIS. A revised Public, Stakeholder, and Agency Participation Plan for the Amendment Project is provided in Appendix 1-G.

1.8.1 Public Participation

Mountain Valley is committed to the early identification and resolution of stakeholder issues and concerns. Consistent therewith, Mountain Valley first initiated contact with stakeholders for the Original Certificated Project in April 2018, and, as part of the Original Certificated Project application, Mountain Valley filed a Public, Stakeholder, and Agency Participation Plan. Mountain Valley has continued stakeholder outreach activities for the Amendment Project and is filing an updated Public, Stakeholder, and Agency Participation Plan in Appendix 1-G. As fully explained in the Public, Stakeholder, and Agency Participation Plan, Mountain Valley established a project-specific website (www.mvpsouthgate.com) that provides project information, updates on regulatory proceedings, copies of regulatory filings, and contact information for the public to use to raise questions and concerns.

Efforts to identify stakeholders were focused on federal, state, and local elected officials; federal, state, and local regulatory agencies; Native American tribes; landowners; economic development agencies/chambers of commerce; local law enforcement agencies; local media outlets; non-governmental organizations; and

the community at large. Pursuant to 18 CFR § 380.12(c)(10), Mountain Valley is filing a comprehensive landowner/stakeholder list in Appendix 1-J. Mountain Valley has continued to develop and maintain a contact management system to track contact with these stakeholders in a manner that assists in the identification and resolution of emerging issues and concerns.

Mountain Valley sent letters to permitting agencies and agencies that require consultation in July 2024, notifying them of its plan to file an application with FERC for the Amendment Project facilities. Copies of the submitted consultation letters are provided in Appendix 1-I. Mountain Valley also contacted stakeholders in October 2024, including landowners, to inform them of the filing process timeline. Landowners were notified again in November 2024, including those properties in North Carolina that were crossed by or abutted the Original Certificated Project route and are no longer impacted by the Amendment Project.

As part of its commitment to keeping stakeholders informed, Mountain Valley has committed to maintaining contact with local government officials, non-governmental organizations, and other interested stakeholders in the Amendment Project area. This activity began when the Original Certificated Project was announced in 2018 and has continued through the present. Mountain Valley is committed to creating and distributing informational collateral materials to stakeholders and the general public via traditional mail and electronic technologies. Mountain Valley has provided and will continue to provide various project updates, including periodic newsletters and other communications from the project team that inform stakeholders about what has recently occurred and what to expect next with the Amendment Project. The first newsletter for the Original Certificated Project was distributed in August 2018. Eight newsletters have been distributed in total, and Mountain Valley intends to distribute additional newsletters, starting with the ninth newsletter in Q1 2025.

Mountain Valley will continue to work with local news media to facilitate accurate and informed reporting on the Amendment Project and with local government and non-governmental organizations to provide project updates and answers to questions as they arise in the community. Mountain Valley has also engaged with various civic groups and non-governmental groups through event and program sponsorships and ongoing efforts to raise the Amendment Project's visibility and introduce the Amendment Project to the public. Mountain Valley distributed the most recent project update flyer in August and September 2024. Mountain Valley anticipates continuing these efforts to build relationships, engage meaningfully with the community, and ensure stakeholders have ample opportunity to learn about the Amendment Project and receive answers to their questions.

In addition, Mountain Valley has continuously shared and intends to continue to share information with stakeholders in the local Amendment Project area, including by providing and posting copies of updated Amendment Project information at businesses, facilities, and other sites that are part of recognized environmental justice communities or otherwise frequented by stakeholders from historically underrepresented groups.

Mountain Valley has provided and will continue to provide copies of the filing materials, including resource reports, to participating federal agencies, county offices, and public libraries along the proposed pipeline route and certain state offices so the public will have the opportunity to view the materials and to provide comments. Copies will be provided to the following libraries in the Amendment Project area:

- Pittsylvania County Public Library-Chatham, Virginia, and
- Eden Public Library – Eden, North Carolina

1.8.1.1 FERC Scoping Sessions

FERC-sponsored scoping sessions are detailed in the FEIS. No additional FERC-sponsored scoping sessions have been held as of the date of this Amendment Application.

1.8.2 Landowner Notification

The names and addresses of landowners whose property will be crossed by or abut the Amendment Project are provided in Appendix 1-J. These landowners were contacted beginning in April 2024 to request access for survey permissions to perform updated civil and environmental surveys for the amended pipeline route, access roads, staging areas, and aboveground facility sites. This contact is in addition to previous communication dating back to 2018. Furthermore, as of September 2024, all easements required for the Amendment Project in North Carolina have been fully acquired, and 97 percent of easements (by tract) required for the Amendment Project in Virginia have been acquired. Mountain Valley anticipates that all remaining parcels will be acquired in 2025.

Landowners and stakeholders will be kept informed about the Amendment Project's FERC process and permitting status through various means, such as project notification letters and newsletters. In accordance with Section 157.6(d) of the Commission's regulations (18 CFR § 157.6(d)), Mountain Valley will provide the required notification of the Amendment Project to the directly affected and abutting properties affected by the construction work areas. The landowner notification letters will include information regarding procedures to follow in the event that the landowner has any concerns or problems during construction. Mountain Valley has implemented a Landowner Complaint Resolution Process, which outlines these procedures. Mountain Valley is providing revisions to this plan in Appendix 1-G.

In November 2024, Mountain Valley sent notification letters to the landowners in North Carolina who are no longer within the scope of the Amendment Project, informing them that the Amendment Project will not affect their property.

1.8.3 Agency Outreach

In addition to public outreach efforts with landowners and governmental officials, Mountain Valley has been conducting an extensive planning and consultation process with federal and state regulatory agencies, resource agencies, and Native American Tribes. The consultation process has involved meetings, letter requests for resource information, telephone discussions, and emails. Project agency correspondence conducted after the issuance of the FEIS is provided in Appendix 1-I.

1.9 NON-JURISDICTIONAL FACILITIES

Non-jurisdictional facilities are those facilities related to the Amendment Project that are constructed, owned, and operated by others that are not subject to FERC jurisdiction. When making this determination, FERC requires applicants to address four factors to determine whether FERC environmental review is needed for Project-related non-jurisdictional facilities. These factors, set forth in 18 CFR § 380.12(c)(2)(ii), are:

(i) whether or not the regulated activity comprises "merely a link" in a corridor-type project (e.g., a transportation or utility transmission project);

(ii) whether there are aspects of the non-jurisdictional facility in the immediate vicinity of the regulated activity, which uniquely determine the location and configuration of the regulated activity;

(iii) the extent to which the entire project will be within the Commission's jurisdiction; and

(iv) the extent of cumulative Federal control and responsibility.

As discussed in Section 1.2.2.5, electric powerlines will be required for the meter stations, MLVs, and cathodic protection sites. In addition, Dominion Energy, Inc. intends to make minor improvements at the existing Dan River delivery points as part of its T15 Reliability Project. Construction of the T15 Reliability Project is scheduled to commence in 2025, prior to the construction of the Amendment Project. Table 1.9-1 below provides information for proposed non-jurisdictional facilities.

Table 1.9-2 provides electric utilities information for the meter stations, MLVs, and groundbeds. The non-jurisdictional facilities associated with the Amendment Project would include installation of electric distribution lines from existing nearby power poles to the meter stations, MLVs, and groundbeds. Power would be supplied from local suppliers and would be determined prior to construction. Consistent with the conclusion in the FEIS, impacts associated with these non-jurisdictional facilities are expected to be minimal due to the limited footprint of these projects and potential mitigation measures required by permitting agencies. The Amendment Project is not "merely a link" in a larger corridor-type project. These facilities have not dictated the location of the Amendment Project nor are these facilities subject to Commission jurisdiction. Additionally, there is no appreciable federal control and responsibility. Therefore, the Commission does not need to include these non-jurisdictional facilities within its environmental review.

Table 1.9-1

Electric Service Facilities to Support the Amendment Project

Company/Owner	**Public Service Company of North Carolina; d/b/a PSNC Energy**	**Various**
Type of Facility	Interconnect Facilities	Electrical Service
Dimensions	Minor improvements to existing facilities within the fenceline	Lambert Interconnect will require an approximate 0.3-mile-long power line. Electric power lines will be constructed and maintained within an approximate 50-foot-wide right-of-way for groundbeds, mainline valves, and interconnects. See Table 1.9-2 below.
Federal Permits/Status	Not Applicable	Not applicable
Local and State Permits/Status	Not Applicable	Not applicable
Required Environmental Reviews	NCDEQ Erosion and Sedimentation Control Permit	Not applicable

Table 1.9-2

Electric Service Feeds to the Amendment Project Facilities

Facility Name	Approx. MP	Approx. Distance from Road or Existing Powerlines (feet)	Latitude	Longitude	Power Supplier	Required Power Service
Meter Stations						
Lambert Interconnect	0.1	NA	36°49'47.79"N	79°20'40.17"W	TBD	120/240, Single Phase, 3 wire - 200amp
LN 3600 Interconnect	28.9	612	79°39'21.99"W	79°40'15.23"W	TBD	120/240, Single Phase, 3 wire - 200amp
Dan River Interconnect #1	31.3	183	36°29'36.89"N	79°40'47.09"W	TBD	120/240, Single Phase, 3 wire - 200amp
Dan River Interconnect #2	31.3	471	36°29'36.99"N	79°40'48.98"W	TBD	120/240, Single Phase, 3 wire - 200amp
Mainline Valves						
MLV – 2	7.7	48	36°44'53.66"N	79°25'40.63"W	TBD	120/240, Single Phase, 3 wire - 100amp
MLV – 3	18.7	107	36°37'46.71"N	79°32'46.26"W	TBD	120/240, Single Phase, 3 wire - 100amp
Groundbed						
Groundbed – 1	9.7	162	36°43'32.13"N	79°26'57.00"W	TBD	120/240, Single Phase, 3 wire - 100amp
Groundbed – 2	20.5	107	36°36'37.92"N	79°33'48.09"W	TBD	120/240, Single Phase, 3 wire - 100amp

1.10 CUMULATIVE IMPACTS

Cumulative impacts may result when the Amendment Project's direct and indirect environmental effects are added to temporary or permanent impacts associated with other past, present, or reasonably foreseeable future projects. Although the individual impact of each separate project might not be significant, the additive or synergistic effects of multiple projects could be significant. The analysis evaluates the magnitude of cumulative effects on natural resources such as surface water, groundwater resources, wetlands, vegetation, wildlife, cultural resources, socioeconomics, environmental justice ("EJ"), soils, geology, land use, visual resources, air quality, and noise.

As required in 18 CFR § 380.12 and in accordance with FERC's (2017b) *Guidance Manual for Environmental Report Preparation* ("FERC Guidance Manual"), Mountain Valley completed a cumulative impacts analysis to identify and describe the potential cumulative effects resulting from existing or reasonably foreseeable projects. FERC's Guidance Manual refers to Council on Environmental Quality

("CEQ") guidance for determining the scope of the analysis, which should be "related to the magnitude of the environmental impacts of the proposed action" (CEQ 2005).

To avoid unnecessary discussions of insignificant impacts and projects and to adequately address and accomplish the purposes of this analysis, Mountain Valley included projects that met the following criteria in the cumulative impact analysis:

- A project must impact a resource category that will also be directly or indirectly affected by the Amendment Project.
- A project must cause this impact within the geographic scope of areas affected by the Amendment Project (defined below in Table 1.10-1).
- A project must cause this impact within all or part of the timespan for the potential impact of the Amendment Project.

1.10.1 Scope of the Cumulative Impact Analysis

Potential direct and indirect impacts vary by environmental resource; therefore, the geographic scope for the cumulative assessment also varies by resource. The geographic scope developed for this cumulative impact assessment was based on similar, recent projects reviewed by FERC staff. Table 1.10-1 defines the geographic scope that was used in the analysis and a supporting justification for each resource.

Most of the Amendment Project impacts will be short-term impacts that will occur during construction and restoration, which are expected to occur between Q4 2026 and Q2 2027. Long-term land use impacts associated with pipeline right-of-way maintenance and permanent aboveground facilities would extend into the Amendment Project's operational phase. In order to conduct the cumulative effect analysis to include past projects, Mountain Valley reviewed previously completed projects for the last five years (Q4 2021). Other projects that were constructed prior to Q4 2021, more than five years prior to the Amendment Project's anticipated construction start date of Q4 2026, were not included in the analysis as per CEQ guidance. Per CEQ guidance, agencies can conduct an adequate cumulative effect analysis by focusing on the current aggregate effects of past actions without delving into the historical details of each individual past action. When a construction status could not be found, and only permit information was available, an additional two years were factored into an assumed construction schedule; projects that initiated permitting after Q4 2019 were included in the analysis.

In identifying other projects that may, in combination with the Amendment Project, result in cumulative impacts within the geographic scope for each resource, Mountain Valley limited its search to those projects that would affect the same resources as the Amendment Project. Other projects identified within the geographic scope for each resource that would not individually or cumulatively result in significant impacts were excluded from the analysis.

Table 1.10-1

Geographic Scope for Cumulative Impacts Analysis

Environmental Resource	Geographic Scope	Justification
Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife	Hydrologic Unit Code ("HUC") 12 Watershed	Impacts on groundwater, surface water, wetlands, vegetation, and wildlife will be localized and minimized, occurring mainly during the Amendment Project's construction and restoration phases. Therefore, using the HUC-12 sub-watershed as the

Table 1.10-1

Geographic Scope for Cumulative Impacts Analysis

Environmental Resource	Geographic Scope	Justification
		natural boundary for assessing these impacts is appropriate.
Cultural Resources	Areas of Potential Effect ("APE")	The Physical APE encompasses physical impacts to cultural resources within the Amendment Project workspace that may experience ground disturbance. The Physical APE is a 300- to 400-foot-wide study area corridor along the Amendment Project. The Non-Physical APE is a 0.5-mile area from all Amendment Project facilities unless vegetation and/or topography obstructs lines of sight to less than 0.5 mile.
Socioeconomics	Pittsylvania County, Virginia and Rockingham County, North Carolina	Given the Amendment Project's limited regional scope, the geographic area for evaluating its cumulative socioeconomic impacts was assessed on a county-wide basis for the directly affected counties.
EJ	Census block groups within 1 mile	The concentration of construction activities and operational impacts, such as land use and visual impacts, are anticipated to occur within 1 mile of the Amendment Project.
Soils and Geology	Construction workspace	Impacts on geological resources and soils will be confined to the Amendment Project footprint during construction and restoration. Earth-disturbance activities will remain within the approved workspace, and erosion and sediment controls will be implemented to minimize the risk of sediment being transported offsite.
Land Use	0.25 mile	Land use impacts will be restricted to the construction workspaces and the immediate surrounding vicinity; therefore, a 0.25-mile geographic scope is reasonable for cumulative land use impacts. Land use impacts would occur during the construction and operations stages.
Visual Resources	0.25 mile	Evaluating the impact based on the viewshed allows for consideration of any feature that could affect visual resources. The tallest feature at any aboveground facility is not expected to be visible from neighboring communities beyond 0.25 mile away.
Air Quality – Construction	0.25 mile	Air emissions during construction will be confined to vehicle and construction equipment emissions near the Amendment Project site. Dust will also be localized to the construction area.
Air Quality – Operation	NA	The Amendment Project will not result in operational air emissions; therefore, no analysis of cumulative impacts to air quality during operation is warranted.
Noise – Construction	0.25 mile (general construction) to 0.5 mile (HDD construction) from the Amendment Project area	Areas in the immediate proximity of construction activities (within 0.25 mile) and within 0.5 mile of HDDs could be affected by temporary construction noise.
Noise – Operation	NA	The Amendment Project will not result in operational noise impacts; therefore, no analysis of

Table 1.10-1 Geographic Scope for Cumulative Impacts Analysis		
Environmental Resource	**Geographic Scope**	**Justification**
		cumulative noise impacts during operation is warranted.
NA = Not Applicable		

1.10.2 Projects within Applicable Geographic Scopes

Mountain Valley reviewed various county, state, and federal sources that are accessible to the public to identify other past, present, or reasonably foreseeable future actions that may have impacts on the same affected environment within the same temporal scope as the Amendment Project. The following are sources of projects included in this evaluation:

- Federal Agencies – Information on projects pending before the FERC (either in the Pre-Filing Process or with a filed Certificate application) is available on FERC's website and through FERC's eLibrary system (FERC 2024a, 2024b, 2024c). The USACE Norfolk and Wilmington District websites provide information regarding recently approved permits and pending USACE permits that are available for public comment (USACE 2024a, 2024b).
- State Agencies – Information on projects recently reviewed or under review for the Virginia and North Carolina state agencies is available through GIS data, online interactive map tools, and websites, including:
    - NCDEQ Active Stormwater Permits Map (NCDEQ 2024a)
    - NCDEQ Division of Water Resources Map Locator (NCDEQ 2024b)
    - NCDEQ Mining Permits (NCDEQ 2024c)
    - NCDOT State Transportation Improvement Program (NCDOT 2024)
    - VADEQ Environmental Data Mapper (VADEQ 2024a)
    - VADEQ Permit Transparency and Permitting Enhancement and Evaluation Platform (VADEQ 2024b)
    - VADEQ Water Permitting Datasets (VADEQ 2024c)
    - Virginia Regulatory Town Hall (Virginia Department of Planning and Budget 2024)
    - VDOT Projects Search (VDOT 2024)

  Project information was also directly requested from state agencies, and in some cases, the agencies responded with a spreadsheet of active project lists. The lists were checked against the online databases; any unique additions were evaluated and considered for inclusion in the analysis.
- County Agencies – County and local government websites are possible sources of information about planned developments. Each county was contacted directly for information related to potential developments (i.e., permits and plans for new construction or significant alteration for commercial and residential properties) within the county that may take place between Q4 2022 and 2030. Pittsylvania County responded that it does not make those data available to the public. A response from Rockingham County has not been received.

Projects that may contribute to potential cumulative impacts on resources within the geographic scopes defined in Table 1.10-1 are listed in Table 1.10-2 and shown in Figure 1.10-1.

Where publicly available information does not include estimates of disturbance or environmental impacts associated with identified projects, the quantitative impacts could not be determined. In these instances, Mountain Valley used a qualitative comparison for the cumulative impacts assessment.

Table 1.10-2

Projects with Potential Cumulative Impacts

Project Name	Map ID	County a/	State a/	Description	Land Disturbance (ac.) b/	Wetland Impacts b/	Project Approval / Construction Status	Required Environmental Permits and Authorizations c/	Location Relative to Amendment Project	Temporal Overlap	Geographic Scope Overlap	Environmental Resource with Potential Cumulative Impact
Southeast Supply Enhancement Project (Eden Loop)	A-1	Pittsylvania, Rockingham	VA, NC	30.8 miles of new 42-inch diameter pipeline extending from the Transcontinental Gas Pipe Line Company, LLC mainline in Pittsylvania County, VA, and terminating in Rockingham County, NC. Construction of a 45,000 horsepower ("hp") compressor station in Pittsylvania Co., VA.	Pipeline Facilities: Construction: 591.92 ac. Operation: 185.85 ac. Aboveground Facilities: Construction: 120.72 Operation: 31.02 ac. Contractor yards: Construction: 52.11 ac. Operation: 0.00 ac.	Construction impacts: 31.94 ac. Operation impacts: 11.19 ac. Maintenance corridor: 2.08 ac.	FERC application submitted Oct. 2024. In-service Q4 2027	FERC Certificate under Section 7 of the NGA; USACE Section 10/404 Permit; VMRC Subaqueous Lands Bottom Permit; VADEQ: CWA 401 WQC, CWA 401, Erosion and Sediment Control and Stormwater Management Permit, Hydrostatic Test Water Discharge Permit; NCDEQ: CWA 401 WQC, Isolated Wetlands/Water Permit, Buffer Authorization or Variance, Construction Stormwater Permit and Erosion and Sedimentation Plan Approval, Water Withdrawal and Transfer Registration, Air permits (minor modifications); various federal and state consultations.	Projects Overlap	Construction and operation	HUC-12; APE; Construction Workspace; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Soils and Geology; Land Use; Visual Resources; Air Quality–construction; Noise–construction
East Tennessee System Alignment Project (Draper Compressor Station)	A-2	Rockingham	NC	New compressor station in Rockingham Co., NC that includes two new 9,500 hp EMD compressor units (totaling 19,000 hp) and associated ancillary facilities.	Construction: 35.3 ac. Operation: 28.8 ac.	No direct wetland impacts	FERC Certificate issued Mar. 21, 2024; Construction commenced Sept. 3, 2024. Proposed in-service date Oct. 2025	FERC Certificate under Section 7 of the NGA; USACE Section 404 Permit; NCDEQ: Air Permits; Construction Stormwater Permit; Various federal and state consultations.	1.6 miles northwest	Operation only	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Dominion Energy T15 Reliability Project	A-3	Rockingham	NC	New 45-mile natural gas pipeline from Eden, NC to Roxboro, NC and a new compressor station in Ruffin, North Carolina.	IU	IU	Planning and development 2023; permitting 2024/2025; design and procurement 2025; construction 2025–2027; in-service by end of 2027	IU	Projects Overlap	Construction and operation	HUC-12; APE; Construction Workspace; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Soils and Geology; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Southside Reliability Enhancement Project	A-4	Pittsylvania	VA	Addition of one 16,000 hp electric motor drive compressor unit at existing compressor station 166.	Construction: 37.8 ac. Operation: 37.8 ac.	No direct wetland impacts	FERC Certificate issued Jul.31, 2023. Construction commenced Jan.30, 2024. In-service request approved Nov. 27, 2024	FERC Certificate under Section 7 of the NGA; VADEQ Stormwater Management Permit and Air Permits; Various federal and state consultations.	Projects overlap	Operation only	HUC-12; APE;Construction Workspace;County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Soils and Geology; Land Use; Visual Resources; Air Quality–construction; Noise–construction

Table 1.10-2

Projects with Potential Cumulative Impacts

Project Name	Map ID	County a/	State a/	Description	Land Disturbance (ac.) b/	Wetland Impacts b/	Project Approval / Construction Status	Required Environmental Permits and Authorizations c/	Location Relative to Amendment Project	Temporal Overlap	Geographic Scope Overlap	Environmental Resource with Potential Cumulative Impact
Balico Pittsylvania Power Plant	A-5	Pittsylvania	VA	3500-megawatt ("MW") gas powerplant and data center, connecting to the Mainline Pipeline in the Banister District. Planned infrastructure would be around 2,200 ac. off Chalk Level Road, Chatham, VA.	IU	IU	Planning – Operator is revising the design for resubmittal	IU	2 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Mainline Project (i.e., Mountain Valley Pipeline)	A-6	Pittsylvania	VA	New 303-mile-long 42-inch-diameter pipeline in West Virginia and Virginia; Three new compressor stations, totaling about 171,600 hp; 4 new meter stations and an interconnection; 3 new taps; 5 new pig launchers and receivers; and 36 new mainline block valves. Approximately 19.5 miles of the pipeline, one delivery meter station, a pig receiver, and two mainline valves are located in Pittsylvania Co.	Land Disturbance for the entire project: Construction: 6,362.5 ac. Operation: 2,187.3 ac. Land disturbance acreages for the portion of the project in Pittsylvania Co. were not available	Impacts within Pittsylvania County: Construction: 2.6 ac. Operation: 1.0 ac.	Construction completed Jun. 2024; pipeline placed in service Jun. 2024.	FERC: Certificate under Section 7 of the NGA; USACE Section 10/404 permits; VADEQ 401 WQC and Construction Stormwater General Permit; VMRC Submerged Lands License.	Projects overlap	Operation only	HUC-12; APE; Construction Workspace; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Soils and Geology; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Dominion Michaux Solar Project	C-1	Pittsylvania	VA	50-MW solar field with battery storage and direct power supply.	IU	IU	Construction anticipated 2024–2026	IU	2.4 miles northwest	Operation only	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Strata Solar – Battery Storage Facility	C-2	Pittsylvania	VA	Solar battery storage facility at Lot 6 of the Berry Hill Megasite next to an AEP substation will collect and store energy that will be released during peak times. Will be paired with the Berry Hill Solar Project (Map ID C-3).	IU	IU	Public hearing Jul. 2024 (approved); 5-year development plan and receive permits to prep for construction	IU	0.1 mile west	Construction and operation	HUC-12; APE; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Strata Solar – Berry Hill Solar Project	C-3	Pittsylvania	VA	125-MW solar field for energy production with a battery storage facility proposed on Lot 6 of Berry Hill Megasite. Will be paired with the Battery Storage Facility (Map ID C-2).	IU	IU	Engineering, procurement, and construction stage, construction timeline unknown	IU	2.2 miles southeast	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Berry Hill Industrial Park / Danville and Pittsylvania Counties	C-4	Pittsylvania	VA	3,500-ac. mega-park owned by Danville and Pittsylvania Counties through the Regional Industrial Facilities Act. Phase I activities began in Mar. 2017 and included approximately 133 ac. of site preparation. Schedule for additional phases is unknown.	IU	4.334 ac. of palustrine forested wetlands, 2.427 ac. of palustrine scrub-shrub wetlands, and 0.244 ac. of palustrine emergent wetlands for a total of 7.065 ac. of wetlands.	In development	IU	1.6 miles southeast	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Recurrent Energy Firefly Solar Project	C-5	Pittsylvania	VA	1,293.82-ac. solar field for energy production.	IU	IU	Supplemental application submitted	IU	15.4 miles southeast	Unknown	County	Socioeconomics

Table 1.10-2

Projects with Potential Cumulative Impacts

Project Name	Map ID	County a/	State a/	Description	Land Disturbance (ac.) b/	Wetland Impacts b/	Project Approval / Construction Status	Required Environmental Permits and Authorizations c/	Location Relative to Amendment Project	Temporal Overlap	Geographic Scope Overlap	Environmental Resource with Potential Cumulative Impact
Energix Renewables Axton Solar Project	C-6	Pittsylvania	VA	66-MW solar field for energy production.	IU	IU	Under construction 2023, anticipated completion by the end of 2024	IU	6.3 miles northwest	Operation only	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics;
Southside Investing LLC / Residential Development	C-7	Pittsylvania	VA	614-ac. mixed-use project. It would include single-family homes, townhouses, apartments, senior living campus, hotel, daycare, community center, and retail center. Located East of Martin Drive in Axton, VA.	IU	IU	Planned. Earliest completion date 2035	IU	6.4 miles northwest	Unknown	County	Socioeconomics
Hopewell Solar Project	C-8	Pittsylvania	VA	Large-scale solar facility.	IU	IU	County recommended approval Sep. 2022. Planned construction. Unknown build timeline.	IU	0.2 mile west	Unknown	HUC-12; APE;County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Pittsylvania County Jail	C-9	Pittsylvania	VA	New jail facility with 146 beds.	IU	IU	Board closed on property Aug. 2023; construction is planned to start Aug. 2026, anticipated completion Nov. 2027	IU	1.2 miles southeast	Construction and operation	HUC-12; County; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics; Environmental Justice
Recurrent Energy/AEP Blue Ridge Solar Project	C-10	Pittsylvania	VA	150-MW solar field for energy production.	IU	IU	Construction completion anticipated 2025	IU	2.2 miles northwest	Operation only	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Berry Hill Connector Road Extension / VDOT (0311-071-835, P101)	B-1	Pittsylvania	VA	Reconfiguration of existing Route 311, Berry Hill Road, as an extension of the programmed Berry Hill Connector Road by widening approximately 2.3 miles of the existing road from a two-lane undivided to a four-lane divided road.	IU	Construction Impacts: 0.162 ac. Operation impacts: 0.388 ac.	Planning; Design Stage	IU	0.2 mile east	Unknown	HUC-12; APE; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Route 311 Connector Road Project (U.S. 58 and Route 1260)-VDOT (0311-108-454)	B-2	Pittsylvania	VA	Connector road from the existing interchange of Oak Ridge Farms Road (Route 1260) and the Danville Expressway (US Route 58) west to tie in with Berry Hill Road (US 311).	IU	IU	Public hearing Jun. 6, 2019; anticipated completion May 2025 (under construction)	IU	2.6 miles southeast	Operation Only	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
City of Danville Moorefield Bridge Road Improvements	B-3	Pittsylvania	VA	Moorefield Bridge Road. Improvements at 3 locations.	IU	IU	To be completed by 2035	IU	1.9 miles southeast	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics

Table 1.10-2

Projects with Potential Cumulative Impacts

Project Name	Map ID	County a/	State a/	Description	Land Disturbance (ac.) b/	Wetland Impacts b/	Project Approval / Construction Status	Required Environmental Permits and Authorizations c/	Location Relative to Amendment Project	Temporal Overlap	Geographic Scope Overlap	Environmental Resource with Potential Cumulative Impact
City of Danville Route 29 / 703 Intersection Upgrades	B-4	Pittsylvania	VA	$10.2 million in upgrades to the intersection of Route 29 at Route 703.	IU	IU	Planning. Construction to begin Apr. 13, 2026, and end Mar. 22, 2028	IU	0.5 mile north	Construction and operation	HUC-12; County; APE; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources Socioeconomics; Environmental Justice
SGR25 VP Resurfacing Projects/VDOT	B-5	Pittsylvania	VA	SGR SGR25 paving of roadways SR41 northbound MP 6.029-6.03, 6.157-8.129, 8.129-11.17, 11.17-12.769, and 0-.305.	IU	IU	To be completed 2025–2030	IU	1.4 miles southeast	Construction and operation	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Bridge Replacement over Pumpkin Creek	B-6	Pittsylvania	VA	Bridge replacement project.	IU	Construction: 0.0 ac. Operation: 0.0 ac.	IU	IU	3.6 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Transco Tap Transmission Line	D-1	Pittsylvania	VA	New electrical transmission line to supply service to a new substation.	IU	IU	Permit application submitted Jul. 16, 2024	VADEQ stormwater permit	0.1 mile northeast	Construction and operation	HUC-12; APE; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Cross Creek Subdivision Phase II Extension	D-2	Pittsylvania	VA	Housing subdivision extension.	IU	IU	Permit application submitted May 13, 2024	VADEQ stormwater permit	1.6 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Maplewood Solar Substation and Switchyard	D-3	Pittsylvania	VA	Solar substation and switchyard associated with solar development project (Map ID D-4).	IU	IU	Permit application submitted Apr. 23, 2024	VADEQ stormwater permit	8.8 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Maplewood Solar Main PV Area	D-4	Pittsylvania	VA	Solar development project associated with solar substation and switchyard project (Map ID D-3).	IU	IU	Permit application submitted Apr. 23, 2024	VADEQ stormwater permit	8.8 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Blue Ridge Solar Parts I and II	D-5	Pittsylvania	VA	Solar development project.	IU	IU	Permit application submitted Apr. 23, 2024	VADEQ stormwater permit	1.9 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Tightsqueeze Development	D-6	Pittsylvania	VA	Unknown development.	IU	IU	Permit application submitted Aug. 6, 2024	VADEQ stormwater permit	0.4 mile north	Unknown	HUC-12; County; APE; 0.5 mile; 1 mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice
New Branch for URW Community Federal Credit Union	D-7	Pittsylvania	VA	New Branch for URW Community Federal Credit Union.	IU	IU	Permit application submitted May 14, 2024	VADEQ stormwater permit	0.2 mile north	Unknown	HUC-12; APE; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air

Table 1.10-2

Projects with Potential Cumulative Impacts

Project Name	Map ID	County a/	State a/	Description	Land Disturbance (ac.) b/	Wetland Impacts b/	Project Approval / Construction Status	Required Environmental Permits and Authorizations c/	Location Relative to Amendment Project	Temporal Overlap	Geographic Scope Overlap	Environmental Resource with Potential Cumulative Impact
												Quality–construction; Noise–construction
VDOT Halifax 6029 071 845 UPC 118783	D-8	Pittsylvania	VA	VDOT Halifax 6029 071 845 UPC 118783.	IU	IU	Permit application submitted Apr.20, 2024	VADEQ stormwater permit	0.1 mile southeast	Unknown	HUC-12; APE;County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air Quality–construction; Noise–construction
J&J Truck Sales	D-9	Pittsylvania	VA	J&J Truck Sales expansion.	IU	IU	Permit application submitted Jun. 24, 2024	VADEQ stormwater permit	0.3 miles south	Unknown	HUC-12; County; APE; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice
Irish Road Solar	D-10	Pittsylvania	VA	Solar development project.	IU	IU	Permit application submitted Aug. 18, 2022	VADEQ stormwater permit	2.8 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Berry Hill 138 kV Extension	D-11	Pittsylvania County	VA	0.2-mile relocation of Axton-Danville #2 138-kV and installation of a new 138-kV tap structure; construct approximately 5.04 miles of double-circuit 138-kV line from tap location to new Berry Hill substation.	IU	IU	Permit application submitted May 1, 2024	VADEQ stormwater permit	4 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Brosville 138 kV Line Extension	D-12	Pittsylvania County	VA	New 1.66 miles of greenfield double-circuit 138-kV transmission line that will run from the new Brosville Station to the new tap structure being installed on the Axton- Danville No.2 138-kV transmission line.	IU	IU	Permit application submitted May 2, 2024	VADEQ stormwater permit	2.6 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Brosville 138 kV Station	D-13	Pittsylvania County	VA	New 138 kV Brosville Station consisting of two 138-kV, 3000 A, 40 kA circuit breakers and 138-kV revenue metering.	IU	IU	Permit application submitted May 1, 2024	VADEQ stormwater permit	2.5 miles northwest	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Berry Hill Commerce Centre Sanitary Sewer Phase I	D-14	Pittsylvania County	VA	Sanitary sewer project associated with Berry Hill Commerce Centre.	IU	IU	Permit application submitted Aug. 2, 2024	VADEQ stormwater permit	3.2 miles southeast	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Southern Virginia Solar	D-15	Pittsylvania	VA	Solar development project.	IU	IU	Permit application submitted Apr. 23, 2024	VADEQ stormwater permit	1.6 miles southeast	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Berry Hill 138 kV Substation	D-16	Pittsylvania	VA	New 138-kV, 3-breaker ring bus (space for a 6-breaker ring); install 138/34.5-kV, 30 MVA distribution transformer.	IU	IU	Permit application submitted May 1, 2024	VADEQ stormwater permit	0.1 mile southeast	Unknown	HUC-12; APE; County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land

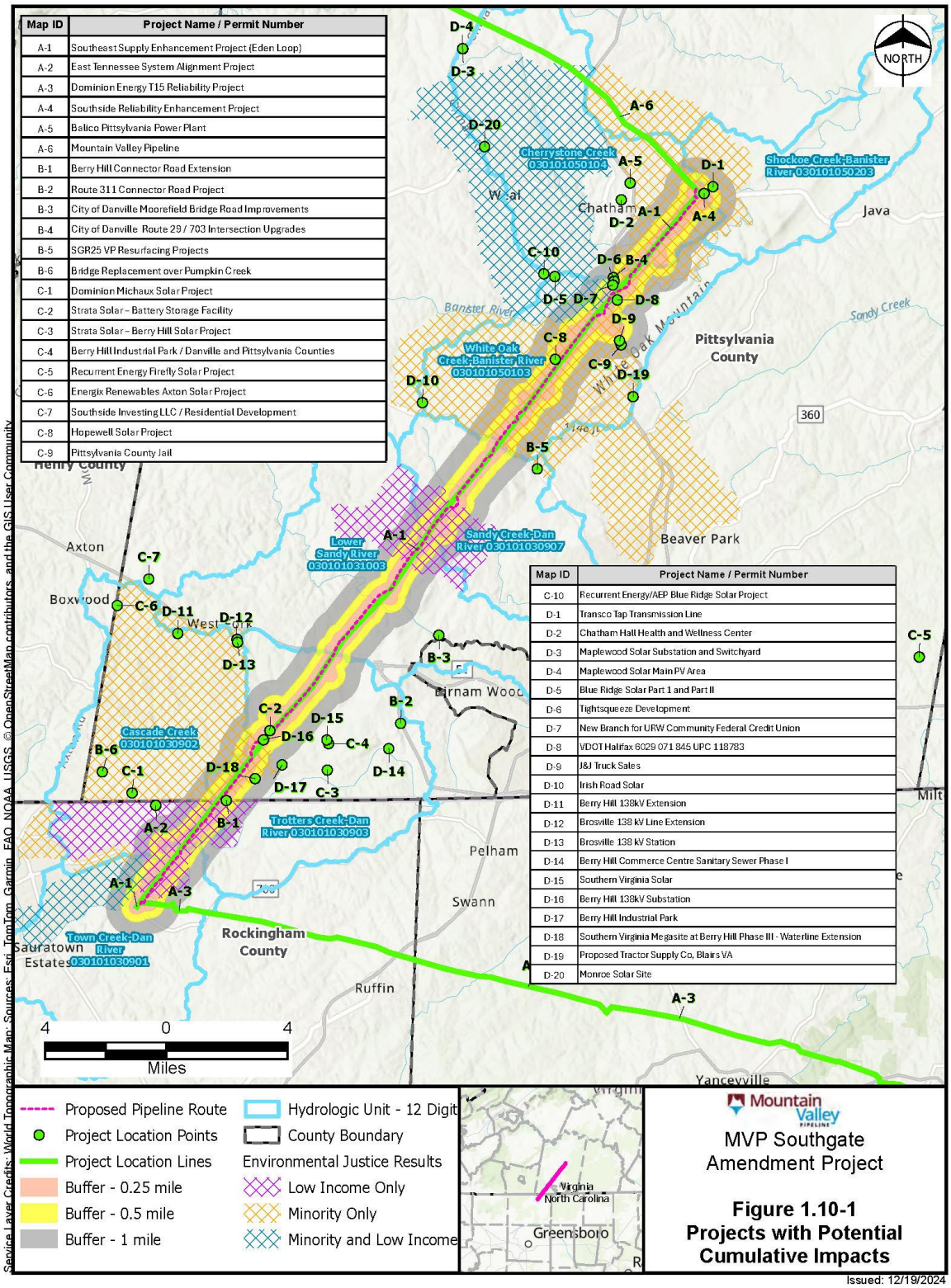
Table 1.10-2

Projects with Potential Cumulative Impacts

Project Name	Map ID	County a/	State a/	Description	Land Disturbance (ac.) b/	Wetland Impacts b/	Project Approval / Construction Status	Required Environmental Permits and Authorizations c/	Location Relative to Amendment Project	Temporal Overlap	Geographic Scope Overlap	Environmental Resource with Potential Cumulative Impact
												Use; Visual Resources; Air Quality–construction; Noise–construction
Berry Hill Industrial Park	D-17	Pittsylvania	VA	3,528-ac. publicly owned megasite suitable for manufacturing and industrial tenants.	IU	IU	Permit application submitted Aug. 2, 2024	VADEQ stormwater permit	1 mile east	Unknown	HUC-12; County; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics; Environmental Justice
Southern Virginia Megasite at Berry Hill Phase III – Waterline Extension	D-18	Pittsylvania	VA	Water supply project associated with Berry Hill Industrial Park.	IU	IU	Permit application submitted Jun.26, 2024	VADEQ stormwater permit	0.2 mile northeast	Unknown	HUC-12; APE County; 0.25-mile; 0.5-mile; 1-mile	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Cultural Resources; Socioeconomics; Environmental Justice; Land Use; Visual Resources; Air Quality–construction; Noise–construction
Proposed Tractor Supply Co.	D-19	Pittsylvania	VA	New Tractor Supply store.	IU	IU	Permit application submitted May 31, 2024	VADEQ stormwater permit	2.7 miles east	Unknown	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics
Monroe Solar Site	D-20	Pittsylvania	VA	2.8-MW solar facility.	IU	IU	Permit application submitted Feb. 18, 2021; construction completed Q4 2022	VADEQ stormwater permit	6.2 miles northwest	Operation only	HUC-12; County	Surface and Groundwater Resources, Wetlands, Vegetation, and Wildlife; Socioeconomics

a/ For projects that extend into counties and states that are not affected by the Amendment Project, only the portions of the project in Pittsylvania County, VA and Rockingham County, NC are included in this table.
b/ For projects that extend into counties and states that are not affected by the Amendment Project, only the impacts associated with portion(s) of the project in Pittsylvania County, VA and Rockingham County, NC are included in this table, unless otherwise noted.
c/ For projects that extend into counties and states that are not affected by the Amendment Project, only the permits and approvals required for impacts in Pittsylvania County, VA and Rockingham County, NC are included in this table.
IU = Information Unavailable
CWA = Clean Water Act
kV = kilovolt
NGA = Natural Gas Act
VRMC = Virginia Marine Resources Commission
WQC = water quality certification

Figure 1.10-1 Projects with Potential Cumulative Impacts



1.10.3 Potential Cumulative Impact on Resources within the Amendment Project Area

This section presents a summary of the potential cumulative impacts of the Amendment Project and other identified past, present, or reasonably foreseeable future projects within the geographic scope of each resource. Most of the Amendment Project impacts will be short-term impacts that will occur during Amendment Project construction and restoration between Q4 2026 and Q2 2030, and several of the identified projects may coincide with the Amendment Project's construction, potentially causing temporary cumulative impacts. However, these temporary impacts are expected to be insignificant due to effective mitigation plans. Specialized construction techniques and adherence to FERC's Plan and Procedures will further minimize cumulative impacts, with required permits imposing additional conditions to mitigate effects.

The Southeast Supply Enhancement ("SSE") Project, Dominion Energy T15 Reliability Project, and the Mainline Project are projects that have been identified that overlap with the Amendment Project and may potentially contribute to cumulative impacts with the Amendment Project. The SSE Project consists of approximately 31 miles of new natural gas pipeline in Pittsylvania County, Virginia ("the Eden Loop"), which is collocated with the Amendment Project and Transco's existing mainline along its entire length. As part of the SSE Project, Transcontinental Gas Pipe Line Company, LLC ("Transco") proposes new compression at its existing Compressor Station 165 at the northern terminus of the Amendment Project. Transco also proposes 24 miles of new natural gas pipeline in Guilford, Forsyth, and Davidson Counties, North Carolina ("the Salem Loop"), which is outside the geographic scope of this analysis. Information regarding the SSE Project was obtained from Transco's FERC Application, dated October 2024, under Docket CP25-2 (Transco 2024). Pending receipt of all necessary authorizations and permits, construction activities for the SSE Project are targeted to begin in Q1 2026 and be completed in Q4 2027. Restoration activities associated with the SSE Project and the Amendment Project's construction period are expected to overlap.

The Dominion Energy T15 Reliability Project is a new 45-mile natural gas pipeline from Eden to Roxboro, North Carolina, and a compressor station in Ruffin, North Carolina. The project is being designed to bring gas to two newly proposed Duke power plants. This project will overlap with the Amendment Project at the Dan River Interconnect #2 Meter Station. Construction is scheduled to commence in 2025, prior to the construction of the Amendment Project. Detailed information regarding permitting and schedule is not readily available; therefore, the analysis of potential cumulative effects is limited to a qualitative assessment, and acreages and effects to environmental resources have not been quantified.

The Mainline Project has been constructed and is in service as of 2024. The Mainline Project overlaps with the Amendment Project at the Lambert Interconnect. Since the Mainline Project has been constructed and is operational, no major earth disturbances will be occurring while the construction of the Amendment Project is taking place. Therefore, potential cumulative effects from the Mainline Project are limited to restoration activities and ongoing monitoring.

1.10.3.1 Surface Water Resources and Wetlands

Amendment Project construction will impact surface waters, including wetlands and waterbodies, through crossings of rivers, streams, and various wetland types, potentially affecting water quality and aquatic habitats. No permanent diversions or dams are planned, so impacts from construction on surface waters would be temporary. The greatest potential impacts of pipeline construction on surface waters would result

from an increase in sediment loading to surface waters and channel/floodplain instability as a result of a change in erosion deposition patterns. To mitigate these impacts, Mountain Valley will implement crossing methods appropriate to each surface water based on the results of the crossing method evaluation, and E&SC plans to prevent runoff. Restoration efforts will include returning preconstruction contours to preserve flood storage capacity and monitoring wetland areas for successful revegetation. Additionally, a Spill Prevention, Control, and Countermeasure ("SPCC") Plan will be implemented to handle accidental releases that could affect surface water quality. Construction activities will comply with FERC's Procedures, and Mountain Valley will secure required permits to further minimize environmental impacts.

Several of the projects included in the cumulative impacts analysis are within the same HUC-12 sub-watershed and are expected to be constructed concurrently with or prior to the Amendment Project. Table 10.1-3 lists the projects that may result in cumulative impacts to surface water resources and wetlands. Anticipated wetlands and waterbody impacts are included in the table where publicly available impacts are available. Where noted in the table, several of the projects extend outside of the HUC-12 sub-watersheds that overlap with the Amendment Project; however, insufficient information is available to itemize impacts per sub-watershed, so the impacts for the entire project or the portion of the project within Pittsylvania County and Rockingham County are provided.

Table 1.10-3

Other Projects within the HUC-12 Sub-Watersheds Crossed by the Amendment Project

Project Name / Permit Number a/	Map ID	HUC-12 Sub-Watershed	Land Disturbance b/	Permanent Stream Impacts c/	Temporary Stream Impacts c/	Permanent Wetland Impacts c/	Temporary Wetland Impacts c/
Southeast Supply Enhancement Project (Eden Loop)	A-1	Cherrystone Creek 030101050104	Pipeline facilities: Construction: 591.92 ac. Operation: 185.85 ac. Aboveground facilities: Construction: 120.72 ac. Operation: 31.02 ac. Contractor yards: Construction: 52.11 ac. Operation: 0.00 ac.	Access roads: 43 linear feet	Pipeline: 1058 linear feet ATWS-foot traffic only: 516 linear feet	Operation impacts: 11.04 ac. Maintenance corridor: 2.08 ac.	Construction impacts: 30.12 ac.
East Tennessee System Alignment Project (Draper Compressor Station)	A-2	Cascade Creek 030101030902	Construction 35.3 ac. Operation 28.8 ac.	No direct stream impacts	No direct stream impacts	No direct wetland impacts	No direct wetland impacts
Southside Reliability Enhancement Project Transco	A-4	Cherrystone Creek 030101050104	Construction: 122.5 ac. Operation: 118.9 ac.	No direct stream impacts	No direct stream impacts	No direct wetland impacts	No direct wetland impacts
Mountain Valley Pipeline	A-6	Cherrystone Creek 030101050104	Land disturbance for the entire Project d/: Construction: 6,362.5 ac. Operation: 2,187.3 ac. Land disturbance acreage for the portion of the project in Pittsylvania Co. was not available	Waterbody impacts for the entire project d/: Permanent Culverts: 1 ac.	Waterbody impacts for the entire project d/: 1,109 waterbody crossings	Waterbody impacts for the entire project d/: Operation: 7.9 ac. Permanent culverts: 1 ac.	Waterbody impacts for the entire project d/: Construction: 31.0 ac. As amended: reduced 4.2 ac.
Berry Hill Connector Road Extension / VDOT (0311-071-835, P101)	B-1	Trotters Creek-Dan River 030101030903	IU	1,285 linear feet	335 linear feet	0.388 ac.	0.162 ac.
Berry Hill Connector Road (VDOT 6311-071-454)	B-6	Cascade Creek 030101030902	IU	1,915 linear feet	360 linear feet	2.06 ac.	0.53 ac.

Table 1.10-3

Other Projects within the HUC-12 Sub-Watersheds Crossed by the Amendment Project

Project Name / Permit Number a/	Map ID	HUC-12 Sub-Watershed	Land Disturbance b/	Permanent Stream Impacts c/	Temporary Stream Impacts c/	Permanent Wetland Impacts c/	Temporary Wetland Impacts c/
Berry Hill Industrial Park / Danville and Pittsylvania Counties	C-4	Trotters Creek-Dan River 030101030903	IU	376 linear feet of ephemeral stream channel, 469 linear feet of intermittent stream channel, and 384 linear feet of perennial stream channel for a total of 1,229 linear feet of stream channel.	2,401 linear feet of ephemeral stream channel, 3,717 linear feet of intermittent stream channel, and 373 linear feet of perennial stream channel for a total of 6,491 linear feet of stream channel	4.334 ac. of palustrine forested wetlands, 2.427 ac. of palustrine scrub-shrub wetlands, 0.244 ac. of palustrine emergent wetlands for a total of 7.065 ac. of wetlands.	IU

a/ The following projects identified for the cumulative impacts analysis are also within the HUC-12 sub-watersheds crossed by the Amendment Project; however, quantitative impact data were not readily available:
Dominion Energy T15 Reliability Project; Balico Pittsylvania Power Plant; Route 311 Connector Road Project (U.S. 58 and Route 1260)-VDOT (0311-108- 454); City of Danville Moorefield Bridge Road Improvements; City of Danville Route 29 / 703 Intersection Upgrades; SGR25 VP Resurfacing Projects/VDOT; Dominion Michaux Solar Project; Strata Solar – Battery Storage Facility; Strata Solar – Berry Hill Solar Project; Energix Renewables Axton Solar Project; Hopewell Solar Project; Pittsylvania County Jail; Transco Tap Transmission Line; Cross Creek Subdivision Phase II Extension; Maplewood Solar Substation and Switchyard; Maplewood Solar Main PV Area; Blue Ridge Solar Parts I and II; Tightsqueeze Development; New Branch for URW Community Federal Credit Union; VDOT Halifax 6029 071 845 UPC 118783; J&J Truck Sales; Irish Road Solar; Berry Hill 138kV Extension; Brosville 138 kV Line Extension; Berry Hill Commerce Centre Sanitary Sewer Phase I; Southern Virginia Solar; Berry Hill 138 kV Substation; Berry Hill Industrial Park; Southern Virginia Megasite at Berry Hill Phase III – Waterline Extension; Proposed Tractor Supply Co; Monroe Solar Site

b/ For projects that extend into counties and states that are not affected by the Amendment Project, only the impacts associated with portion(s) of the project in Pittsylvania County, VA and Rockingham County, NC are included in this table, unless otherwise noted.

c/ For projects that extend into counties and states that are not affected by the Amendment Project, only the permits and approvals required for impacts in Pittsylvania County, VA, and Rockingham County, NC are included in this table unless otherwise noted.

d/ Land disturbance and waterbody impacts specific to Pittsylvania County, VA were not available.

IU = Information Unavailable

As noted above, the SSE Project and the Amendment Project are proposed to be collocated; therefore, most surface waters and wetlands crossed by the Amendment Project will be directly impacted by both projects. HDDs are proposed to install the pipelines under the Dan River and Sandy River, avoiding surface impacts at these crossings. Where open-cut construction is proposed, stream and wetland impacts will be temporary. After each pipeline is constructed, pre-construction contours will be restored to the extent practicable, and disturbed areas will be revegetated. Some permanent impacts will occur where palustrine forested wetlands and forested riparian areas will be maintained as shrub-scrub or herbaceous vegetative cover; however, these impacts will occur adjacent to existing utility rights-of-way, consolidating land use changes within a single corridor. Other permanent surface water impacts associated with the SSE Project include the installation of culverts to accommodate new access roads. No permanent culverts are proposed for the Amendment Project. Both proposed projects will be constructed in accordance with the FERC Plan and Procedures, federal and state permit conditions, and with project-specific construction, restoration, and monitoring plans (i.e., E&SC plans and SPCC plans).

Other projects in the HUC-12 watershed may also result in temporary or permanent impacts to surface waters and wetlands. The East Tennessee System Alignment Project includes the construction of a new compressor station, and the Southside Reliability Enhancement Project includes additional compression at an existing compressor station; however, neither project will directly impact surface waters or wetlands. The Mainline Project, which resulted in surface water and wetland impacts within the same HUC-12, was completed in 2024 in compliance with federal and state permits and approvals. Full restoration is anticipated to be complete prior to construction of the Amendment Project. Specific surface water and wetland impacts for other projects in the HUC-12 watershed were not available for this cumulative impacts analysis (see footnote in Table 1.10-3 for a complete list); however, each project must comply with federal and state requirements to avoid and minimize impacts as much as possible and mitigate any unavoidable impacts, ensuring no net loss of surface waters, including wetlands.

Projects that require construction or industrial stormwater permits from VADEQ or NCDEQ require owners/operators to develop and implement an E&SC plan to minimize the discharge of pollutants in stormwater runoff from construction and industrial sites. A Stormwater Pollution Prevention Plan ("SWPPP") must include site descriptions, potential pollutant sources, BMPs, spill prevention and response measures, and procedures for inspections, maintenance, and employee training. Compliance with stormwater permits and implementation of SWPPPs are anticipated to avoid and/or minimize cumulative impacts to surface waters and wetlands.

1.10.3.2 Groundwater Resources

The Amendment Project's potential impacts on groundwater resources include the risk of encountering contaminated groundwater, effects on private water supply wells, and the need for trench dewatering in areas with shallow groundwater. The Amendment Project is not expected to significantly impact groundwater recharge due to the surficial nature and short-term duration of disturbances. To avoid, minimize, and mitigate these impacts, Mountain Valley will implement measures such as adhering to the FERC Plan and Procedures, implementing an SPCC plan, developing a project-specific Water Resources Identification and Testing Plan, and employing erosion and sediment control practices. Additionally, environmental inspectors will be trained to detect contamination, and if any contaminated groundwater is encountered, it will be managed by Mountain Valley's EIs. Blasting impacts will be mitigated through

monitoring and safeguards, and the revised General Blasting Plan, and trench dewatering will be conducted with appropriate methods to minimize environmental effects.

The other projects listed in Table 1.10-2 must adhere to their project-specific permit conditions to avoid and minimize groundwater impacts in their respective areas. As noted above, each project that requires a construction or industrial stormwater permit may be required to implement an E&SC plan that identifies potential pollutant sources, BMPs, and spill prevention and response measures, which will minimize pollutants in stormwater but also protect groundwater from accidental contamination. Several of the projects listed in Table 1.10-2 are FERC-regulated projects that require refueling restrictions within 200 feet of private water supply wells and 400 feet of community wells. FERC also requires applicants to provide a plan for monitoring groundwater quality and yield of water supply wells within 150 feet of the construction workspace. Since the Amendment Project is designed to avoid permanent groundwater impacts, and other projects in the HUC-12 are required to comply with their permit conditions, cumulative impacts on groundwater are anticipated to be temporary and minor.

1.10.3.3 Vegetation, Wildlife, and Fisheries

The Amendment Project traverses deciduous forest, evergreen forest, mixed deciduous-evergreen forest, scrub-shrub land, herbaceous uplands, wetlands, and agricultural lands. Permanent impacts to forested areas are proposed within the permanent right-of-way, and long-term temporal impacts will occur in temporary workspaces that will be allowed to return to forested conditions over time. Although construction-related activities associated with the Amendment Project will result in the removal of vegetation and associated wildlife habitats and potential displacement of wildlife, these activities will be limited to the designated construction workspace. Vegetative cover and forage habitats are abundant in the surrounding areas, which will minimize the overall impacts to wildlife. To further minimize impacts to vegetation, wildlife, and fisheries, Mountain Valley will implement measures, such as collocating the pipeline route with existing utility corridors to reduce forest fragmentation, limiting the construction right-of-way width to 75 feet at stream and wetland crossings, and installing the pipeline under sensitive aquatic habitats using the HDD methods. Additionally, the Amendment Project will adhere to the FERC Plan and Procedures and project-specific E&SC plans. These plans aim to restore affected areas, promote regrowth of vegetation, and minimize long-term impacts.

In consultation with the U.S Fish and Wildlife Service and state natural heritage programs, Mountain Valley has identified four federally endangered or federally threatened species, one proposed federally endangered, one proposed federally threatened, and several state-listed species that may potentially occur within the Amendment Project area. Mountain Valley is actively engaged with federal and state natural resource agencies to determine the likelihood that threatened and endangered species are present in areas crossed by the Amendment Project and recommendations for any surveys. Mountain Valley is developing a Biological Assessment that will be submitted to FERC as a supplemental filing in March 2025. Mountain Valley will continue coordination with the agencies to determine measures to avoid, minimize, and/or mitigate anticipated impacts to federal and state threatened and endangered species.

Cumulative impacts on vegetation and wildlife could result from the Amendment Project and other projects that would be constructed at or near the same time. As noted above, the SSE Project and the Amendment Project are collocated; therefore, vegetation along Transco's existing Mainline Pipeline will be directly impacted by both projects. Within forested areas, the projects will result in permanent changes to vegetation cover types within the maintained rights-of-way and long-term impacts in temporary workspaces. These

impacts will occur next to existing utility rights-of-way, thereby concentrating land use changes within a single corridor. Similarly, the Mainline Project was collocated with existing rights-of-way and aboveground facilities, and the Dominion Energy T15 Reliability Project will be collocated with existing rights-of-way wherever practicable to help preserve natural habitats and reduce disruption to interior forests. Twelve of the other projects that may contribute to cumulative vegetation and wildlife impacts are solar development projects, which have primarily been sited in agricultural fields and other open land. Seven of the projects are other utility projects, including electric transmission lines and water and sewer lines, which will also result in vegetation impacts; however, the majority of impacts would be temporary as rights-of-way are restored after projects are constructed. Seven of the projects are road improvement projects that include resurfacing, intersection upgrades, road extensions, and connectors. The amount of vegetation that may be cumulatively affected by other projects in the HUC-12 is relatively minor compared to the abundance of similar vegetation cover types and wildlife habitats in the Amendment Project area.

As described in the Surface Waters section above, Mountain Valley will mitigate impacts to waterbodies and aquatic habitats by implementing measures such as HDDs for major waterbody crossings, dry crossing techniques for impaired waterbodies, and E&SC plans to prevent runoff. All waterbody impacts associated with the Amendment Project are temporary impacts that are not anticipated to contribute to cumulative impacts on fisheries.

As part of each project's permit conditions, measures would be implemented to minimize the potential for erosion and sedimentation, reduce the duration of instream disturbances, revegetate or otherwise stabilize disturbed areas, and control the spread of noxious weeds. Therefore, the degree and duration of the cumulative impacts on vegetation, wildlife, and fisheries from these projects will be minimized.

1.10.3.4 Cultural Resources

As described in Resource Report 4, Mountain Valley has completed archaeological surveys for the entire Amendment Project, and impacts to known archaeological sites eligible or potentially eligible for listing in the NRHP will be avoided. Nine aboveground historic resources are currently listed on, eligible for, treated as eligible for, or recommended eligible for the NRHP, and four are considered or treated as potentially eligible for the NRHP. Mountain Valley's goal is to build and operate the Amendment Project without adverse effects to NRHP-listed and -eligible cultural resources. If any historic properties or human remains are identified during the construction or operation of the Amendment Project, Mountain Valley would implement its Plan for Unanticipated Discoveries of Historic Properties and Human Remains, Virginia and North Carolina, which was previously reviewed and approved by the VDHR, NC HPO, and the Catawba Indian Nation and will be updated as appropriate for the Amendment Project. If any newly identified NRHP-listed or -eligible resources cannot be avoided and will be adversely affected by the Amendment Project, the Mountain Valley would develop and implement appropriate treatment plans in consultation with the FERC, the VDHR, or NC HPO, interested Native American groups, and other interested parties, as appropriate.

Other projects that are located within the APE (0.5 mile) of the Amendment Project include the SSE Project, Dominion Energy T15 Reliability Project, Southside Reliability Enhancement Project, Mainline Project, Strata Solar – Battery Storage Facility, Hopewell Solar Project, Berry Hill Connector Road Extension, URW Community Federal Credit Union, VDOT Halifax Project, Berry Hill 138 kV Substation, City of Danville Route 29/703 Intersection Upgrades, Transco Tap Transmission Line, Southern Virginia Megasite at Berry Hill Phase III Waterline Extension, Tightsqueeze Development, and J&J Truck Sales. Federally

regulated projects must include similar mitigation measures designed to avoid or minimize additional direct impacts on cultural resources. Non-federal actions must comply with any identification procedures and mitigation measures required by the states of Virginia and North Carolina. Therefore, it is unlikely that the Amendment Project will incrementally contribute to cumulative impacts related to cultural resources.

1.10.3.5 Socioeconomics

All of the projects listed in Table 1.10-2 will occur within Pittsylvania and Rockingham Counties, and each would have a varying level of socioeconomic impact on surrounding communities. The Amendment Project and many other projects will generate temporary construction jobs. The local supply of construction workers needed for these projects may be derived from workers employed in the area, which will provide a direct economic benefit to those individuals and the communities in which they reside. Non-local laborers, who are estimated to make up about 45 percent of the construction workforce, could increase the overall population in the Amendment Project area, which includes Pittsylvania, Virginia, and Rockingham County, North Carolina. However, the current local infrastructure and housing availability are expected to adequately meet the needs of these non-local workers. Since the construction of the Amendment Project and most other major projects will not overlap, a shortage of workers or significant impact on local services due to high temporary housing demands or other service needs during construction is not anticipated.

The projects listed in Table 1.10-2 will result in both short- and long-term positive cumulative economic benefits. Taxes generated from the operation of the projects will result in an annual tax revenue increase. Permanent employment will also increase due to the operation of many of these projects, with the cumulative benefit of potentially lowering local unemployment rates.

1.10.3.6 Environmental Justice

The Amendment Project's impacts on EJ communities are expected to be minimal and temporary. The Amendment Project facilities will cross several EJ communities, but it is designed to avoid long-term adverse effects. Mitigation measures, such as dust control and noise reduction, will be implemented to minimize temporary construction impacts. The Amendment Project will not disproportionately affect EJ communities, as impacts are spread across various areas and are not concentrated in any single community and the Amendment Project does not include the construction of major aboveground facilities. Positive benefits of the Amendment Project, together with other projects in the area, include potential economic opportunities through job creation and local spending during construction. Overall, Mountain Valley aims to ensure that EJ communities do not bear a disproportionate share of negative impacts.

1.10.3.7 Soils and Geology

The facilities associated with the Amendment Project are expected to have a temporary but direct impact on near-surface geology, soils, and sediments. Clearing and grading associated with the construction of the Amendment Project and the other projects listed in Table 1.10-2 could accelerate the soil erosion process and, without adequate protection, could result in the discharge of sediment to adjacent waterbodies and wetlands. Since the direct effects will be localized and limited primarily to the construction period, cumulative impacts on geology, soils, and sediments will only occur if other projects are constructed at the same time and general location as the proposed Amendment Project facilities.

Of the projects identified in Table 1.10-2, only the SSE Project, Dominion Energy T15 Reliability Project, and Mainline Project have overlapping workspaces. Construction of the Mainline Project is complete, and

restoration is anticipated to be complete prior to construction of the Amendment Project. The construction schedules for the SSE Project and Dominion Energy T15 Reliability Project indicate that construction will likely be completed before construction of the Amendment Project starts; however, there will likely be some overlap between both projects' restoration phases and the Amendment Project's construction phase.

The Amendment Project will implement the provisions of the FERC Plan and Procedures and its project-specific E&SC Plans to establish a baseline for minimizing the potential for erosion as a result of water or wind action and to aid in reestablishing vegetation after construction. In addition, disturbance associated with construction activities will be minimized and mitigated through the application of BMPs that are incorporated in the project-specific E&SC Plans. Should hazardous materials or contaminated soils and/or sediments be encountered during construction, they will be disposed of at fully licensed and permitted disposal facilities in accordance with applicable state and federal laws and regulations. As a result, the cumulative effect on geological resources, soils, and sediments is expected to be temporary and minor.

1.10.3.8 Land Use

The Amendment Project and several other projects listed in Table 1.10-2—including the SSE Project, Dominion Energy T15 Reliability Project, Southside Reliability Enhancement Project, Mainline Project, Strata Solar – Battery Storage Facility, Hopewell Solar Project, Berry Hill Connector Road Extension, URW Community Federal Credit Union, VDOT Halifax Project, and the Berry Hill 138 kV Substation—will result in both temporary and permanent modifications to existing land uses. The Amendment Project is located parallel to or collocated with existing utility corridors for approximately 64 percent (approximately 20 miles) of the proposed pipeline alignment. New permanent effects on land use will be minimal because the majority of land affected by the construction of the Amendment Project facilities will be allowed to revert to pre-construction uses following construction. The Amendment Project will result in the conversion of some forested areas to open land within the maintained pipeline right-of-way. Permanent land use changes will also result from the construction and operation of proposed aboveground facilities.

Following construction, the majority of affected areas will be restored and relinquished to the landowner without restrictions. Some new restrictions will be imposed on the new permanent right-of-way (no greater than 50 feet wide), but these restrictions will primarily be limited to activities such as deep excavations or the construction of new, permanent structures or planting of trees that could threaten the integrity of the pipeline or preclude Mountain Valley's ability to maintain the pipeline. The Dan River Interconnect #1, Dan River Interconnect #2, and LN 3600 Interconnect are each collocated with existing industrial facilities, and the Lambert Interconnect is located within 650 feet of two existing industrial facilities. Because a relatively small area of land used by the Amendment Project will be converted to another land use type, construction will be short term and new proposed aboveground facilities are collocated with or sited near existing industrial facilities, the Amendment Project and other nearby projects will not result in substantial changes to existing land use in the region.

1.10.3.9 Visual Resources

Visual impacts will primarily result from the removal of vegetation, especially in forested areas, and the construction of aboveground facilities. These impacts will be most noticeable when the pipeline crosses roads or is constructed near residences. Permanent visual impacts include the maintained 50-foot-wide right-of-way and the alteration of vegetation at aboveground facility sites. To mitigate impacts associated

with aboveground facilities, the Amendment Project will implement measures such as maintaining existing foliage; installing vegetative screening; painting equipment to blend with the environment, where appropriate; using downward-facing lights; and installing visual slats in fencing. These efforts aim to minimize the visual footprint and blend with the surrounding landscape. As described in the Land Use section above, proposed interconnects have been collocated with or sited within close proximity to existing industrial facilities, which are part of the visual environment. The proposed Amendment Project facilities will not significantly impact the aesthetics of the area.

Several of the projects listed in Table 1.10-2 will result in visual impacts within 0.25 mile of the Amendment Project: the SSE Project, Dominion Energy T15 Reliability Project, Southside Reliability Enhancement Project, Mainline Project, Strata Solar – Battery Storage Facility, Hopewell Solar Project, Berry Hill Connector Road Extension, URW Community Federal Credit Union, VDOT Halifax Project, and the Berry Hill 138 kV Substation. However, because the Amendment Project's visual impacts will be limited to minor aboveground facilities and forest clearing along an existing utility right-of-way, where additional cleared width will not substantially affect aesthetics, the Amendment Project will not contribute to cumulative visual impacts.

1.10.3.10 Air Quality

The Amendment Project's impacts on air quality are expected to be minimal and temporary. Construction activities will result in short-term emissions from equipment and vehicles, but these are not anticipated to cause significant air quality impacts. No air permits will be required for the Amendment Project, as the emissions are below regulatory thresholds. Mitigation measures to minimize air quality impacts include using low-sulfur diesel fuel, employing newer equipment with emission reduction technologies, implementing fugitive dust control measures, and avoiding unnecessary idling of construction equipment. Overall, the Amendment Project will adhere to best practices to comply with air quality standards.

Among the projects listed in Table 1.10-2, only the SSE Project, Dominion Energy T15 Reliability Project, and Strata Solar – Battery Storage Facility Project would coincide both geographically and temporally, potentially leading to cumulative air quality impacts during construction and restoration. Similar to the Amendment Project, each of these projects must adhere to the U.S. Environmental Protection Agency's non-road source emissions regulations and air quality standards. Additionally, each project is expected to implement measures to control fugitive dust emissions during construction. Consequently, the air emissions from construction activities are not anticipated to significantly impact long-term air quality in the region.

The operational air impacts of the Amendment Project are expected to be minimal. Emissions will primarily come from fugitive gas releases at the pipeline, valves, interconnects, and pig launchers/receivers. These emissions are projected to be low and well below major source permitting thresholds. Mountain Valley will adhere to good operating and maintenance practices to minimize greenhouse gas ("GHG") and volatile organic compound leaks. The Amendment Project is designed to reduce GHG emissions where technically and economically feasible, to comply with National and State Ambient Air Quality Standards for criteria air pollutants, and to minimize potential climate change impacts. Other projects listed in Table 1.10-2 may currently have or will result in operational emissions that affect regional air quality; however, since the Amendment Project will not result in operational emissions that exceed permitting thresholds, it will not contribute to cumulative impacts to regional air quality.

1.10.3.11 Noise Quality

Construction activities have the potential to produce increased noise levels; however, Mountain Valley proposes to manage construction noise through measures such as using quieter equipment, installing noise barriers, and limiting nighttime work to only where it is necessary. Similar to potential cumulative air quality impacts, cumulative impacts from construction noise from the Amendment Project and the other projects listed in Table 1.10-2 depend on the type of construction activities that are taking place at the same time, how close in proximity the construction activities are occurring, and mitigation measures that will be used to minimize noise impacts. Of the projects listed in Table 1.10-2, only the SSE Project, Dominion Energy T15 Reliability Project, and Strata Solar – Battery Storage Facility Project are expected to be constructed or restored during the same timeframe, within 0.25 mile of general construction activities and 0.5 mile of proposed HDDs. The Strata Solar – Battery Storage Facility, Hopewell Solar Project, Berry Hill Connector Road Extension, URW Community Federal Credit Union, VDOT Halifax Project, and the Berry Hill 138 kV Substation, whose construction schedules are currently unknown, could also be constructed concurrently with the Amendment Project, resulting in cumulative noise impacts. However, the noise generated by construction activities will be temporary and localized, and construction activities for the Amendment Project, along with the other projects, are not expected to result in significant adverse noise impacts.

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MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-A

Alignment Sheets

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

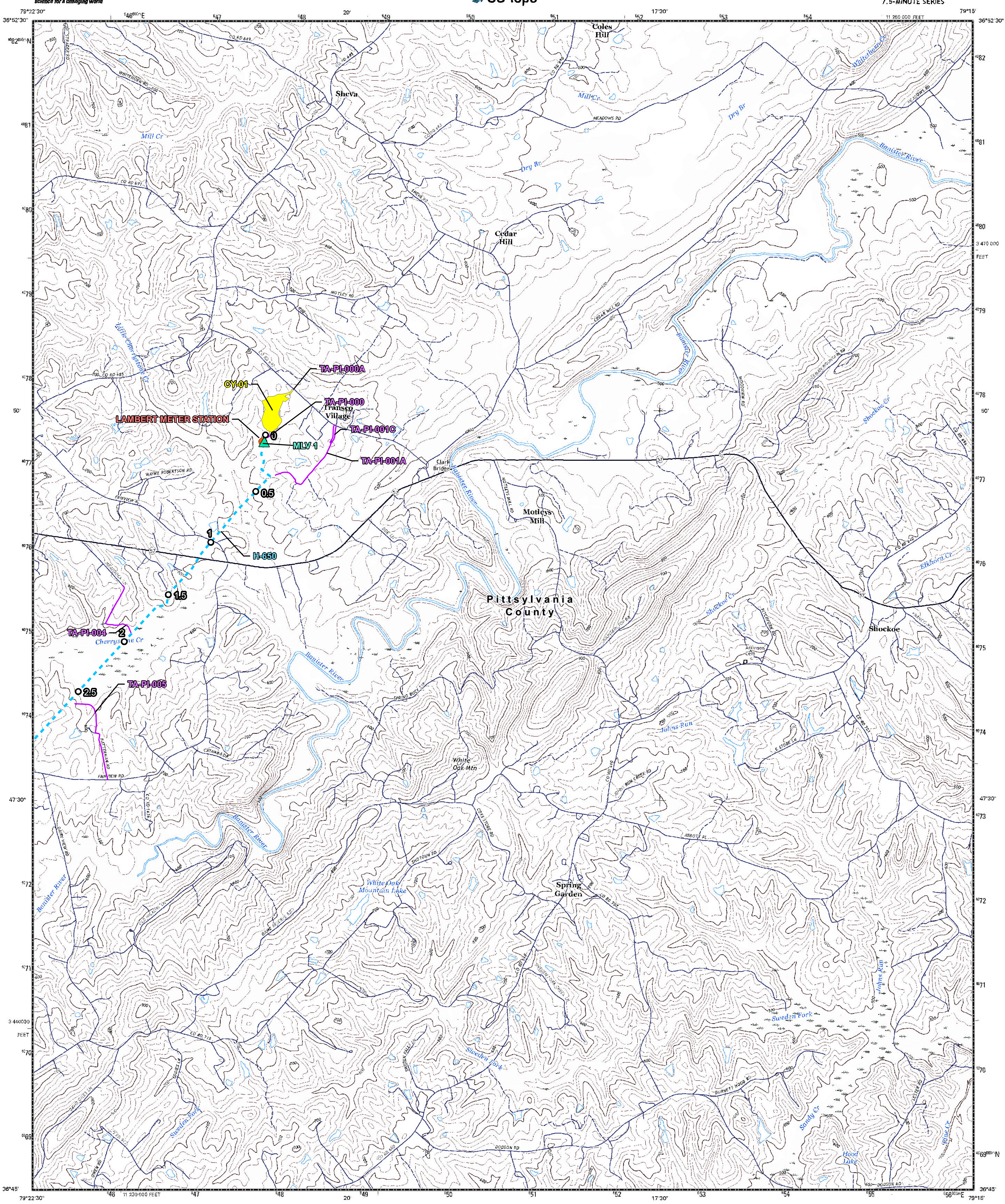
Appendix 1-B

Full Size USGS Quadrangle Maps

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

SPRING GARDEN QUADRANGLE
VIRGINIA-PITTSYLVANIA CO.
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Virginia Coordinate System of 1983 (south zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery......NAIP, July 2014
Roads...... U.S. Census Bureau, 2015 - 2016
Names......GNIS, 2016
Hydrography......National Hydrography Dataset, 2014
Contours......National Elevation Dataset, 2008
Boundaries......Multiple sources; see metadata file 1972 - 2016

Wetlands......FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
8° 57' 159 MILS
1° 1' 18 MILS

U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S

SCALE 1:24 000

KILOMETERS · METERS · MILES · FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

VIRGINIA
QUADRANGLE LOCATION

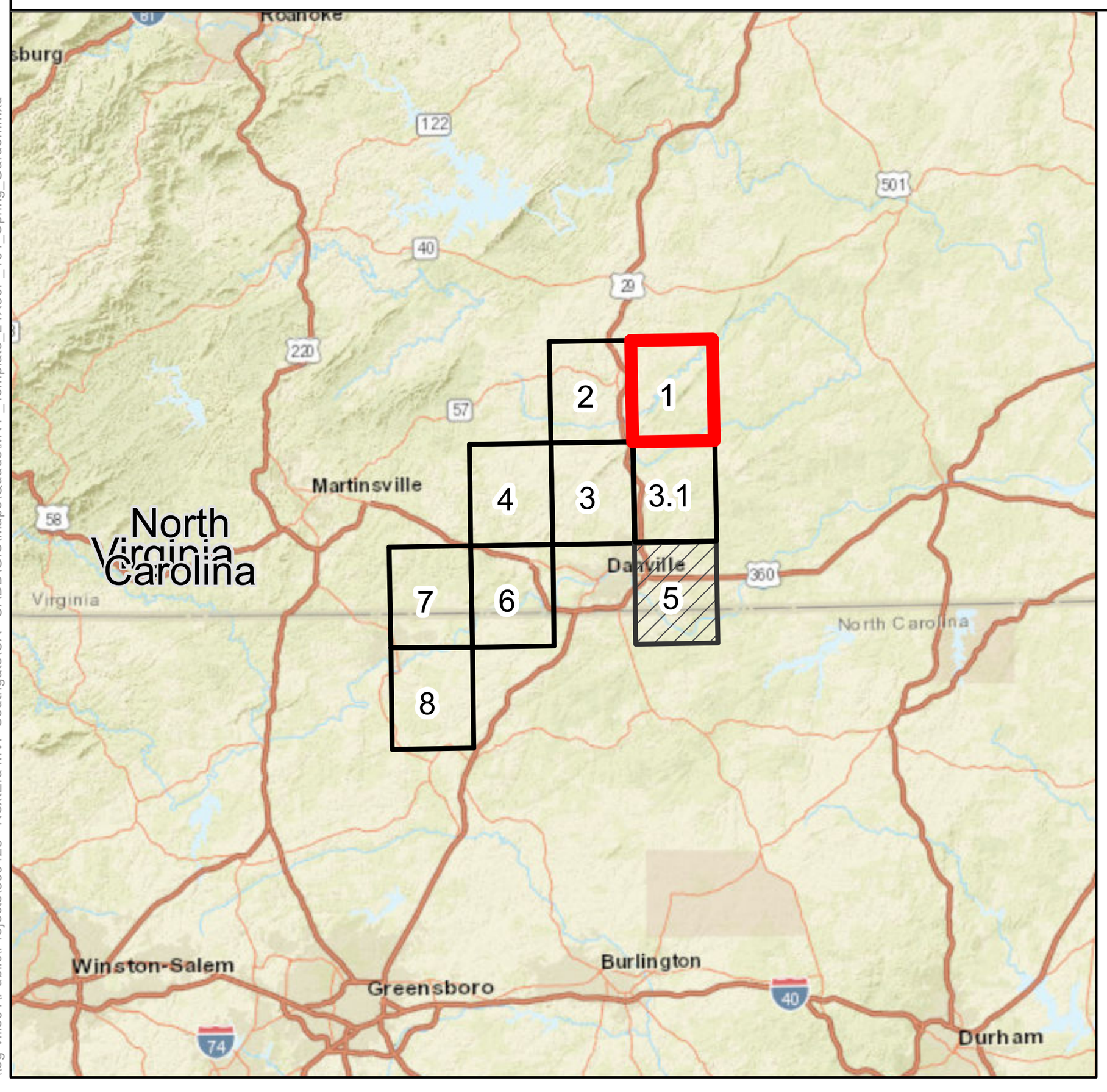
1 Pittsville
2 Gretna
3 Mount Airy
4 Chatham
5 Java
6 Mount Hermon
7 Blairs
8 Ingram
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway · Local Connector
Secondary Hwy · Local Road
Ramp · 4WD
Interstate Route · US Route · State Route

SPRING GARDEN, VA
2016

NSN. 7643016401096
NGA REF NO. USGSX24K42615

ISSUED FOR FERC



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

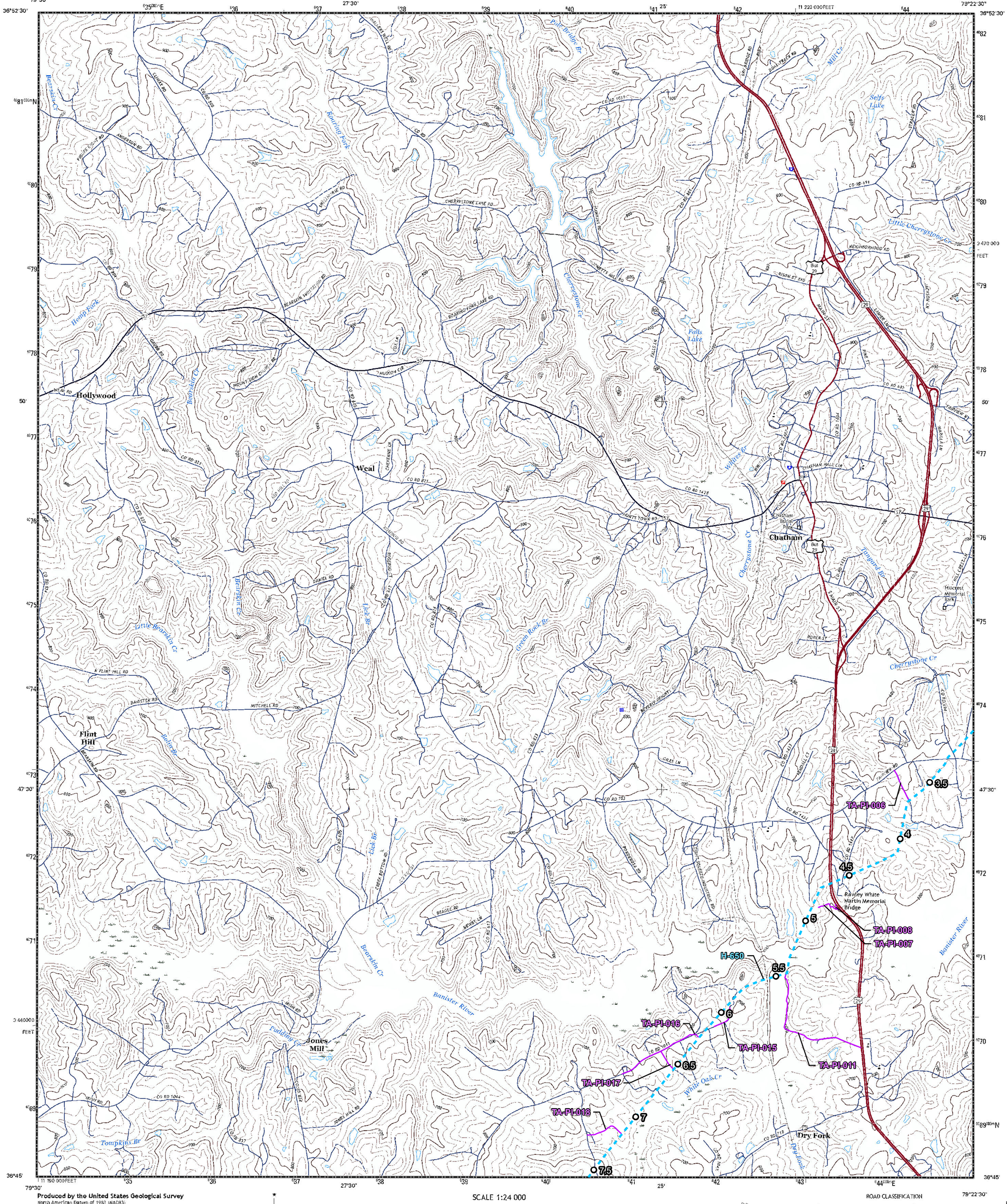
Appendix 1-B	Date: December 9th, 2024	
PA-PIVA-H650-USGS-01	REV: P1	PAGE: 1

TRC

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

CHATHAM QUADRANGLE
VIRGINIA-PITTSYLVANIA CO.
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Virginia Coordinate System of 1983 (south zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2014
Roads.....U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2008
Boundaries.....Multiple sources; see metadata file 1972 - 2016
Wetlands.....FWS National Wetlands Inventory 1972 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.19

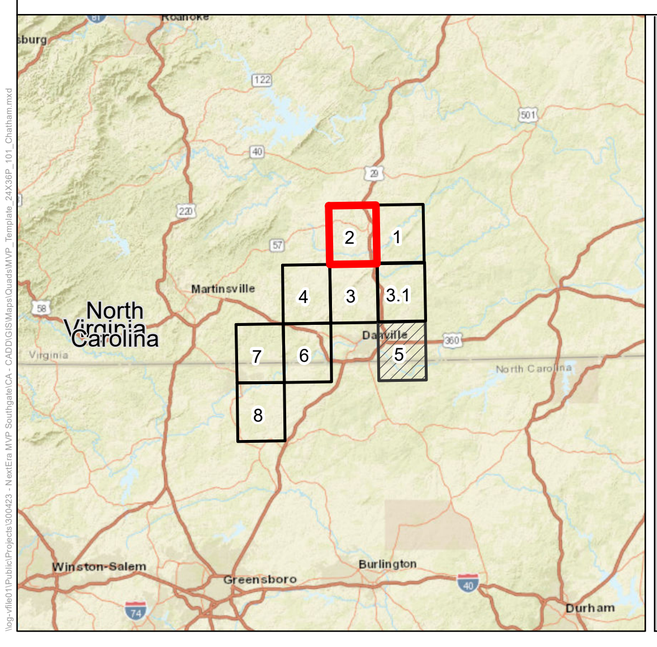
ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

ADJOINING QUADRANGLES
1 Sandy Level
2 Pittsville
3 Gretna
4 Callands
5 Spring Garden
6 Whitmell
7 Mount Hermon
8 Blairs

CHATHAM, VA
2016

NSN 7643016400604 USGSX24K8271
NGA REF NO.

ISSUED FOR FERC



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

Appendix 1-B	Date: December 9th, 2024	
PA-PIVA-H650-USGS-02	REV: P1	PAGE: 2

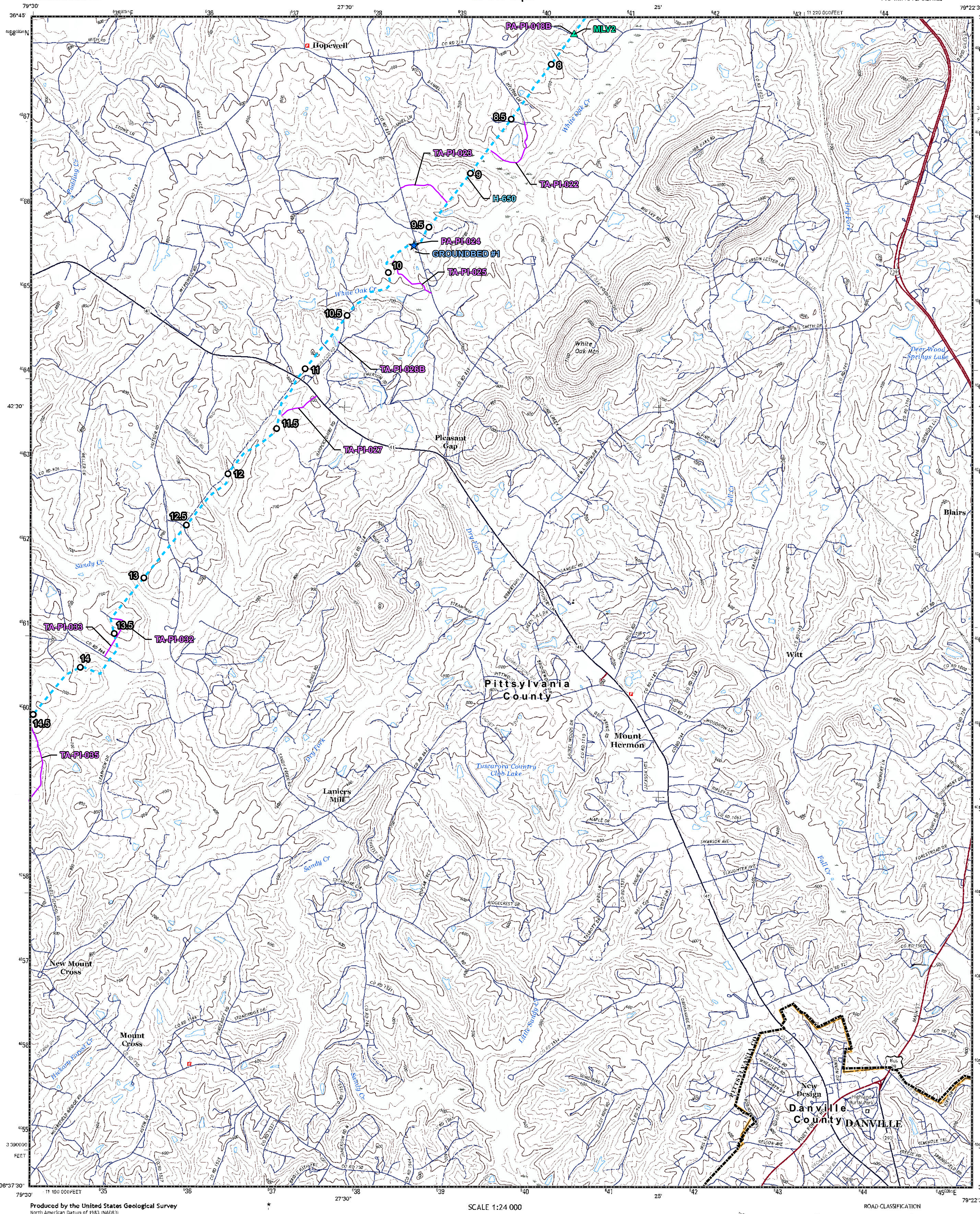
TRC

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

MOUNT HERMON QUADRANGLE
VIRGINIA
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Virginia Coordinate System of 1983 (south zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.......NAIP, July 2014
Roads.......U.S. Census Bureau, 2015 - 2016
Names.......GNIS, 2016
Hydrography.......National Hydrography Dataset, 2014
Contours.......National Elevation Dataset, 2008
Boundaries.......Multiple sources; see metadata file 1972 - 2016
Wetlands.......FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

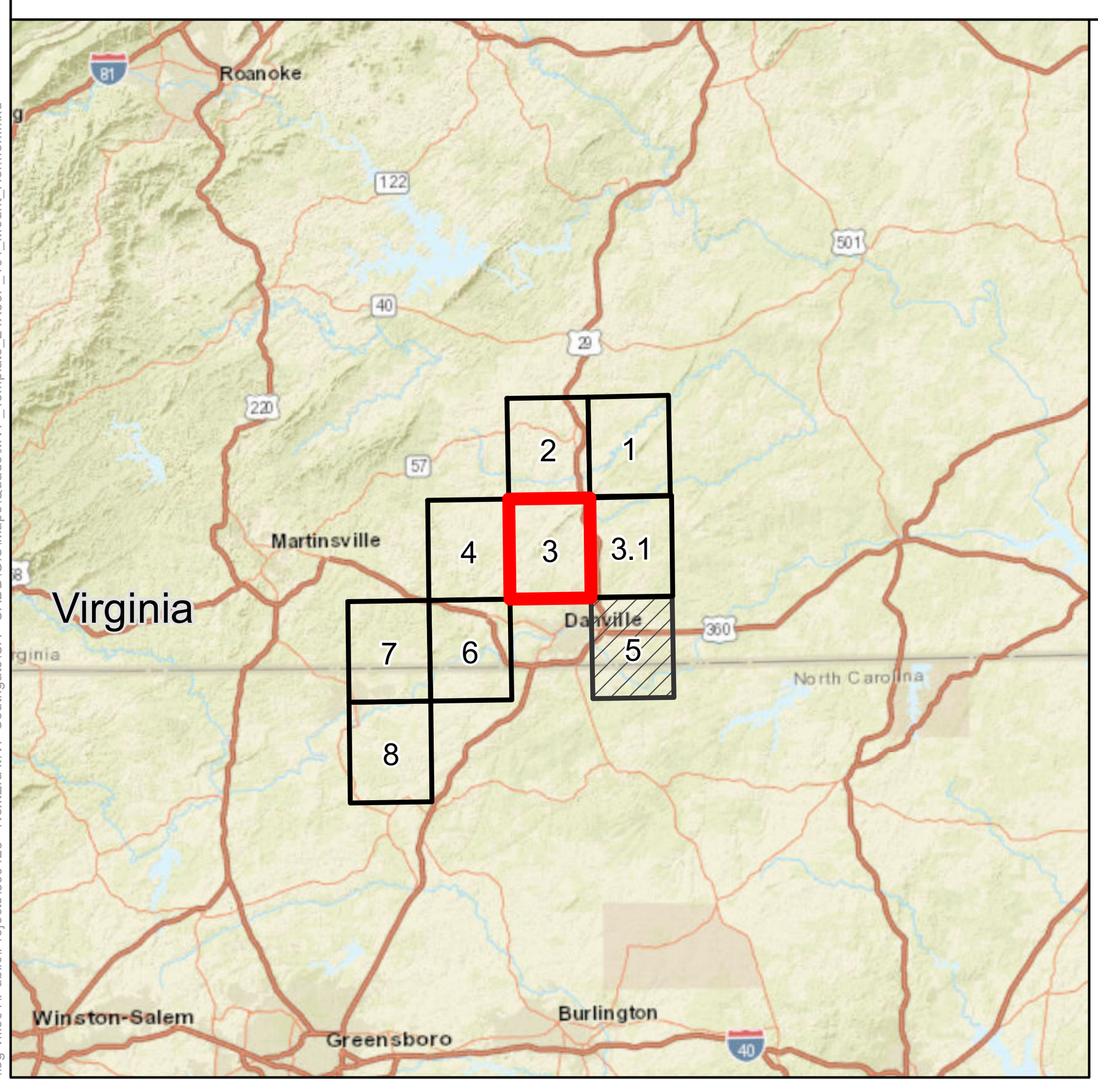
ROAD CLASSIFICATION
Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD
Interstate Route — US Route — State Route

ADJOINING QUADRANGLES
1 Callands
2 Chatham
3 Spring Garden
4 Whitmell
5 Blairs
6 Brosville
7 Danville
8 Ringgold

MOUNT HERMON, VA
2016

NSN 7643016400931
NGA REF NO. USGSX24K30623

ISSUED FOR FERC



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Groundbeds
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

Appendix 1-B	Date: December 9th, 2024	
PA-PIVA-H650-USGS-03	REV: P1	PAGE: 3

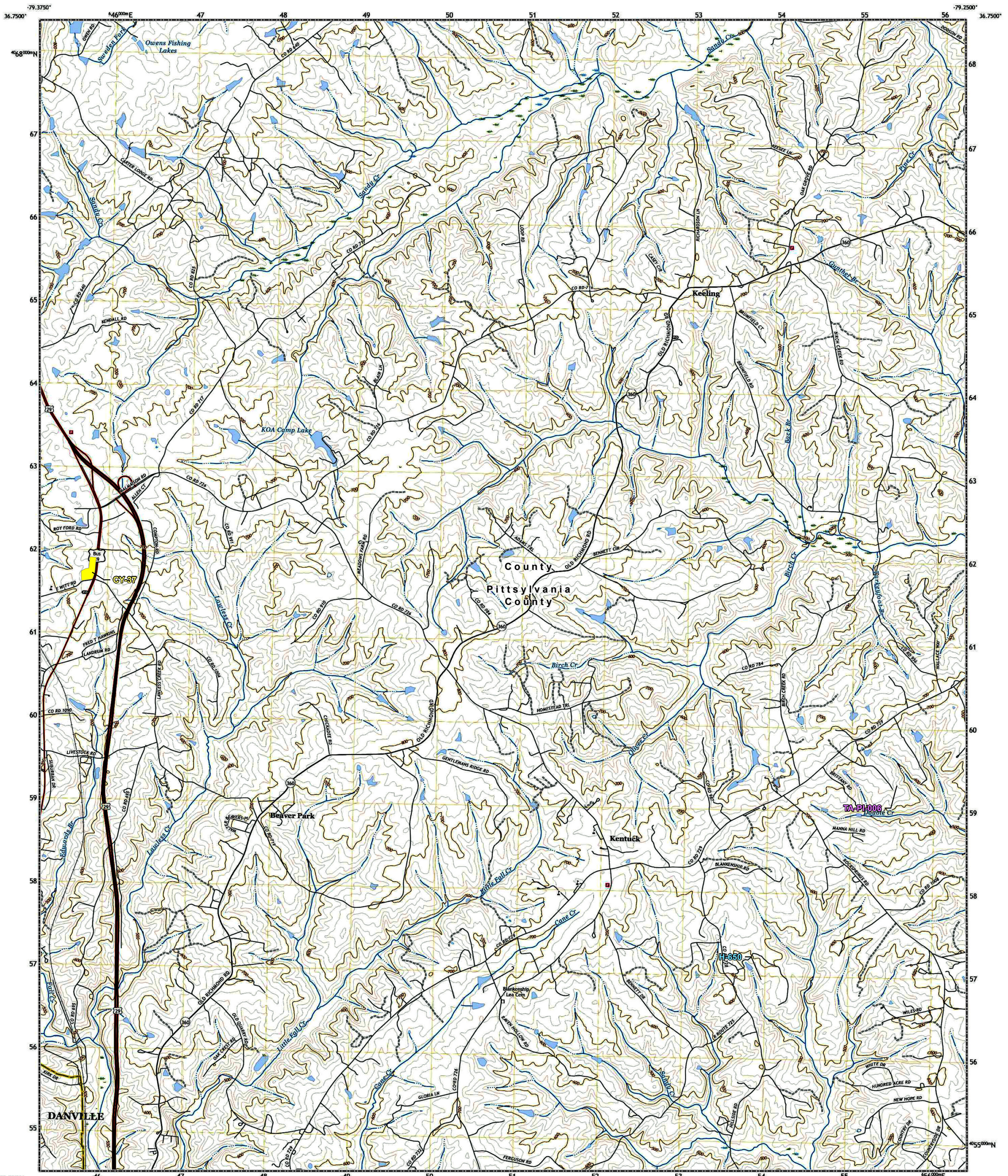
TRC

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

USGS science for a changing world

The National Map US Topo

BLAIRS QUADRANGLE
VIRGINIA
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 17S
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP,	August 2018	- August 2018
Roads	U.S. Census Bureau,	2016	- 2016
Names	GNIS,	1979	- 2022
Hydrography	National Hydrography Dataset,	2002	- 2021
Contours	National Elevation Dataset,	2021	
Boundaries	Multiple sources; see metadata file	2019	- 2021
Wetlands	FWS National Wetlands Inventory	1982	- 1982

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
MN GN 8°58' 159 MILS 1°1' 18 MILS
U.S. National Grid 100,000-m Square ID: PA
Grid Zone Designation: 17S

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

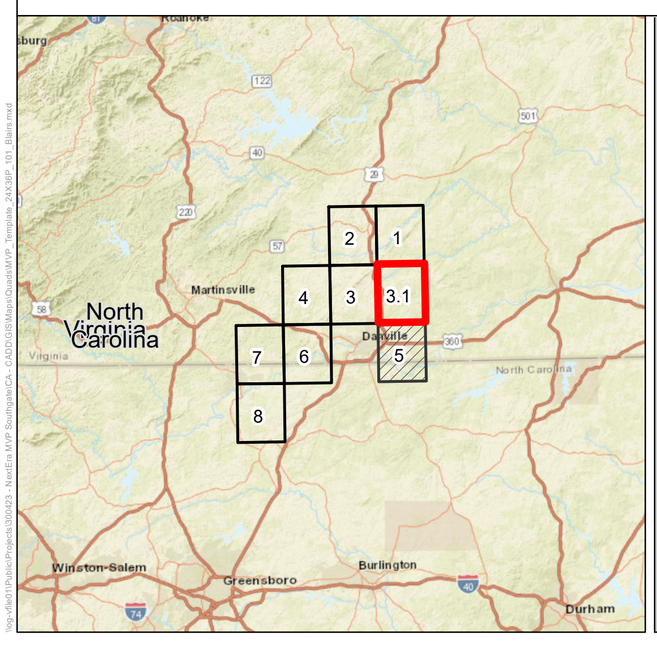
VIRGINIA
QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Chatham
2 Spring Garden
3 Java
4 Mount Hermon
5 Ingram
6 Danville
7 Ringgold
8 Milton

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

BLAIRS, VA
2022
ISSUED FOR FERC

NSN 7643016400538
NGA REF NO. USGSX24K4305



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

Appendix 1-B	Date: December 9th, 2024	
PA-PIVA-H650-USGS-03.1	REV: P1	PAGE: 3.1

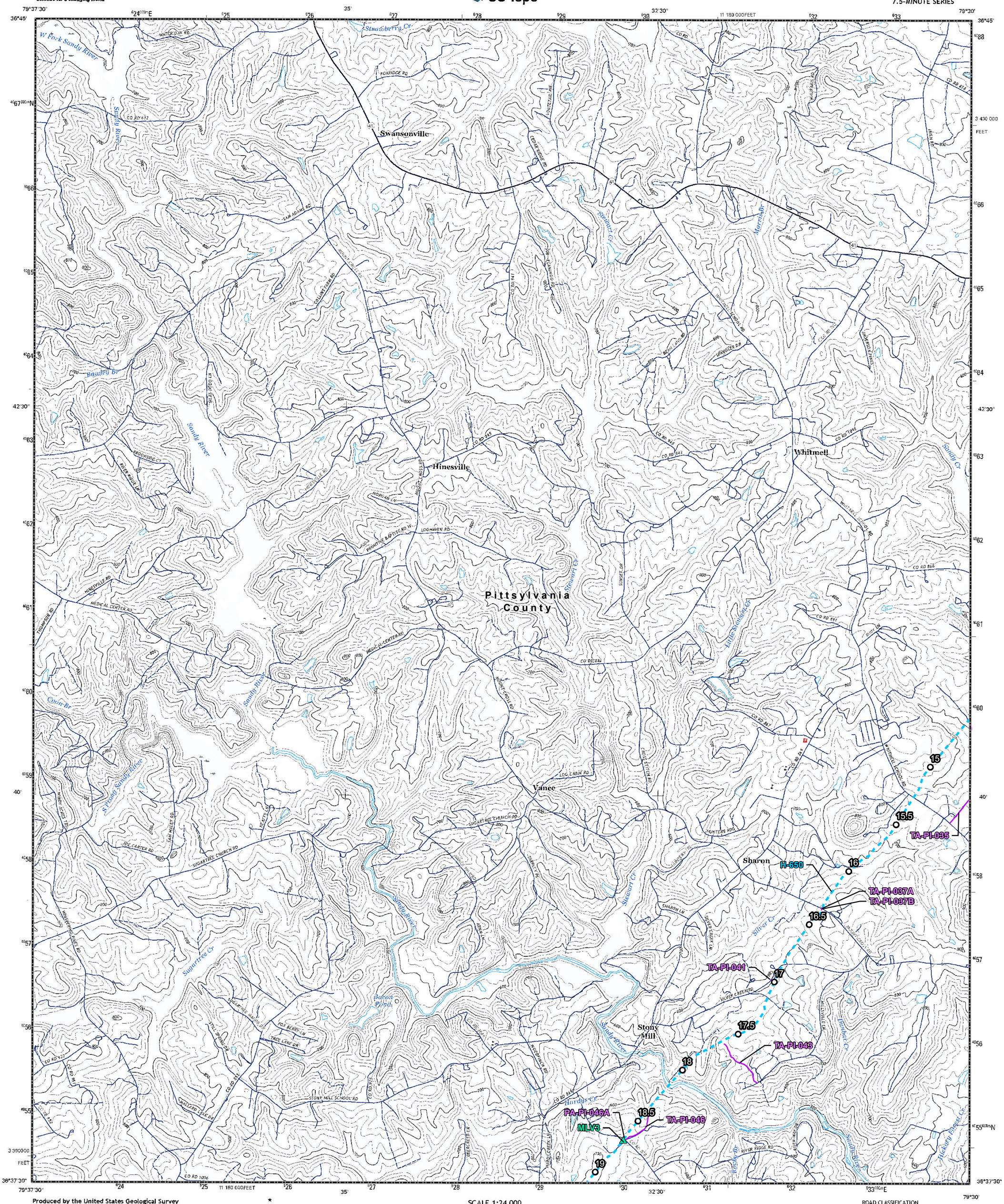
TRC

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

WHITMELL QUADRANGLE
VIRGINIA-PITTSYLVANIA CO.
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Virginia Coordinate System of 1983 (south zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2014
Roads.....U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2008
Boundaries.....Multiple sources; see metadata file 1972 - 2016

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.19

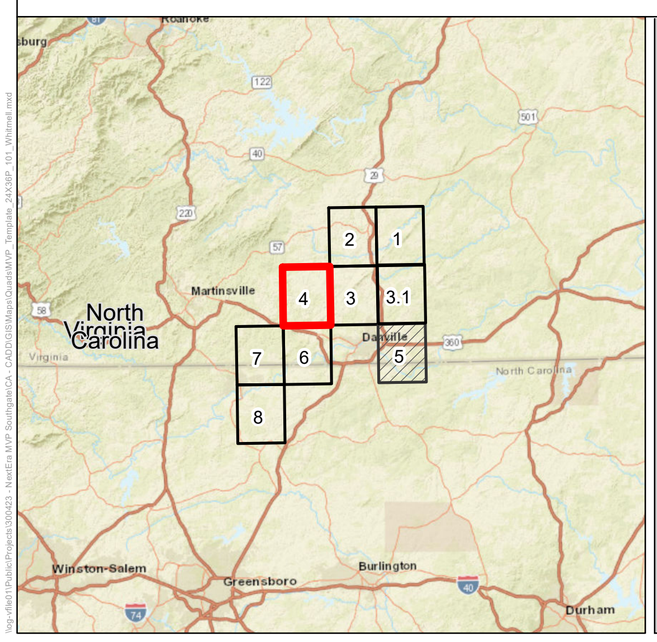
ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

ADJOINING QUADRANGLES
1 Mountain Valley
2 Callands
3 Chatham
4 Axton
5 Mount Hermon
6 Northeast Eden
7 Brosville
8 Danville

MSN. 7643016401187
NGA REF NO. USGSX24K48900

WHITMELL, VA
2016

ISSUED FOR FERC



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

Appendix 1-B	Date: December 9th, 2024	
PA-PIVA-H650-USGS-04	REV: P1	PAGE: 4

TRC

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

USGS science for a changing world

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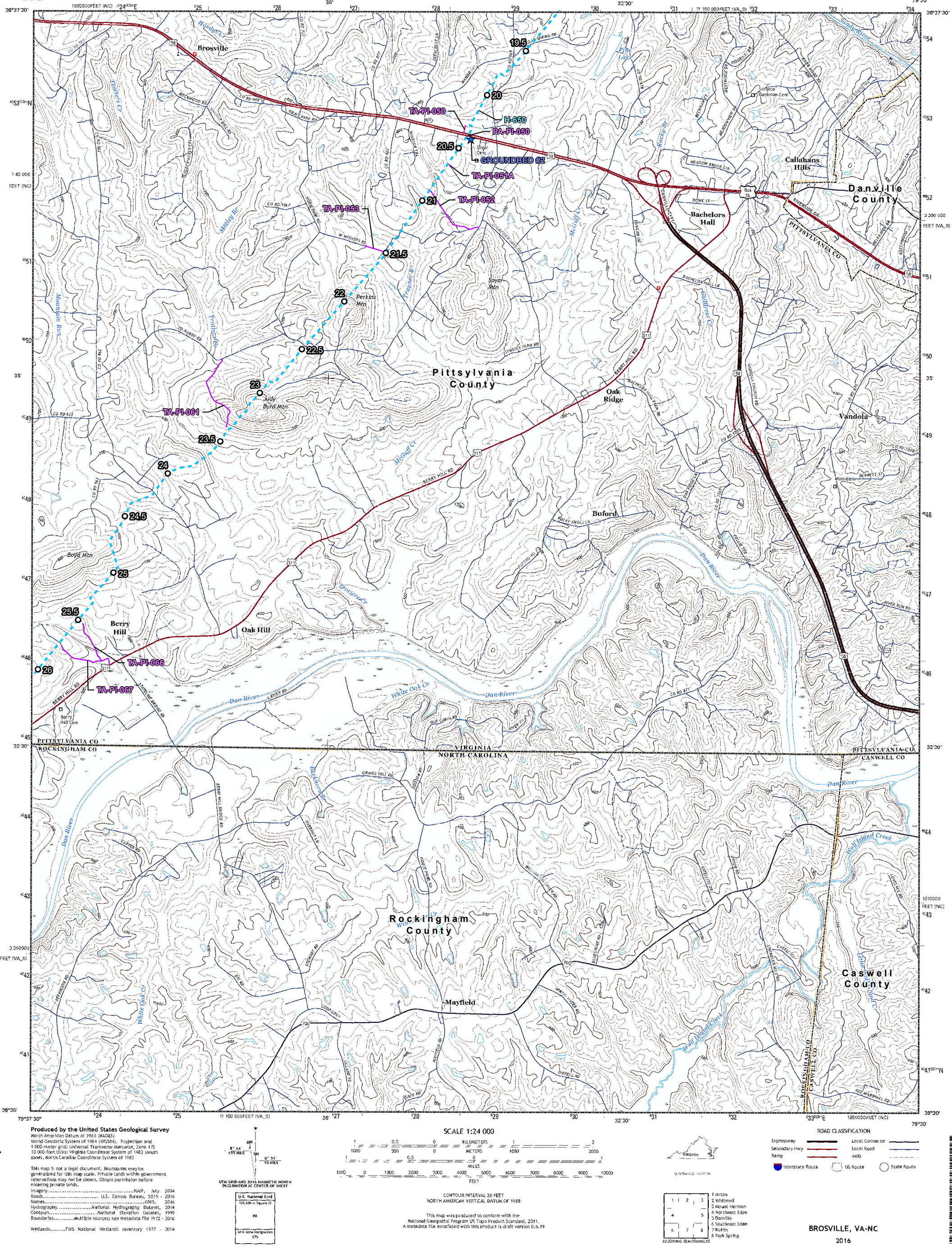
BROSVILLE QUADRANGLE
VIRGINIA-NORTH CAROLINA
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Virginia Coordinate System of 1983 (south zone), North Carolina Coordinate System of 1983

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery..... NAIP, July 2014
Roads..... U.S. Census Bureau, 2015 - 2016
Names..... GNIS, 2016
Hydrography..... National Hydrography Dataset, 2014
Contours..... National Elevation Dataset, 1999
Boundaries..... Multiple sources; see metadata file 1972 - 2016

Wetlands..... FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

ROAD CLASSIFICATION

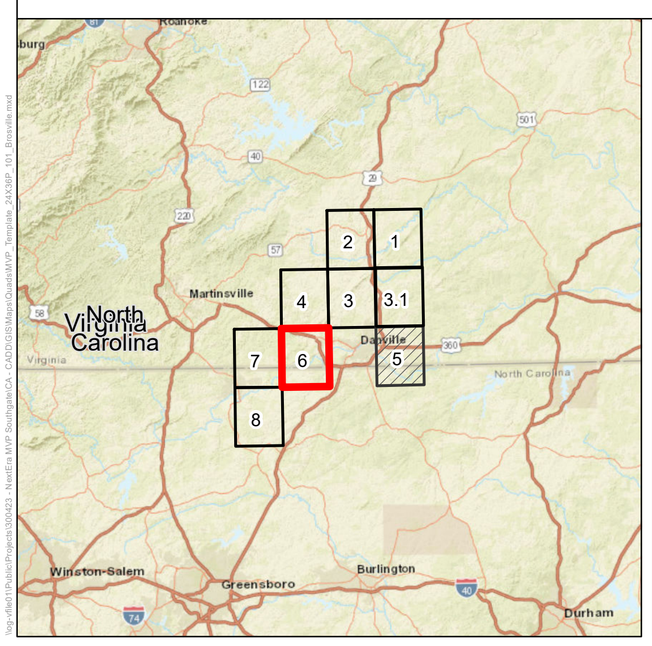
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
State Route	

ADJOINING QUADRANGLES
1 Axton
2 Whitmell
3 Mount Hermon
4 Northeast Eden
5 Danville
6 Southeast Eden
7 Ruffin
8 Park Spring

BROSVILLE, VA-NC
2016

NSN 7643016405652
NGA REF NO. USGS24K69462

ISSUED FOR FERC



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Groundbeds
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

Appendix 1-B	Date: December 9th, 2024	
PA-PIVA-H650-USGS-06	REV: P1	PAGE: 6

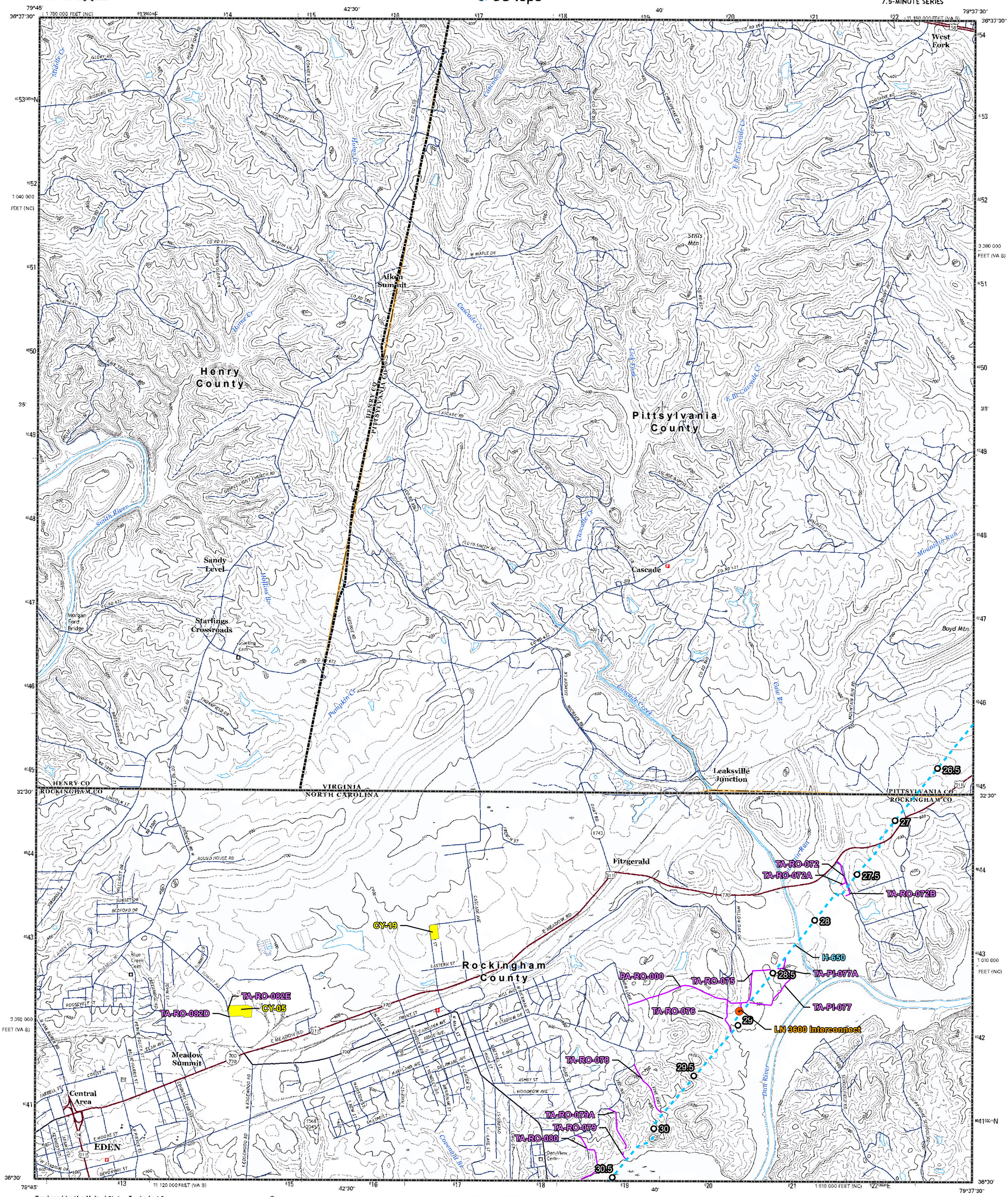
TRC

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

USGS science for a changing world

The National Map US Topo

NORTHEAST EDEN QUADRANGLE
NORTH CAROLINA-VIRGINIA
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Virginia Coordinate System of 1983 (south zone), North Carolina Coordinate System of 1983

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2014
Roads.....U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2010
Boundaries.....Multiple sources; see metadata file 1972 - 2016

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.19

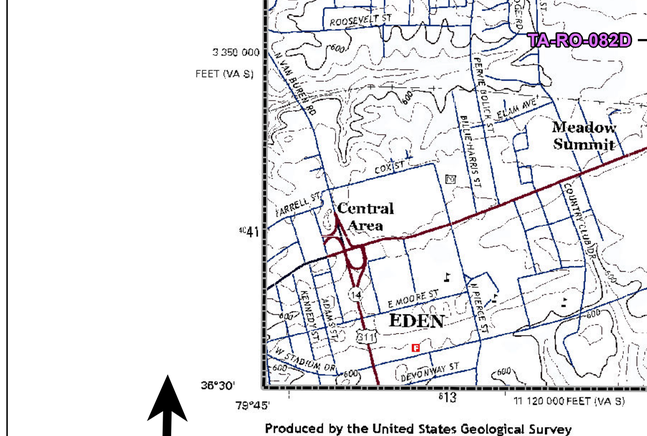
ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1 Martinsville East
2 Axton
3 Whitmell
4 Northwest Eden
5 Brosville
6 Southwest Eden
7 Southeast Eden
8 Ruffin
ADJOINING QUADRANGLES

NSN. 7643013679053
NGA REF NO. USGSX24K32506

NORTHEAST EDEN, NC-VA
2016

ISSUED FOR FERC



Legend

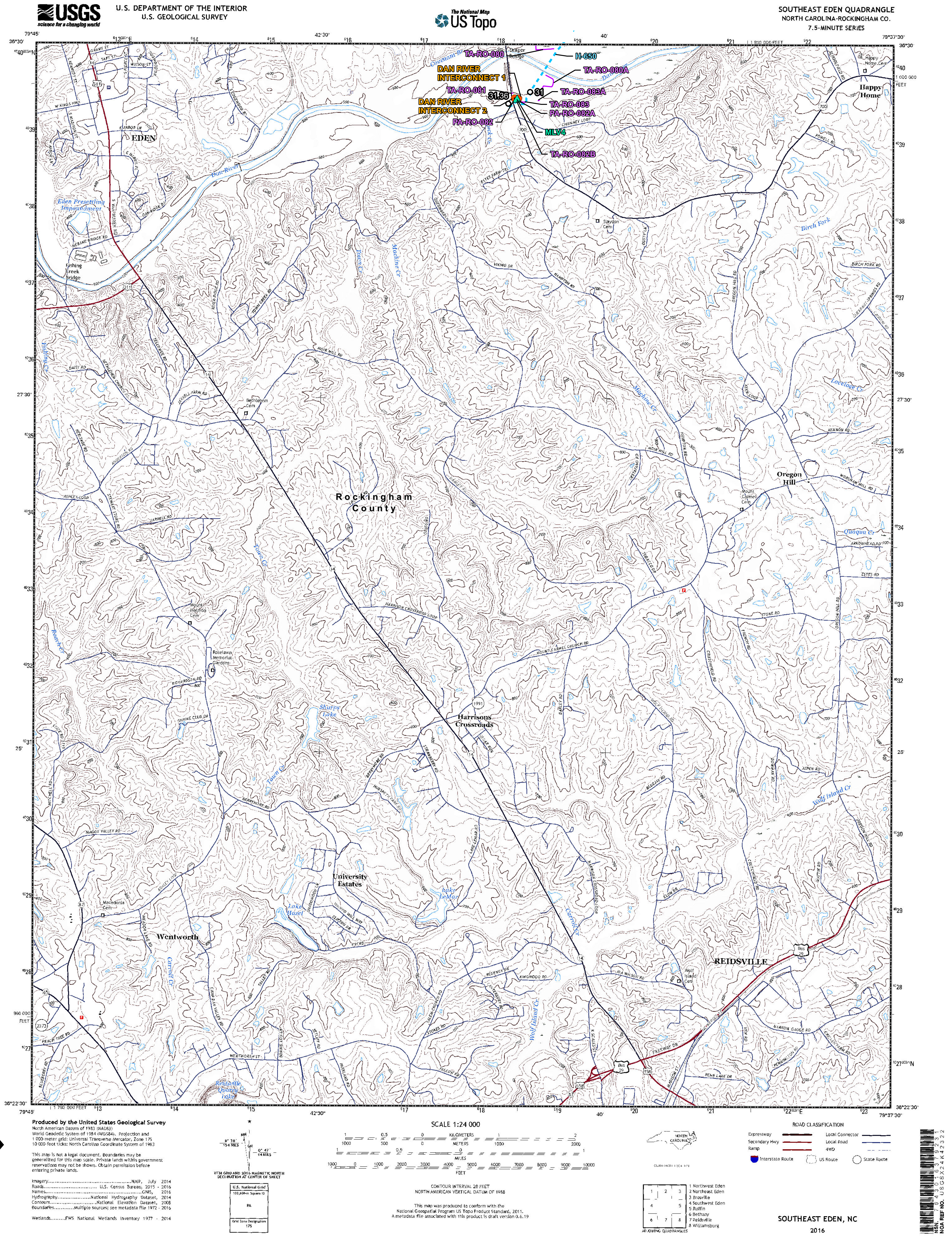
- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

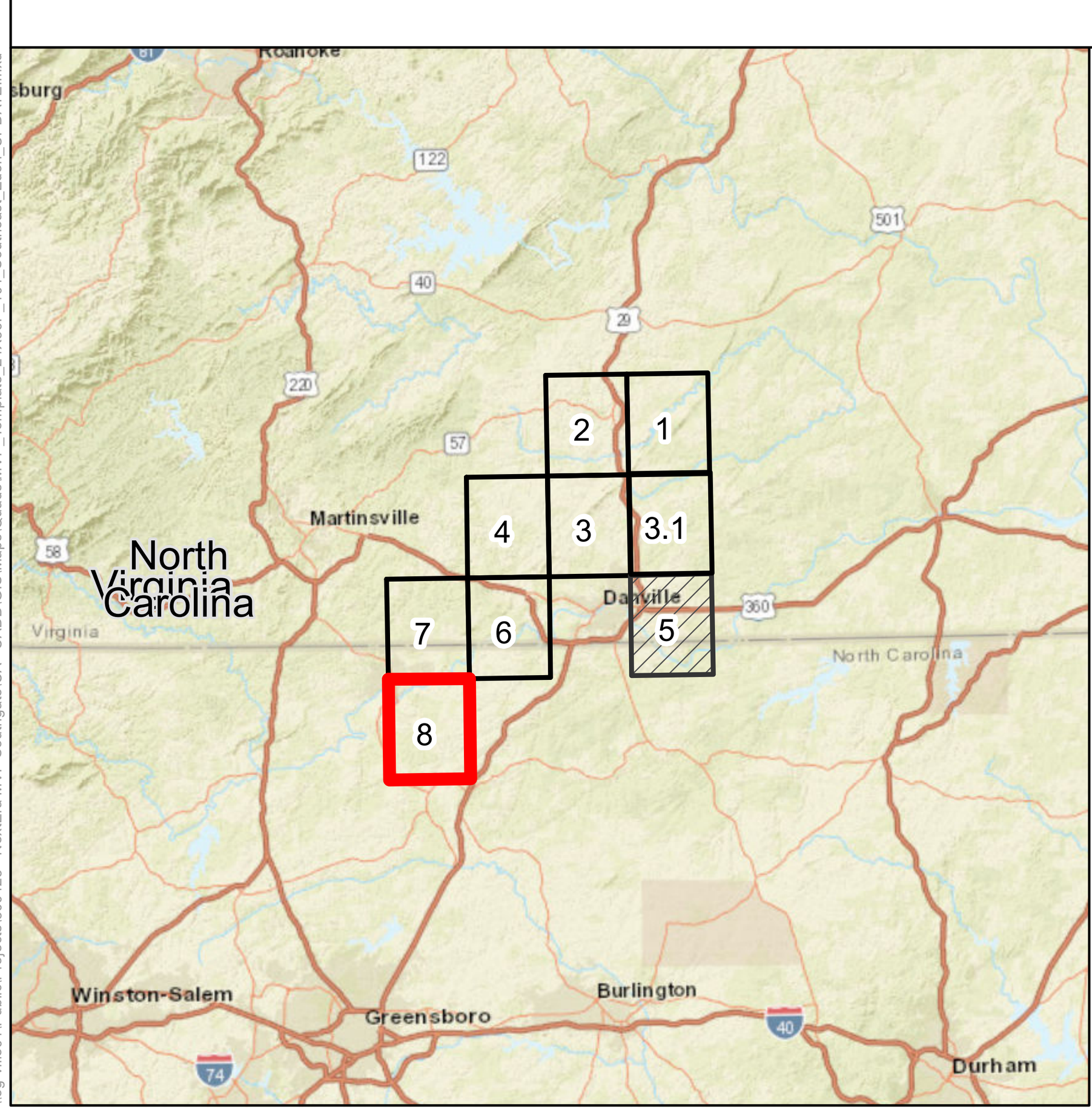
Appendix 1-B	Date: December 9th, 2024	
PA-RONC-H650-USGS-07	REV: P1	PAGE: 7

TRC



USGS
science for a changing world
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
The National Map
US Topo
SOUTHEAST EDEN QUADRANGLE
NORTH CAROLINA-ROCKINGHAM CO.
7.5-MINUTE SERIES
TA-RO-080
H-650
DAN RIVER INTERCONNECT 1
TA-RO-080A
TA-RO-081
TA-RO-083A
31.36
31
DAN RIVER INTERCONNECT 2
TA-RO-083
PA-RO-082A
PA-RO-082
MLV4
TA-RO-082B
Draper Bridge
EDEN
Dan River
Eden Presettling Impoundment
Fishing Creek Bridge
Happy Home
Birch Fork
Rockingham County
Oregon Hill
Harrisons Crossroads
University Estates
Wentworth
REIDSVILLE
Sharps Lake
Lake Hazel
Lake LeMar
Reidsville Quarry Lake
Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: North Carolina Coordinate System of 1983
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.
Imagery....NAIP, July 2014
Roads....U.S. Census Bureau, 2015 - 2016
Names....GNIS, 2016
Hydrography....National Hydrography Dataset, 2014
Contours....National Elevation Dataset, 2008
Boundaries....Multiple sources; see metadata file 1972 - 2016
Wetlands....FWS National Wetlands Inventory 1977 - 2014
UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
U.S. National Grid
100,000-m Square ID
PA
Grid Zone Designation
17S
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19
ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route
1 Northwest Eden
2 Northeast Eden
3 Brosville
4 Southwest Eden
5 Ruffin
6 Bethany
7 Reidsville
8 Williamsburg
ADJOINING QUADRANGLES
SOUTHEAST EDEN, NC
2016
NSN. 7643016379231
NGA REF NO. USGSX24K42322

ISSUED FOR FERC



Legend

- Mileposts
- Facility Sites
- Contractor Yards
- Meter Stations
- Valve Sites
- Proposed Pipeline Route
- Access Roads
- State Boundary
- County Boundary

Data Source: EQT, TRC, ESRI, USGS

Mountain Valley PIPELINE LLC

Appendix 1-B	Date: December 9th, 2024

PA-RONC-H650-USGS-08	REV: P1	PAGE: 8

TRC

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-C1

Typical Drawings

MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
CONSTRUCTION TYPICAL DRAWINGS

DRAWING NO.	DRAWING TITLE	REV.
CONST-TYP	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE CONSTRUCTION TYPICALS	P1
MVP-3	MAINLINE CONSTRUCTION NON-PARALLEL CONSTRUCTION NO TOP SOIL SEGREGATION 100' R.O.W.	P
MVP-5	MAINLINE CONSTRUCTION ROAD CROSSING BORED 100' R.O.W.	P
MVP-7	MAINLINE CONSTRUCTION RAILROAD CROSSING BORED 100' R.O.W.	P
MVP-9	MAINLINE CONSTRUCTION WATERBODY CROSSING OPEN CUT - FLUME	P
MVP-10	MAINLINE CONSTRUCTION TYPICAL DIRECTIONAL DRILL ENTRY SITE PLAN & PROFILE	P
MVP-11	MAINLINE CONSTRUCTION TYPICAL DIRECTIONAL DRILL EXIT SITE PLAN & PROFILE	P
MVP-12	MAINLINE CONSTRUCTION HORIZONTAL DIRECTIONAL DRILL (HDD)	P
MVP-13	MAINLINE CONSTRUCTION PARALLEL TO POWER LINES 100' R.O.W.	P
MVP-17	MAINLINE CONSTRUCTION PARALLEL TO FOREIGN LINES 100' R.O.W.	P
MVP-25	MAINLINE CONSTRUCTION ROAD CROSSING BORED WITH PARALLEL PIPELINES 100' R.O.W.	P
MVP-27	MAINLINE CONSTRUCTION RAILROAD CROSSING BORED WITH PARALLEL PIPELINES 100' R.O.W.	P
MVP-29	MAINLINE CONSTRUCTION WATERBODY CROSSING WITH PARALLEL PIPELINES OPEN CUT - FLUME	P
MVP-SG-17	SLOPE BREAKER/RIGHT-OF-WAY DIVERSION/WATERBAR	P1
MVP-SG-17.1	SLOPE BREAKER/RIGHT-OF-WAY DIVERSION/WATERBAR	P1
MVP-SG-17.2	SLOPE BREAKER/RIGHT-OF-WAY DIVERSION/WATERBAR	P1
MVP-SG-17.3	WATERBAR END TREATMENT PERPENDICULAR TO SLOPE EXAMPLE	P1
MVP-SG-17.4	WATERBAR END TREATMENT CROSS SLOPE EXAMPLE	P1
MVP-SG-17.7	WATERBAR END TREATMENT DETAIL	P1
MVP-SG-20	TYPICAL TRENCH BREAKER REQUIREMENTS	P1
MVP-SG-24	SIDEHILL LOW-POINTS DRAIN TYPICAL	P1
MVP-SG-24	SIDEHILL LOW-POINTS DRAIN TYPICAL	P1
MVP-SG-31	MAINLINE CONSTRUCTION STEEP HILL PARALLEL CONSTRUCTION NO TOP SOIL SEGREGATION	P1

DRAWING NO.	DRAWING TITLE	REV.
MVP-SG-32	MAINLINE CONSTRUCTION STEEP HILL STOVE PIPE CONSTRUCTION NO TOP SOIL SEGREGATION	P1
MVP-SG-35	TRENCH BREAKER DAYLIGHT DRAIN	P1
MVP-SG-36A	CUTOFF DRAIN-SIDEHILL	P1
MVP-SG-36B	CUTOFF DRAIN-SIDEHILL	P1
MVP-SG-37	CUTOFF DRAIN-PLANAR	P1
MVP-SG-38A	TRANSVERSE TRENCH DRAIN	P1
MVP-SG-38B	TRANSVERSE TRENCH DRAIN	P1
MVP-SG-39	ROCK LINED SWALE	P1
MVP-SG-40	RIP-RAP NATURAL DRAIN	P1
MVP-SG-41	RIP-RAP SLOPE BREAKERS	P1
MVP-SG-42A	GEOGRID-SIDEHILL	P1
MVP-SG-42B	GEOGRID-PLANAR	P1
MVP-SG-42C	GEOGRID-NOTES	P1
MVP-SG-43A	TRENCH BREAKER PASS-THROUGH DRAIN	P1
MVP-SG-43B	TRENCH BREAKER PASS-THROUGH DRAIN	P1
MVP-SG-44A	SLIDE MITIGATION HIGHWALL REVETMENT SIDE VIEW	P1
MVP-SG-44B	SLIDE MITIGATION HIGHWALL REVETMENT FRONT VIEW AND DRAIN DETAIL	P1
MVP-SG-45	STEEP SLOPE REVETMENT	P1
MVP-SG-46	BROW DITCH DETAIL	P1
MVP-SG-47	TIMBER MAT AND PIPE BUNDLE TEMPORARY STREAM CROSSING	P1
MVP-SG-48	TIMBER MAT AND JERSEY BARRIER TEMPORARY STREAM CROSSING	P1
MVP-SG-49	MOBILE BRIDGE	P1
MVP-SG-50	MODULAR TEMPORARY BAILEY BRIDGE	P1
MVP-SG-53	WETLAND CROSSING TYPICAL FOR USACE NORFOLK (VA) DISTRICT	P1

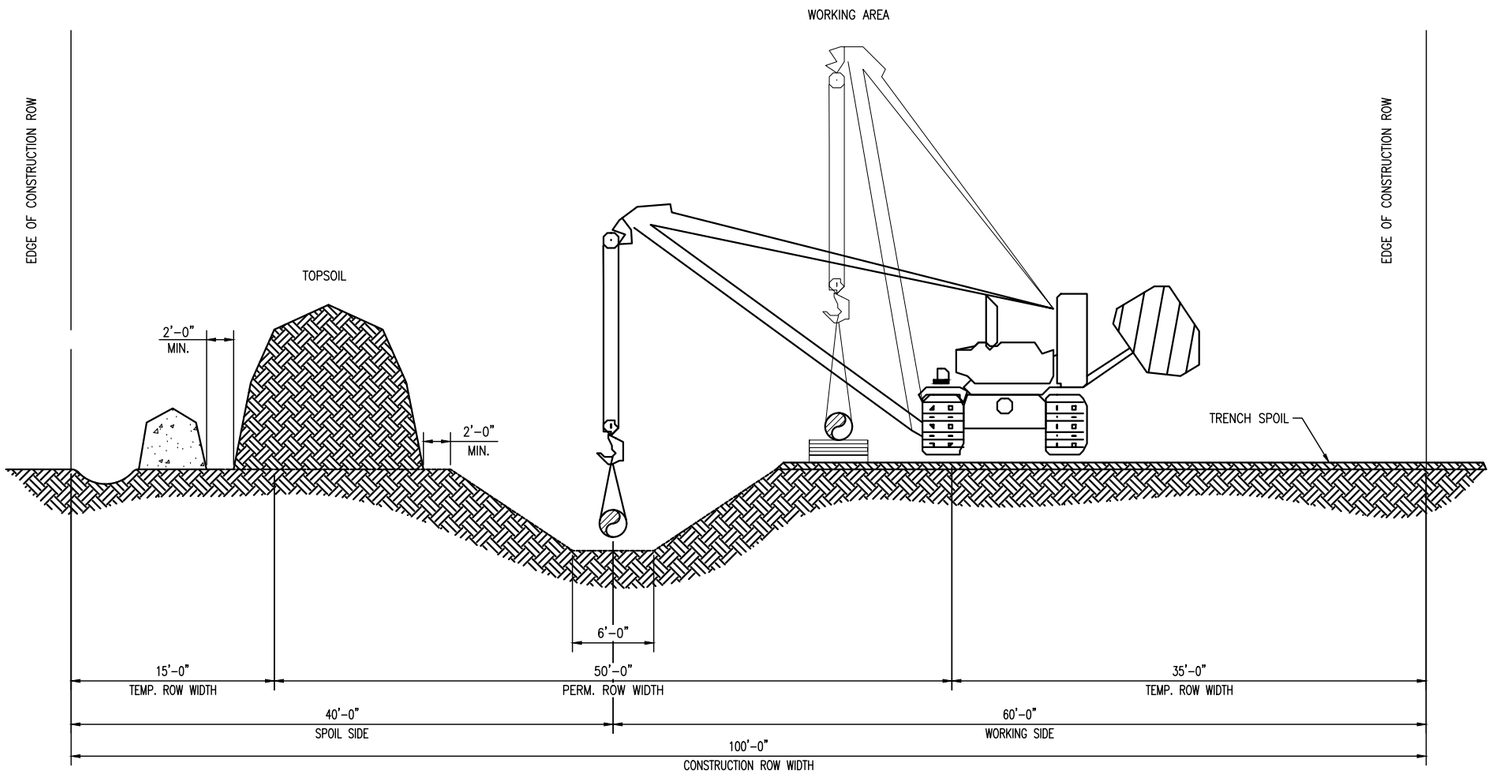
ISSUED FOR FERC
11/02/18

O:\PROJECTS\300423 - NEXTERA MVP SOUTHGATE\CA - CADD\PIPELINE\DRAWINGS\TYPICALS\TYPICAL COVER.DWG

PROJECT ID 300423
DRAWING SCALE NTS

DRAWING TITLE:
MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
CONSTRUCTION TYPICALS

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	CONST-TYP	-	1	P1



NOTE:
1. DRAWING DEPICTS SOIL SWELL OF 20% AND ROCK SWELL OF 40%.
2. DRAWING ASSUMES TYPE "C" SOIL

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID: – – – –

DRAWING SCALE: 3/16" = 1'-0"

DRAWING TITLE:
MAINLINE CONSTRUCTION
NON-PARALLEL CONSTRUCTION
WITH TOP SOIL SEGREGATION
100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	3	1	P1

Plotted by: McCarthy, Matthew (Contractor) on: October 15, 2018 - 10:29 AM

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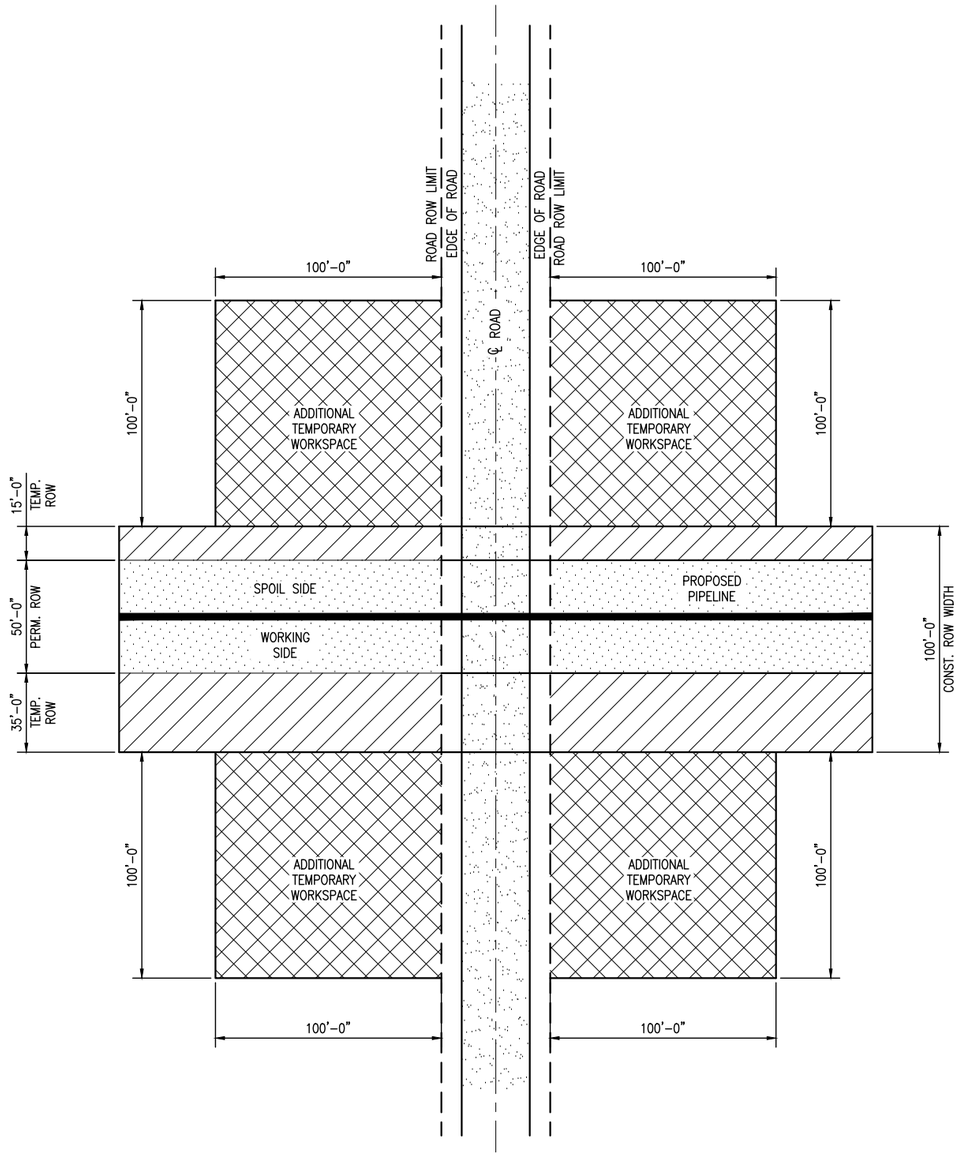

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE, LLC

DESIGN ENGINEERING

PROJECT ID: – – – –

DRAWING SCALE: 1/32" = 1'–0"

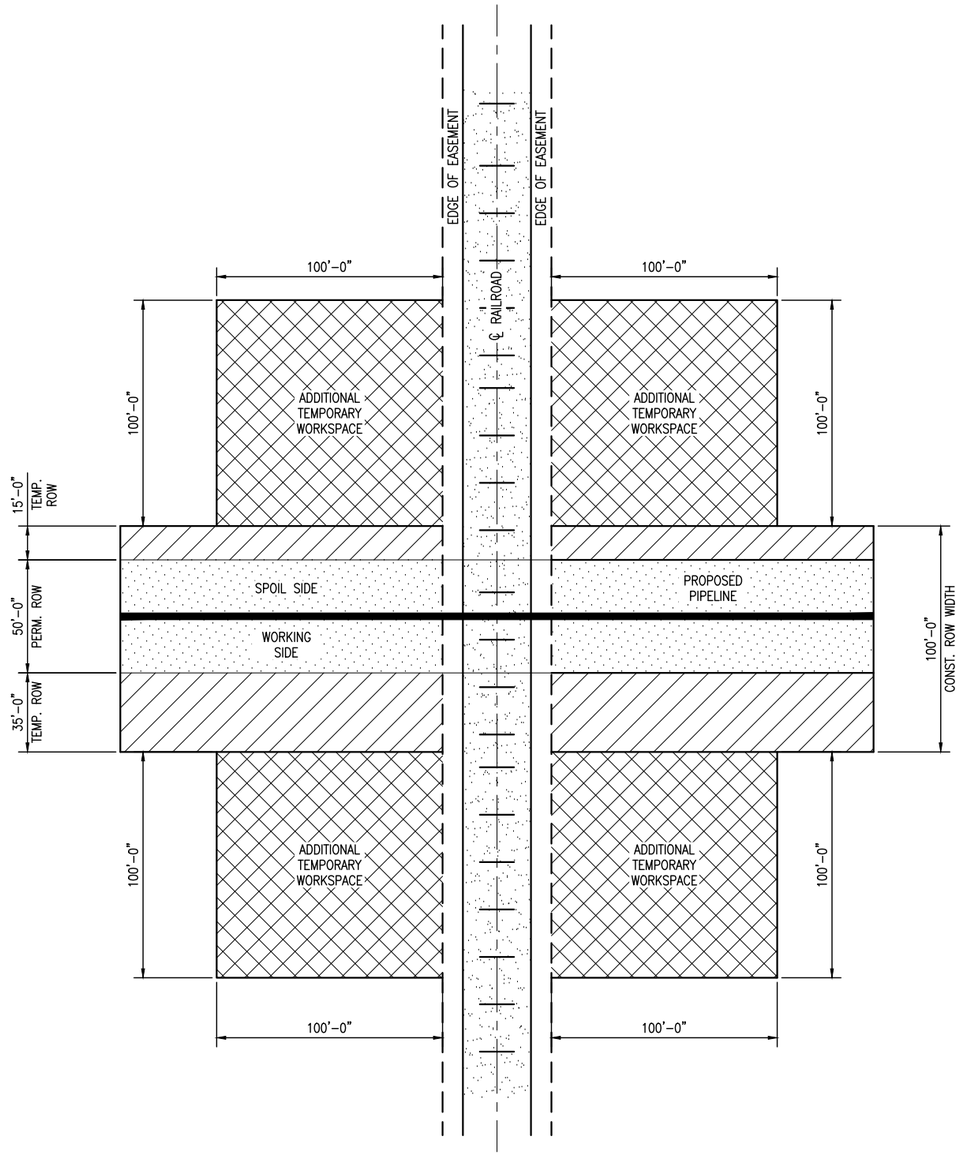
DRAWING TITLE:

MAINLINE CONSTRUCTION ROAD CROSSING BORED 100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H–650	5	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-5.dwg



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE, LLC

DESIGN ENGINEERING

PROJECT ID: – – – –

DRAWING SCALE: 1/32" = 1'–0"

DRAWING TITLE:

MAINLINE CONSTRUCTION RAILROAD CROSSING BORED 100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H–650	7	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

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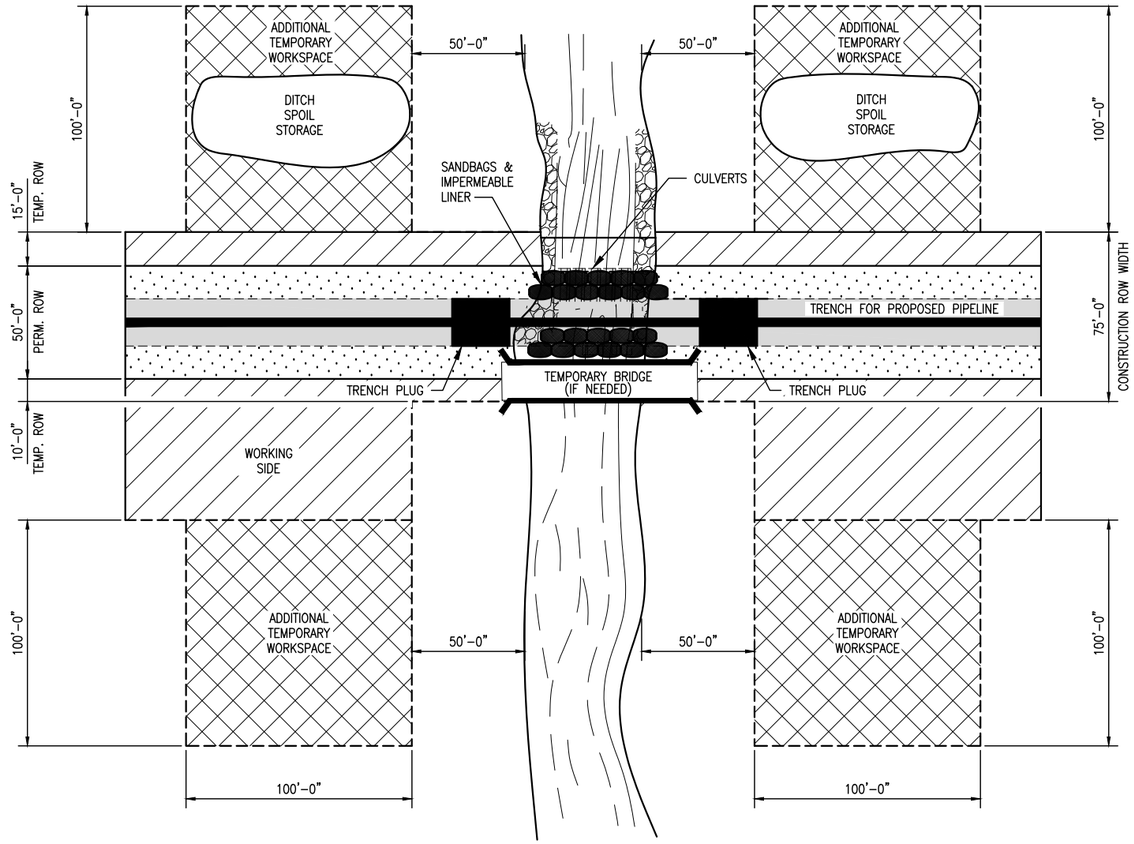

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE, LLC

DESIGN ENGINEERING

PROJECT ID ----

DRAWING SCALE: 1/8" = 1'–0"

DRAWING TITLE:

MAINLINE CONSTRUCTION WATERBODY CROSSING OPEN CUT – FLUME

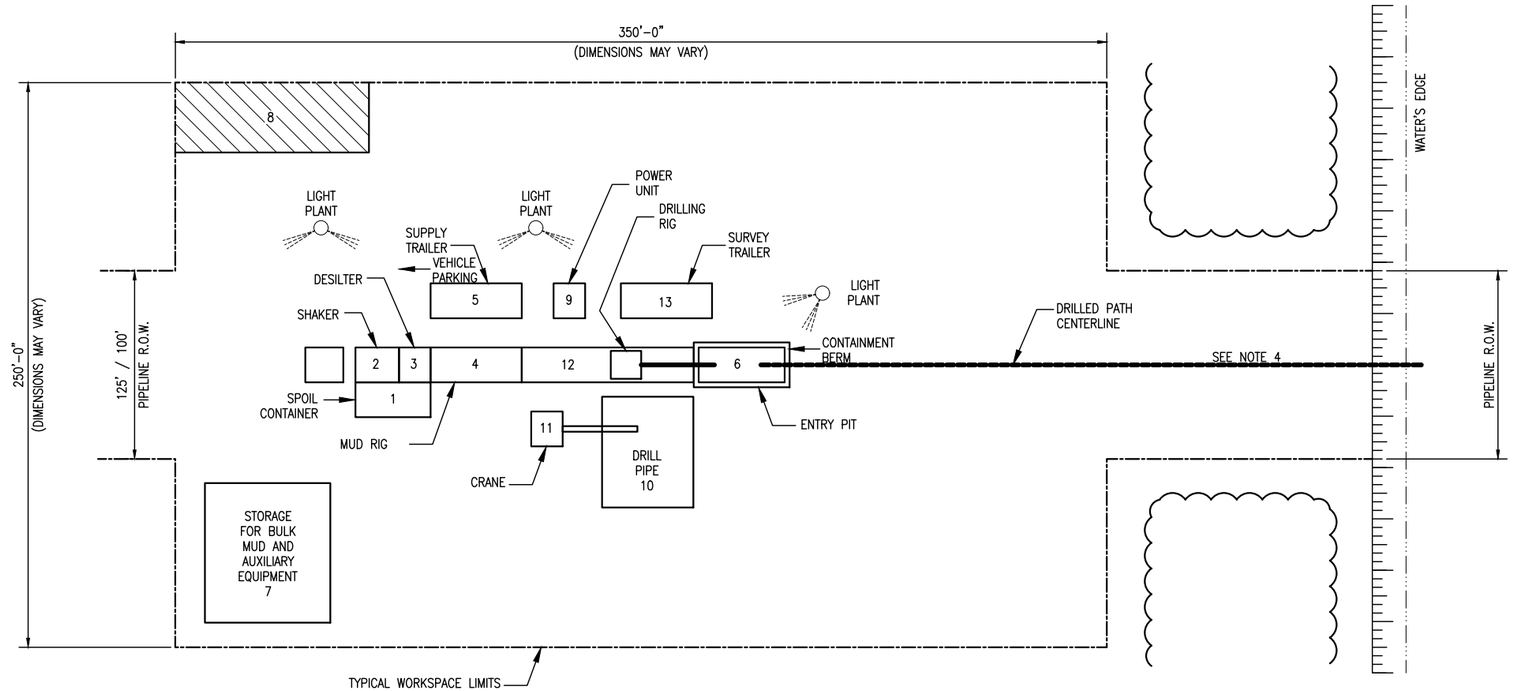
FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H–650	9	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

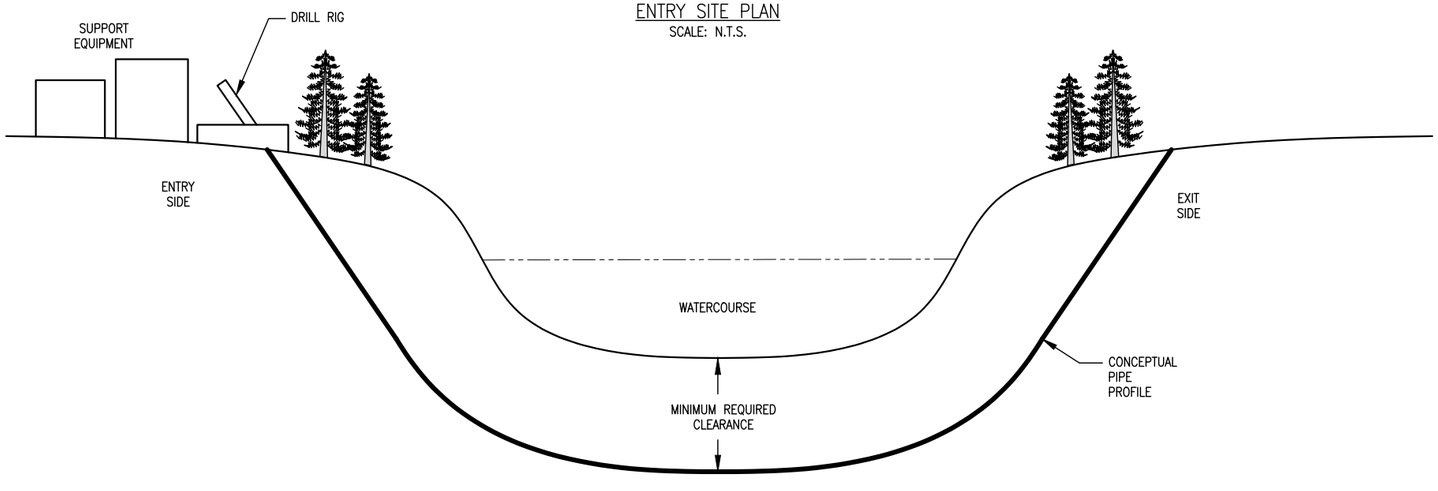
File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-9.dwg

EQUIPMENT:

1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. ENTRY PIT: 8' X 20'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. POWER UNIT: 8' X 10'
10. DRILL PIPE: 30' X 30'
11. CRANE: 8' X 8'
12. DRILLING RIG: 8' X 45'
13. SURVEY TRAILER: 8' X 25'



ENTRY SITE PLAN
SCALE: N.T.S.



PROFILE
SCALE: N.T.S.

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.
5. ENTRANCE & EXIT ANGLES VARY BY LOCATION. REFER TO BORE PROFILE FOR DETAILED INFORMATION.

GENERAL NOTES:

1. PIPE DEPTHS MAY VARY.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID

DRAWING SCALE:
NTS

DRAWING TITLE:
MAINLINE CONSTRUCTION
TYPICAL DIRECTIONAL DRILL
ENTRY SITE PLAN & PROFILE

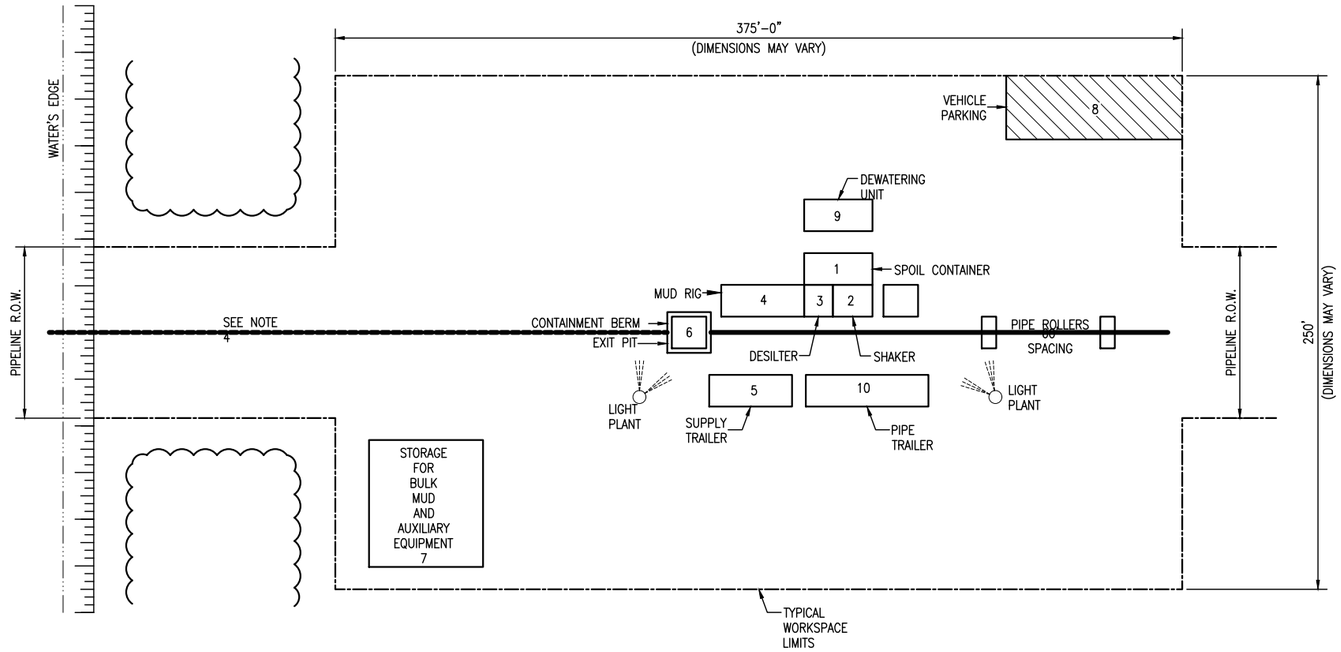
FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	10	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-10.dwg

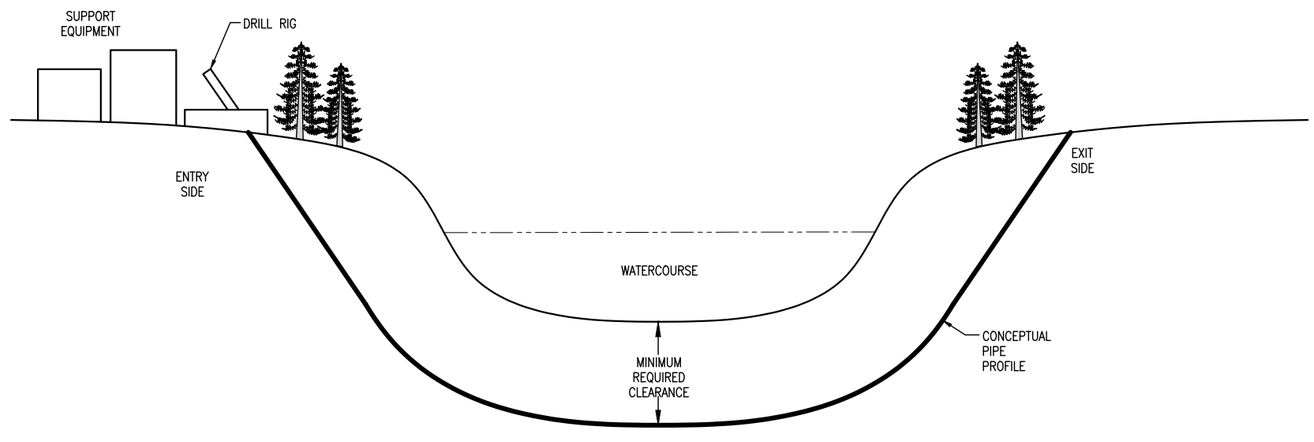
EQUIPMENT:

1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. EXIT PIT: 8' X 10'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. DEWATERING UNIT: 8' X 20'
10. PIPE TRAILER: 8' X 40'



EXIT SITE PLAN

SCALE: N.T.S.



PROFILE

SCALE: N.T.S.

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.

GENERAL NOTES:

1. PIPE DEPTHS MAY VARY.

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DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF

TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID ----

DRAWING SCALE: 1/32" = 1'-0"

DRAWING TITLE:

MAINLINE CONSTRUCTION
TYPICAL DIRECTIONAL DRILL
EXIT SITE PLAN & PROFILE

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	11	1	P1

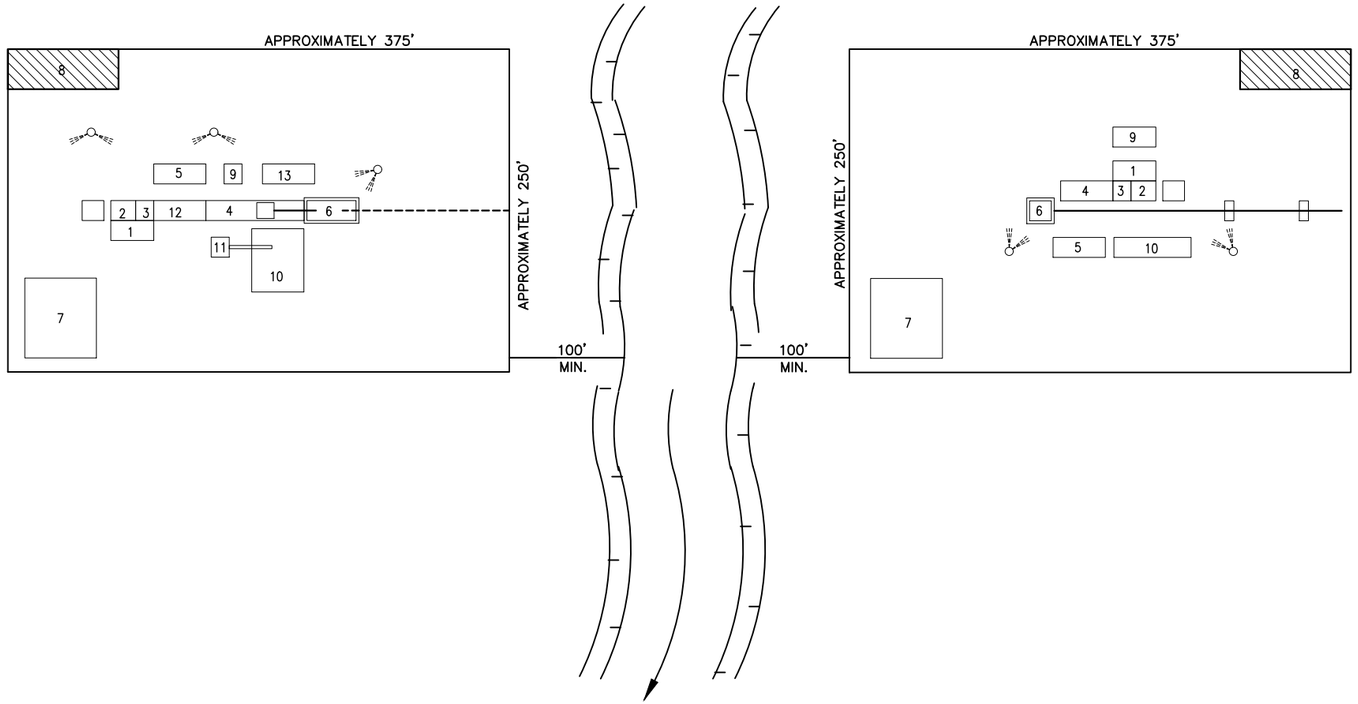
Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-11.dwg

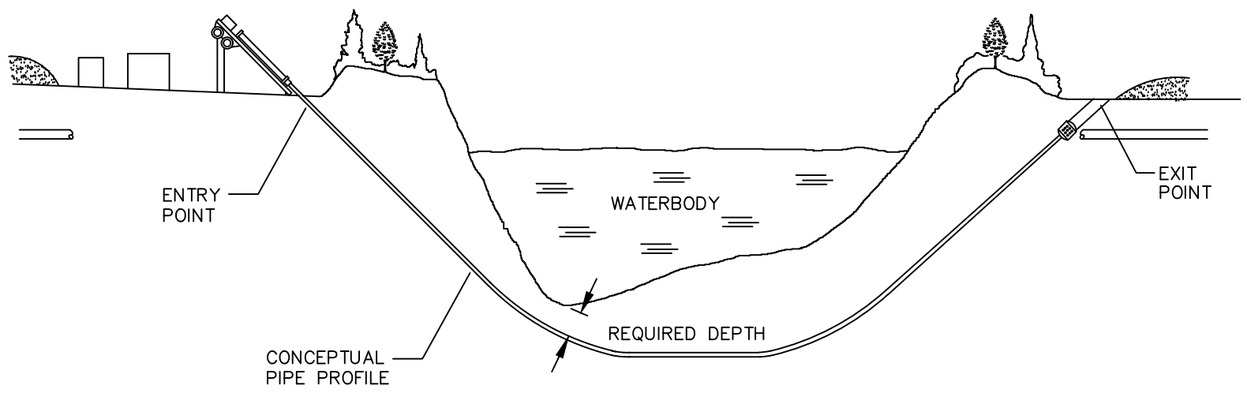
EQUIPMENT:

1. SPOIL CONTAINER: 8' X 20'
2. SHAKER: 8' X 12'
3. DESILTER: 8' X 8'
4. MUD RIG: 8' X 25'
5. SUPPLY TRAILER: 8' X 25'
6. EXIT PIT: 8' X 10'
7. STORAGE: 30' X 30'
8. VEHICLE PARKING: 15' X 50'
9. DEWATERING UNIT: 8' X 20'
10. PIPE TRAILER: 8' X 40'

HORIZONTAL DIRECTIONAL DRILL METHOD 7



PLAN



PROFILE

NOTES:

1. SET UP DRILLING EQUIPMENT A MINIMUM OF 100 FEET FROM THE EDGE OF THE WATERCOURSE. DO NOT CLEAR OR GRADE WITHIN THE 100 FOOT ZONE.
2. ENSURE THAT ONLY BENTONITE BASED DRILLING MUD IS USED. DO NOT ALLOW THE USE OF ANY ADDITIVES TO THE DRILLING MUD WITHOUT THE APPROVAL OF COMPANY INSPECTOR.
3. INSTALL SUITABLE DRILLING MUD TANKS OR SUMPS TO PREVENT CONTAMINATION OF WATERCOURSE.
4. INSTALL BERMS DOWNSLOPE FROM THE DRILL ENTRY AND ANTICIPATED EXIT POINTS TO CONTAIN ANY RELEASE OF DRILLING MUD.
5. DISPOSE OF DRILLING MUD IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AUTHORITY REQUIREMENTS.
6. A SEDIMENT BARRIER SHALL BE PLACED ON THE DOWN SLOPE SIDE OF RIGHT-OF-WAY, PER THE PROJECT NARRATIVE.

NOTES:

1. EQUIPMENT ORIENTATION MAY VARY DEPENDING ON CONTRACTOR OR SITE CONDITIONS.
2. EQUIPMENT TO BE SUPPORTED ON THE GROUND SURFACE OR TIMBER MATS AS CONDITIONS DICTATE.
3. SILT FENCE, BERMS AND/OR STRAW BALE BARRIER TO BE USED AS REQUIRED TO PREVENT IMPACTS FROM OCCURRING OUTSIDE OF PROJECT LIMITS.
4. HAND CLEARED ACCESS PATH WILL BE USED TO OBTAIN WATER FROM SOURCE WHERE PERMITTED.
5. ENTRANCE & EXIT ANGLES VARY BY LOCATION. REFER TO BORE PROFILE FOR DETAILED INFORMATION.

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DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEW	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE, LLC

DESIGN ENGINEERING

PROJECT ID ----

DRAWING SCALE: 1/64" = 1'-0"

DRAWING TITLE: MAINLINE CONSTRUCTION HORIZONTAL DIRECTIONAL DRILL (HDD)

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	12	1	P1

Plotted by: McCarthy, Matthew (Contractor) on: October 15, 2018 - 10:29 AM

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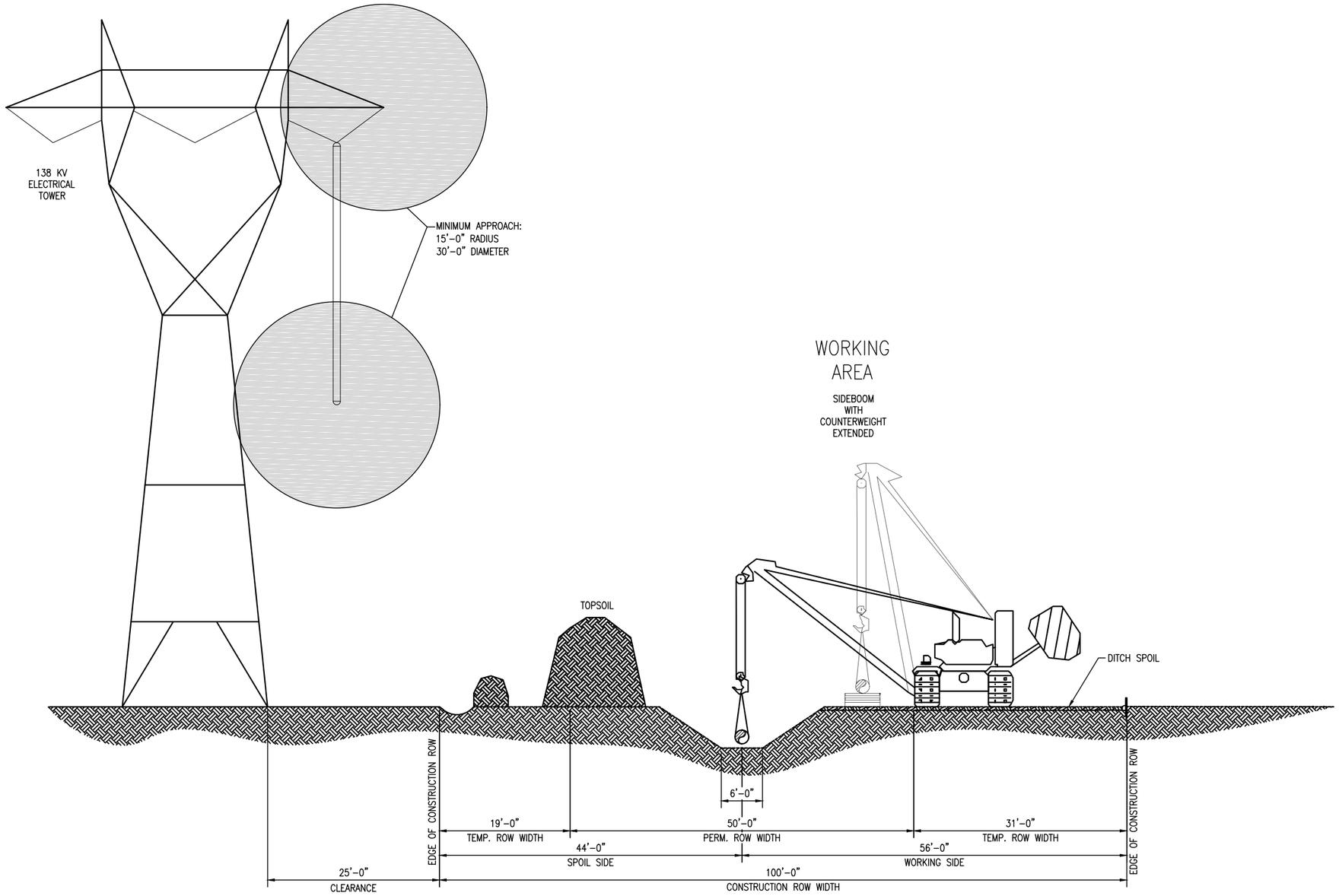

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEW	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE, LLC

DESIGN ENGINEERING

PROJECT ID

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DRAWING SCALE: 1/8" = 1'–0"

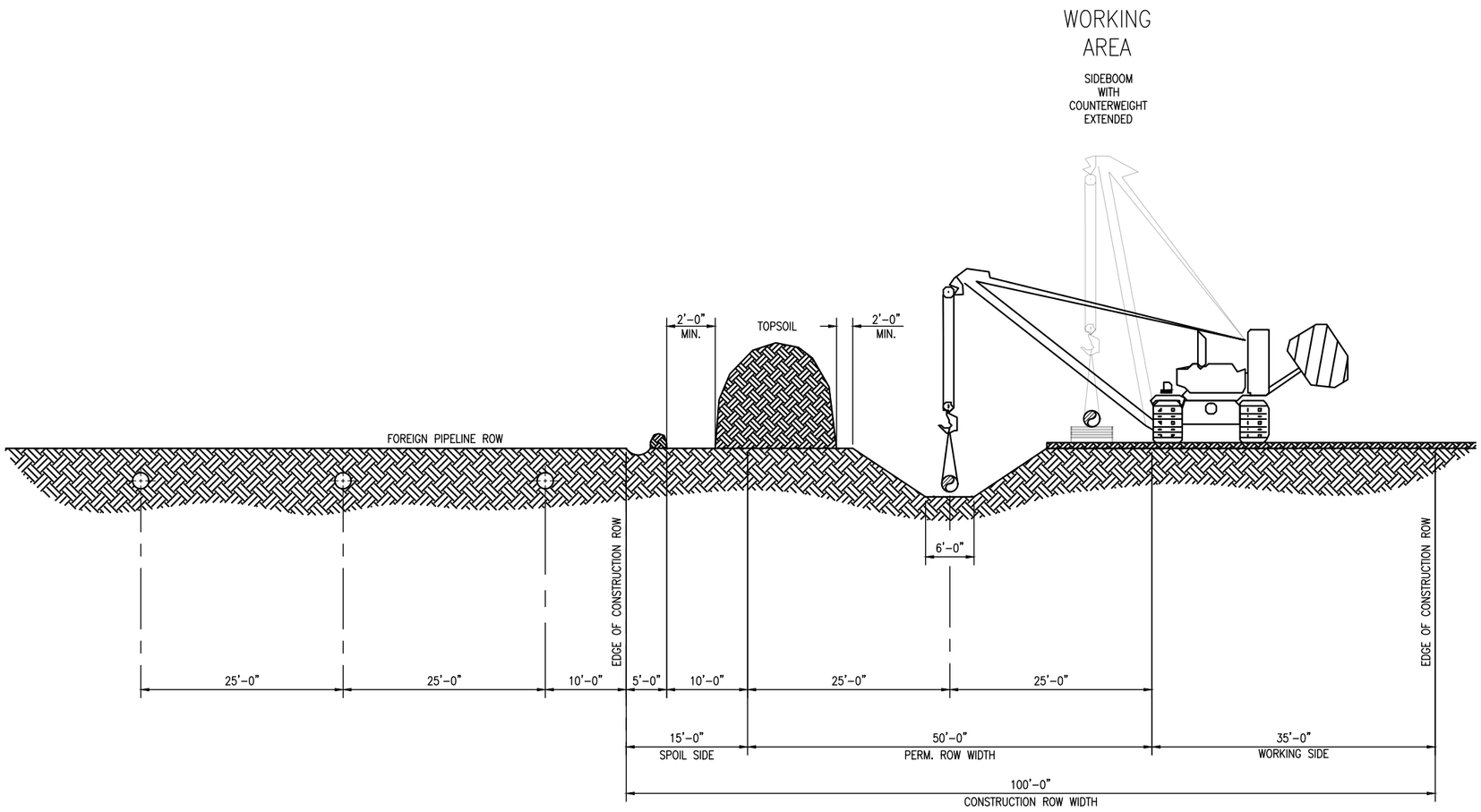
DRAWING TITLE:

MAINLINE CONSTRUCTION PARALLEL TO POWER LINES 100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H–650	13	1	P1

Plotted by: McCarthy, Matthew (Contractor) on: October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-13.dwg



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF
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NO.	DATE	REVISION	BY	CHK	APPD
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID: – – – –

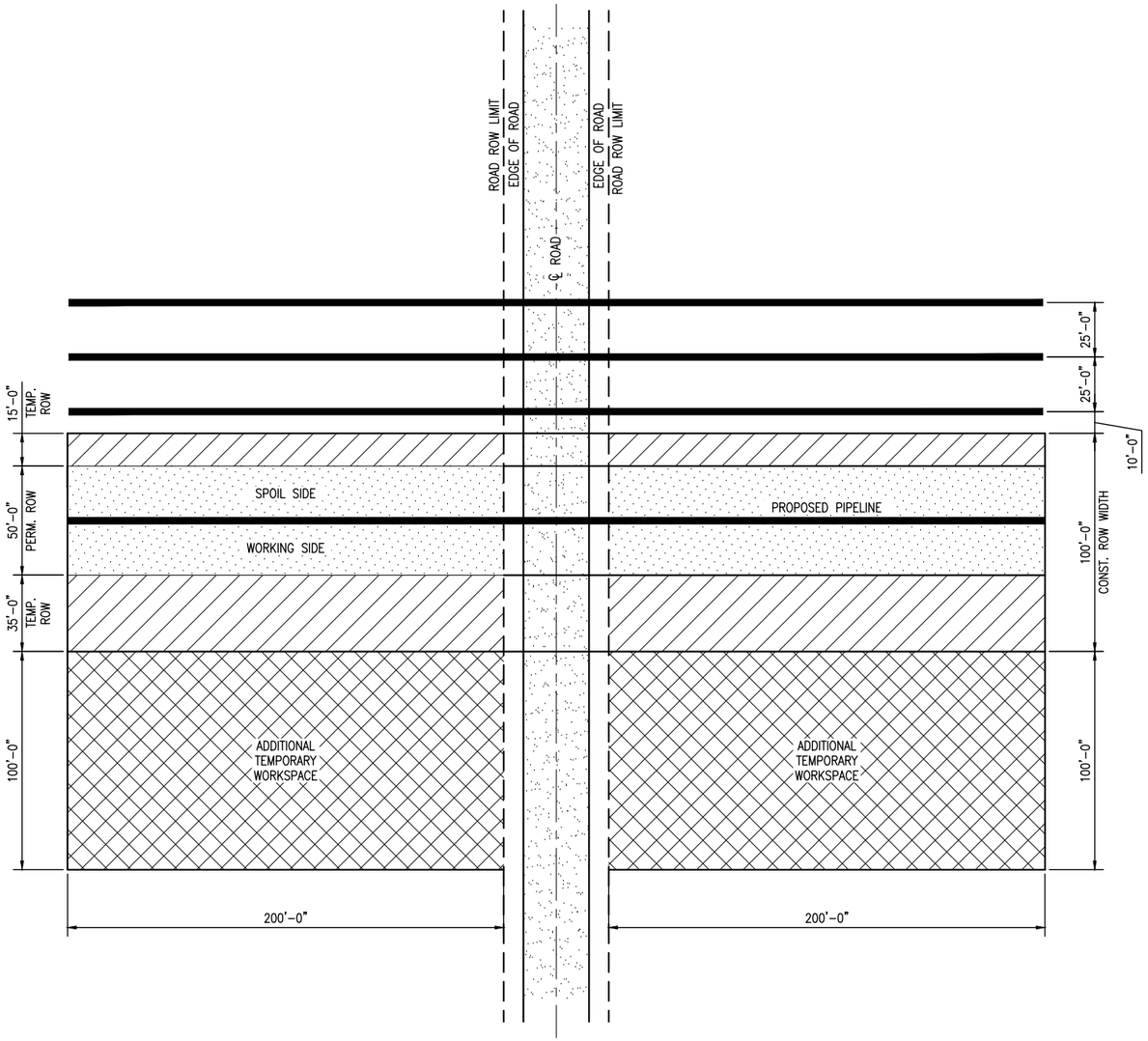
DRAWING SCALE: 1/8" = 1'-0"

DRAWING TITLE:
MAINLINE CONSTRUCTION
PARALLEL TO FOREIGN LINES
100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	17	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-17.dwg



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID: – – – –

DRAWING SCALE: 1/32" = 1'-0"

DRAWING TITLE:

MAINLINE CONSTRUCTION
ROAD CROSSING BORED WITH PARALLEL PIPELINES
100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	25	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

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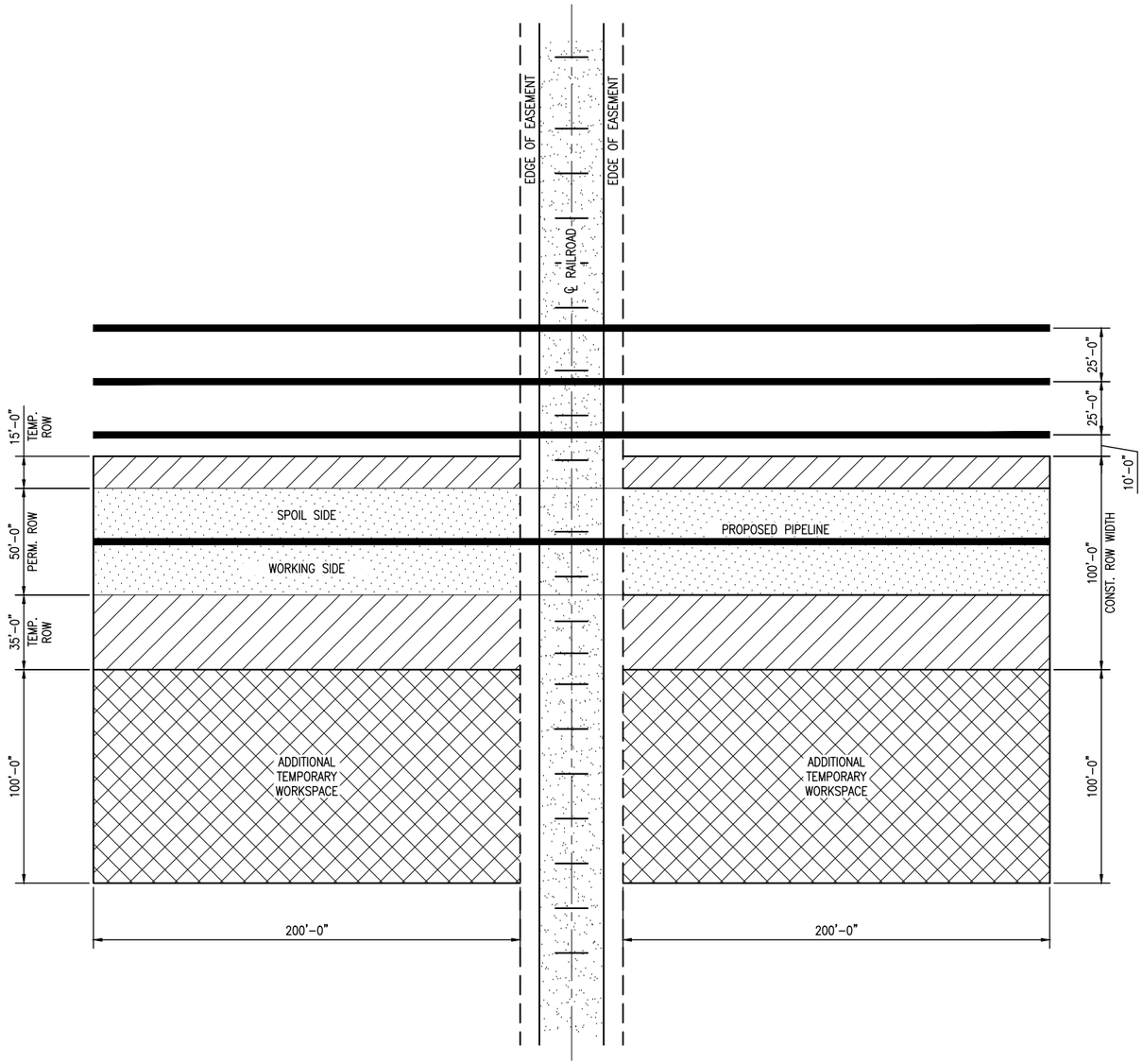

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DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID: – – – –

DRAWING SCALE: 1/32" = 1'-0"

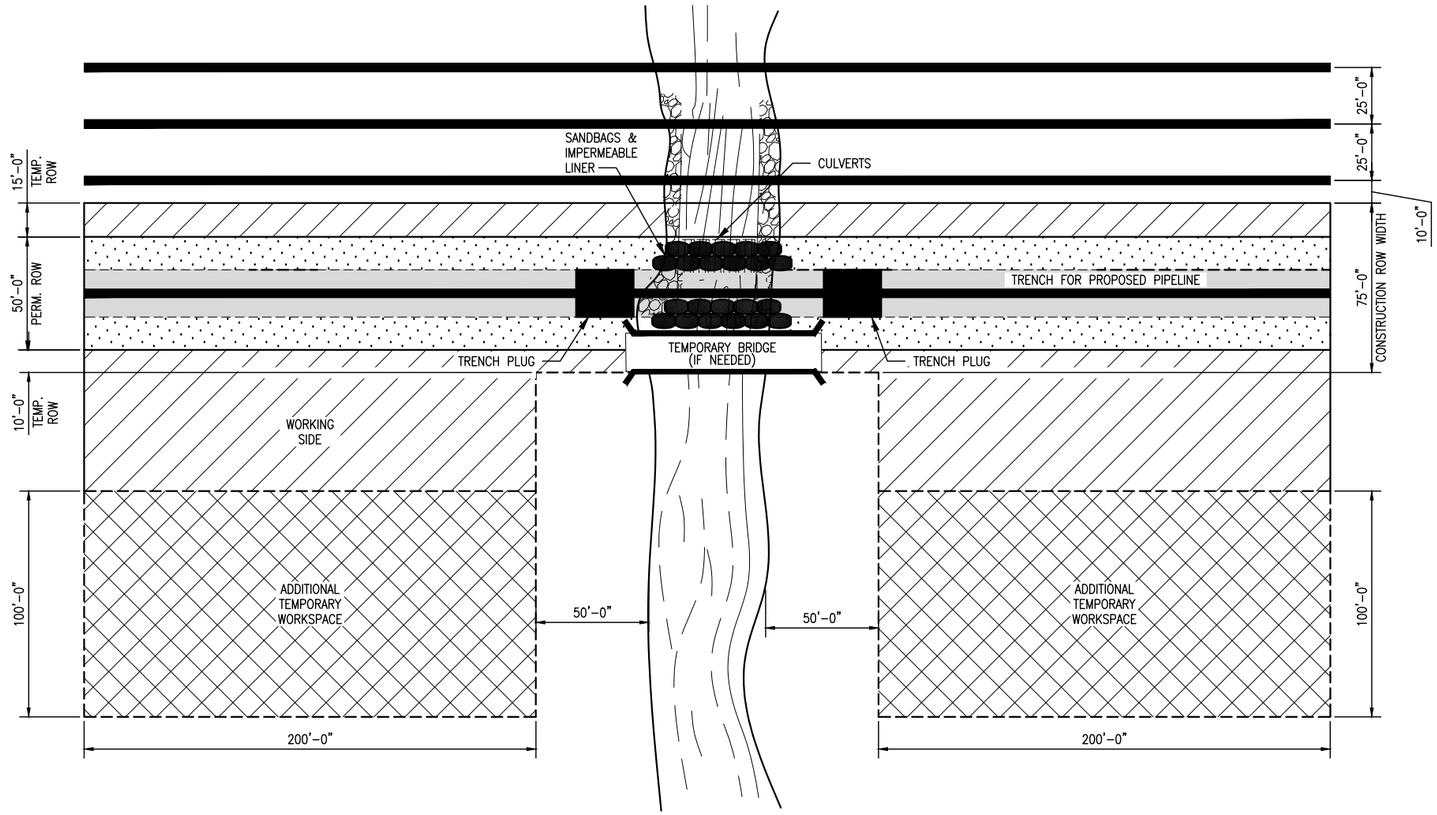
DRAWING TITLE:

MAINLINE CONSTRUCTION
RAILROAD CROSSING BORED WITH PARALLEL PIPELINES
100' RIGHT OF WAY

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	27	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-27.dwg



THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "C" SOIL

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER	DRAWING TITLE	P	05/07/2018	PRELIMINARY FOR REVIEW	JIL	AAL	NFF	–					
		P1	11/02/2018	ISSUED FOR FERC	MEM	AAL	NFF	–					
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TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

ALINA LAWRENCE — MECHANICAL DESIGN ENGINEER — 06/11/18 — DATE

ELECTRICAL DESIGN ENGINEER — DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPELINE

DESIGN ENGINEERING

PROJECT ID ----

DRAWING SCALE: 1/8" = 1'-0"

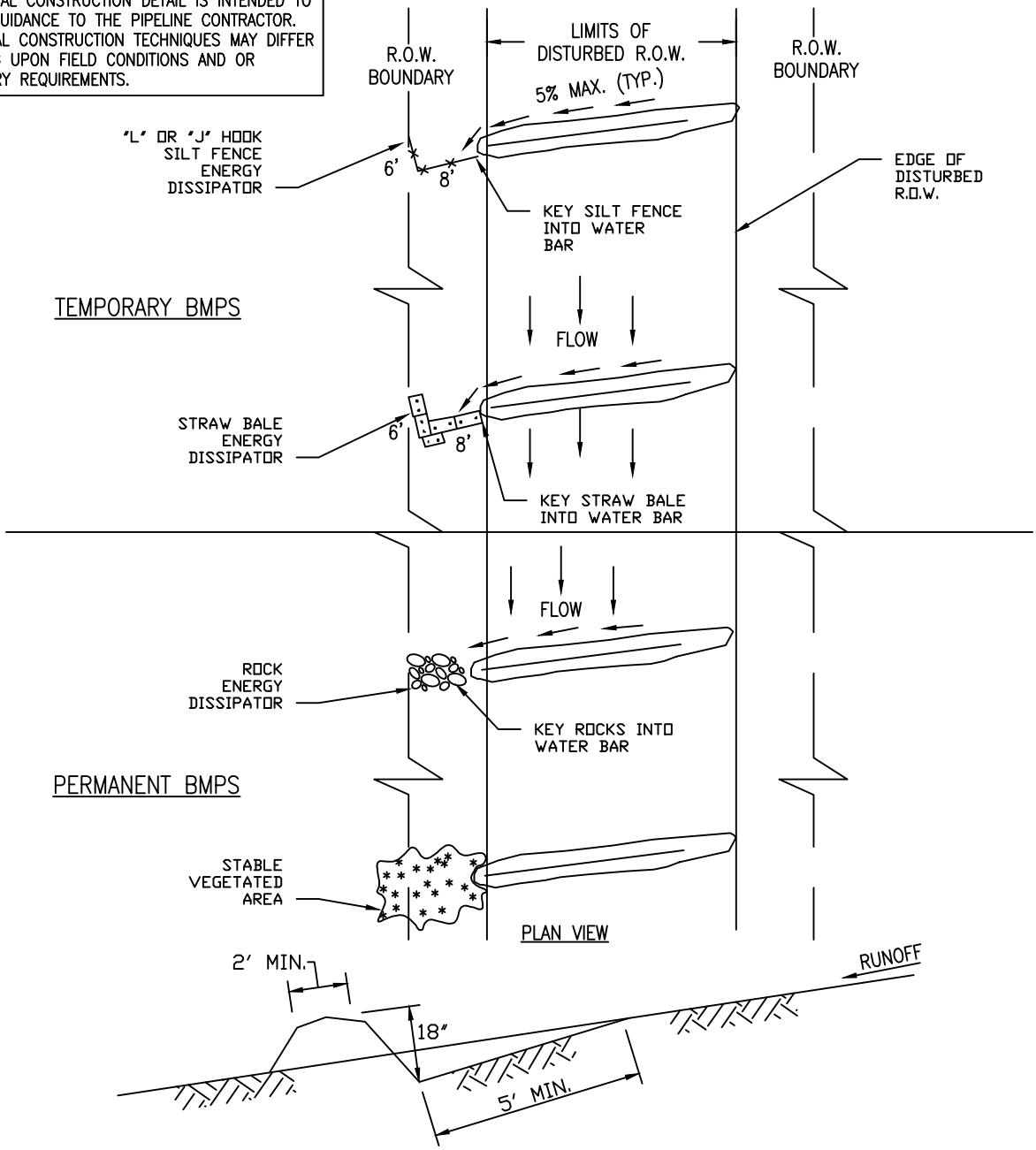
DRAWING TITLE:
MAINLINE CONSTRUCTION
WATERBODY CROSSING WITH PARALLEL PIPELINES
OPEN CUT – FLUME

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	H-650	29	1	P1

Plotted by: McCarthy, Matthew (Contractor) on October 15, 2018 - 10:29 AM

File Path: C:\Vault Working\Systems\MVP\SouthGate\Construction Typicals\MVP-29.dwg

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.



NOTES:

1. SLOPE BREAKERS SHALL BE CONSTRUCTED OF COMPACTED NATIVE SOIL AND INSTALLED AT LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE COMPANY'S INSPECTOR.

2. SLOPE BREAKERS SHALL BE ORIENTED AS SHOWN OR OTHER PATTERN AS DIRECTED BY THE COMPANY'S INSPECTOR TO DIRECT THE WATER OFF THE R.O.W.

3. SLOPE BREAKERS SHALL BE CONSTRUCTED AT A 5% MAXIMUM GRADIENT ACROSS THE SLOPE.

4. THE SLOPE BREAKERS SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER). THE TROUGH WILL BE A MINIMUM OF 5' WIDE ACROSS THE WIDTH OF THE RIGHT-OF-WAY.

5. THE OUTLET OF THE SLOPE BREAKER MUST FREELY DISCHARGE RUNOFF OFF FROM THE DISTURBED RIGHT-OF-WAY INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATER.

6. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION R.O.W. DIRECT RUNOFF INTO STABLE, WELL VEGETATED AREAS, THESE LOCATIONS MUST BE APPROVED BY THE COMPANY'S INSPECTOR.

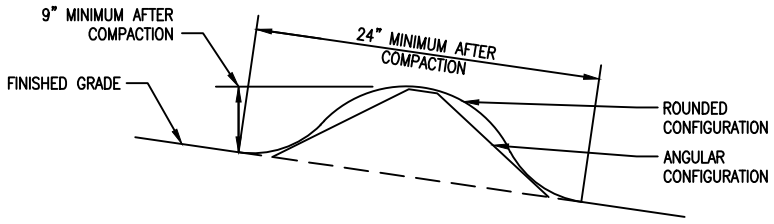
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

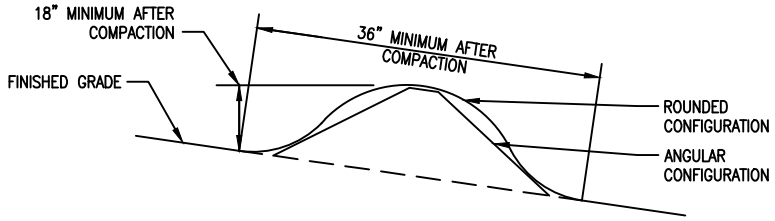
TYPICAL CONSTRUCTION DETAIL

SLOPE BREAKER/RIGHT-OF-WAY DIVERSION/WATERBAR

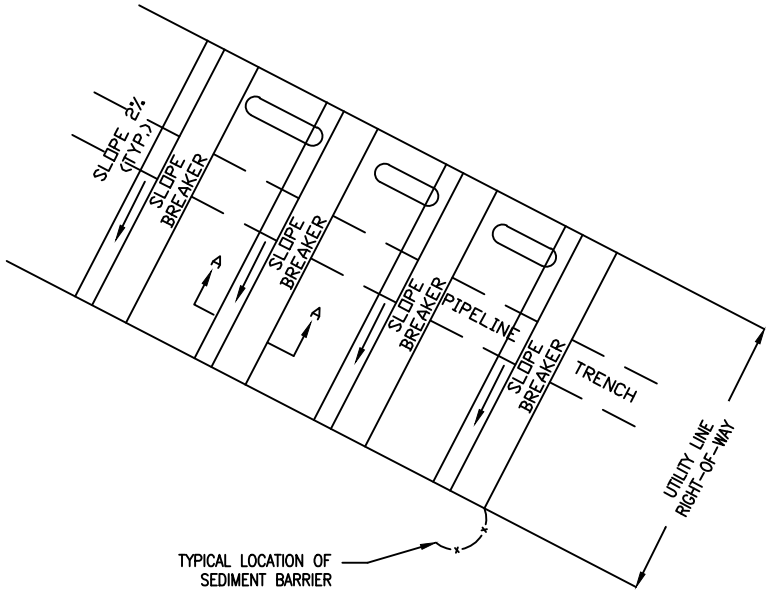
DRAWING NO.	REV.
MVP-SG-17	P1



SECTION A–A
(TEMPORARY INSTALLATION)



SECTION A–A
(PERMANENT INSTALLATION)



SKETCH

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H–650–TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

SLOPE BREAKER/RIGHT–OF–WAY DIVERSION/WATERBAR

DRAWING NO.	REV.
MVP–SG–17.1	P1

RECOMMENDED MAXIMUM SPACING FOR **PERMANENT SLOPE BREAKERS**	
PIPELINE GRADE	**DISTANCE (FEET)**
<2%	- [1,2]
2-5%	400
6-15%	200
16-30%	100
>31%	50 [3]

[1] PERMANENT SLOPE BREAKERS WILL BE INSTALLED AS NEEDED BASED ON FIELD CONDITIONS.

[2] PERMANENT SLOPE BREAKERS WILL BE INSTALLED 25 FEET FROM EACH WATERBODY BOUNDARY REGARDLESS OF SLOPE CONDITIONS.

[3] SLOPES GREATER THAN 65% MAY REQUIRE SITE SPECIFIC STABILIZATION MEASURES BASED ON FIELD CONDITIONS AS APPROVED BY MVP DESIGN ENGINEERING AND MVP ENVIRONMENTAL INSPECTOR.

NOTES:

WATERBARS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION

MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL ROADWAY, SKIDTRAIL, OR RIGHT-OF-WAY HAS ACHIEVED PERMANENT STABILIZATION

WATERBARS ON RETIRED ROADWAYS, SKIDTRAILS, AND RIGHT-OF-WAYS SHALL BE LEFT IN PLACE AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED

SUMP FILTERS TO BE INSTALLED AT END OF WATERBARS. REFER TO SUMP FILTER DETAIL ON SHEET 0.09 FOR MORE DETAIL.

OUTLET PROTECTION/COMPOST FILTER SOCK SHOULD BE INSTALLED AT THE OUTLET OF ALL WATERBARS.

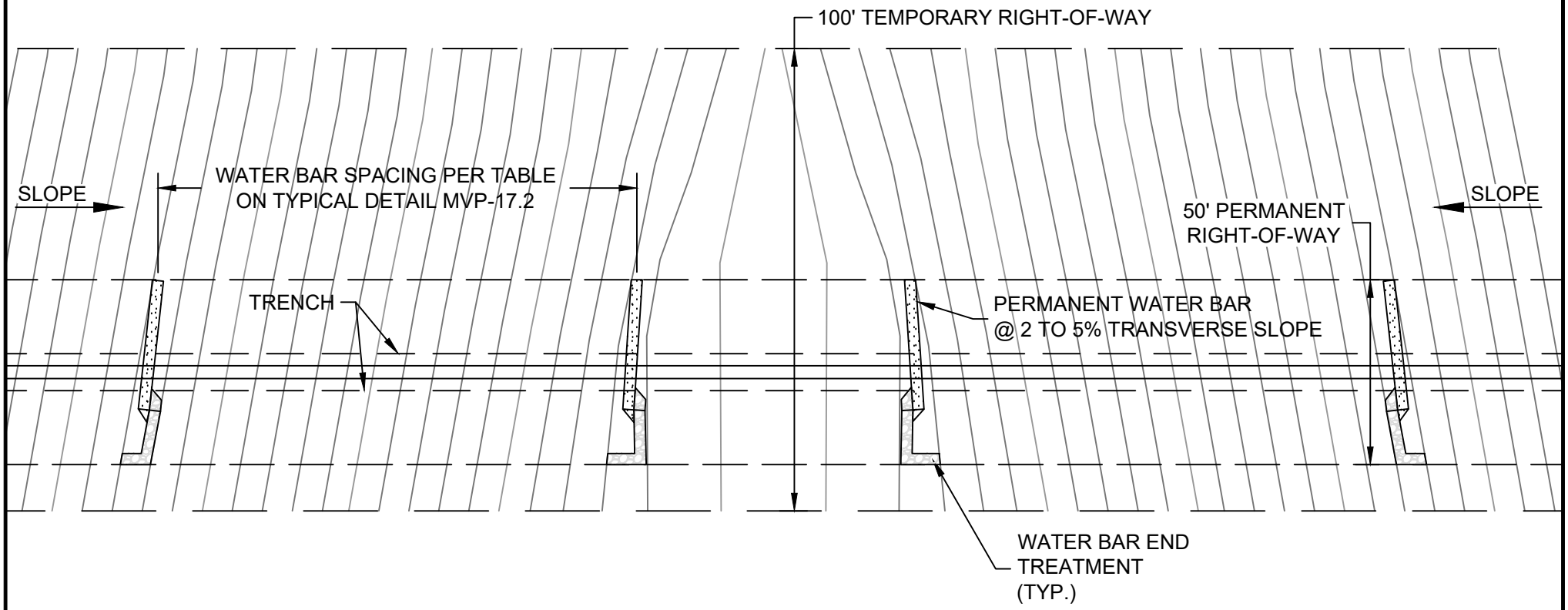
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

SLOPE BREAKER/RIGHT-OF-WAY DIVERSION/WATERBAR

DRAWING NO.	REV.
MVP-SG-17.2	P1



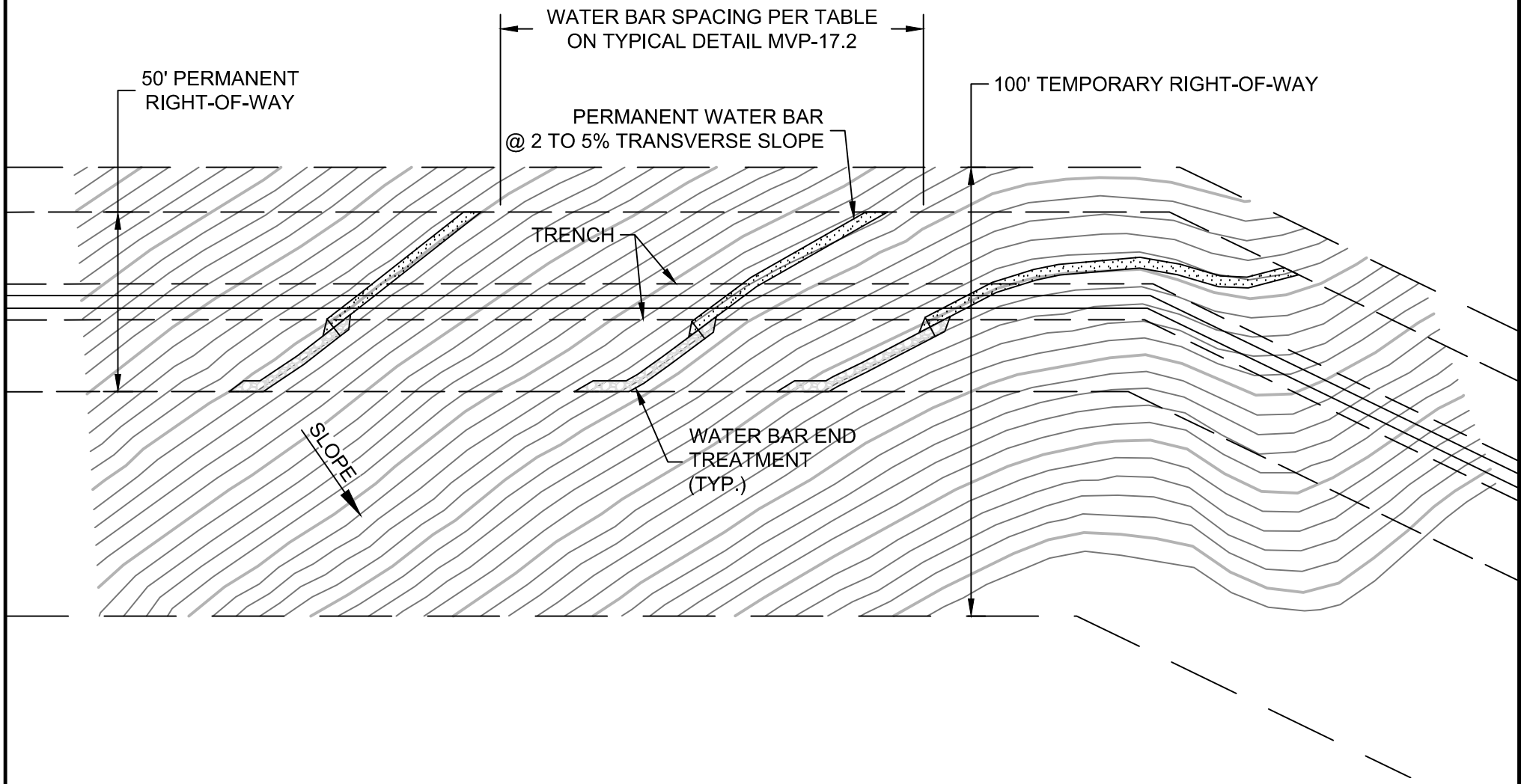
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

WATERBAR END TREATMENT
PERPENDICULAR TO SLOPE EXAMPLE

DRAWING NO.	REV.
MVP-SG-17.3	P1



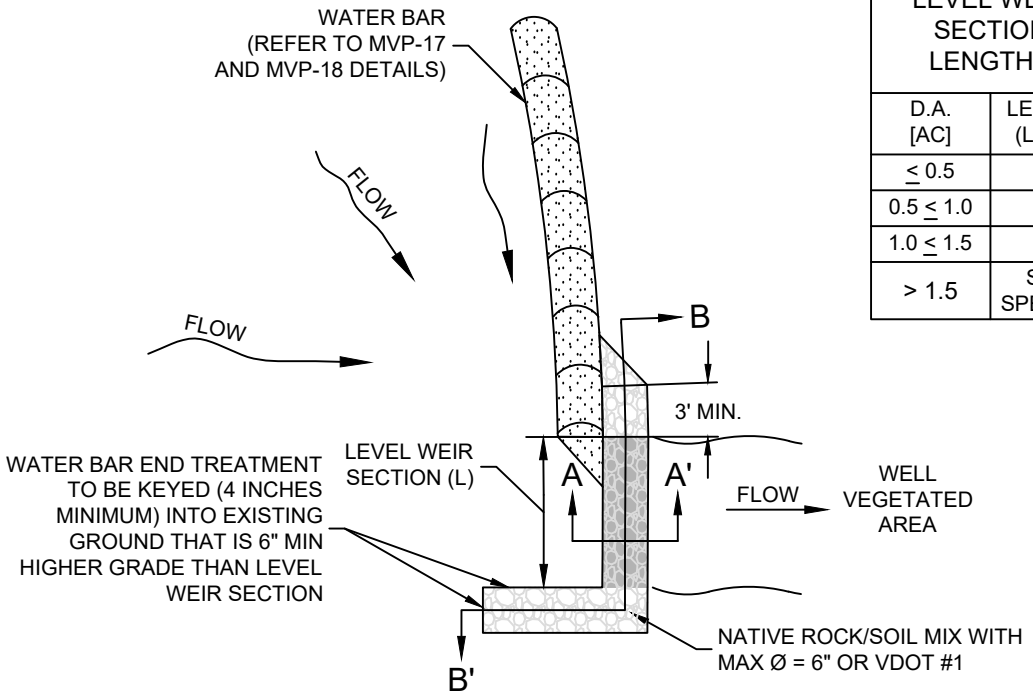
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

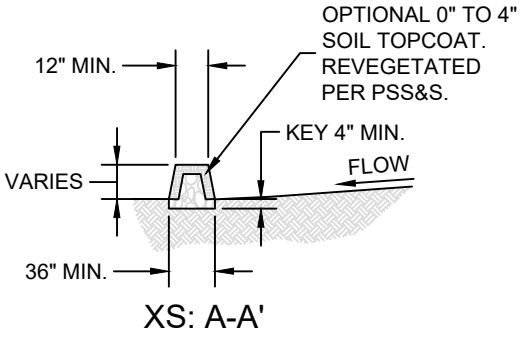
TYPICAL CONSTRUCTION DETAIL

WATERBAR END TREATMENT
CROSS SLOPE EXAMPLE

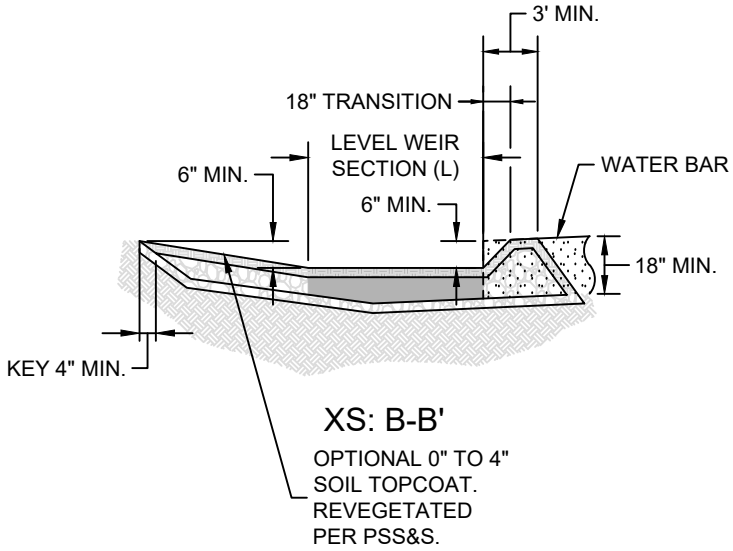
DRAWING NO.	REV.
MVP-SG-17.4	P1



LEVEL WEIR SECTION LENGTHS	
D.A. [AC]	LENGTH (L) [FT]
≤ 0.5	10
0.5 ≤ 1.0	15
1.0 ≤ 1.5	20
> 1.5	SITE SPECIFIC



XS: A-A'



XS: B-B'

OPTIONAL 0" TO 4"
SOIL TOPCOAT.
REVEGETATED
PER PSS&S.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

WATERBAR END
TREATMENT DETAIL

DRAWING NO.	REV.
MVP-SG-17.7	P1

SLOPE %	DISTANCE	PLUG MATERIAL
0% – 5%	SEE NOTE 6	CONCRETE FILLED SACKS
5% – 15%	500 FT	SANDBAGS OR CONCRETE FILLED SACKS
15% – 25%	300 FT	SANDBAGS OR CONCRETE FILLED SACKS
25% – 35%	200 FT	SANDBAGS OR CONCRETE FILLED SACKS
35% – 100%	100 FT	SANDBAGS OR CONCRETE FILLED SACKS
> 100%	50 FT	CONCRETE FILLED BAGS (WETTED)

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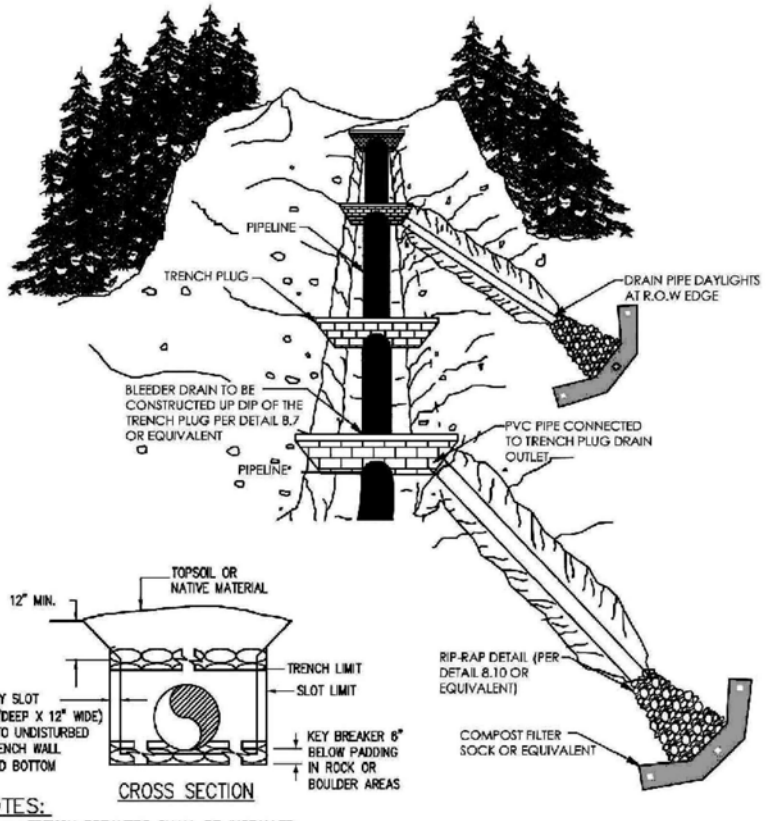
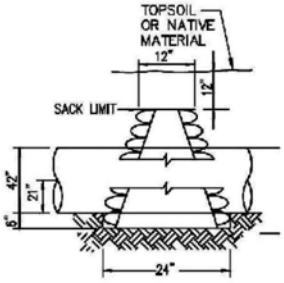


CROSS SECTION



SIDE VIEW

NOTES:

1. TRENCH BREAKERS SHALL BE INSTALLED:
   - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN;
   - AT THE BASE OF SLOPES ADJACENT TO WATERBODIES AND WETLANDS;
   - WHERE NEEDED TO AVOID DRAINING A WETLAND;
   - ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS;
   - IN CULTIVATED LAND AND RESIDENTIAL AREAS WHERE PERMANENT SLOPE BREAKERS ARE NOT TYPICALLY INSTALLED, AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WHERE REQUIRED.
2. MATERIALS APPROPRIATE FOR USE AS PERMANENT TRENCH BREAKERS INCLUDE SANDBAGS OR CONCRETE FILLED SACKS. TOPSOIL SHALL NOT BE USED FOR TRENCH BREAKERS.
3. TRENCH BREAKERS INSTALLED AT WATERBODY AND WETLAND CROSSINGS SHALL BE CONSTRUCTED OF IMPERVIOUS MATERIALS (CONCRETE FILLED SACKS).
4. BREAKER SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY MVP. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
5. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.
6. TRENCH BREAKERS ARE REQUIRED AT ALL WATERBODY CROSSINGS REGARDLESS OF TRENCH SLOPE. OTHERWISE NOTE REQUIRED AT SLOPES < 5%.
7. SINGLE TRENCH BREAKERS WILL BE A MINIMUM WIDTH OF 24" AND DOUBLE TRENCH BREAKERS WILL BE A MINIMUM WIDTH OF 36".
8. FOR SUBSURFACE AND TRENCH BREAKER DRAINAGE DETAILS INCLUDING THOSE FOR STEEP SLOPES, SEE LANDSLIDE MITIGATION TYPICAL DETAILS.
9. FOR SLOPES EXCEEDING 50%, CONCRETE FILLED SACKS ARE REQUIRED UNLESS OTHERWISE APPROVED BY MVP.

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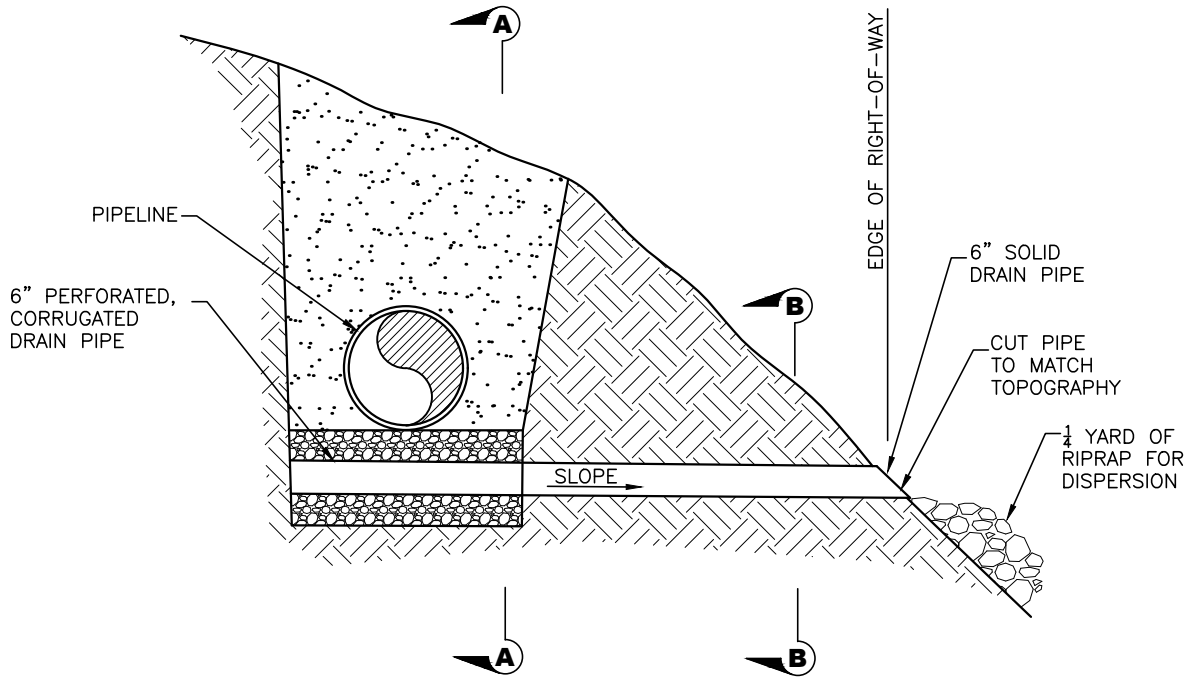
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

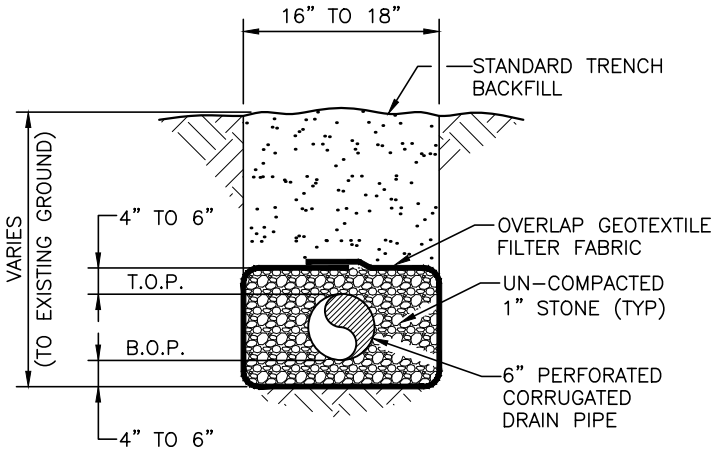
TYPICAL CONSTRUCTION DETAIL

TYPICAL TRENCH BREAKER REQUIREMENTS

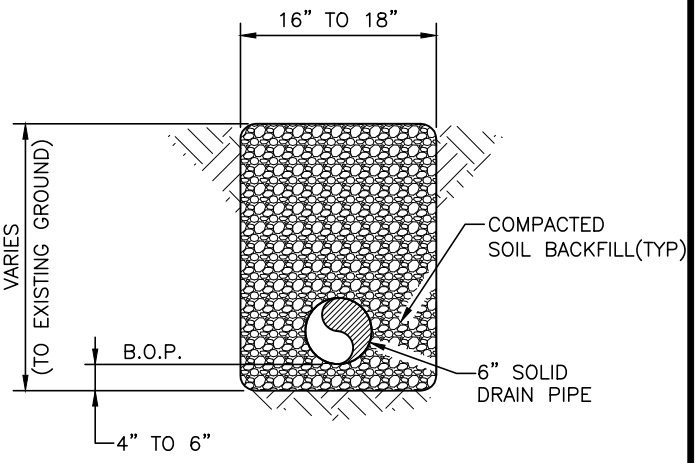
DRAWING NO.	REV.
MVP-SG-20	P1



MAINLINE CROSS SECTION



SECTION A-A



SECTION B-B

NOTES

1. LOW POINT DITCH DRAINS SHALL BE INSTALLED AT LOCATIONS SPECIFIED IN THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN, AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
2. FILL STONE SHOULD BE 1" AGGREGATE WITHOUT FINES, CRUSHER RUN WITHOUT FINES, OR EQUIVALENT.
3. DRAIN PIPE TO BE CONNECTED USING STANDARD PIPE COLLARS.

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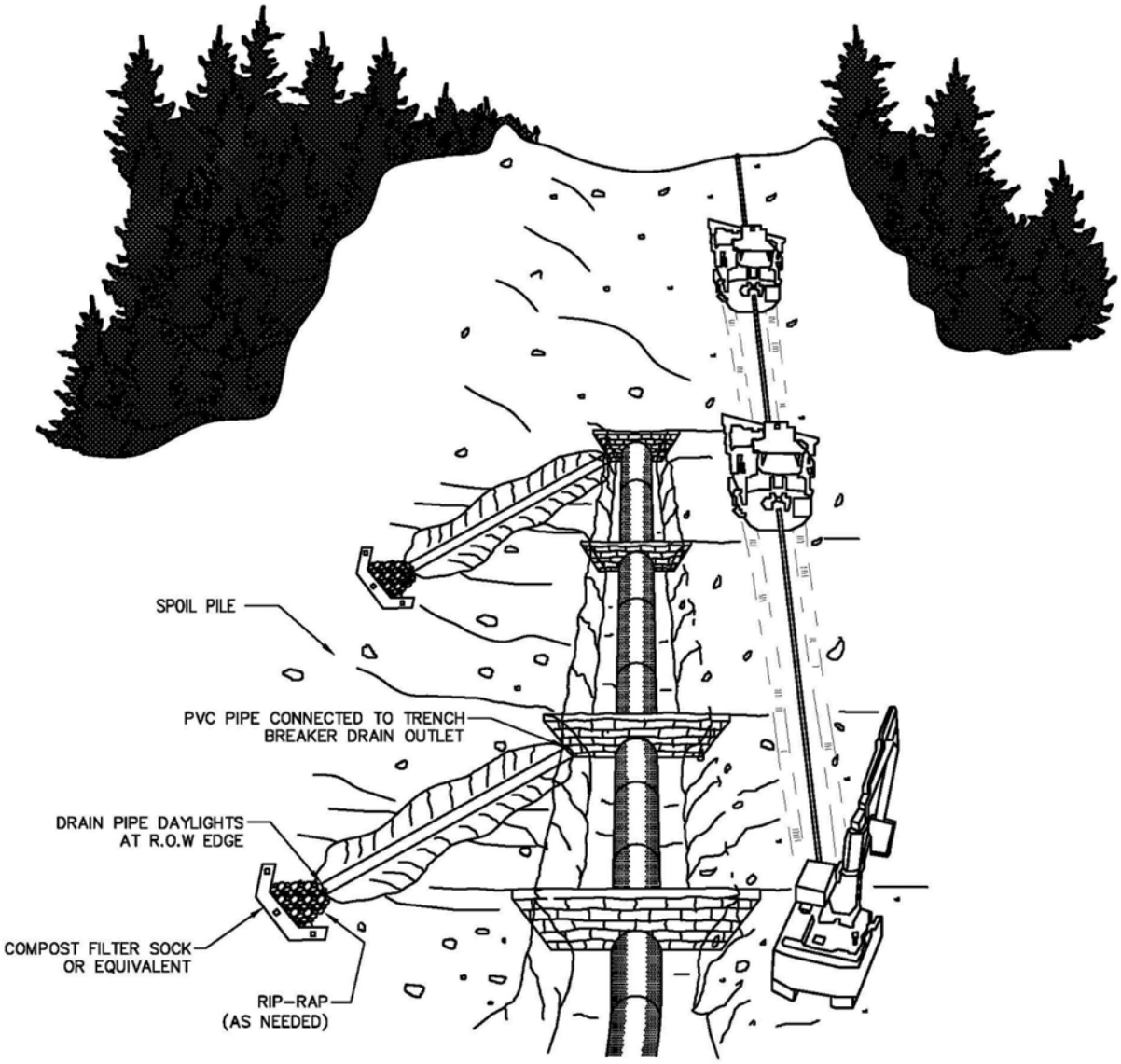
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

SIDEHILL LOW-POINT DRAIN TYPICAL

DRAWING NO.	REV.
MVP-SG-24	P1



NOTES:

1. WINCHES MAY BE REQUIRED FOR MOVING EQUIPMENT AND MATERIAL, AND DURING CONSTRUCTION ON STEEP LONGITUDINAL SLOPES.
2. WINCHES WILL EITHER BE FIXED WINCHES OR TRACKED EQUIPMENT WITH WINCHES.
3. WINCHES WILL TYPICALLY BE REQUIRED FOR SLOPES OF 30% (17°) AND UP.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "B" SOIL

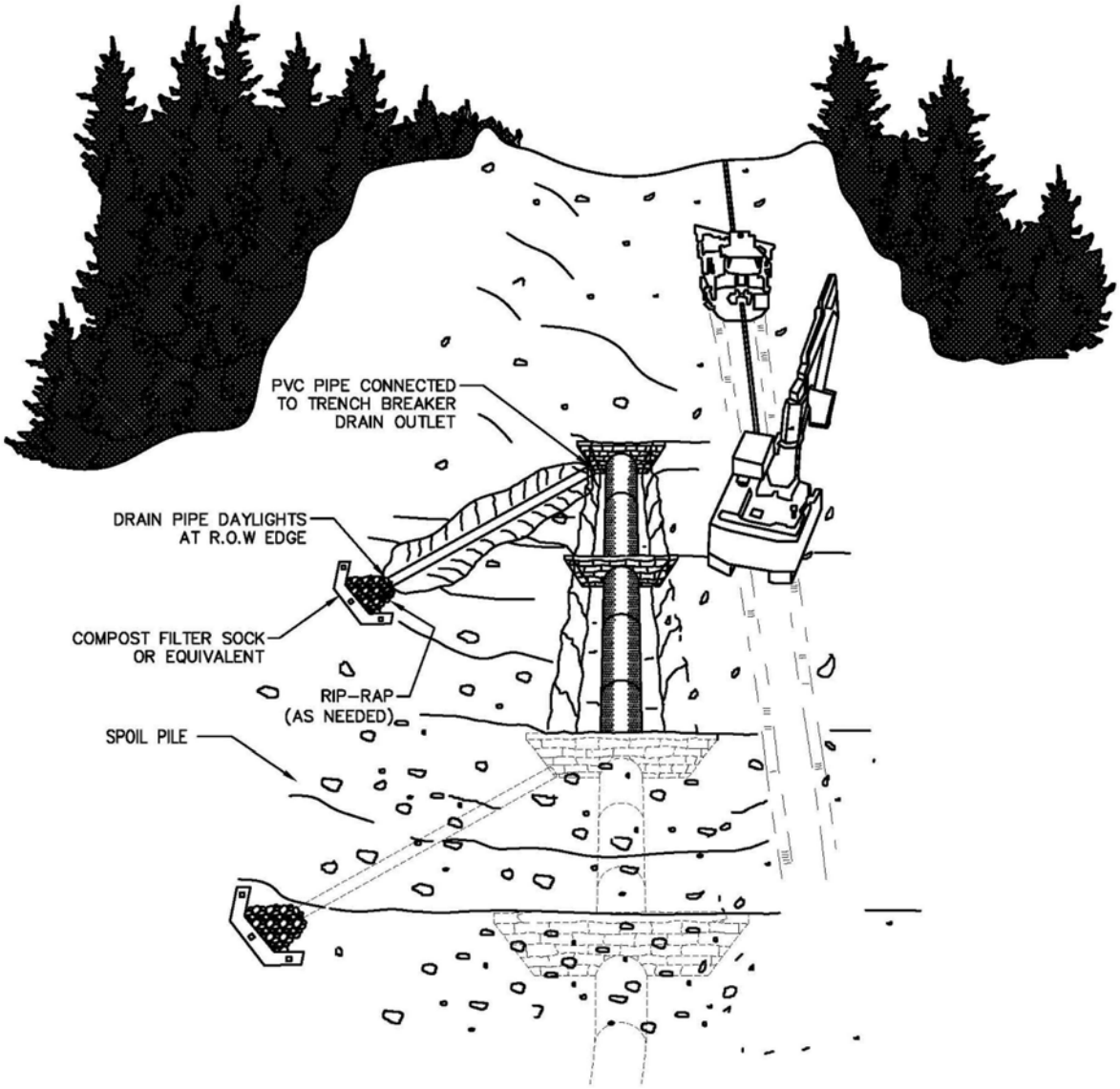
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

MAINLINE CONSTRUCTION
STEEP HILL PARALLEL CONSTRUCTION
NO TOP SOIL SEGREGATION

DRAWING NO.	REV.
MVP-SG-31	P1



NOTES:

1. WINCHES MAY BE REQUIRED FOR MOVING EQUIPMENT AND MATERIAL, AND DURING CONSTRUCTION ON STEEP LONGITUDINAL SLOPES.
2. WINCHES WILL EITHER BE FIXED WINCHES OR TRACKED EQUIPMENT WITH WINCHES.
3. WINCHES WILL TYPICALLY BE REQUIRED FOR SLOPES OF 30% (17°) AND UP.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWING ASSUMES TYPE "B" SOIL

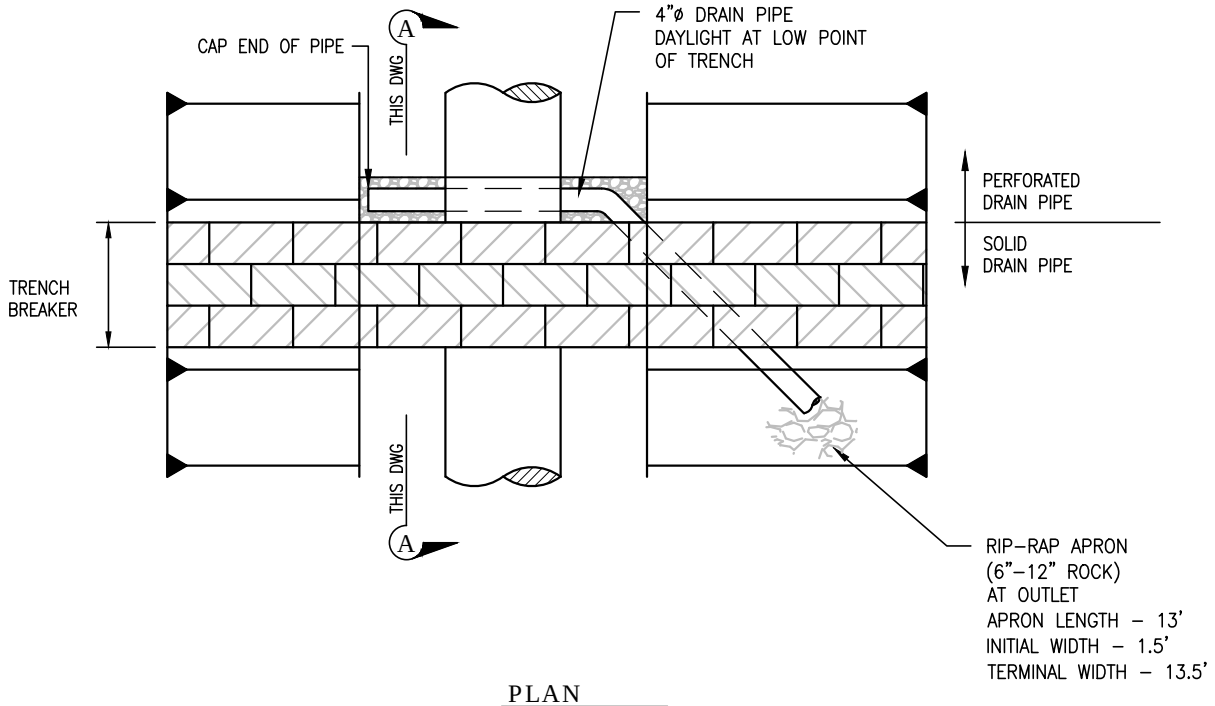
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

MAINLINE CONSTRUCTION
STEEP HILL STOVE PIPE CONSTRUCTION
NO TOP SOIL SEGREGATION

DRAWING NO.	REV.
MVP-SG-32	P1



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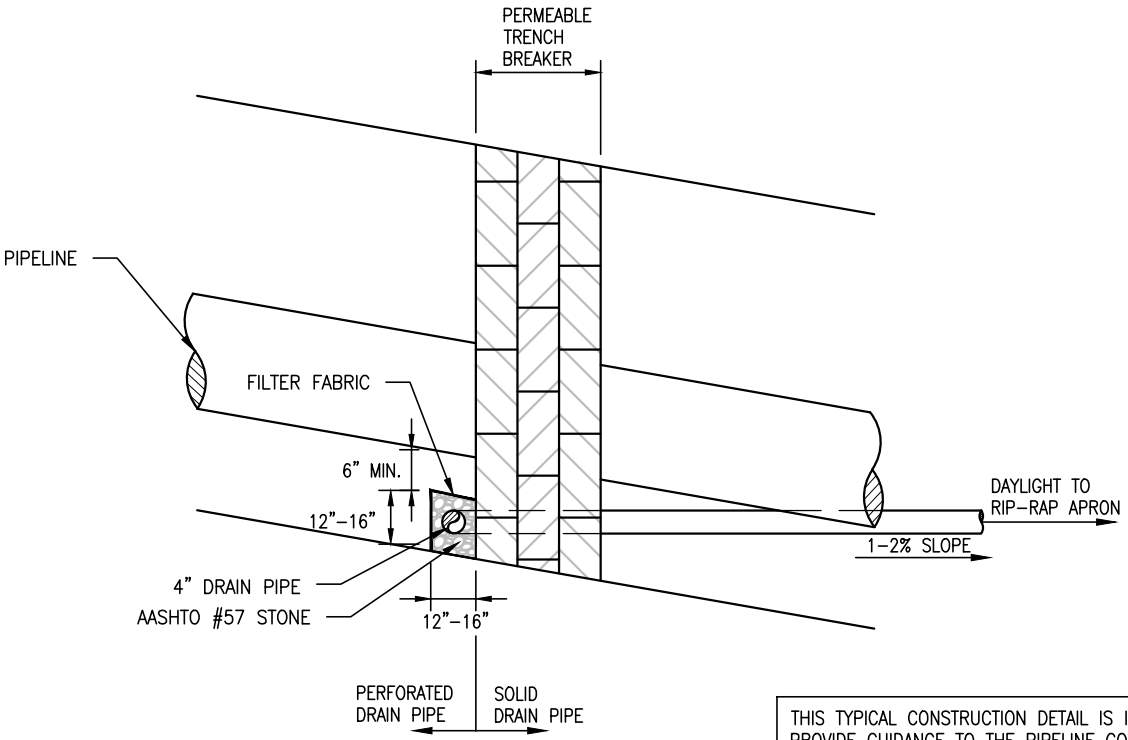
SCALE: NOT TO SCALE



SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

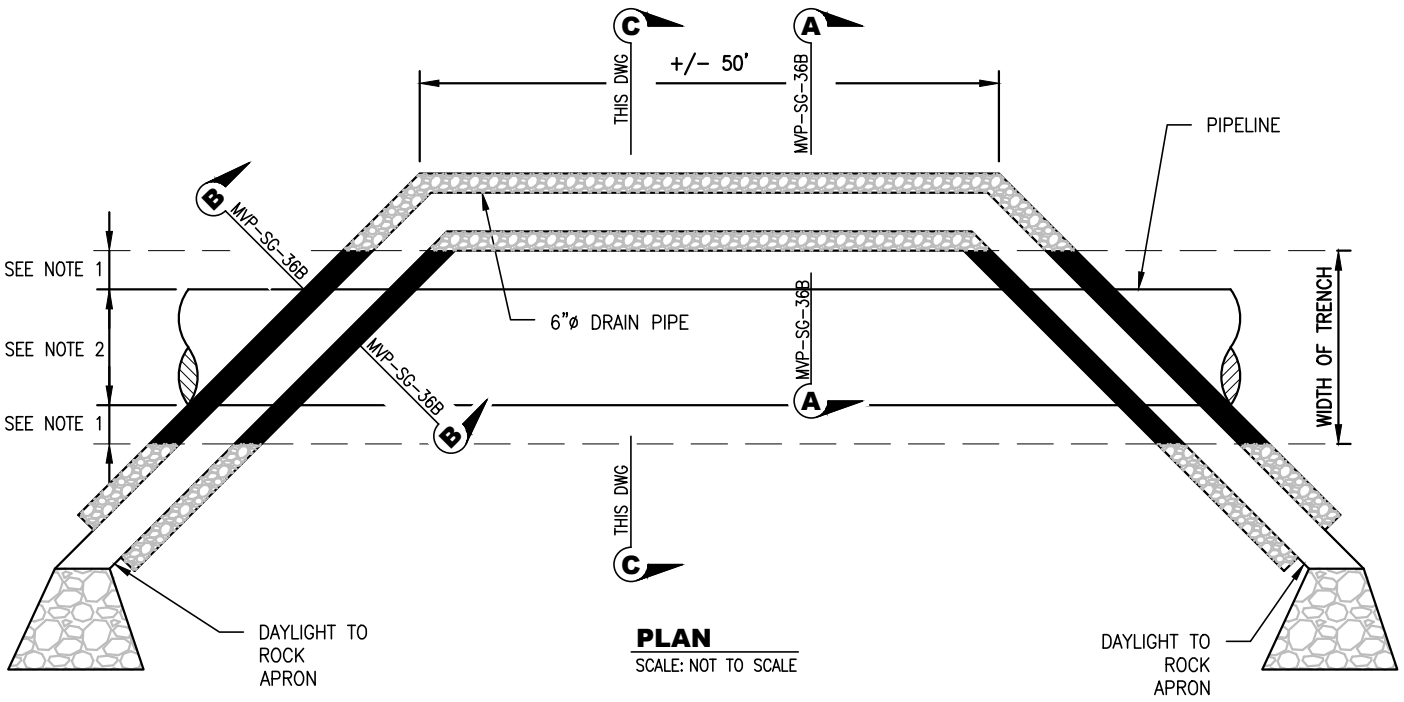
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER DAYLIGHT DRAIN

DRAWING NO.	REV.
MVP-SG-35	P1

Plotted by: Sample, Stanley on: August 16, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-35.dwg



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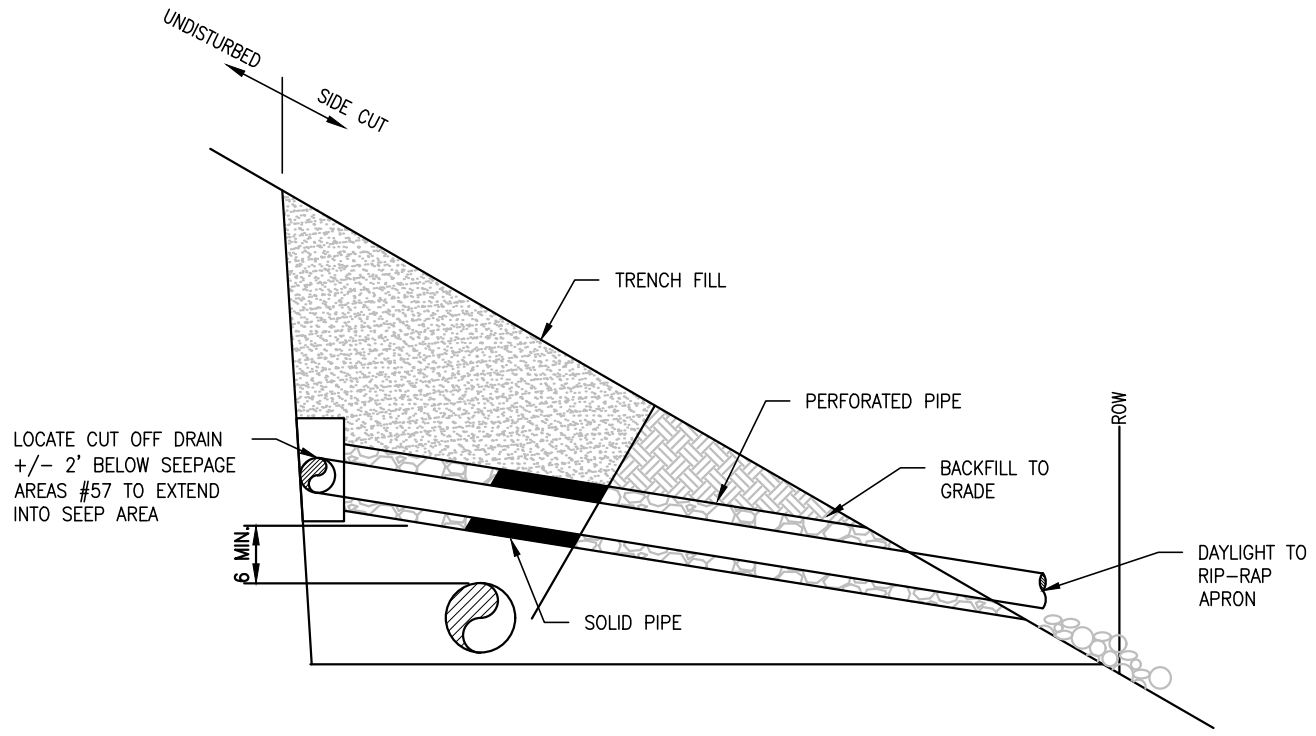


SECTION C-C
SCALE: NOT TO SCALE

NOTES:
1. PERFORATED PIPE SURROUNDED BY #57 STONE.
2. SOLID PIPE (IN TRENCH) SURROUNDED BY TRENCH BACKFILL.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

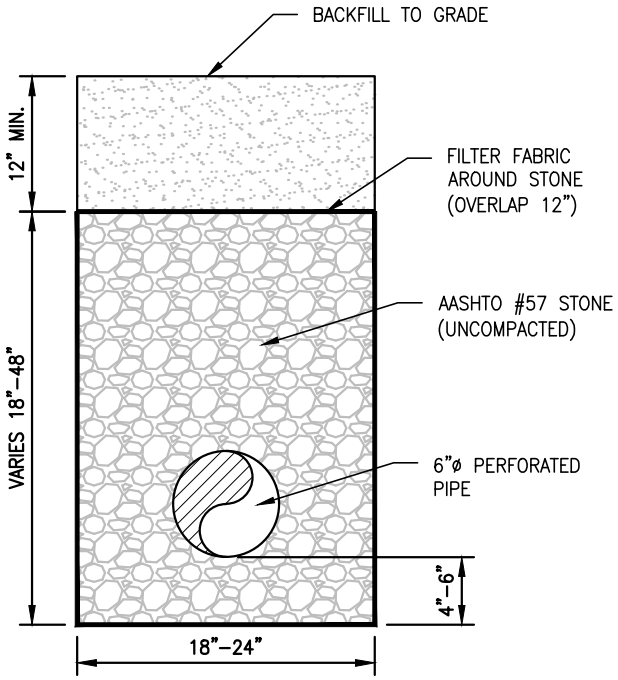
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN-SIDEHILL

DRAWING NO.	REV.
MVP-SG-36A	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:58 AM

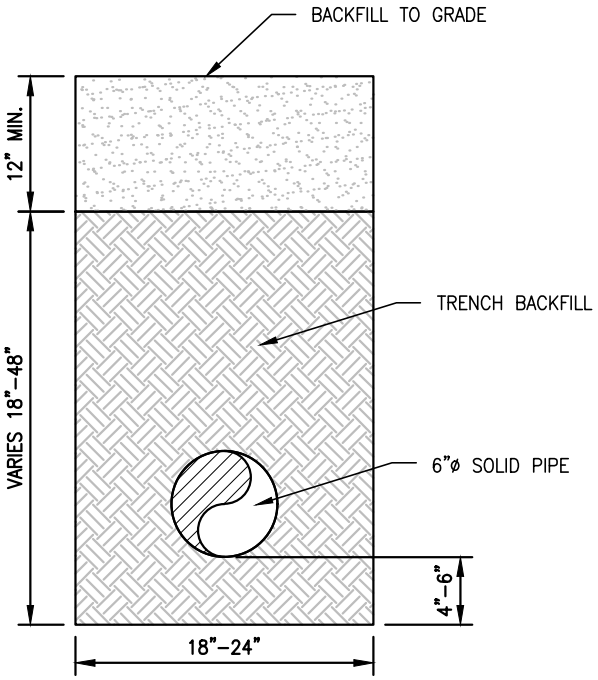
File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-36A.dwg



SECTION A-A

SCALE: NOT TO SCALE

FROM MVP–SG–36A



SECTION B-B

SCALE: NOT TO SCALE

FROM MVP–SG–36A

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

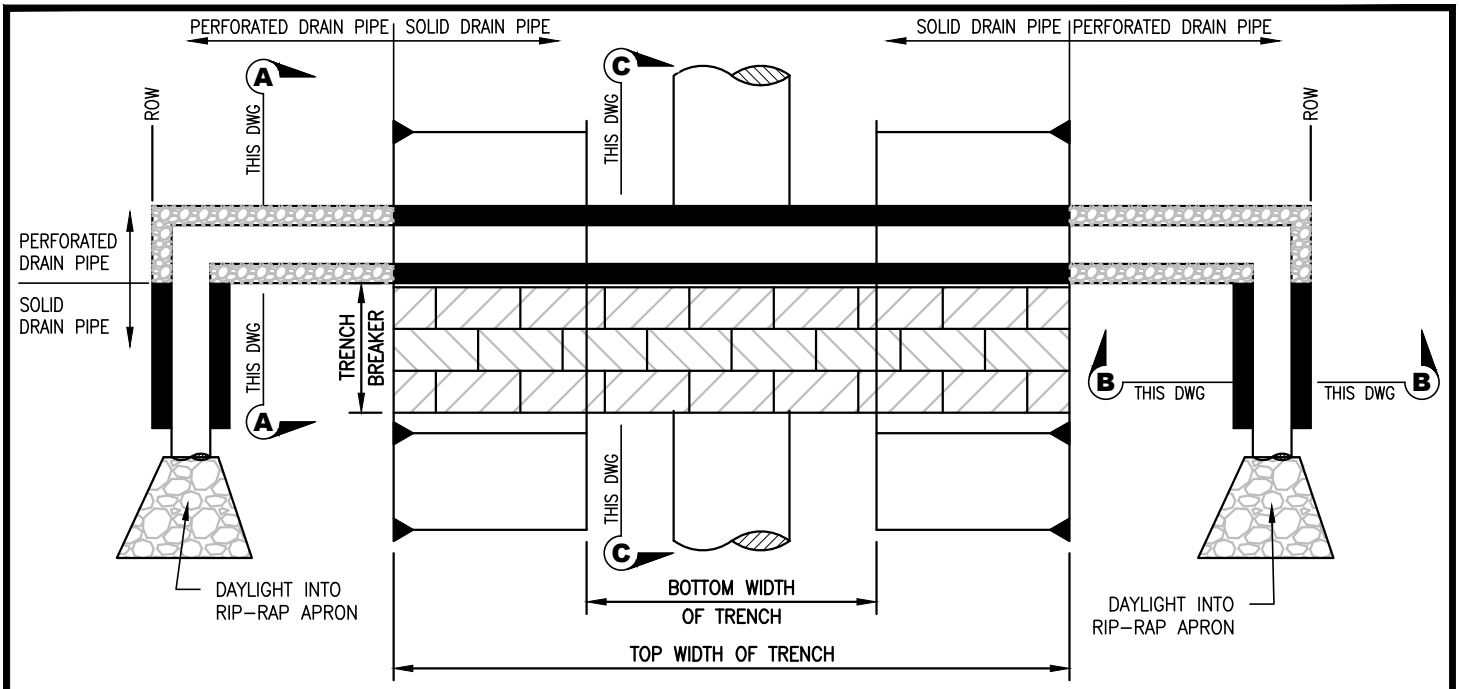
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN–SIDEHILL

DRAWING NO.	REV.
MVP–SG–36B	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:53 AM

File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-36B.dwg



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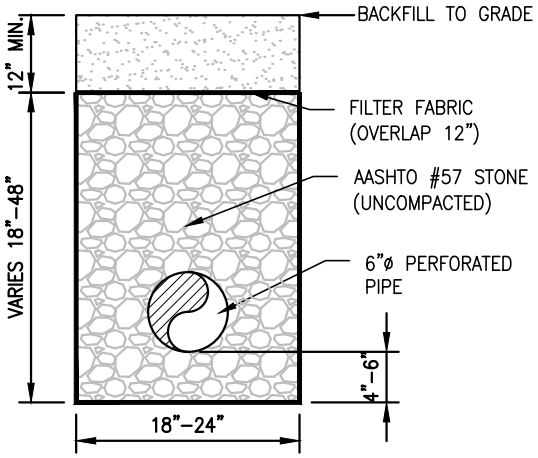
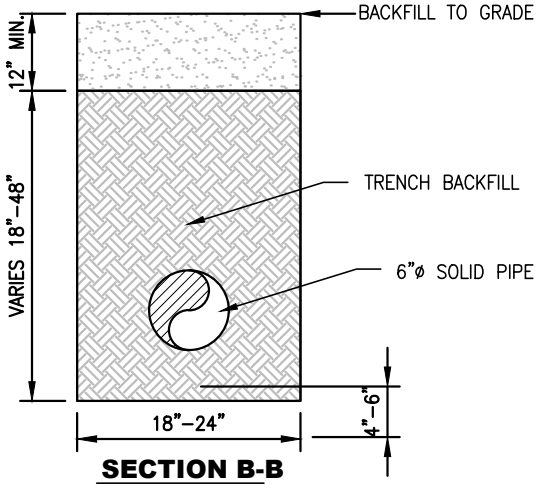
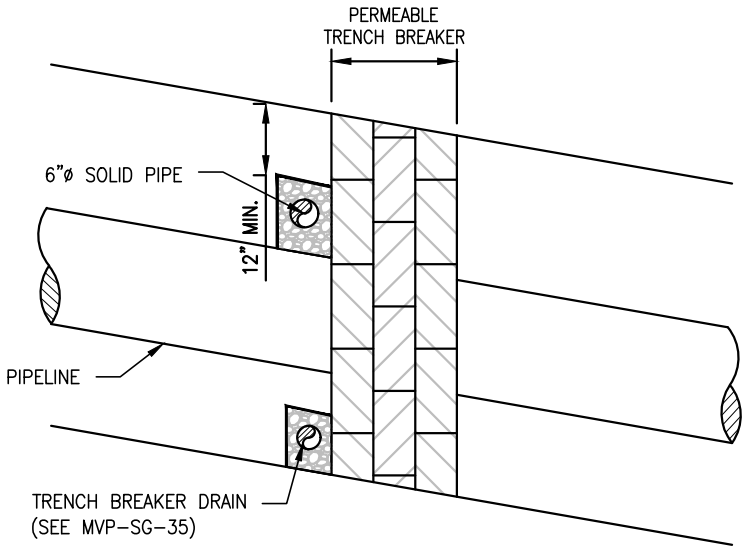


SECTION A-A
SCALE: NOT TO SCALE



SECTION B-B
SCALE: NOT TO SCALE

NOTES:
1. EACH CUTOFF DRAIN SHALL UTILIZE A TRENCH BREAKER DRAIN (SEE DETAIL 1) TO DRAIN THE TRENCH.



SECTION C-C
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

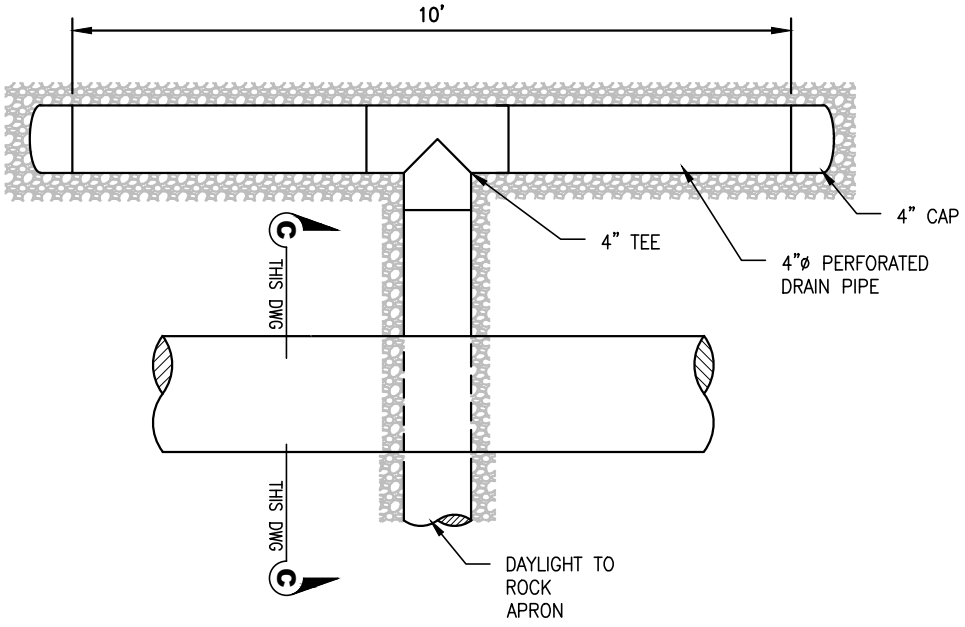
TYPICAL CONSTRUCTION DETAIL

CUTOFF DRAIN-PLANAR

DRAWING NO.	REV.
MVP-SG-37	P1

Plotted by: Doersom, Sharon on: January 28, 2025 - 10:50 AM

File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-37.dwg



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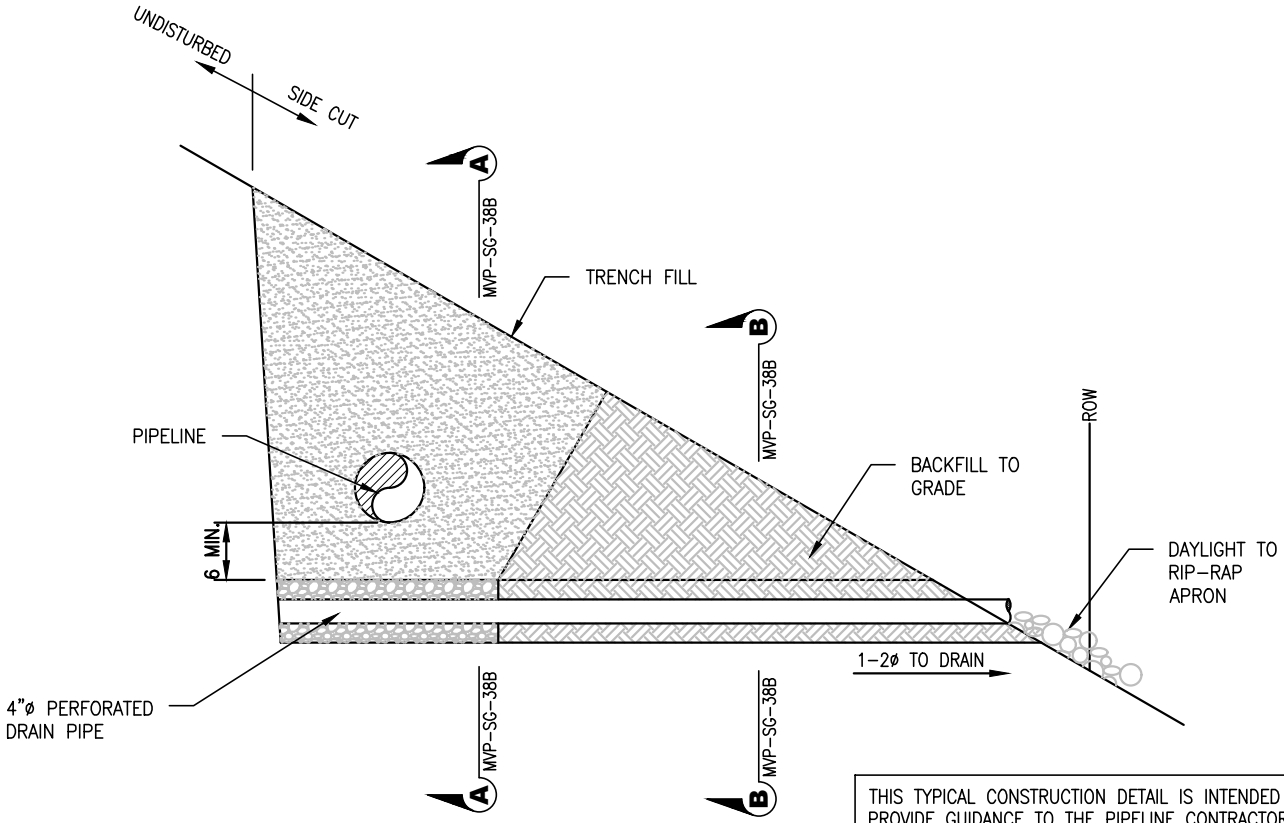


C-C
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

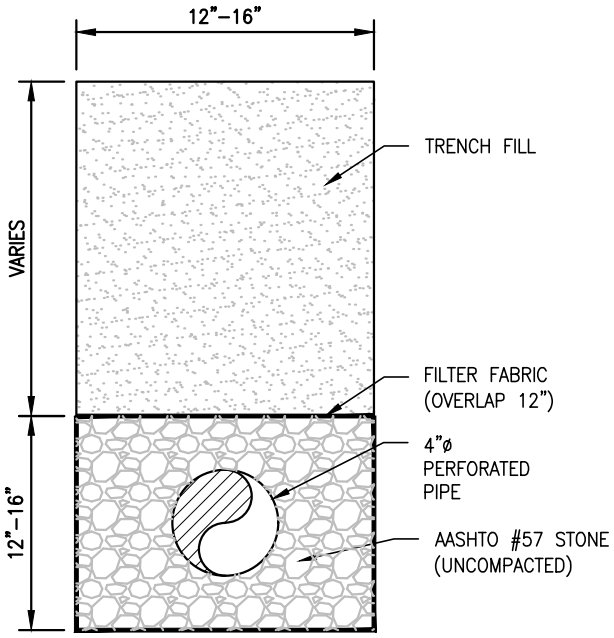
TYPICAL CONSTRUCTION DETAIL

TRANSVERSE TRENCH DRAIN

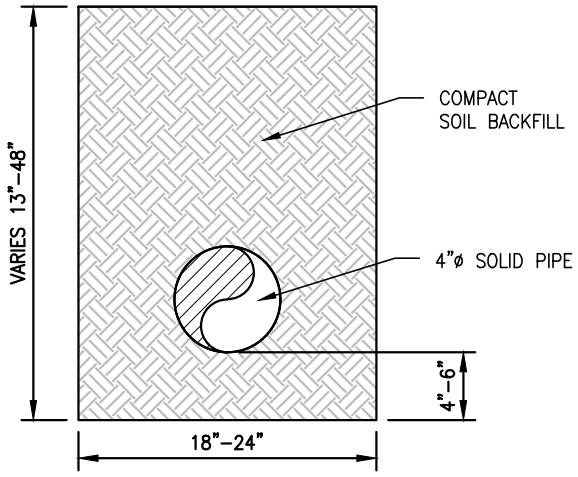
DRAWING NO.	REV.
MVP-SG-38A	P1

Plotted by: Doersom, Sharon on: January 29, 2025 - 10:27 AM

File Path: C:\users\sdoersom\projectwise\fsl\dms27383\MVP-SG-38A.dwg



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP–SG–38A



SECTION B-B
SCALE: NOT TO SCALE
FROM MVP–SG–38A

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

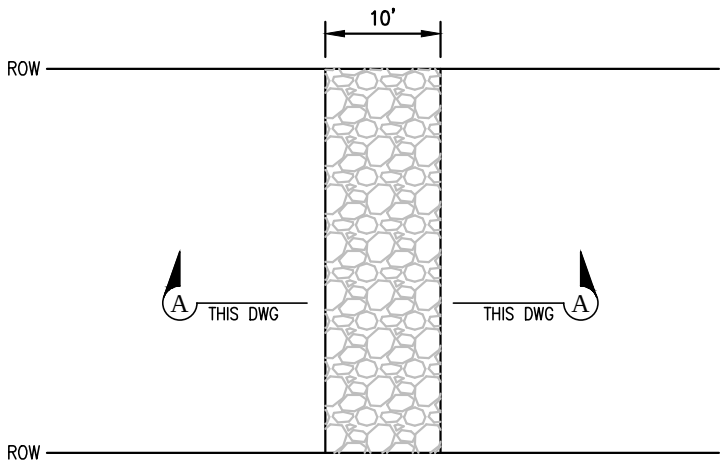
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

TRANSVERSE TRENCH DRAIN

DRAWING NO.	REV.
MVP–38B	P1



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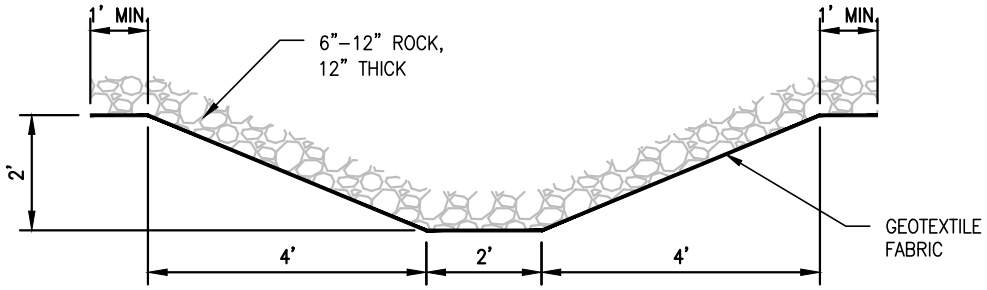


SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

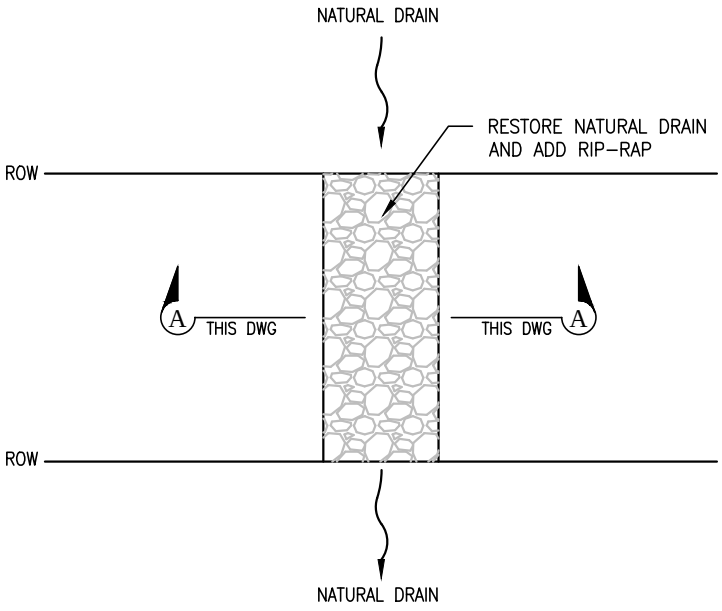
TYPICAL CONSTRUCTION DETAIL

ROCK LINED SWALE

DRAWING NO.	REV.
MVP–SG–39	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-39.dwg



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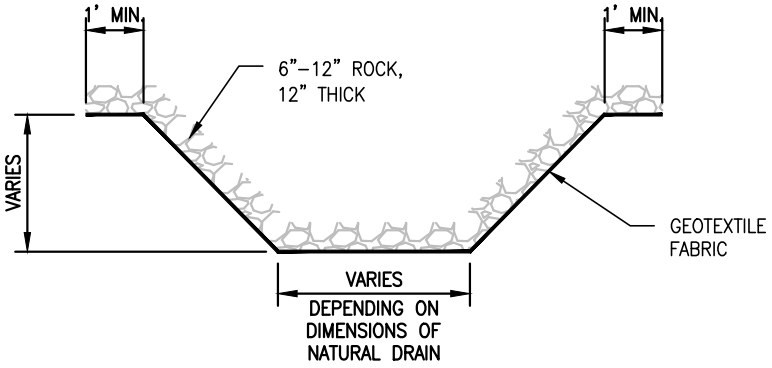


SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

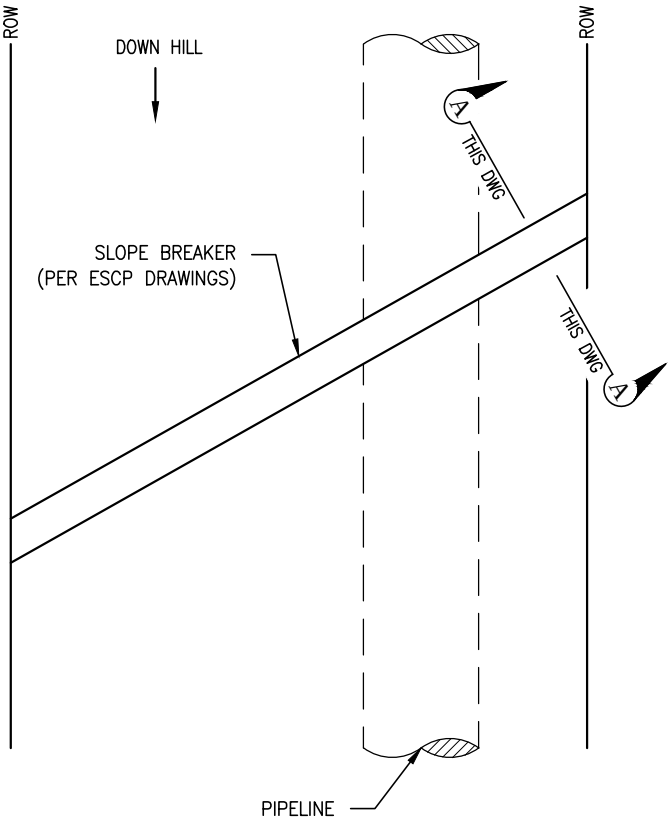
TYPICAL CONSTRUCTION DETAIL

RIP-RAP NATURAL DRAIN

DRAWING NO.	REV.
MVP-SG-40	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-40.dwg



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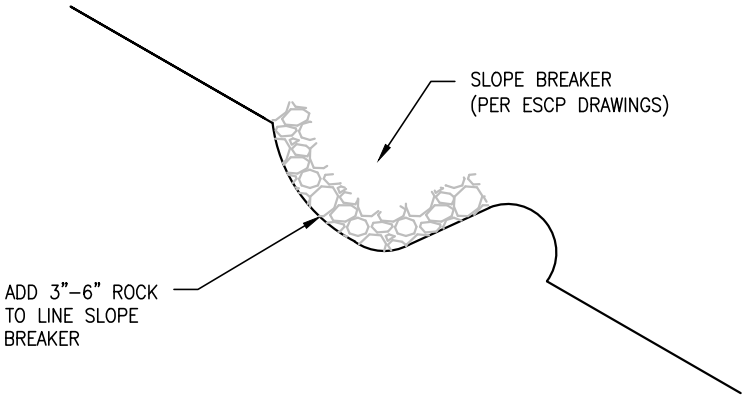


SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
H–650–TYP			

Mountain Valley PIPELINE LLC

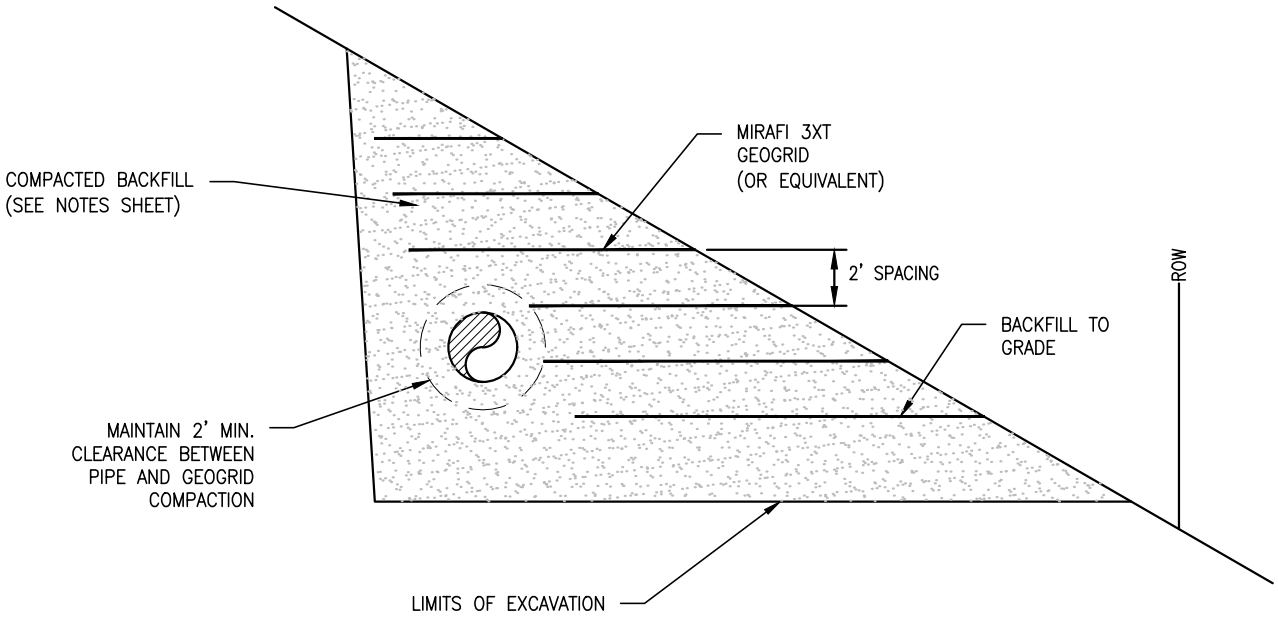
TYPICAL CONSTRUCTION DETAIL

RIP–RAP SLOPE BREAKERS

DRAWING NO.	REV.
MVP–SG–41	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:39 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-41.dwg



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DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 3
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

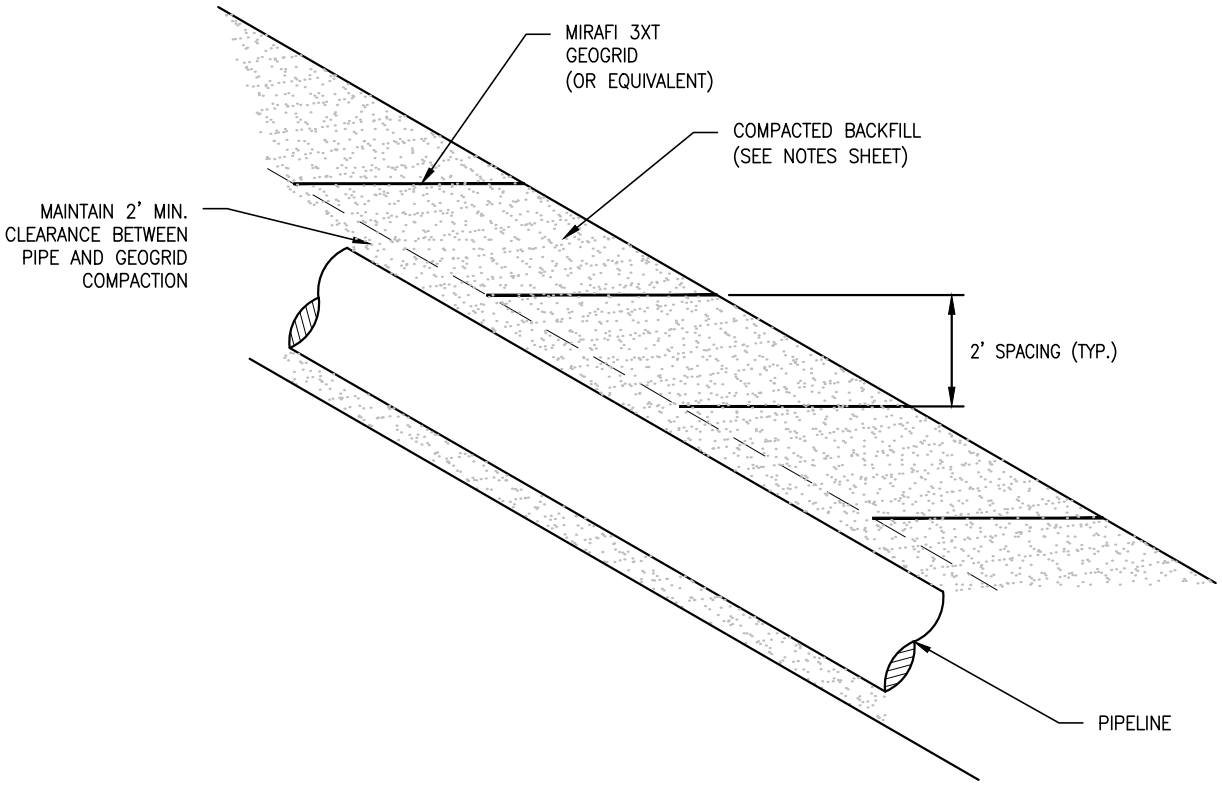
TYPICAL CONSTRUCTION DETAIL

GEOGRID-SIDEHILL

DRAWING NO.	REV.
MVP-SG-42A	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-42A.dwg



SECTION VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 3
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

SLIDE MITIGATION DETAIL

GEOGRID-PLANAR

DRAWING NO.	REV.
MVP-SG-42B	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:58 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-42B.dwg

COMPACTION NOTES

1) ALL ROCKS LARGER THAN 6 INCHES IN SIZE, AND MORE THAN 10 PERCENT BY VOLUME SHOULD BE REMOVED AND PROPERLY DISPOSED FROM THE BACKFILL MATERIAL.
2) THE SUBGRADE AT THE BASE OF THE EXCAVATION SHOULD BE PROOFROLLED WITH A PNEUMATIC TIRED ROLLER OR VEHICLE.
3) THE EXCAVATED AREA SHALL BE BACKFILLED WITH THE CLEANED EXCAVATED SOIL MATERIAL AND COMPACTED IN PLACE.
4) BACKFILL OPERATIONS SHALL BE PERFORMED WHEN SOIL IS SUITABLE FOR COMPACTION (I.E., NOT IMMEDIATELY FOLLOWING A LARGE RAIN, SNOW, OR ICE EVENT). FROZEN FILL SHALL NOT BE USED.
5) THE BACKFILL SHALL BE PLACED IN COMPACTED LIFTS NO GREATER THAN 12 INCHES.
6) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN COMPACTION ACTIVITY AND THE GAS PIPELINE.

GRAVEL DRAIN NOTES

1) GEOTEXTILE FABRIC SHALL BE TENCATE MIRAFI 140N OR APPROVED EQUIVALENT.
2) THE GEOTEXTILE FABRIC SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
3) DO NOT OPERATE CONSTRUCTION EQUIPMENT DIRECTLY ON THE GEOTEXTILE FABRIC.
4) DRAINAGE AGGREGATE SHALL MEET THE REQUIREMENTS OF AASHTO NO. 57 STONE.
5) DRAINAGE AGGREGATE SHALL NOT BE COMPACTED.

GEOGRID NOTES

1) GEOGRID REINFORCEMENT SHALL BE TENCATE MIRAFI 3XT OR APPROVED EQUIVALENT.
2) THE GEOGRID MATERIAL SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
3) GEOGRID SHALL BE PLACED HORIZONTALLY ON THE BACKFILL WITH THE PRINCIPAL STRENGTH DIRECTION PERPENDICULAR TO THE FACE OF THE SLOPE. ADJACENT PIECES OF PRIMARY GEOGRID SHALL NOT OVERLAP BUT ARE TO BE BUTTED SIDE TO SIDE.
4) REMOVE ALL SLACK IN THE GEOGRID MATERIAL AND ANCHOR AS NECESSARY WITH PINS, OR BAGS TO PREVENT SLACK FROM DEVELOPMENT DURING FILL PLACEMENT AND COMPACTION.
5) FILL IS TO BE PLACED AND SPREAD DIRECTLY ON THE GEOGRID MATERIAL WITH RUBBER TIRED EQUIPMENT ONLY. SPEEDS ARE TO BE KEPT SLOW WITH AS FEW STOPS AND TURNS AS PRACTICAL.
6) DO NOT OPERATE TRACKED EQUIPMENT DIRECTLY ON THE GEOGRID MATERIAL.
7) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN GEOGRID MATERIAL AND THE GAS PIPELINE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

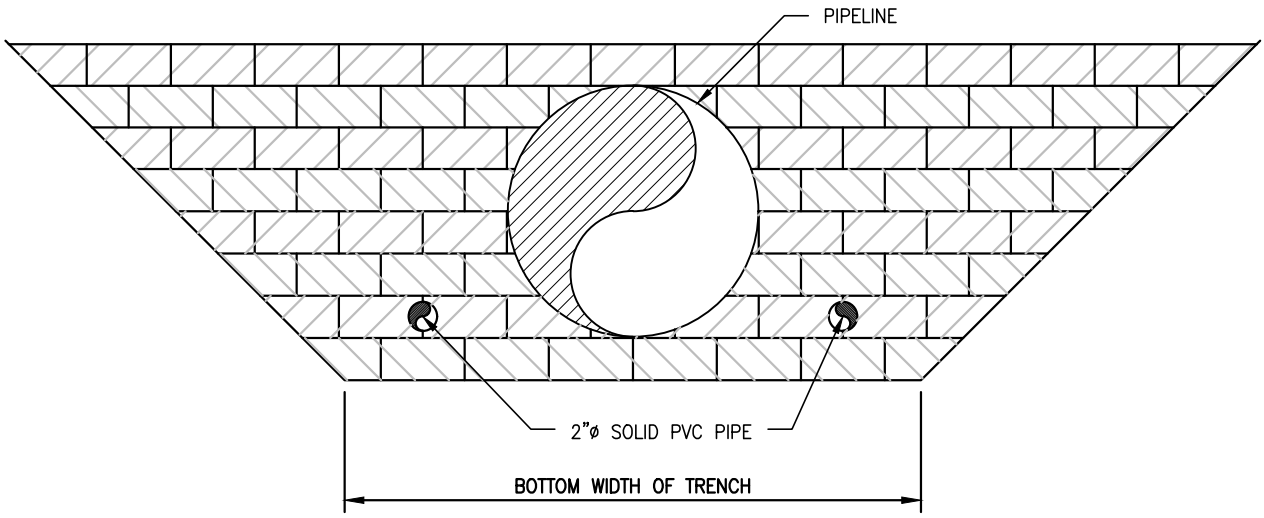
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	3 OF 3
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

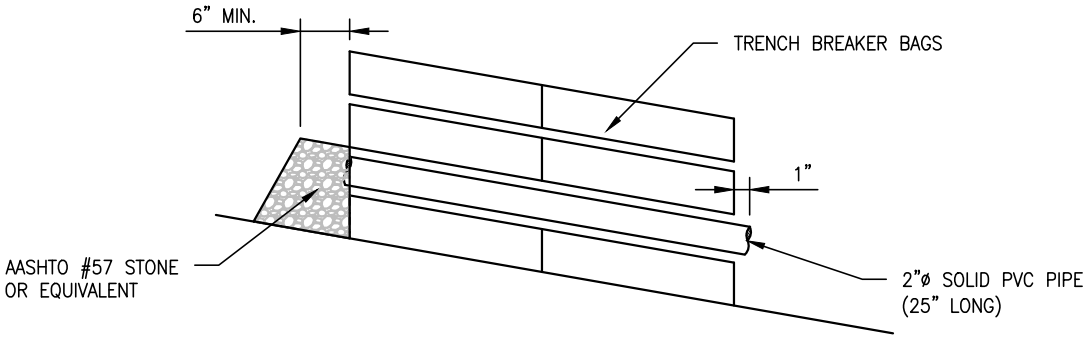
TYPICAL CONSTRUCTION DETAIL

GEOGRID NOTES

DRAWING NO.	REV.
MVP-SG-42C	P1



FRONT VIEW
SCALE: NOT TO SCALE



SECTION VIEW
SCALE: NOT TO SCALE

NOTES:
1. PLACE PVC DRAIN PIPE ON FIRST LAYER OF TRENCH BREAKER BAGS.
2. PLACE PVC DRAIN PIPE EQUADISTANT FROM THE OUTSIDE EDGE OF THE 30" GAS PIPE AND THE BOTTOM LIMITS OF THE TRENCH.
3. EXTEND PVC PIPE THROUGH ENTIRE TRENCH BREAKER AND EXTEND APPROX. 1" PAST END OF BREAKER.
4. AASHTO#57 STONE SHALL BE PLACED TO A MINIMUM 6" THICKNESS UPSLOPE OF THE DRAIN PIPE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

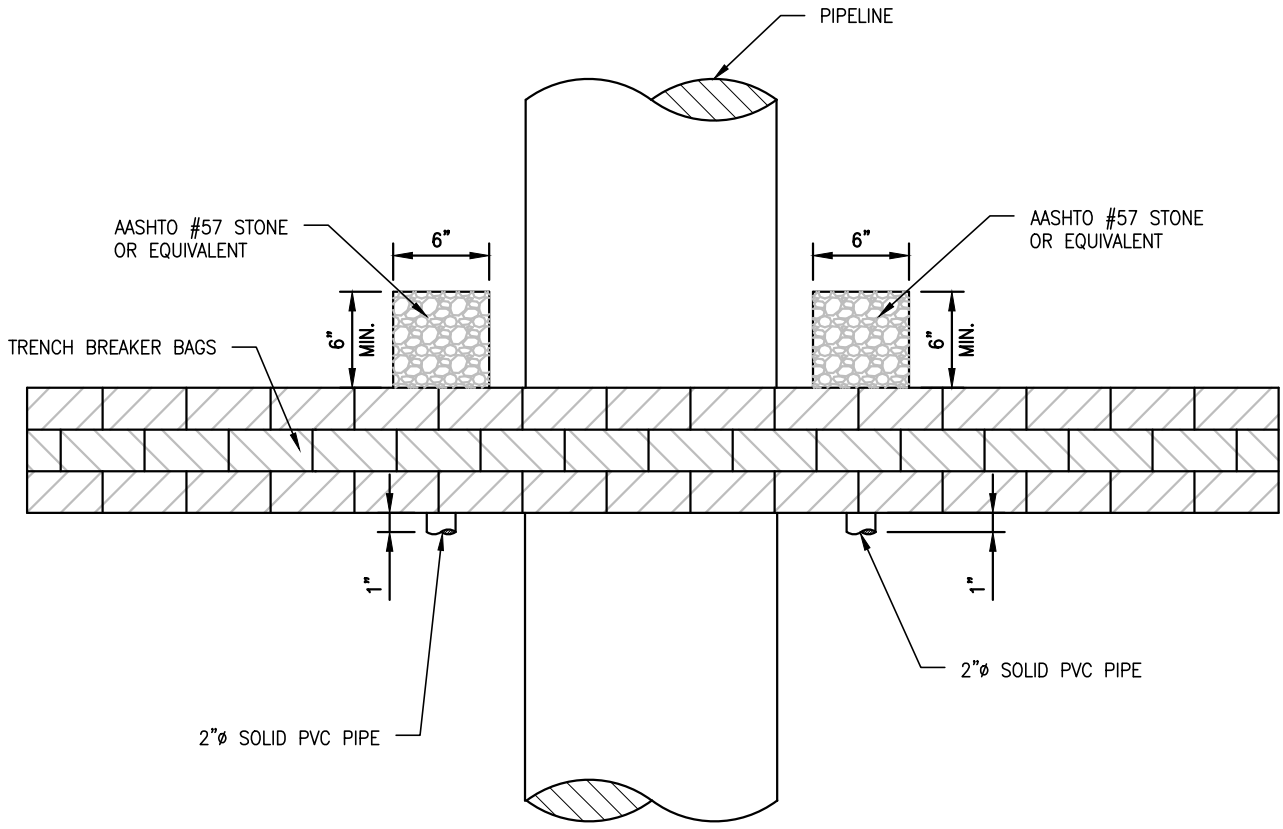
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER
PASS-THROUGH DRAIN

DRAWING NO.	REV.
MVP-SG-43A	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-43A.dwg



PLAN VIEW
SCALE: NOT TO SCALE

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DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

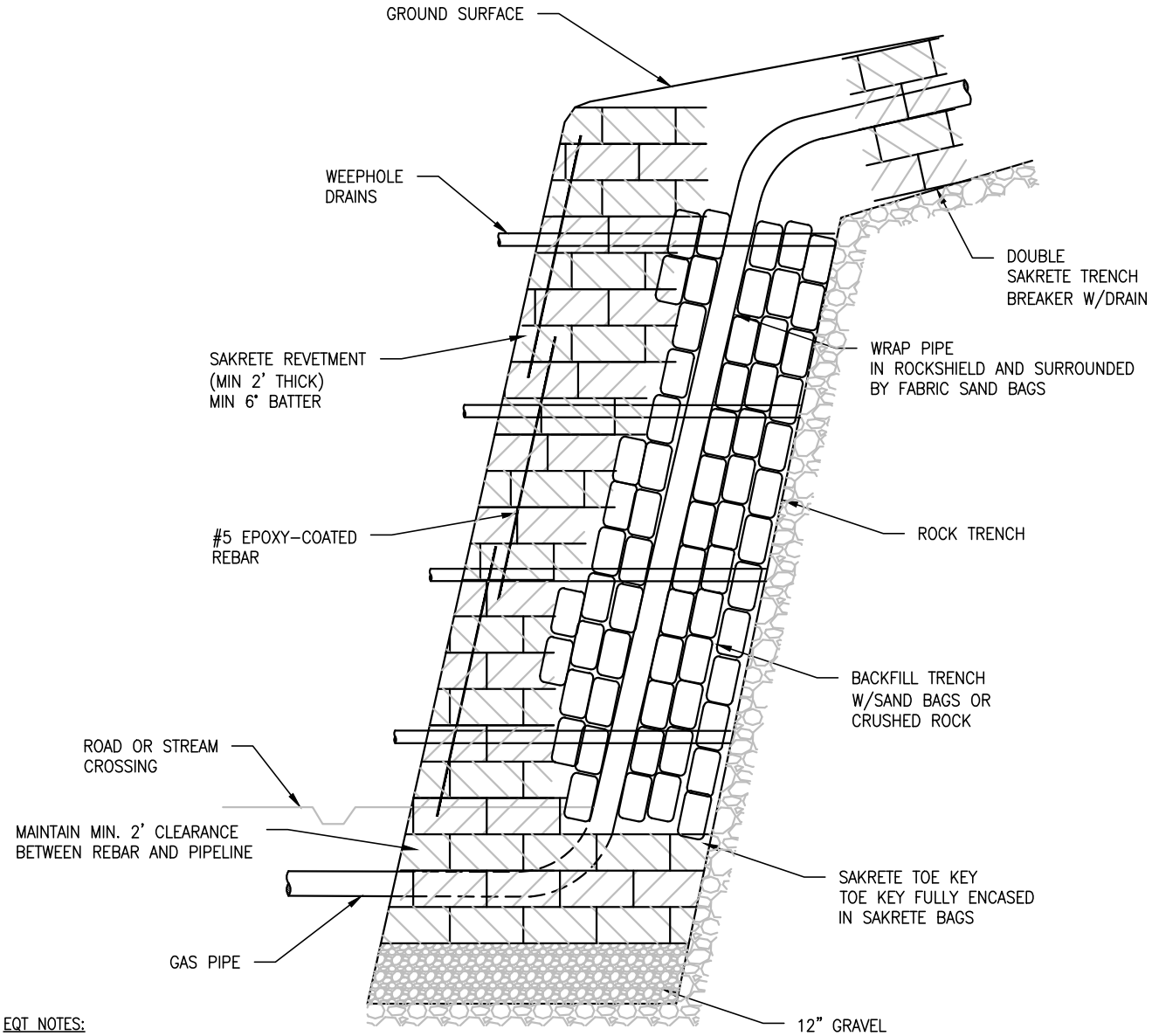
TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER
PASS-THROUGH DRAIN

DRAWING NO.	REV.
MVP-SG-43B	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-43B.dwg



SIDE VIEW
SCALE: NOT TO SCALE

EQT NOTES:

1. SAKRETE BAGS SHOULD EXTEND 4 BAGS DEEP PIPE SHOULD BE COMPLETELY SURROUNDED BY SAND BAGS, OR CRUSHED ROCK (MAX 6").
2. SAKRETE BAGS SHOULD BE STAGGERED IN A MASONRY FASHION. THE FACE OF THE WELL SHALL BE INCLINED 6°-10° FROM VERTICAL.
3. #5 REBAR SHOULD BE DRIVEN THROUGH THE SAKRETE BAGS (SEE DETAIL 1).
4. 2"ø PVC WEEPHOLE DRAINS SHALL BE INSTALLED EVERY 15 FT.

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APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
H-650-TYP			

Mountain Valley PIPELINE LLC

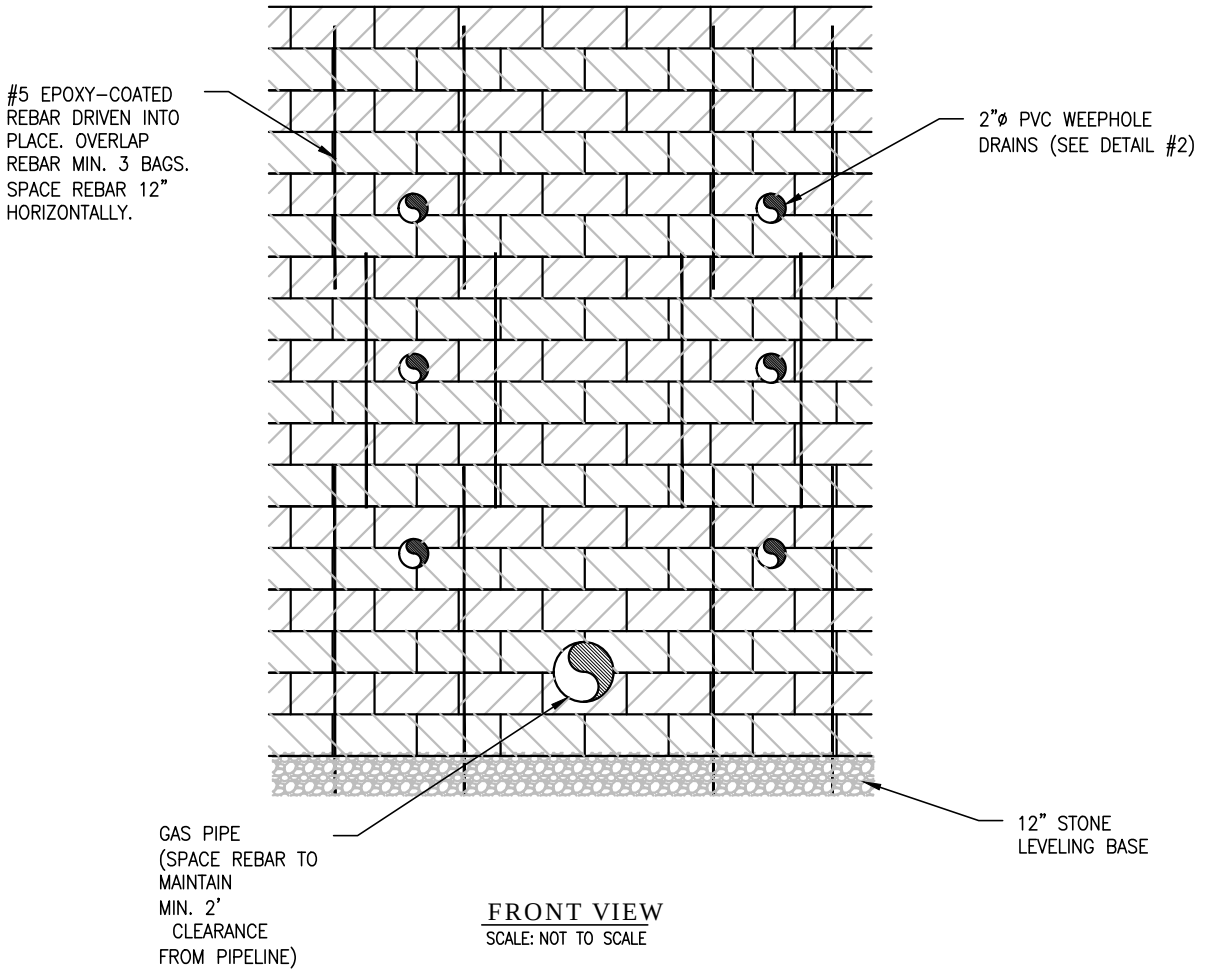
TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION
HIGHWALL REVETMENT
SIDE VIEW

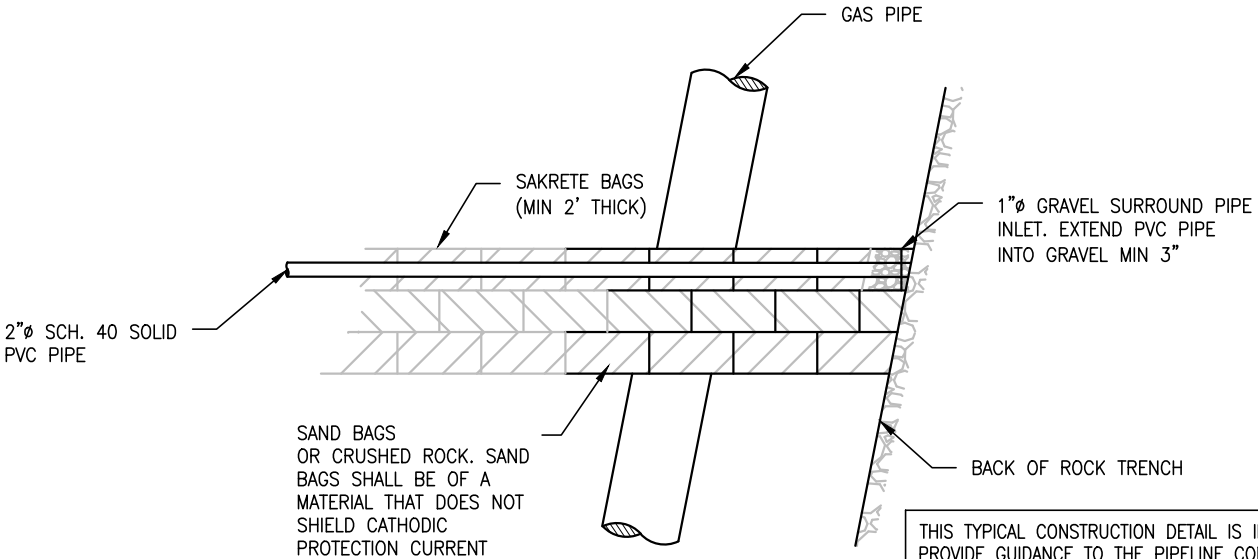
DRAWING NO.	REV.
MVP-SG-44A	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-44A.dwg



FRONT VIEW
SCALE: NOT TO SCALE



DRAIN DETAIL
SCALE: NOT TO SCALE

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CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

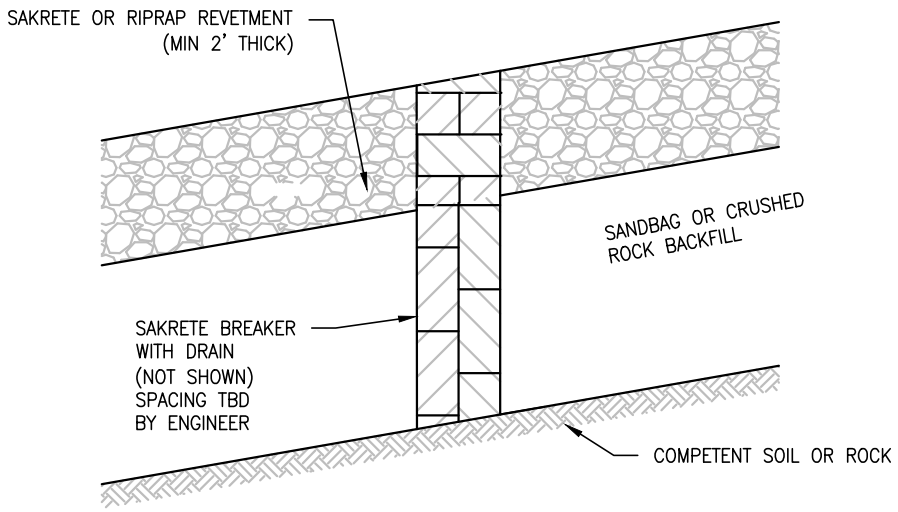
TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION
HIGHWALL REVETMENT
FRONT VIEW AND DRAIN DETAIL

DRAWING NO.	REV.
MVP-SG-44B	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-44B.dwg



SIDE VIEW
SCALE: NOT TO SCALE

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CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

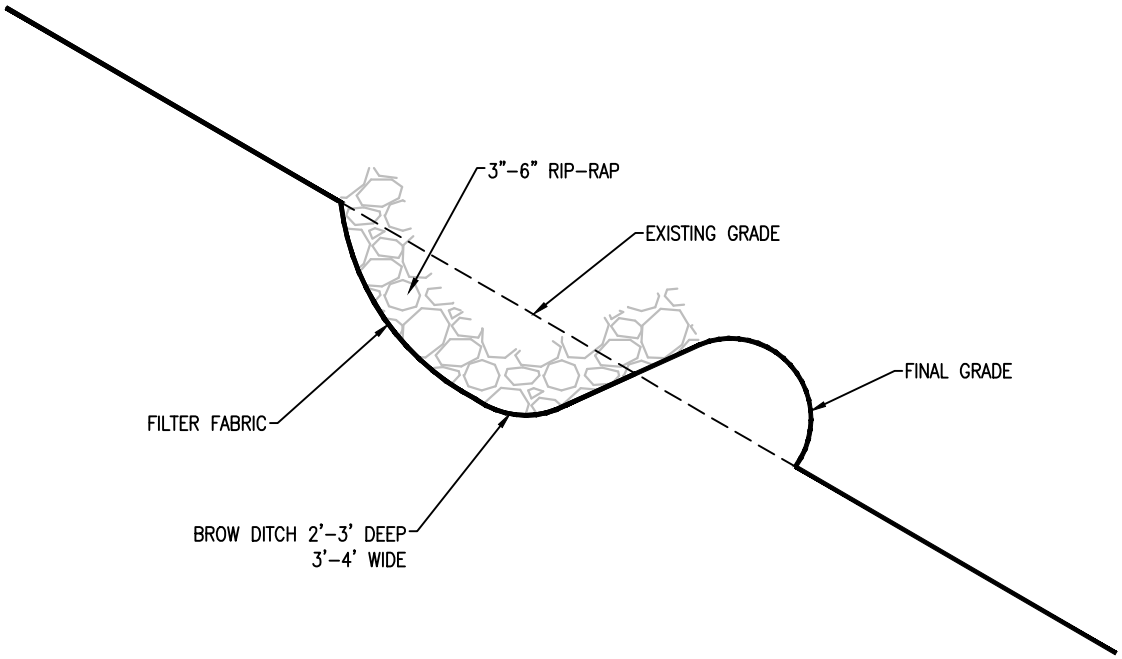
TYPICAL CONSTRUCTION DETAIL

STEEP SLOPE REVETMENT

DRAWING NO.	REV.
MVP-SG-45	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-45.dwg



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APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H–650–TYP			

Mountain Valley PIPELINE LLC

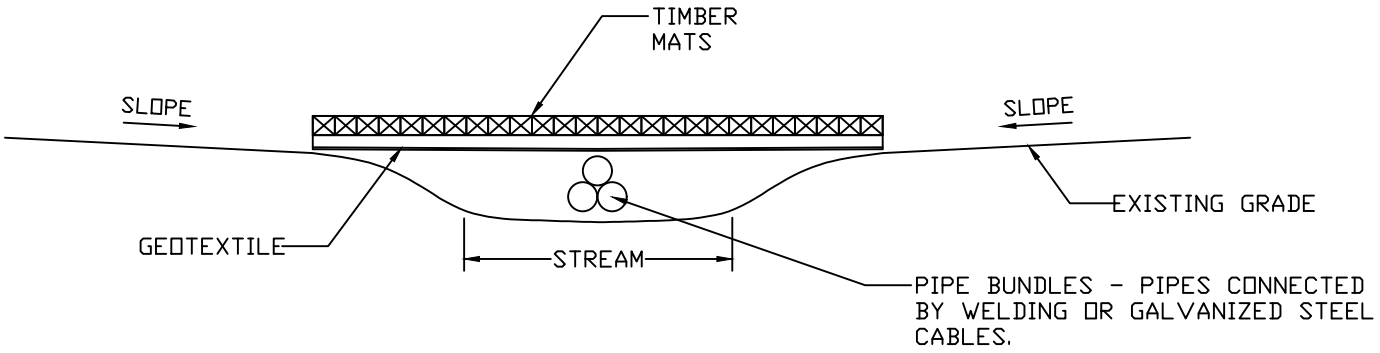
TYPICAL CONSTRUCTION DETAIL

BROW DITCH DETAIL

DRAWING NO.	REV.
MVP–SG–46	P1

Plotted by: Sample, Stanley on: August 14, 2018 - 12:40 PM

File Path: O:\Projects\300423 - NextEra MVP Southgate\CA - CADD\Pipeline\Drawings\Typicals\MVP-SG-46.dwg



NOTE:

CFS TO BE INSTALLED AT THE END OF EACH WORKING DAY.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

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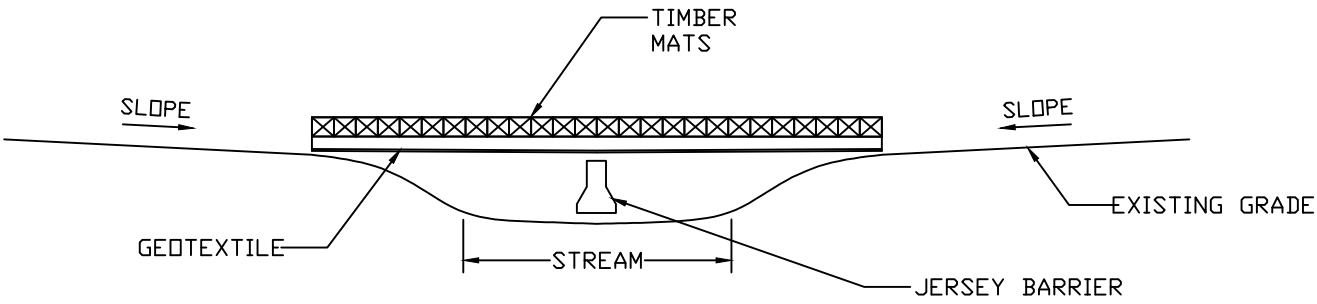
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

TIMBER MAT AND PIPE BUNDLE TEMPORARY STREAM CROSSING

DRAWING NO.	REV.
MVP-SG-47	P1



NOTE:

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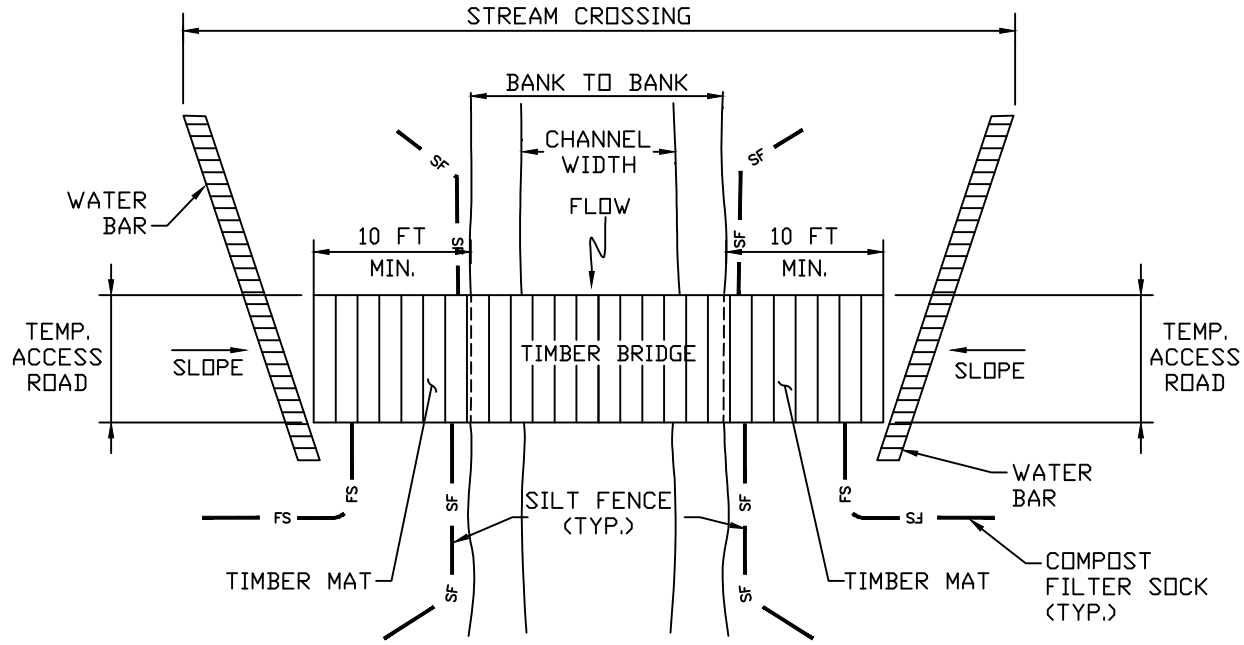
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

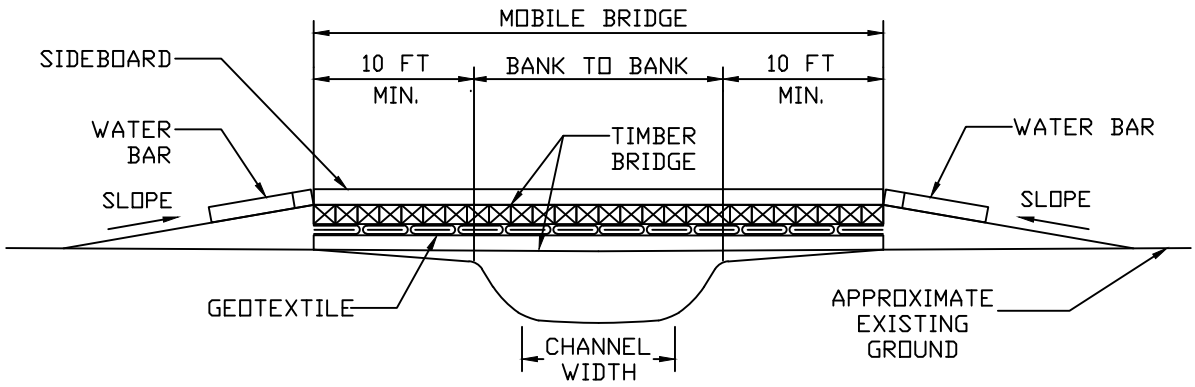
TYPICAL CONSTRUCTION DETAIL

TIMBER MAT AND JERSEY BARRIER
TEMPORARY STREAM CROSSING

DRAWING NO.	REV.
MVP-SG-48	P1



PLAN VIEW



CROSS SECTION - MOBILE BRIDGE

NOTES:

1. INSTALL WATER BARS OR SILT FENCE AT APPROACHES TO STREAM CROSSING AND COMPOST FILTER SOCKS ALONG STREAM BANKS. INSTALL COMPOST FILTER SOCK AT OUTLET OF WATER BARS.
2. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
3. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
4. GEOTEXTILE LINER TO COME UP ON THE SIDES OF THE BRIDGE A MINIMUM OF 18".
5. SIDEBOARDS TO BE ATTACHED TO THE UPPER DECK. GEOTEXTILE TO BE WRAPPED AROUND SIDEBOARDS PRIOR TO FASTENING.

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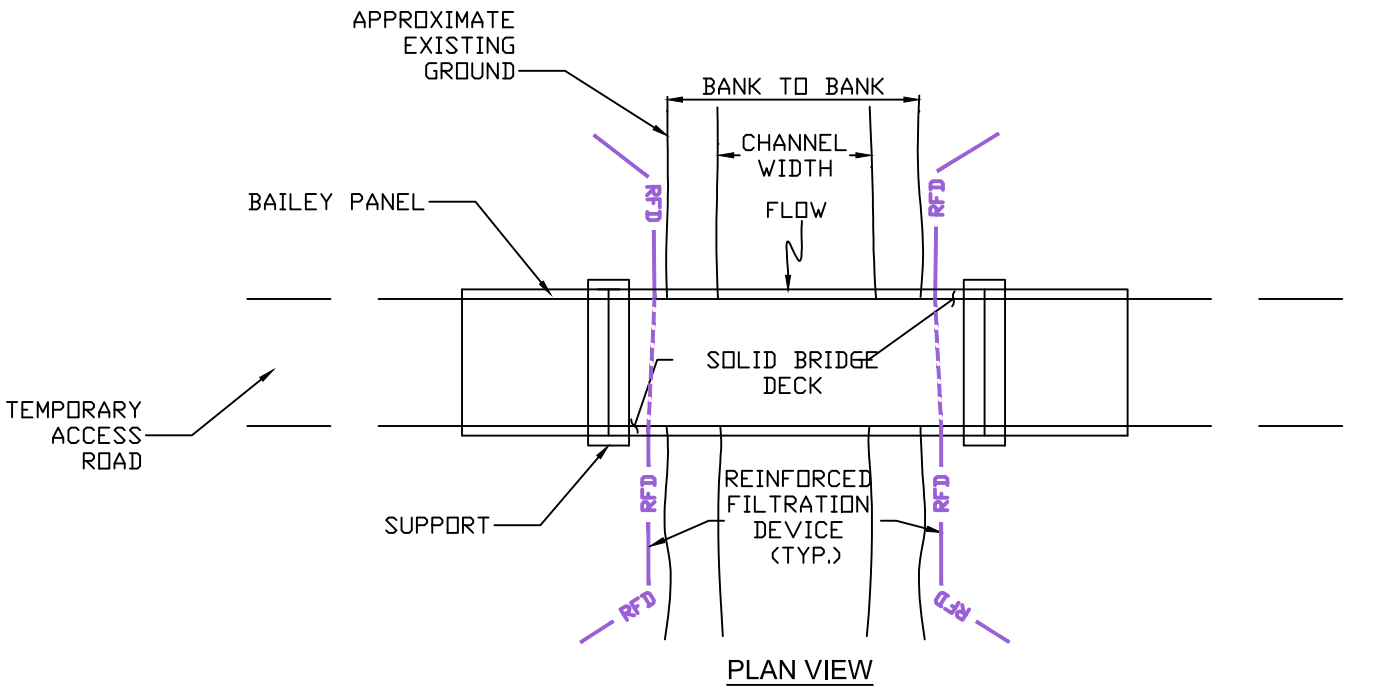
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

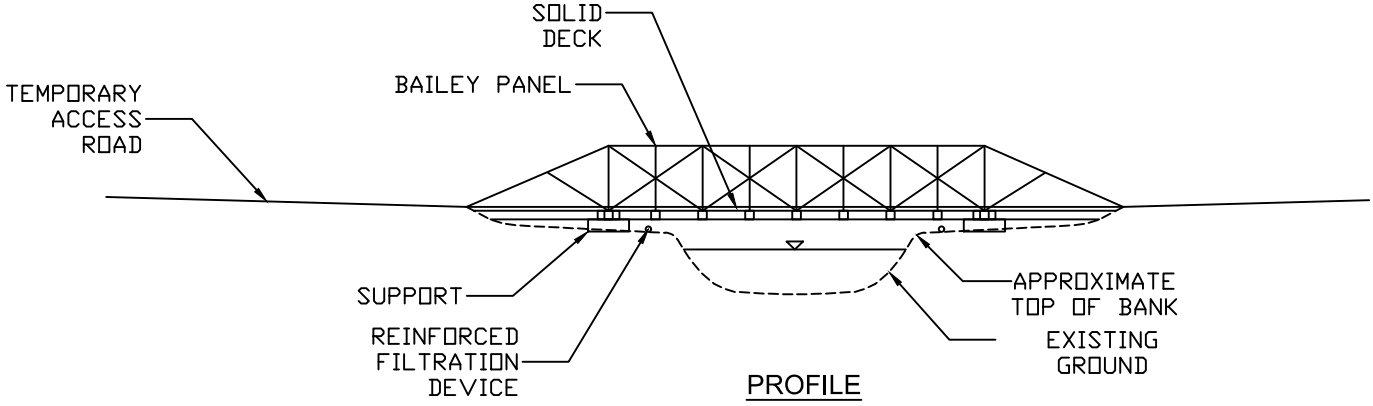
TYPICAL CONSTRUCTION DETAIL

MOBILE BRIDGE

DRAWING NO.	REV.
MVP-SG-49	P1



PLAN VIEW



PROFILE

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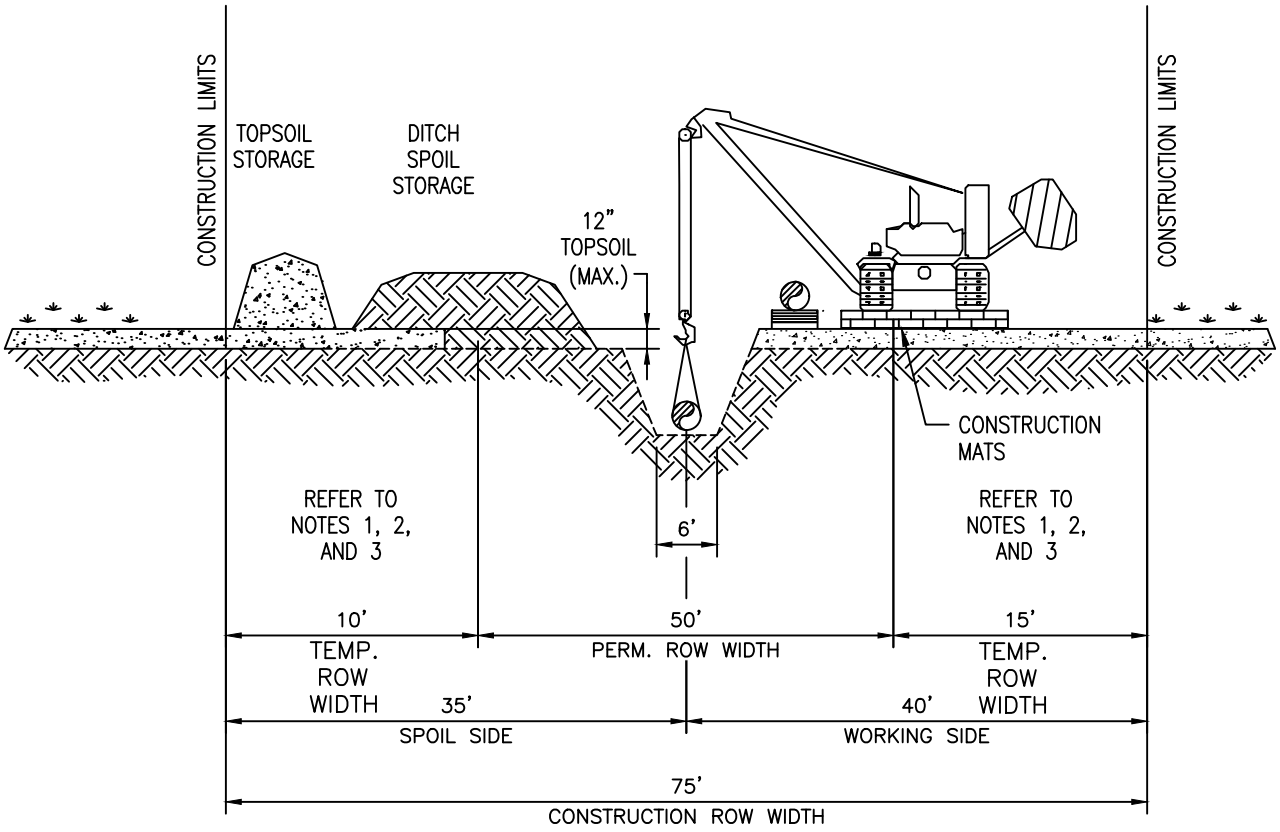
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

MODULAR TEMPORARY BAILEY BRIDGE

DRAWING NO.	REV.
MVP-SG-50	P1



NOTES:

1. TOPSOIL SEGREGATION/REMOVAL WILL ONLY BE CONDUCTED WITHIN THE PERMANENT EASEMENT AT ALL WETLAND CROSSINGS IN VIRGINIA.

2. GRUBBING ACTIVITIES SHALL BE LIMITED TO THE PERMANENT EASEMENT AT ALL WETLAND CROSSINGS IN VIRGINIA. OUTSIDE OF THE PERMANENT EASEMENT, WETLAND VEGETATION SHALL ONLY BE REMOVED AT OR ABOVE THE GROUND SURFACE. WOODY VEGETATION WITHIN THE TEMPORARY EASEMENT SHALL BE CUT AT GROUND SURFACE WITH THE STUMPS TO REMAIN IN-PLACE.

3. WETLAND CROSSINGS IN VIRGINIA SHALL BE CONDUCTED IN ACCORDANCE WITH NWP12 GENERAL AND NORFOLK DISTRICT REGIONAL CONDITIONS.

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APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

WETLAND CROSSING TYPICAL FOR USACE NORFOLK (VA) DISTRICT

DRAWING NO.	REV.
MVP-SG-53	P1

MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
ENVIRONMENTAL TYPICAL DRAWINGS

DRAWING NO.	DRAWING TITLE	REV.
ENV-TYP	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ENVIRONMENTAL TYPICALS	P1
MVP-SG-ES6	PROPOSED ACCESS ROAD TYPICAL LAYOUT	P1
MVP-SG-ES8	DAM AND PUMP	P1
MVP-SG-ES9.1	BELTED SILT RETENTION FENCE (BSRF)	P1
MVP-SG-ES9.2	SUPER SILT FENCE	P1
MVP-SG-ES9.3	STACKED COMPOST FILTER SOCK DETAIL CROSS SECTION VIEW	P1
MVP-SG-ES13.2	COFFERDAM STREAM CROSSING METHOD	P1
MVP-SG-ES14	WATER DEFLECTOR	P1
MVP-SG-ES17	ROCK FILTER OUTLET	P1
MVP-SG-ES19	WATERBAR	P1
MVP-SG-ES20	ROCK CONSTRUCTION ENTRANCE WITH WASH RACK	P1
MVP-SG-ES25	RIPRAP STREAMBANK PROTECTION WITH OPTIONAL LIVE STAKES	P1
MVP-SG-ES33	GAP GRADED GRAVEL DETAIL FOR MAINLINE VALVE PADS & PERMANENT ACCESS ROADS	P1
MVP-SG-ES34	PROPOSED ACCESS ROAD TYPICAL SECTION	P1

DRAWING NO.	DRAWING TITLE	REV.
MVP-SG-ES35	TRENCH DETAIL	P1
MVP-SG-ES37	TIMBER MAT/WETLAND CROSSING	P1
MVP-SG-ES38	DIVERSION DIKE/WATERBARS WITH COMPOST	P1
MVP-SG-ES42	TYPICAL SUMP FILTER	P1
MVP-SG-ES43	TURBIDITY CURTAIN DETAIL	P1
MVP-SG-ES43.1	TURBIDITY CURTAIN DETAIL	P1
MVP-SG-ES43.2	TURBIDITY CURTAIN DETAIL	P1
MVP-SG-ES43.3	TURBIDITY CURTAIN DETAIL	P1
MVP-SG-ES43.4	TURBIDITY CURTAIN DETAIL	P1
MVP-SG-ES46	TOPSOILING & SOIL HANDLING	P1
MVP-SG-ES46.1	TOPSOILING & SOIL HANDLING	P1
MVP-SG-ES46.2	TOPSOILING & SOIL HANDLING	P1
MVP-SG-ES46.3	TOPSOILING & SOIL HANDLING	P1
MVP-SG-ES49	TIMBER MAT BRIDGE STREAM CROSSING	P1
MVP-SG-ES54	TEMPORARY VEHICLE PULL OFF DETAIL	P1

ISSUED FOR FERC
11/02/18

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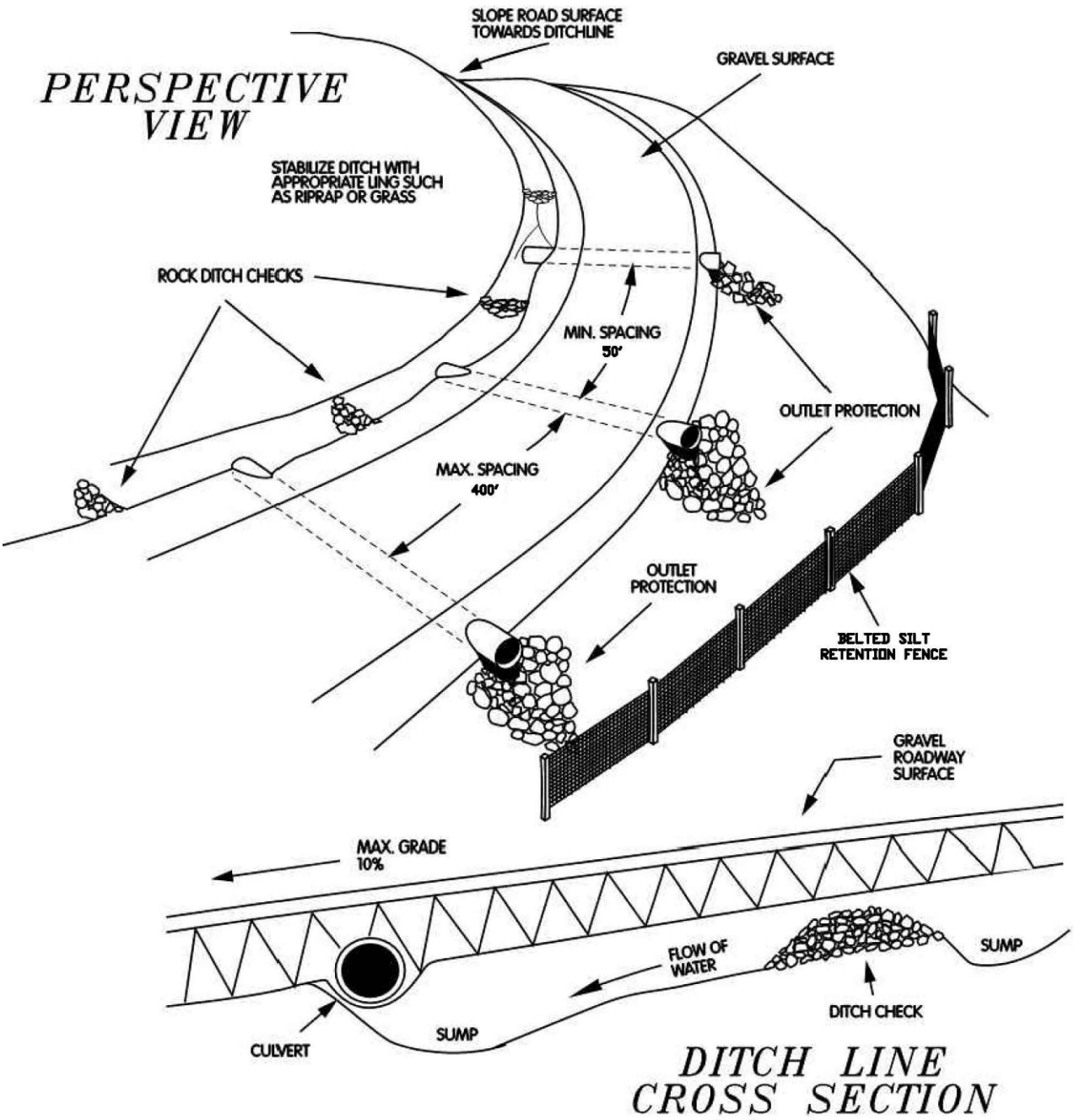
PROJECT ID 300423
DRAWING SCALE NTS

DRAWING TITLE:
MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ENVIRONMENTAL TYPICALS

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
MVP	VA/NC	ENV-TYP	–	2	P1



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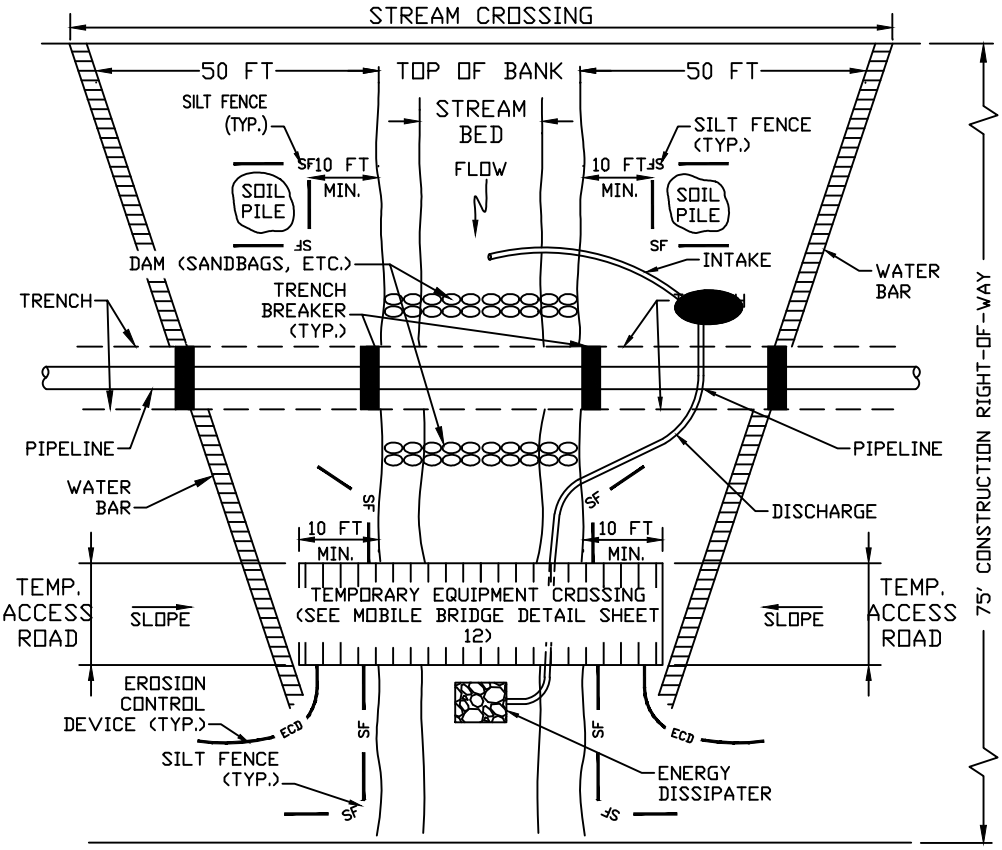
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

PROPOSED ACCESS ROAD
TYPICAL LAYOUT

DRAWING NO.	REV.
MVP-SG-ES6	P1



PLAN VIEW

NOTES:

1. INSTALL EROSION CONTROL DEVICES, TRENCH BREAKERS, PUMP, ENERGY DISSIPATER, AND DAMS BEFORE TRENCHING STREAM.
2. PUMP MUST BE OF SUFFICIENT CAPACITY TO CONVEY NORMAL AND/OR EXISTING STREAM FLOW OVER TRENCH. A BACK-UP PUMP OF EQUAL CAPACITY MUST BE AVAILABLE ON-SITE DURING CONSTRUCTION OF THE PIPELINE CROSSING. PUMPS WILL BE PLACED WITHIN SECONDARY CONTAINMENT.
3. PLACE SOIL PILES A MINIMUM OF 10 FEET FROM TOP OF BANK.
4. INSTALL WATER BARS AT APPROACHES TO STREAM CROSSING AND EROSION CONTROL DEVICES, SILT FENCE, OR SUPER SILT FENCE (AS INDICATED ON PLAN SHEETS).
5. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
6. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.
7. RESTORE AREA TO ORIGINAL CONTOURS.

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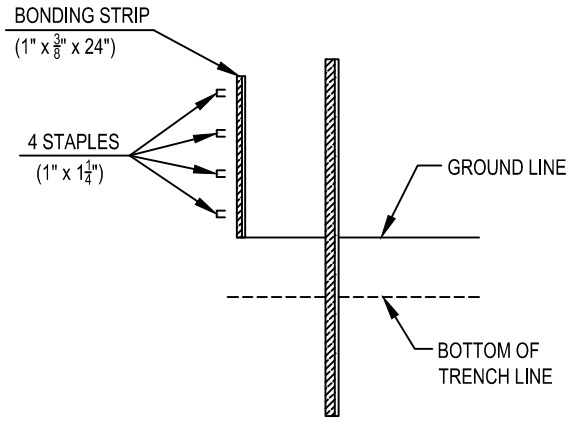
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

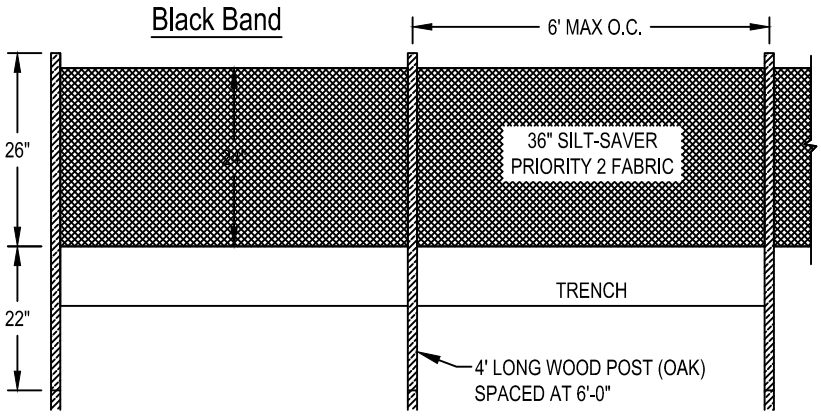
STREAM CROSSING
DAM AND PUMP

DRAWING NO.	REV.
MVP-SG-ES8	P1



POST (OAK)

(1-3/4" X 1-1/4" X 48")



FRONT ELEVATION

PRIORITY 2

TAKEN FROM SILT-SAVER, INC OR EQUAL

NOTES:

THE TYPE OF REINFORCED FILTRATION DEVICE (PRIORITY 1 OR PRIORITY 2) WILL BE SELECTED BASED ON FIELD CONDITIONS DURING CONSTRUCTION

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JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

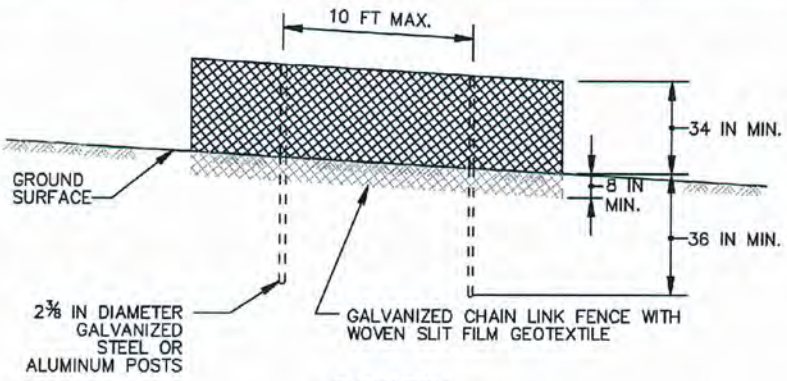
BELTED SILT RETENTION FENCE (BSRF)

DRAWING NO.	REV.
MVP-SG-ES9.1	P1

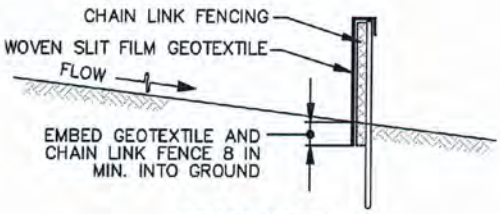
DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL

—SSF—



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

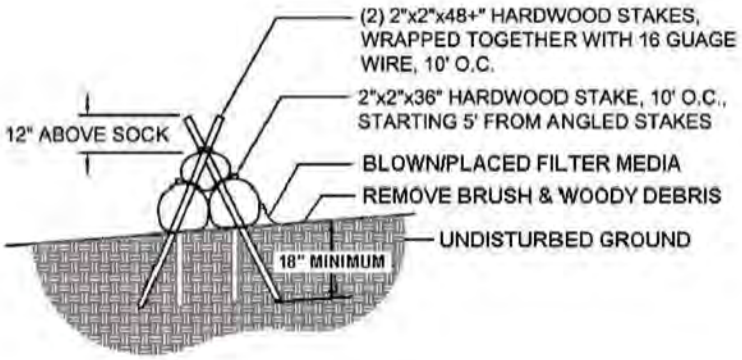
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

TYPICAL CONSTRUCTION DETAIL

SUPER SILT FENCE

DRAWING NO.	REV.
MVP-SG-ES9.2	P1



NOTES:

THE TYPE OF REINFORCED FILTRATION DEVICE (PRIORITY 1 OR PRIORITY 2) WILL BE SELECTED BASED ON FIELD CONDITIONS DURING CONSTRUCTION

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

STACKED COMPOST FILTER SOCK
DETAIL CROSS SECTION VIEW

DRAWING NO.	REV.
MVP-SG-ES9.3	P1

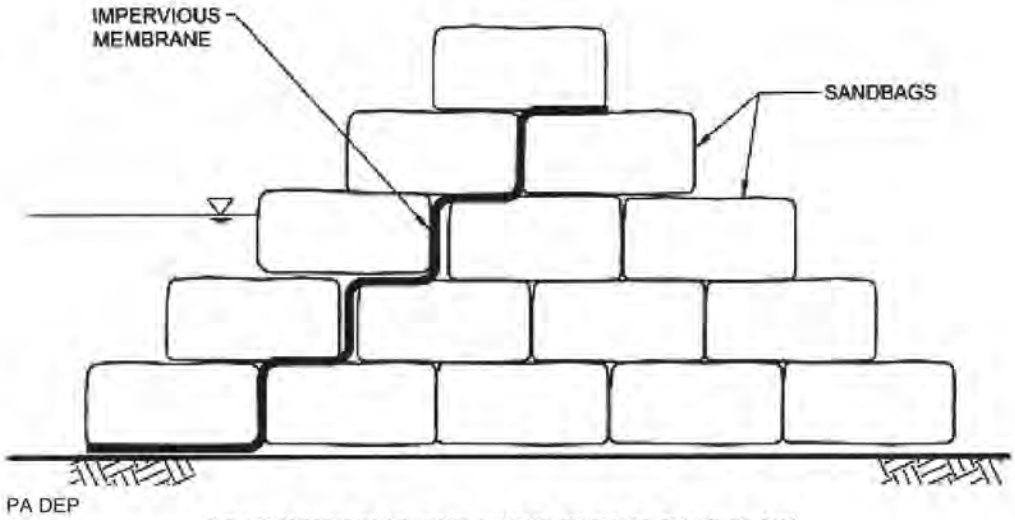
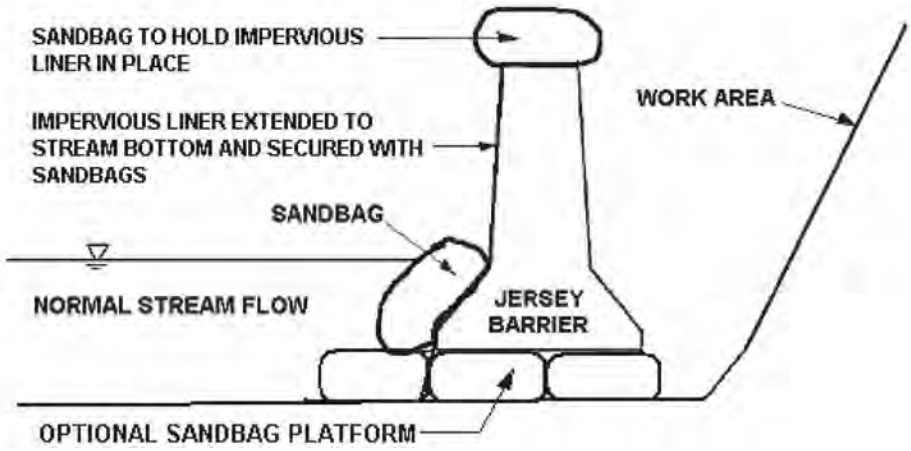


FIGURE 3.13
Jersey Barrier Cofferdam – End View



NOTES: AT NO TIME, SHOULD MORE THE 60% OF THE STREAM CHANNEL WIDTH BE DIVERTED DURING PIPELINE INSTALLATION.

GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION. TRENCH BREAKERS SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL (MVP TYPICAL DETAIL MVP-20). WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY RECEIVING SURFACE WATER.
HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAMBANK. ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE STREAM CROSSING AREA.
ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

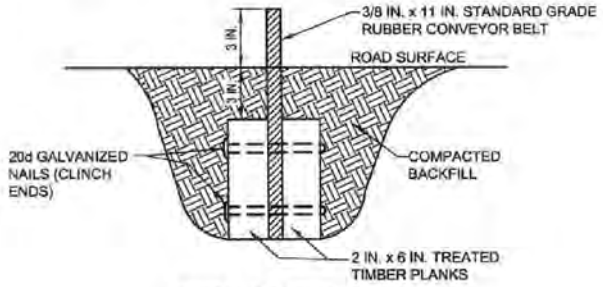
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

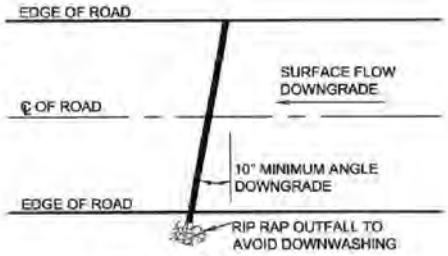
COFFERDAM STREAM CROSSING METHOD

DRAWING NO.	REV.
MVP-SG-ES13.2	P1

STANDARD CONSTRUCTION DETAIL
Water Deflector



TYPICAL CROSS-SECTION



TYPICAL PLAN VIEW

USDA Forest Service

Deflector shall be inspected weekly and after each runoff event.

Accumulated sediment shall be removed from deflector within 24 hours of inspection.

Belt shall be replaced when worn and no longer effective.

Deflectors may be used to direct runoff from an access road to a well-vegetated area or sediment removal facility.

A deflector is typically constructed from rubber belting ranging from 5/16" to 1/2" thick held between two 2" x 6" wooden planks.

This method of directing runoff from an access road works best on low traffic roads. deflectors can be used on roads with grades exceeding 10%.

Table III Spacing of Broad-Based Dips

Road Grade (%)	Distance Between Dams (Ft)
2	300
3	235
4	200
5	180
6	165
7	155
8	150
9	145
10	140

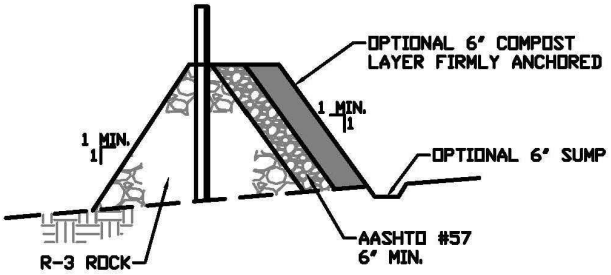
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

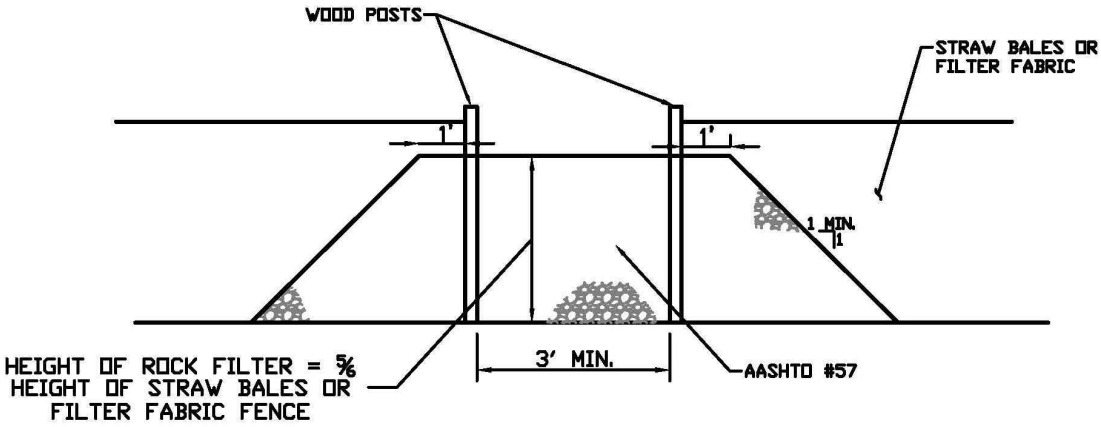
ENVIRONMENTAL DETAIL

WATER DEFLECTOR

DRAWING NO.	REV.
MVP-SG-ES14	P1



OUTLET CROSS SECTION



UP-SLOPE FACE

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

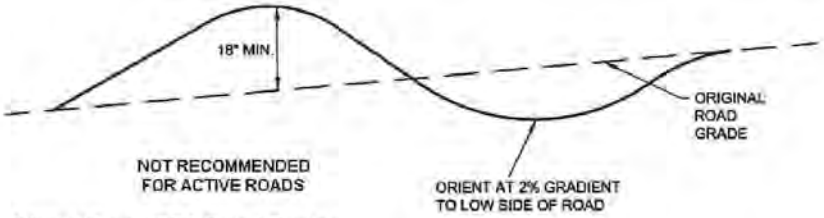
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

ROCK FILTER OUTLET

DRAWING NO.	REV.
MVP-SG-ES17	P1

STANDARD CONSTRUCTION DETAIL #3-5
Waterbar



Adapted from USDA Forest Service

Waterbars shall discharge to a stable area.

Waterbars shall be inspected weekly (daily on active roads) and after each runoff event. Damaged or eroded waterbars shall be restored to original dimensions within 24 hours of inspection.

Maintenance of waterbars shall be provided until roadway, skidtrail, or right-of-way has achieved permanent stabilization.

Waterbars on retired roadways, skidtrails, and right-of-ways shall be left in place after permanent stabilization has been achieved.

TABLE 3.1 – Maximum Waterbar Spacing

PERCENT SLOPE	SPACING (FT)
<5	250
5 - 15	150
15 - 30	100
> 30	50

Adapted from USDA Forest Service

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

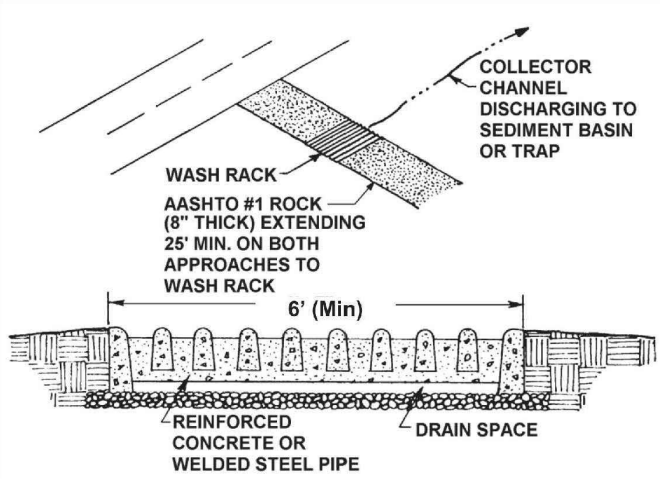
ENVIRONMENTAL DETAIL

WATERBAR

DRAWING NO. MVP-SG-ES19

REV. P1

Rock Construction Entrance with Wash Rack



Modified from Smith Cattleguard Company

IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 70 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK.

Wash rack shall be 20 feet (min.) wide or total width of access.

Wash rack shall be designed and constructed to accommodate anticipated construction vehicular traffic.

A water supply shall be made available to wash the wheels of all vehicles exiting the site.

MAINTENANCE: Rock construction entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material shall be maintained on site for this purpose. Drain space under wash rack shall be kept open at all times. Damage to the wash rack shall be repaired prior to further use of the rack. All sediment deposited on roadways shall be removed and returned to the construction site immediately. Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable.

A metal wash rack or livestock grate is an acceptable alternative to the reinforced concrete one shown in the standard detail. Approaches to the wash rack should be lined with aashto #1 at a minimum of 25' on both sides. The wash rack should discharge to a sediment removal facility, such as a vegetated filter strip or into a channel leading to a sediment removal device (e.g. a sediment trap or sediment basin). Rock construction entrances with wash racks should be maintained to the specified dimensions by adding rock when necessary at the end of each workday. A stockpile of rock material should be maintained on site for this purpose. Sediment deposited on paved roadways should be removed and returned to the construction site.

NOTE: Washing the roadway or sweeping the deposits into roadway ditches, sewers, culverts, or other drainage courses is not acceptable. Damaged wash racks should be repaired as necessary to maintain their effectiveness. In lieu of washrack installation, MVP will extend the RCE by 70' increments until mud tracking condition is alleviated.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

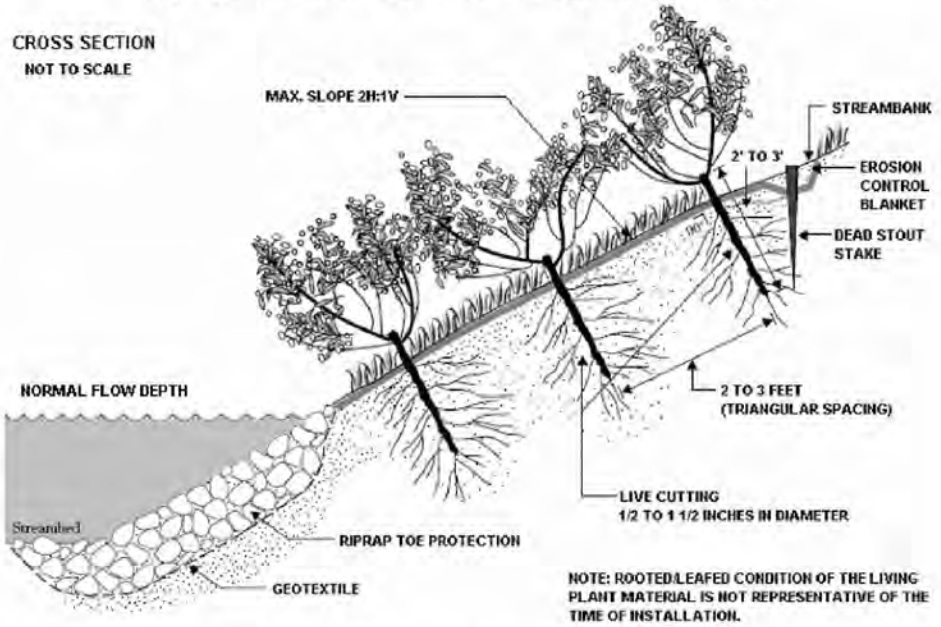
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

ROCK CONSTRUCTION ENTRANCE WITH WASH RACK

DRAWING NO.	REV.
MVP-SG-ES20	P1

Riprap Streambank Protection with Optional Live Stakes



Adapted from USDA NRCS, *Engineering Field Handbook*, Chapter 16

Filter stone may be substituted for the geotextile where site and soil conditions warrant.

NOTE: Extend riprap into streambed only as far as required to provide proper toe support.

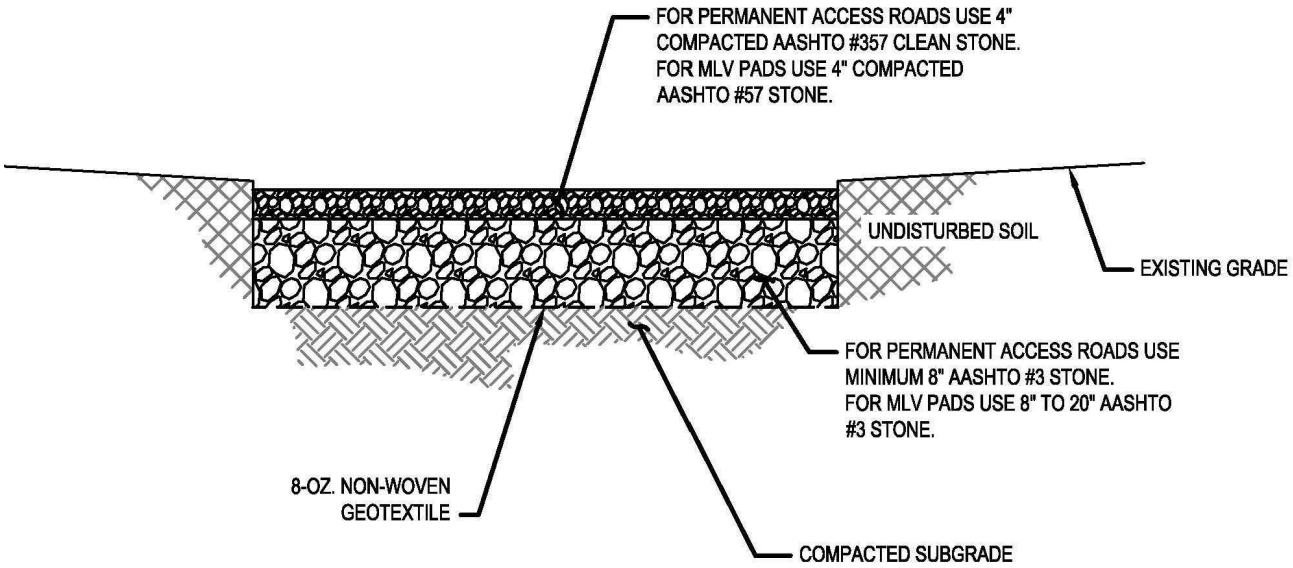
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

RIPRAP STREAMBANK PROTECTION WITH OPTIONAL LIVE STAKES

DRAWING NO.	REV.
MVP-SG-ES25	P1



NOTES:

1. THICKNESS OF AASHTO #3 STONE/AGGREGATE LAYER FOR MLV PADS TO BE BETWEEN 8" AND 20" DEPENDING ON THE STORAGE VOLUME NEEDED TO MEET STORMWATER QUANTITY REQUIREMENTS.
2. THICKNESS OF ASSHTO #3 STONE/AGGREGATE LAYER FOR ACCESS ROADS TO BE A MINUMUM OF 8" OR MORE AS DIRECTED.
3. COMPACT SUBGRADE PRIOR TO BACKFILL PLACEMENT. FOR BACKFILL, A MIN. 95% COMPACTION (ASTM D 698) IS REQUIRED.
4. UNSUITABLE MATERIAL SHALL BE REMOVED PRIOR TO SUBGRADE COMPACTION AND BACKFILL PLACEMENT. ADDITIONAL SUBGRADE COMPACTION NOT REQUIRED FOR MLV PADS.

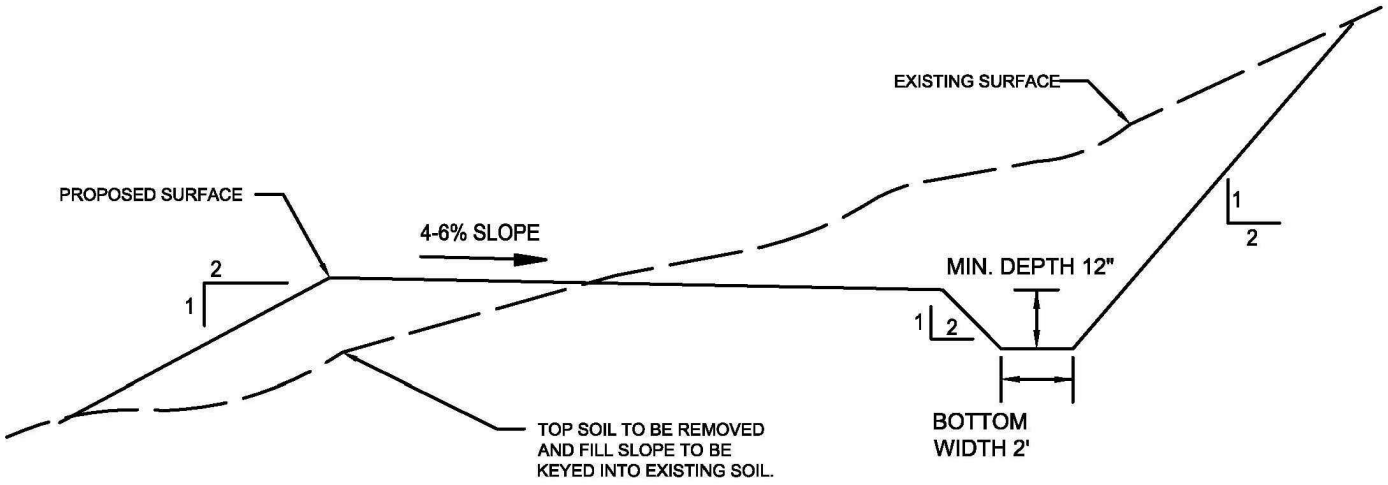
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

GAP GRADED GRAVEL DETAIL FOR MAINLINE VALVE PADS & PERMANENT ACCESS ROADS

DRAWING NO.	REV.
MVP-SG-ES33	P1



NOTE:

1. INSLOPE WITH DITCH SECTION FOR USE ON STEEP SLOPE AND AREAS WITH POOR SOILS.

2. EROSION CONTROL MATTING TO BE INSTALLED ON CUT AND FILL SLOPES STEEPER THAN 3H:1V. SLOPES LESS THAN 3H:1V WILL BE MULCHED PER MVP-ES45 TO MVP-ES45.5.

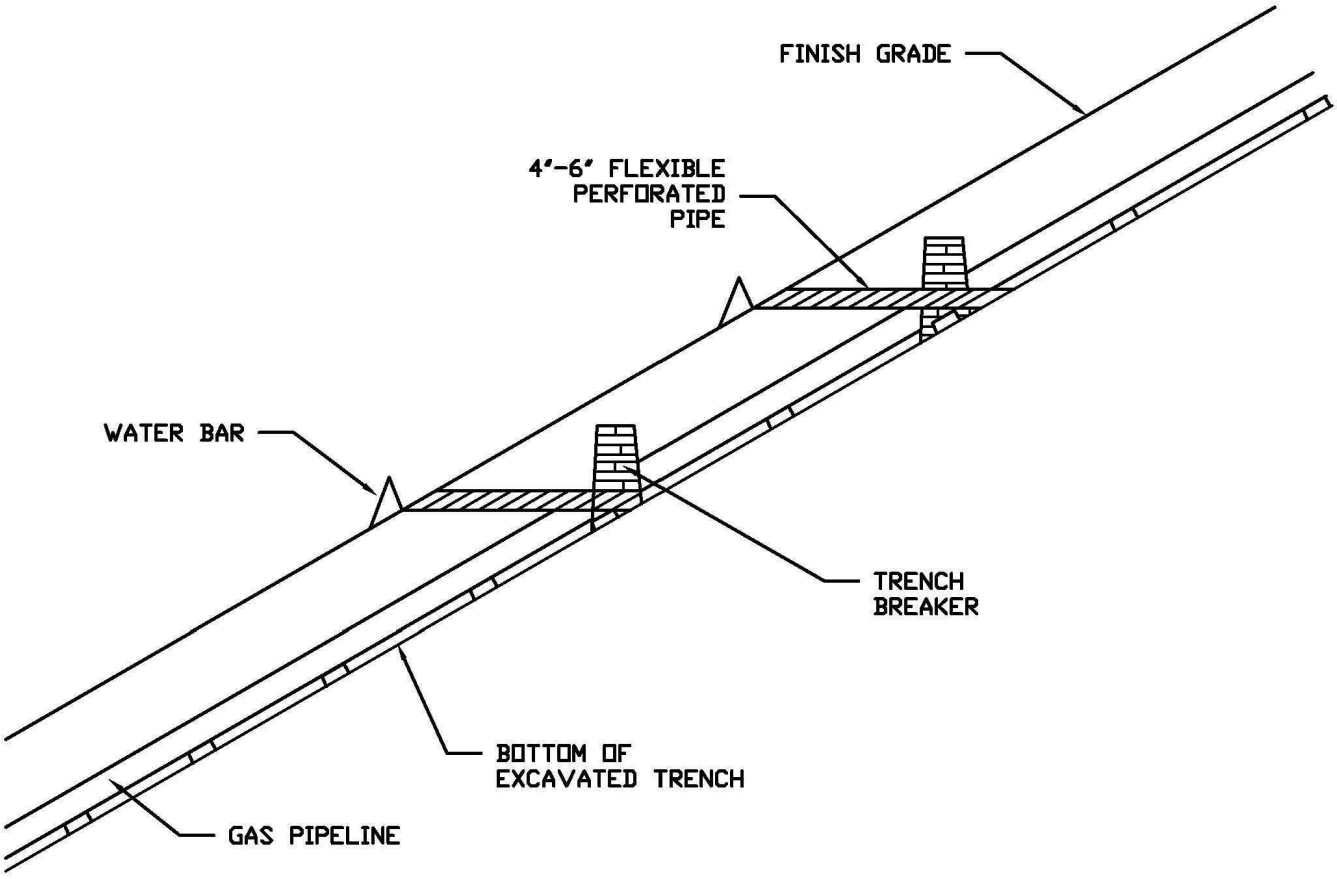
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

PROPOSED ACCESS ROAD
TYPICAL SECTION

DRAWING NO.	REV.
MVP-SG-ES34	P1



NOTE:

4"-6" FLEXIBLE PERFORATED PIPE TO BE INSTALLED AT TRENCH BREAKERS ON STEEP SLOPES TO DRAIN SUBSURFACE WATER INTO WATER BARS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

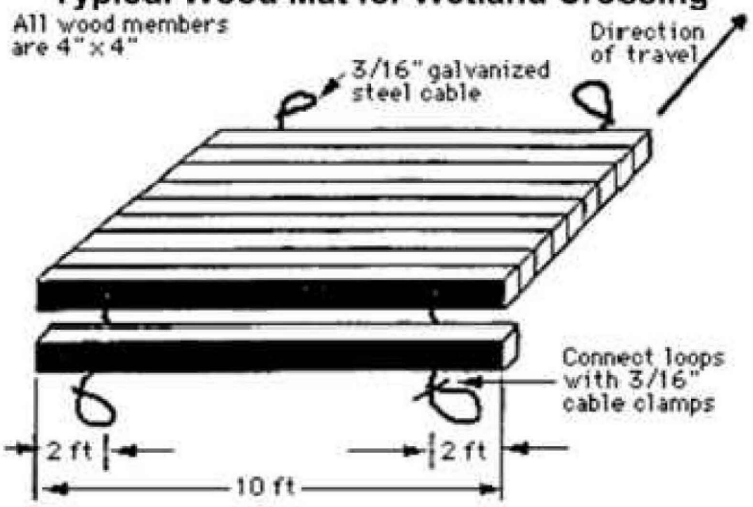
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TRENCH DETAIL

DRAWING NO.	REV.
MVP-SG-ES35	P1

Typical Wood Mat for Wetland Crossing



University of Minnesota FS 07009

A geotextile underlayment shall be used under the wood mat.

Source: PaDEP, E&S Pollution Control Manual, March 2012

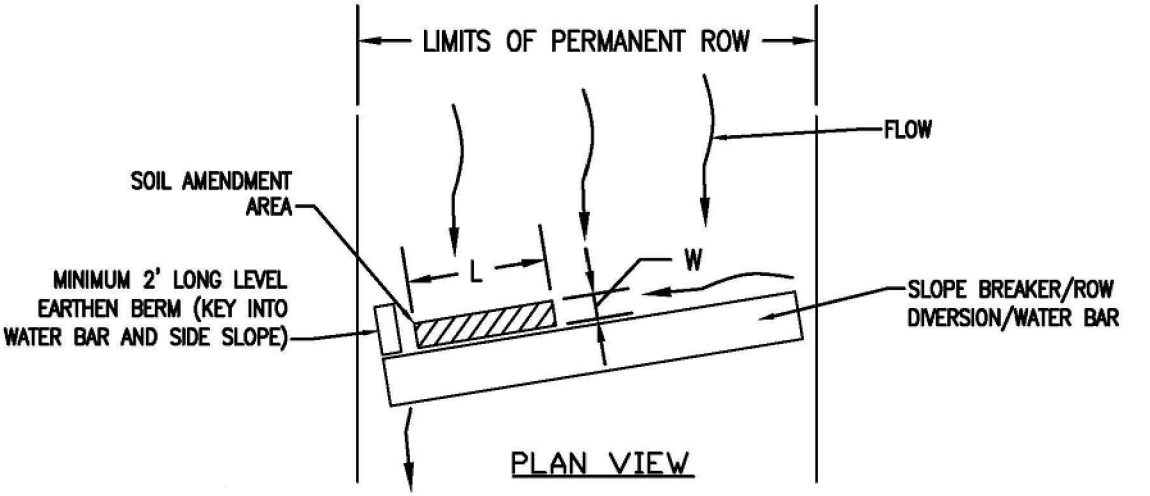
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

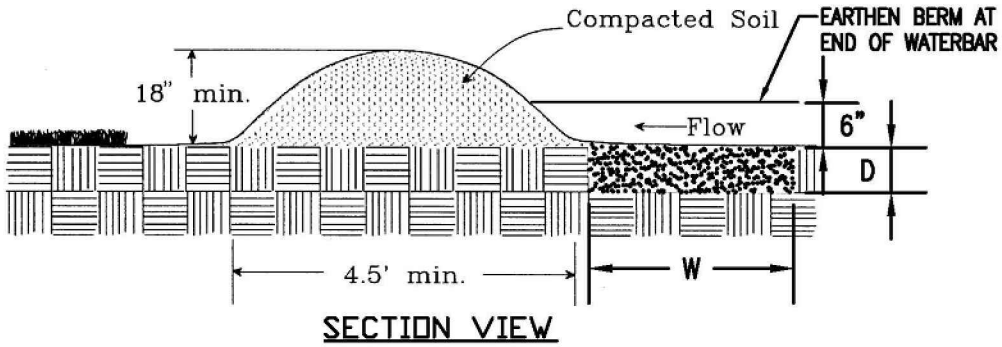
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TIMBER MAT/WETLAND CROSSING

DRAWING NO.	REV.
MVP-SG-ES37	P1





NOTES

1. WIDTH "W" OF SOIL AMENDMENT PER PERMANENT DIVERSION DIKE/WATERBAR WITH SOIL AMENDMENT SCHEDULE.
2. THE INCORPORATION DEPTH "D" IS ASSUMED TO BE 1 FT PER TABLE 4.3 IN VA DEQ STORMWATER DESIGN SPEC #4. AN INCORPORATION DEPTH OF 2 FT IS USED IN CASES WHERE ADDITIONAL STORAGE CAPACITY IS NEEDED IN ORDER TO MEET WATER QUANTITY REQUIREMENTS.
3. DEVELOPED FROM VA. DSWC PLATE 3.09-1.
4. SEE SHEET 0.7, TEMPORARY RIGHT OF WAY DIVERSION/WATERBAR ADDITIONAL DETAILS FOR PLAN VIEW.

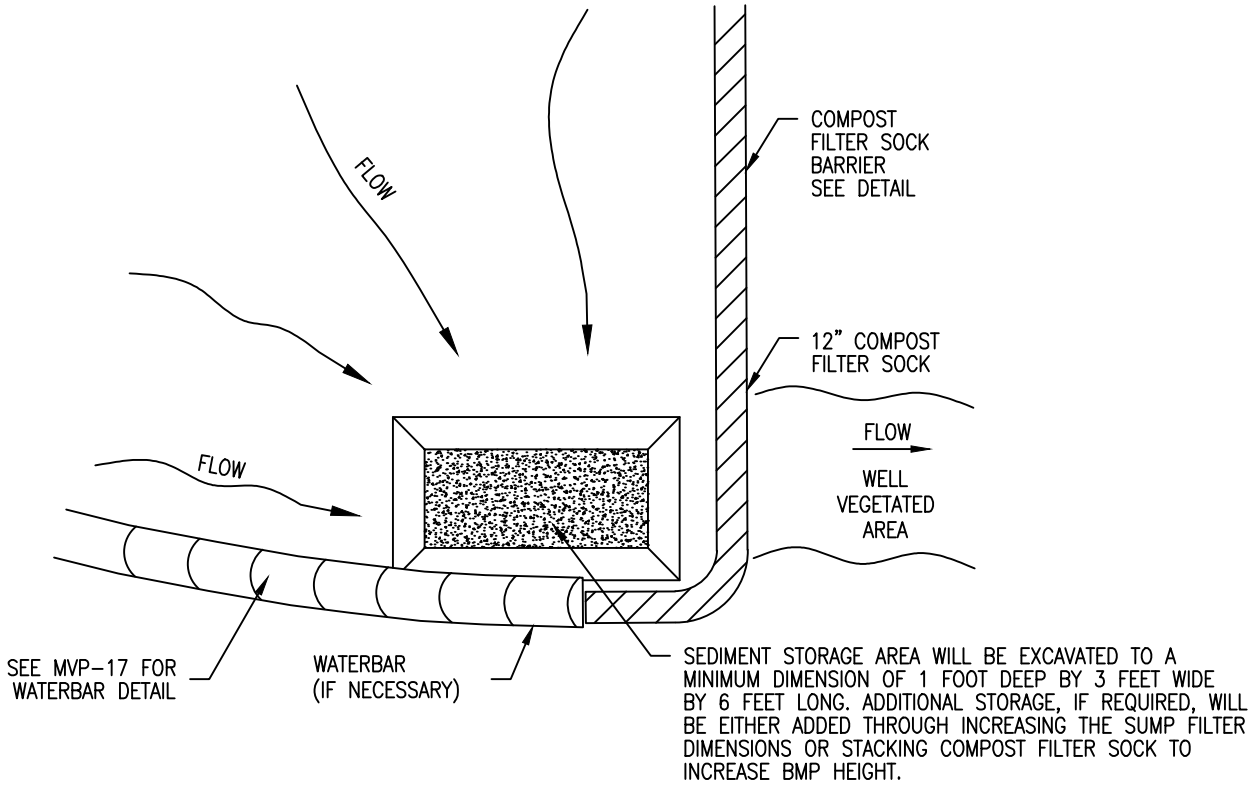
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

DIVERSION DIKE/WATERBARS WITH COMPOST

DRAWING NO.	REV.
MVP-SG-ES38	P1



NOTES:

1. SUMP FILTER MAY BE USED IN CONJUNCTION WITH TEMPORARY WATERBAR (AS DIRECTED BY OWNER REPRESENTATIVE).
2. SUMP FILTER SHALL BE LOCATED ENTIRELY WITHIN THE LIMITS OF DISTURBANCE.
3. BMP SHOULD BE CHECKED EVERY 4 BUSINESS DAYS FOR SEDIMENT ACCUMULATION, PROPER OPERATION, AND COMPOST FILTER SOCK INTEGRITY.
4. ADDITIONAL COMPOST FILTER SOCKS MAY BE NECESSARY BEYOND WHAT IS SHOWN ON DETAIL TO MEET INTENDED BMP REQUIREMENTS.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

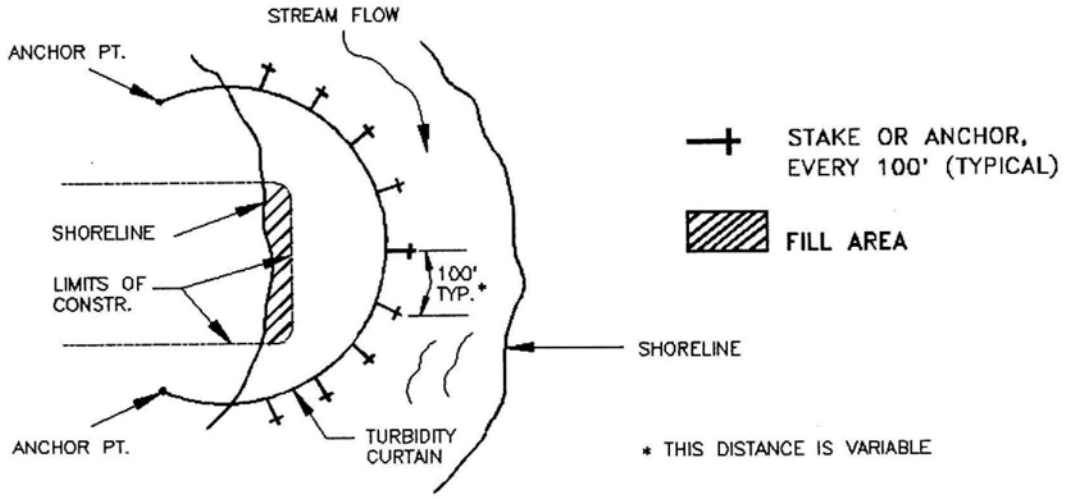
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

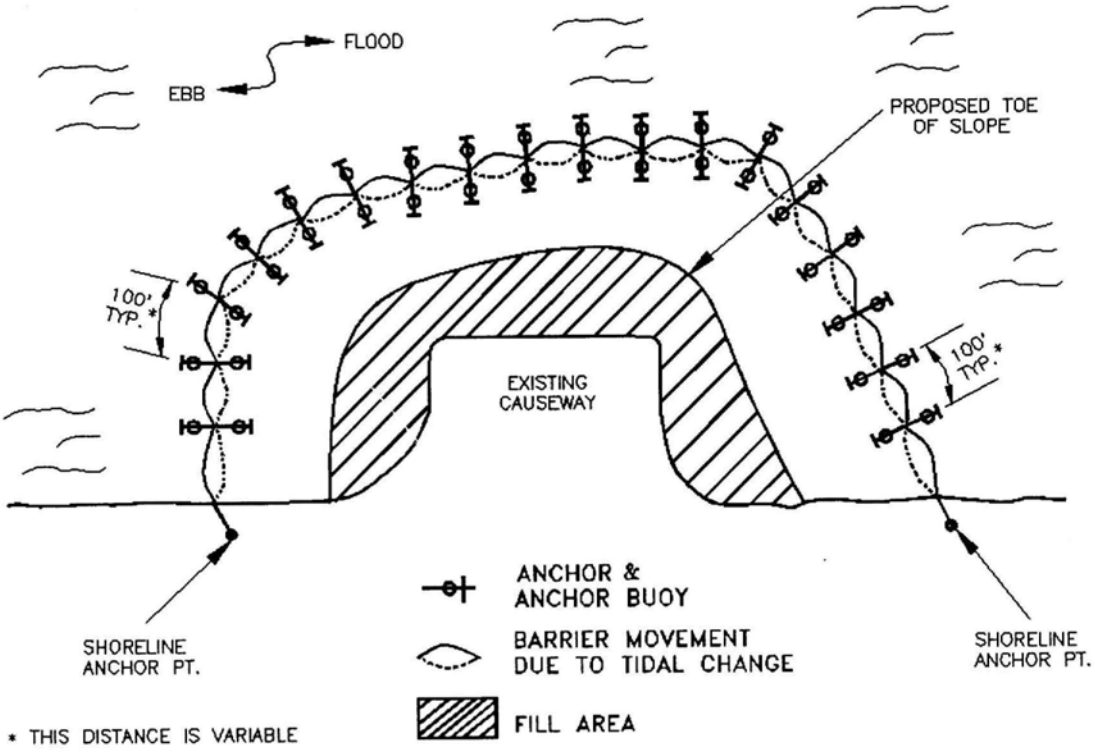
TYPICAL SUMP FILTER

DRAWING NO.	REV.
MVP-SG-ES42	P1

TYPICAL LAYOUTS:
STREAMS, PONDS & LAKES (PROTECTED & NON-TIDAL)



TIDAL WATERS AND/OR HEAVY WIND & WAVE ACTION



DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

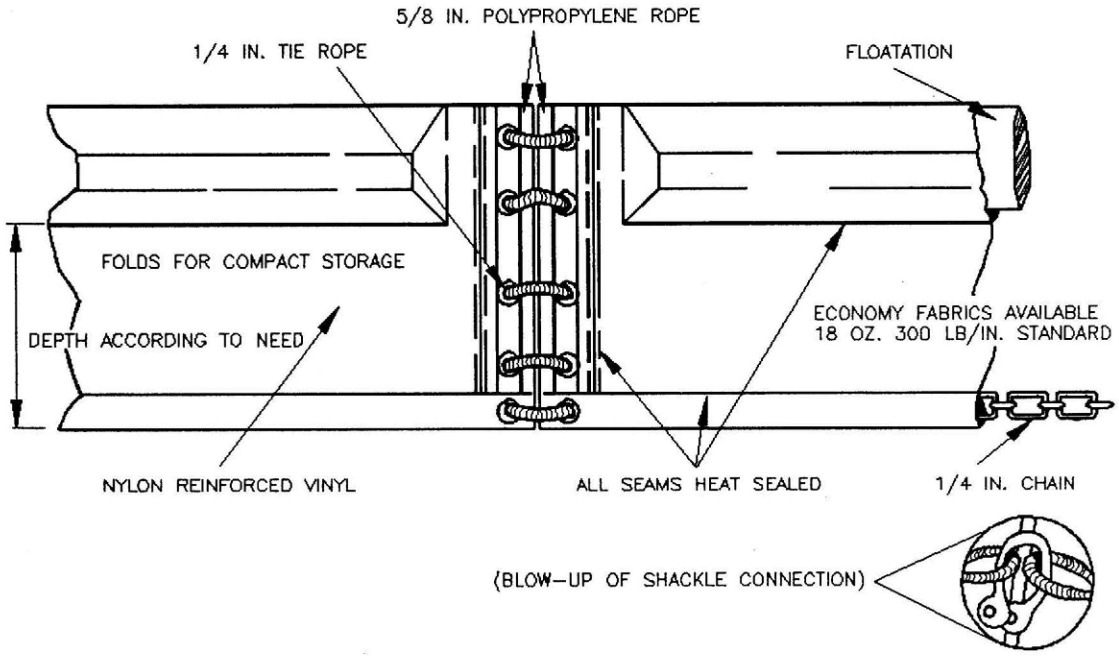
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TURBIDITY CURTAIN DETAIL

DRAWING NO.	REV.
MVP-SG-ES43	P1

TYPE I



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CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

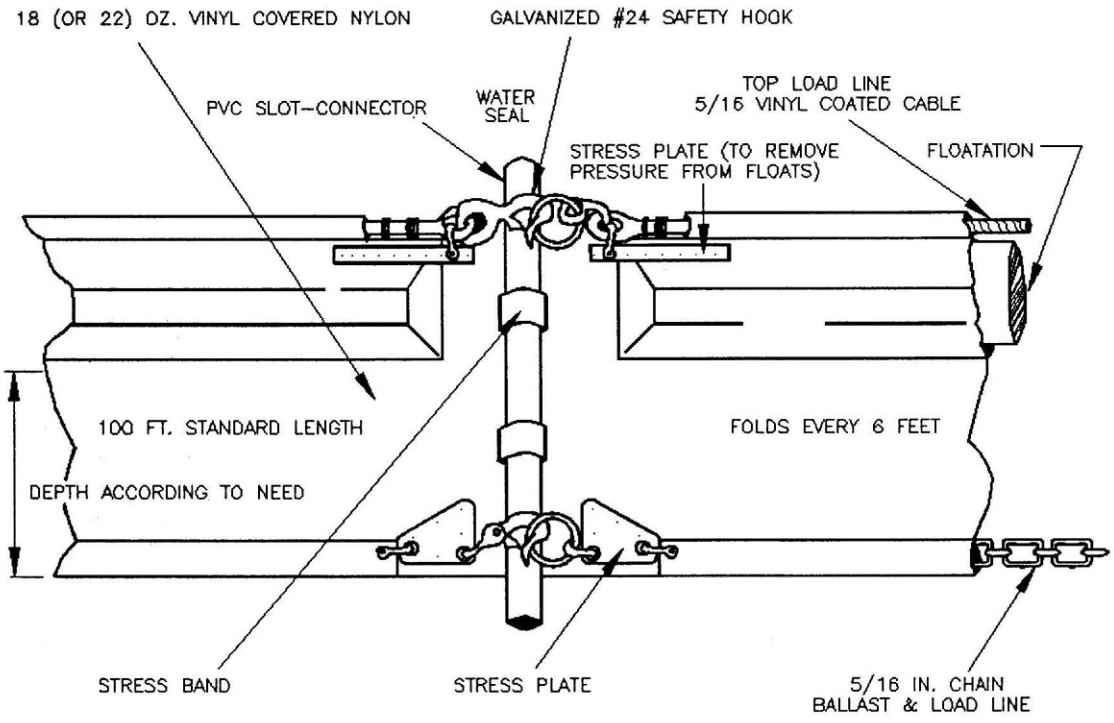
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TURBIDITY CURTAIN DETAIL

DRAWING NO.	REV.
MVP-SG-ES43.1	P1

TYPE II



DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

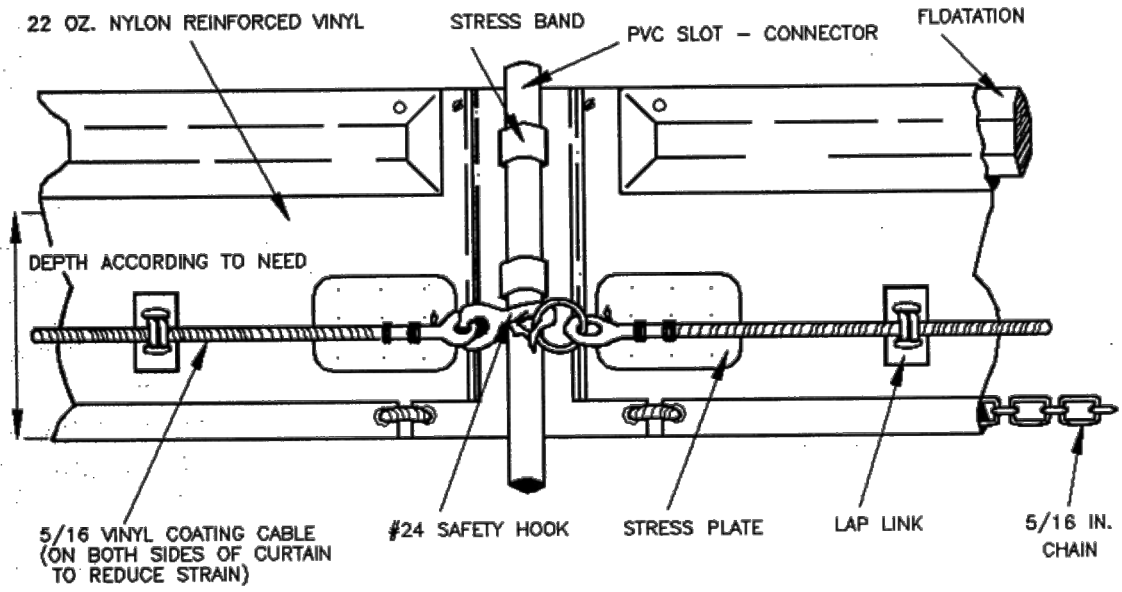
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TURBIDITY CURTAIN DETAIL

DRAWING NO.	REV.
MVP-SG-ES43.2	P1

TYPE III



DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

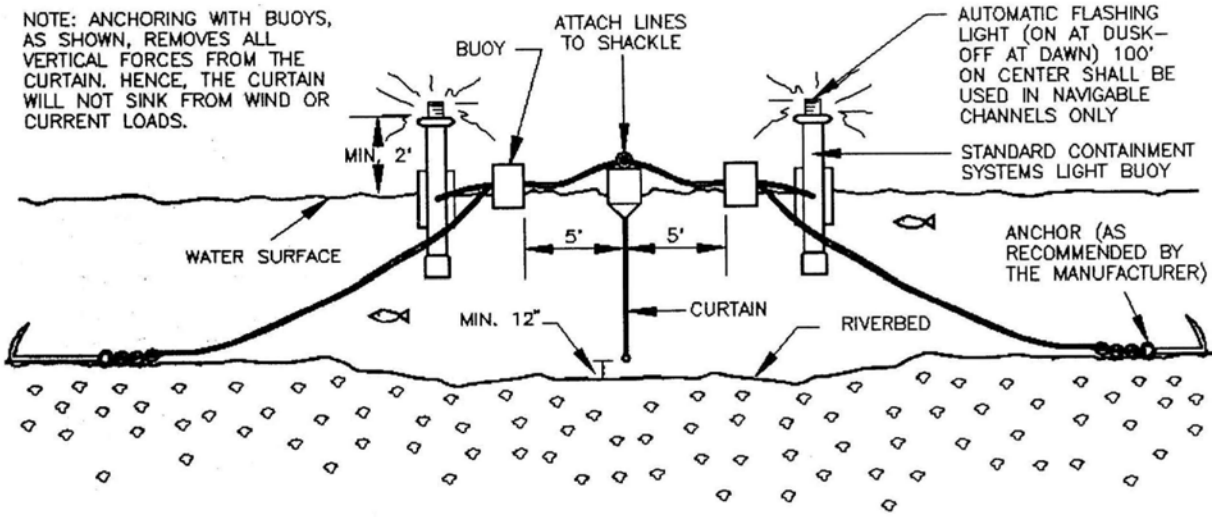
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TURBIDITY CURTAIN DETAIL

DRAWING NO.	REV.
MVP-SG-ES43.3	P1

ORIENTATION WHEN INSTALLED
(TIDAL SITUATION – TYPE III)



DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H–650–TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TURBIDITY CURTAIN DETAIL

DRAWING NO.	REV.
MVP–SG–ES43.4	P1

TOPSOILING AND SOIL HANDLING FROM SOUTHGATE

Definition

Methods of preserving and using the surface layer of undisturbed soil, often enriched in organic matter, in order to obtain a more desirable planting and growth medium.

Purposes

To provide a suitable growth medium for final site stabilization with vegetation and promote successful reforestation.

Conditions Where Practice Applies

1. Where the preservation or importation of topsoil is determined to be the most effective method of providing a suitable growth medium.

2. Where the subsoil or existing soil presents the following problems:
   a. The texture, pH, or nutrient balance of the available soil cannot be modified by reasonable means to provide an adequate growth medium.
   b. The soil material is too shallow to provide an adequate root zone and to supply necessary moisture and nutrients for plant growth.
   c. The soil contains substances potentially toxic to plant growth.

3. Only on slopes that are 2:1 or flatter unless other measures are taken to prevent erosion and sloughing.

Planning Considerations

Topsoil is the surface layer of the soil profile, generally characterized as being darker than the subsoil due to the presence of organic matter. It is the major zone of root development, carrying much of the nutrients available to plants, and supplying a large share of the water used by plants.

Although topsoil provides an excellent growth medium, there are disadvantages to its use. Stripping, stockpiling, and reapplying topsoil, or importing topsoil, may not always be cost-effective. Topsoiling can delay seeding or sodding operations, increasing the exposure time of denuded areas. Most topsoil contains weed seeds, and weeds may compete with desirable species.

Advantages of topsoil include its high organic matter content and friable consistence, water-holding capacity, and nutrient content.

In site planning, the option of topsoiling should be compared with that of preparing a seedbed in subsoil. The clay content of subsoils does provide high moisture availability and deter leaching of nutrients and, when properly limed and fertilized, subsoils may provide a good growth medium which is generally free

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

ENVIRONMENTAL DETAIL

TOPSOILING & SOIL HANDLING

DRAWING NO.	REV.
MVP-SG-ES46	P1

of weed seeds. In many cases topsoiling may not be required for the establishment of less demanding, lower maintenance plant material. Topsoiling is strongly recommended where ornamental plants or high-maintenance turf will be grown. Topsoiling is a required procedure when establishing vegetation on shallow soils, soils containing potentially toxic materials, and soils of critically low pH (high acid) levels.

If topsoiling is to be done, the following items should be considered:

1. Whether an adequate volume of topsoil exists on the site. Topsoil will be spread at a compacted depth of 2 to 4 inches (depths closer to 4 inches are preferred).

2. Location of the topsoil stockpile so that it meets specifications and does not interfere with work on the site.

3. Allow sufficient time in scheduling for topsoil to be spread and bonded prior to seeding or planting.

4. Care must be taken not to apply topsoil to subsoil if the two soils have contrasting textures. Clayey topsoil over sandy subsoil is a particularly poor combination, as water may creep along the junction between the soil layers, causing the topsoil to slough. Sandy topsoil over a clay subsoil is equally as likely to fail.

5. If topsoil and subsoil are not properly bonded, water will not infiltrate the soil profile evenly and it will be difficult to establish vegetation. Topsoiling of steep slopes should be discouraged unless good bonding of soils can be achieved.

Specifications

Materials

Field exploration of the site shall be made to determine if there is sufficient surface soil of good quality to justify stripping. Topsoil shall be friable and loamy (loam, sandy loam, silt loam, sandy clay loam, clay loam). It shall be free of debris, trash, stumps, rocks, roots, and noxious weeds, and shall give evidence of being able to support healthy vegetation. It shall contain no substance that is potentially toxic to plant growth.

In areas where revegetation is of concern based on existing soil conditions and determined by the MVP Environmental Inspector (EI), topsoil samples shall be taken for analysis. Samples will be collected by the MVP EI and sent to a recognized laboratory for analysis of the following criteria:

Organic matter content shall be not less than 1.5% by weight.

pH range shall be from 6.0-7.5. If pH is less than 6.0, lime shall be added in accordance with soil test results or in accordance with the recommendations of the vegetative establishment practice being used.

Soluble salts shall not exceed 500 ppm.

Soil samples collected and sent for analysis will be identified by the MVP Constructions Spread # and pipeline station from which the sample was obtained. Areas that fail to revegetate following restoration will be sampled and analyzed based on the above parameters.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TOPSOILING & SOIL HANDLING

DRAWING NO.	REV.
MVP-SG-ES46.1	P1

Topsoil Importing

Topsoil would be imported as needed in residential areas only. If additional off-site topsoil is needed, it must meet the standards stated above.

Stripping

Topsoil operations should not be performed when the soil is wet or frozen. Stripping shall be confined to the immediate construction area. A 4-to 6-inch stripping depth is common, but depth may vary depending on the particular soil. All perimeter dikes, basins, and other sediment controls shall be in place prior to stripping.

Stockpiling

Topsoil shall be stockpiled in such a manner that natural drainage is not obstructed and no off-site sediment damage shall result. Stabilize or protect stockpiles in accordance with MS #2.

Excavated subsoil shall be stockpiled separately from topsoil.

Side slopes of the stockpile shall not exceed 2:1.

Perimeter controls must be placed around the stockpile immediately; seeding of stockpiles shall be completed within 7 days of the formation of the stockpile, in accordance with Std. & Spec. 3.31, TEMPORARY SEEDING if it is to remain dormant for longer than 14 days (refer to MS #1 and MS #2).

Site Preparation Prior to and Maintenance During Topsoiling and Excavation

Before topsoiling or excavation, establish needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, level spreaders, waterways, sediment basins, etc. These practices must be maintained during topsoiling and excavation.

Grading: Previously established grades on the areas to be topsoiled shall be maintained according to the approved plan.

Liming: Where the pH of the subsoil is 6.0 or less, or the soil is composed of heavy clays, agricultural limestone shall be spread in accordance with the soil test or the vegetative establishment practice being used.

Bonding: After the areas to be topsoiled have been brought to grade, and immediately prior to dumping and spreading the topsoil, the subgrade shall be loosened by disking or scarifying to a depth of at least 4-6 inches to ensure bonding of the topsoil and subsoil. Refer to 2.8.3 Soil Compaction Mitigation within the Project Standards and Specifications for additional information.

Applying Topsoil

Topsoil shall not be placed while in a frozen or muddy condition, when topsoil or subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or seeding. The topsoil shall be uniformly distributed to a minimum compacted depth of 2 inches on 3:1 or steeper slopes and 4 inches on flatter slopes or to mimic existing conditions present in the adjacent undisturbed areas. (See Table 3.30-A to determine volume of topsoil required for application to various depths). Any irregularities in the surface, resulting from topsoiling or other operations, shall be corrected in order to prevent the formation of depressions or water pockets.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			

H-650-TYP

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TOPSOILING & SOIL HANDLING

DRAWING NO.	REV.
MVP-SG-ES46.2	P1

Once the topsoil has been applied to the subgrade the topsoil should be disked and raked. Excess rock will be removed from at least the top 12 inches of soil to the extent practicable in all cultivated or rotated cropland, managed pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing. Refer to Standards and Specifications Section 2.8 Final Grading for additional information.

TABLE 3.30-A

CUBIC YARDS OF TOPSOIL REQUIRED FOR APPLICATION TO VARIOUS DEPTHS

DEPTH (INCHES)	PER 1,000 (SQUARE FEET)	PER ACRE
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

SOURCE: Va. DSWC

Soil Sterilants

No seed shall be placed on soil which has been treated with soil sterilants until sufficient time has elapsed to permit dissipation of toxic materials.

Special Soil Related Requirements for Working in Wetlands

Norfolk District 2017 Nationwide Permit Regional Conditions, dated March 20, 2017 (subject to revision in Spring of 2017), NWP 12 – Utility Line Activities items 3.b.iii, 5.a, and 5.b require the following:

1. Minimizing clearing of wetlands. Grubbing shall be limited to the permanent easement for underground utility lines. Outside of the permanent easement, wetland vegetation shall only be removed at or above the ground surface unless written justification is provided and the impacts are reviewed and approved by the Corps.

2. Whenever practicable, excavated material shall be placed on a Corps confirmed upland site. However, when this is not practicable, temporary stockpiling is hereby authorized provided that:

   a. All excavated material stockpiled in a vegetated wetland area is placed on filter cloth, mats, or some other semi-permeable surface. The material will be stabilized with straw bales, filter cloth, etc. to prevent reentry into any waterway.

   b. All excavated material must be placed back into the trench to the original contour and all excess excavated material must be completely removed from the wetlands within 30 days after the pipeline has been laid through the wetland areas. Permission must be granted by the District Commander or his authorized representatives if the material is to be stockpiled longer than 30 days.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			

H-650-TYP

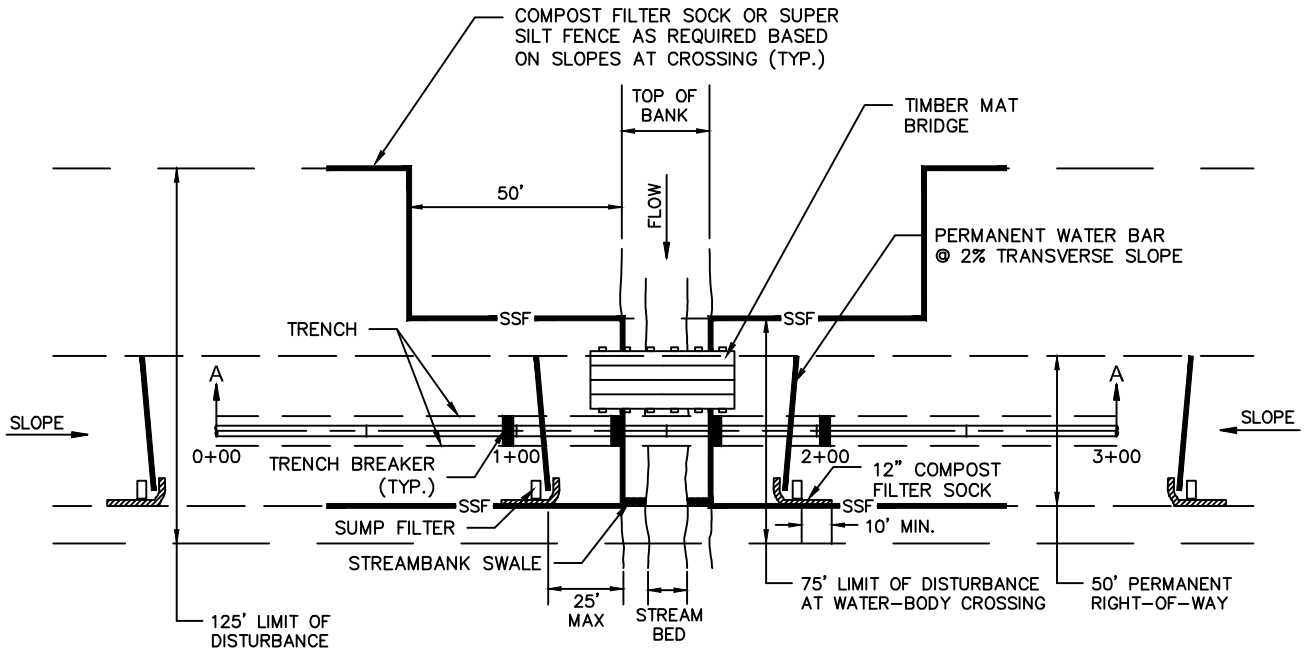
Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

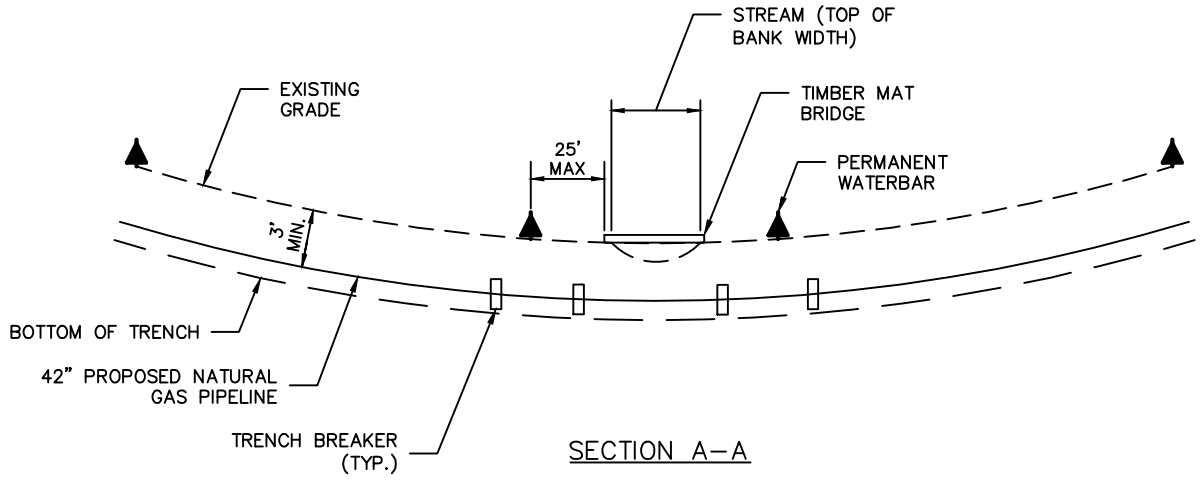
TOPSOILING & SOIL HANDLING

DRAWING NO. MVP-SG-ES46.3

REV. P1



PLAN



SECTION A–A

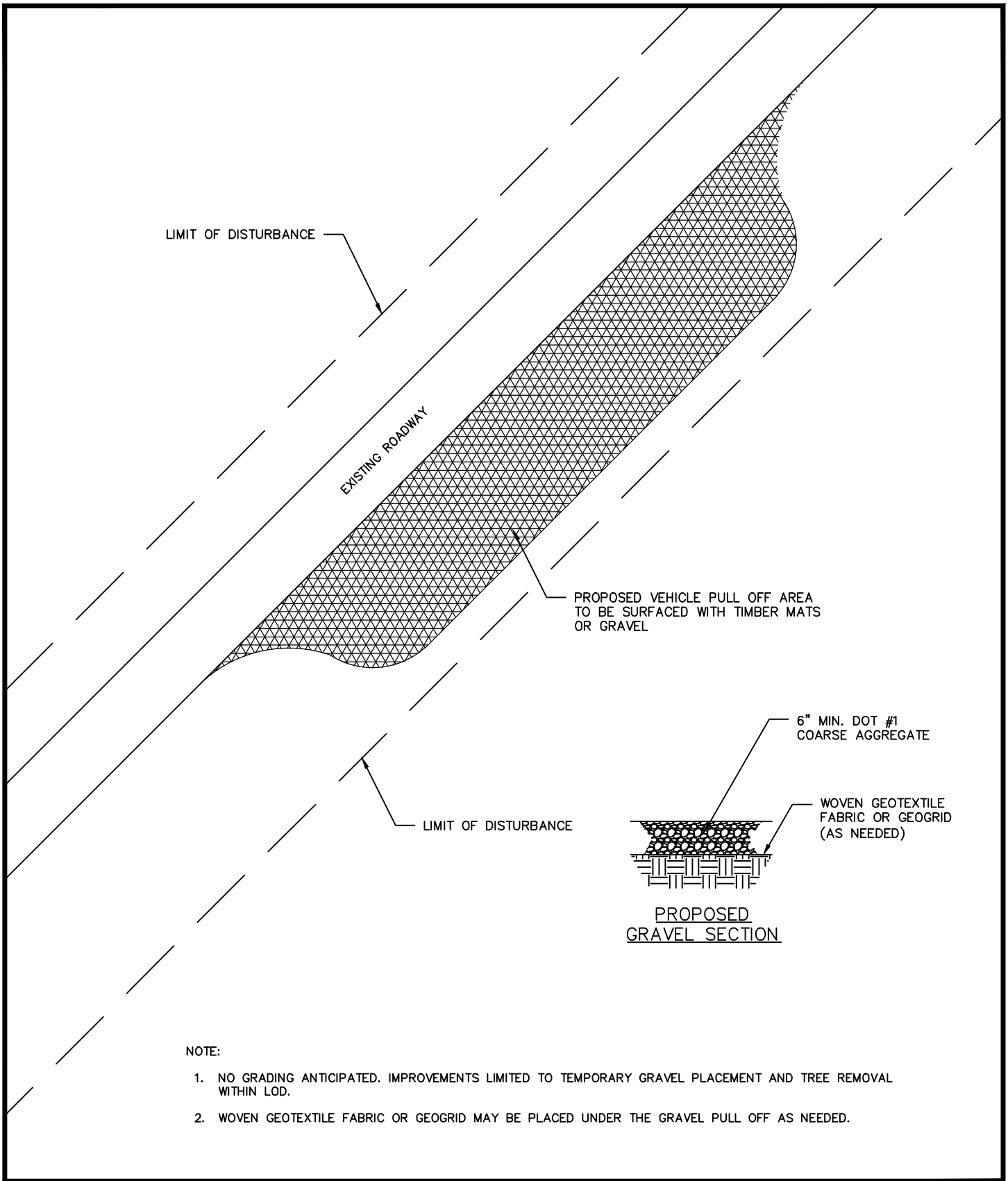
DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H–650–TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TIMBER MAT BRIDGE
STREAM CROSSING

DRAWING NO.	REV.
MVP–SG–ES49	P1



NOTE:

1. NO GRADING ANTICIPATED. IMPROVEMENTS LIMITED TO TEMPORARY GRAVEL PLACEMENT AND TREE REMOVAL WITHIN LOD.
2. WOVEN GEOTEXTILE FABRIC OR GEOGRID MAY BE PLACED UNDER THE GRAVEL PULL OFF AS NEEDED.

DRAWN	TRC	DATE	8/7/2018
CHECKED	XXX	DATE	X/X/2018
APP'D	XXX	DATE	X/X/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID: H-650-TYP			

Mountain Valley PIPELINE LLC

ENVIRONMENTAL DETAIL

TEMPORARY VEHICLE PULL OFF DETAIL

DRAWING NO.	REV.
MVP-SG-ES54	P1

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-C2

Plot Plans

(CUI//CEII, Critical Energy/Electric Infrastructure Information, Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-C3

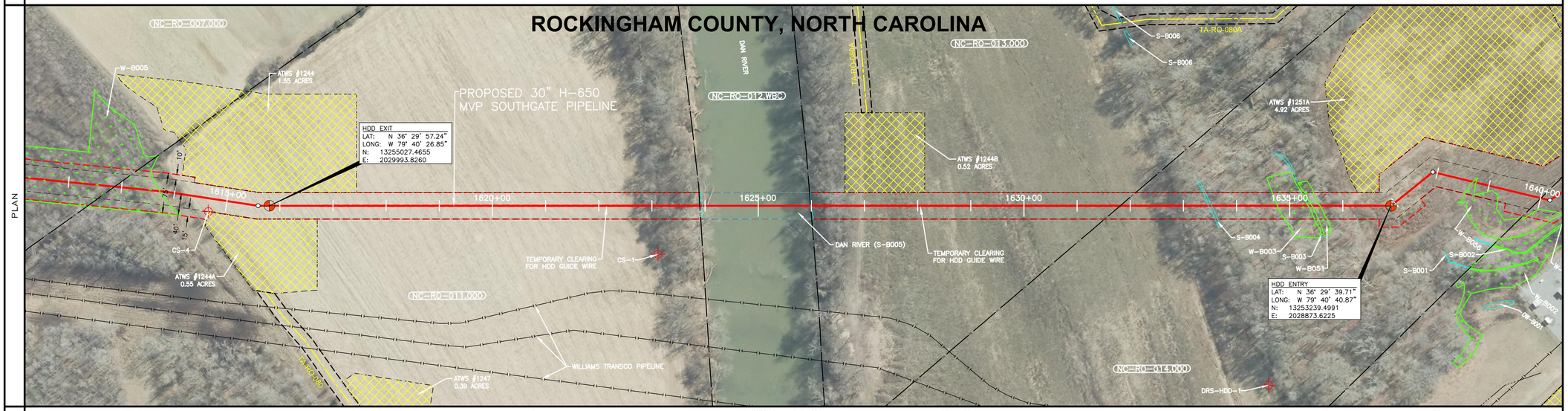
Horizontal Directional Drill Site-Specific Plans

PIPE STATIONING

1615+80 HDD EXIT POINT
1623+90 PROPERTY LINE
1623+95 BEGIN DAN RIVER (S-B005)
1625+00 CL DAN RIVER (S-B005)
1625+99 PROPERTY LINE
1626+00 END DAN RIVER (S-B005)
1631+81 PROPERTY LINE
1633+47 BEGIN STREAM (S-B004)
1633+53 END STREAM (S-B004)
1634+77 BEGIN WETLAND (W-B003)
1635+35 END WETLAND (W-B003)
1635+35 BEGIN STREAM (S-B003)
1635+42 END STREAM (S-B003)
1635+47 BEGIN WETLAND (W-B051)
1635+57 END WETLAND (W-B051)
1636+90 HDD ENTRY POINT

PLAN

ROCKINGHAM COUNTY, NORTH CAROLINA



CS-4
1. CLAY – 3–5–7
2. SAND – 2–4–4; 1–1–2; 1–3–2; 3–3–1; 7–20–25
3. SHALE – 50/4"
4. SANDSTONE – 26–38–50/5"
5. SHALE – 50/5"
6. SANDSTONE – 96% 0%; 77% 42%; 98% 78%; 97% 78%; 97% 80%; 93% 62%; 97% 75%
7. SILTSTONE – 93% 33%; 80% 57%
8. SILTSTONE/SANDSTONE – 100% 58%
9. SILTSTONE – 35% 10%; 54% 46%; 92% 40%
10. SANDSTONE – 90% 45%
11. SILTSTONE – 100% 23%; 98% 70%; 100% 33%; 98% 57%; 100% 80%; 97% 80%; 98% 73%
12. SANDSTONE – 100% 75%
13. LIMESTONE – 95% 53%
14. SILTSTONE – 98% 57%
15. SILTSTONE/SANDSTONE – 100% 87%
16. SILTSTONE – 100% 88%
17. SANDSTONE – 98% 68%; 100% 100%

GROUNDWATER 20FT BELOW SURFACE, RECOVERY RANGED FROM 35–100%.

CS-1
1. SAND – 2–2–3; 4–2–3
2. SILT – 1–1–1; 1–1–2; WOH; WOH–1–2
3. SAND – WOH–1–1
4. SANDSTONE – 10–50/3"; 50/5"; 50/2"; 100% 85%; 100% 57%; 100% 77%; 95% 93%; 100% 73%; 100% 100%; 100% 93%; 95% 82%
5. SANDSTONE/SHALE – 100% 70%
6. SILTSTONE – 100% 58%
7. SANDSTONE – 100% 75%
8. SILTSTONE – 100% 62%
9. SANDSTONE – 100% 92%; 98% 63%; 100% 85%
10. SHALE – 95% 87%
11. SILTSTONE – 100% 87%
12. SILTSTONE/SANDSTONE/LIMESTONE – 100% 93%
13. SILTSTONE – 100% 78%; 100% 90%
14. SANDSTONE – 100% 85%; 100% 93%
15. LIMESTONE – 93% 77%
16. SILTSTONE – 100% 75%
17. SANDSTONE – 95% 63%; 97% 57%
18. LIMESTONE – 100% 93%
19. SANDSTONE – 100% 68%

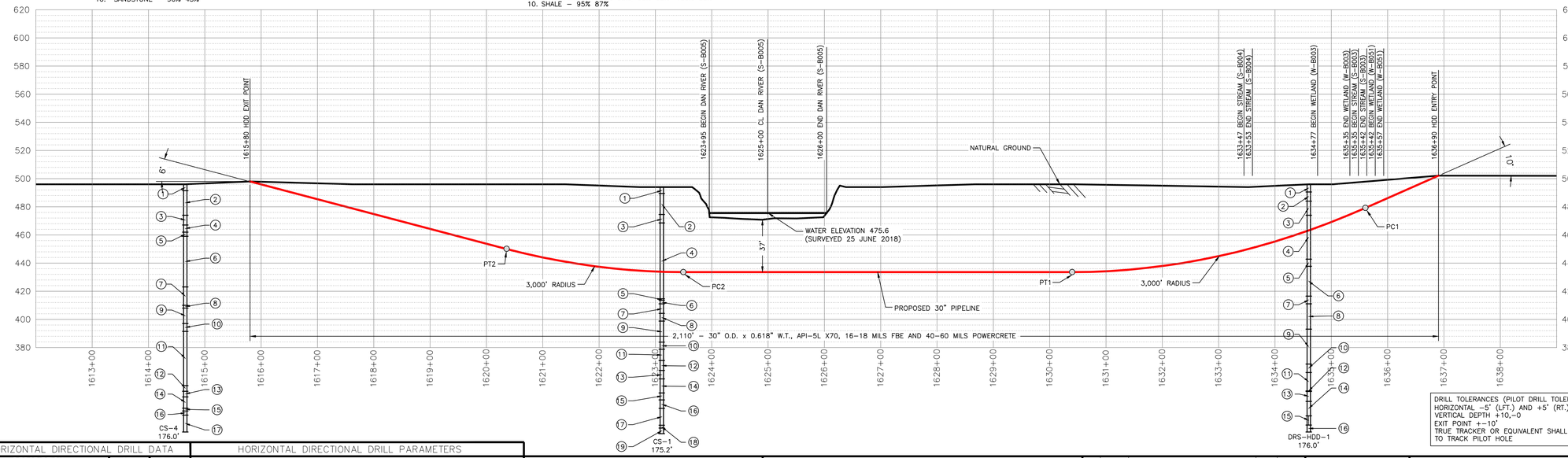
GROUNDWATER AT 20FT BELOW SURFACE, RECOVERY RANGED FROM 93–100% AS SHOWN IN THE LOG OF TEST BORING.

DRS-HDD-1
1. CLAY – 2–3–4; 2–4–6
2. SAND – 4–5–7; 3–3–3
3. SILT – 1–2–2; 15–40–39
4. WEATHERD BEDROCK – 50/5"; 50/3"; 50/4"; 50/2"; 50/4", 50/2"
5. SILTSTONE – 85% 41%; 100% 53%
6. SANDSTONE – 100% 92%; 100% 92%; 100% 88%; 100% 67%
7. MUDSTONE – 100% 25%
8. SILTSTONE – 100% 73%; 100% 58%; 100% 78%; 100% 83%
9. SANDSTONE – 100% 100%; 100% 100%; 100% 100%; 100% 73%; 100% 95%
10. MUDSTONE – 100% 100%
11. SANDSTONE – 100% 100%; 100% 100%
12. SANDSTONE/MUDSTONE/SANDSTONE – 100% 88%
13. SANDSTONE – 100% 53%
14. MUDSTONE – 100% 65%; 100% 63%
15. SANDSTONE/MUDSTONE/SANDSTONE – 100% 86%
16. MUDSTONE – 100% 61%

GROUNDWATER 18–22FT BGS

NOTES:
1. SOILS SHOWN WITH BLOW COUNT.
2. ROCK FORMATIONS SHOWN WITH RECOVERY % FOLLOWED BY RQD %

PROFILE



DRILL TOLERANCES (PILOT DRILL TOLERANCE)
HORIZONTAL –5' (LFT.) AND +5' (RT.)
VERTICAL DEPTH +10,–0
EXIT POINT +–10'
TRUE TRACKER OR EQUIVALENT SHALL BE USED TO TRACK PILOT HOLE

HORIZONTAL DIRECTIONAL DRILL DATA

DESCRIPTION	STA.	ELEV.
ENTRY ANGLE @ 10°	1636+90	502.0'
POINT OF CURVATURE (PC1) (3,000 FT. RADIUS)	1635+60	479.2'
POINT OF TANGENCY (PT1)	1630+39	433.6'
POINT OF CURVATURE (PC2) (3,000 FT. RADIUS)	1623+49	433.6'
POINT OF TANGENCY (PT2)	1620+35	450.0'
EXIT ANGLE @ 6°	1615+80	497.9'

HORIZONTAL DIRECTIONAL DRILL PARAMETERS

1.) MAX. OPER. PRESS.: 1440 PSIG

2.) PIPE: 30" O.D. x 0.618" W.T. GRADE: API–5L X70
DESIGN FACTOR: 0.50

3.) PIPE COATING: 16–18 MILS FBE
EXTERNAL COATING: 40–60 MILS POWERCRETE
LENGTH OF CROSSING: 2,110' HORIZONTAL DISTANCE

4.) TYPE OF PIPE JOINT: WELDED X 60' LG.
LENGTH OF PIPE: 2,118 L.F.

REFERENCE DRAWINGS

DWG. NO	DRAWING TITLE
PA-RONC-H-650-09	ALIGNMENT SHEET
H-650-12-CONST	HORIZONTAL DIRECTIONAL DRILL (HDD)

NO.	DATE	REVISION	BY	APPD.
P1	01/10/25	ISSUED FOR FERC	AWF	MLT

PLAN SCALE: 1"=100'
PROFILE (H) SCALE: 1"=100'
PROFILE (V) SCALE: 1"=40'

Mountain Valley PIPELINE, LLC

DRAWN BY:	TRC	DATE:	10/04/18
CHECKED BY:	SJO	DATE:	10/19/18
APPROVED BY:			EPO APPROVAL:

LEGEND:
- HDD ENTRY / EXIT POINTS
- GEOTECH BORE HOLE LOCATIONS

GENERAL NOTES:

1.) IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY ARRANGEMENTS IF TRAFFIC CONTROL PLANS AND/OR RAILROAD REPRESENTATION ARE REQUIRED.

2.) CONTRACTOR TO LOCATE, MARK AND POTHOLE FOREIGN LINES PRIOR TO EXCAVATION (AND MONITOR DURING DRILLING).

3.) CONTRACTOR TO MAT OVER ANY FOREIGN PIPELINES CROSSED WITH DRILLING EQUIPMENT.

4.) LOCATIONS OF EXISTING FACILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO LOCATE AND/OR CONFIRM THE LOCATIONS AND DEPTH OF ALL UTILITIES, PIPELINES OR OTHER OBSTACLES PRIOR TO EXCAVATION.

5.) CONTRACTOR TO SUPPORT EXISTING UTILITIES, PIPELINES AND/OR OTHER FEATURES.

6.) CONTRACTOR TO GRADE EXCAVATION AREA AND RESTORE TO ORIGINAL CONDITIONS.

7.) CONTRACTOR TO CONTACT STATE ONE CALL SYSTEM AT LEAST 72 HOURS PRIOR TO DRILLING.

PHOTOGRAPHY:

2022 FLOWN IMAGERY

PROJECTION SYSTEM:

NAD83 UTM 17N (U.S. SURVEY FEET)

INSTALLATION NOTES:

1.) ACCESS: ALL EQUIPMENT MUST ACCESS THE SITE ALONG THE CONSTRUCTION RIGHT–OF–WAY FROM PUBLIC OR APPROVED PRIVATE ROADS.

2.) WORK SPACE: WORK SPACE LIMITS ARE DEPICTED. CLEARING WILL BE RESTRICTED TO THE WORK SPACES INDICATED AT THE ENTRY AND EXIT POINTS AND PULLBACK MAKE–UP AREA ALONG THE RIGHT–OF–WAY. CLEARING BETWEEN THE ENTRY AND EXIT POINTS IS LIMITED TO THE MINIMUM AMOUNT NECESSARY TO STRING LOCATION WIRES AND INSTALL PUMPS AND PIPING TO OBTAIN WATER (WHERE APPROVED).

3.) WATER SOURCE: DRILL WATER AND PRE–INSTALLATION HYDRO–STATIC TEST WATER SHALL BE OBTAINED FROM AN APPROVED SOURCE.

4.) HYDROSTATIC TEST: ABOVE GROUND PRE–INSTALLATION HYDROSTATIC TEST SHALL BE CONDUCTED IN ACCORDANCE WITH PERMIT REQUIREMENTS. THE CONTRACTOR SHALL DISCHARGE HYDROSTATIC TEST WATER IN ACCORDANCE WITH PROJECT PERMITS.

5.) SPILL–PREVENTION: ALL PUMPS SHALL BE SET IN SECONDARY CONTAINMENT AND IN ACCORDANCE WITH THE SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC). EQUIPMENT AND PUMPS OPERATING WITHIN 100 FEET OF ANY WATER BODY OR WETLAND SHALL BE OPERATED AND REFUELED IN ACCORDANCE WITH THE SPCC PLAN. EQUIPMENT REFUELING AND STORAGE OF HAZARDOUS MATERIALS, FUELS, ETC. SHALL BE CONDUCTED AT LEAST 100 FEET FROM WATER BODIES AND WETLAND. EACH CONSTRUCTION CREW SHALL HAVE ON HAND SUFFICIENT TOOLS AND MATERIALS TO STOP LEAKS AND SUPPLIES OF ABSORBENT AND BARRIER MATERIALS TO ALLOW RAPID CONTAINMENT AND RECOVERY OF SPILLED MATERIALS.

6.) EROSION AND SEDIMENT CONTROL: CONTRACTOR SHALL SUPPLY, INSTALL AND MAINTAIN SEDIMENT CONTROL STRUCTURES IN ACCORDANCE WITH CONTRACT DOCUMENTS. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL STRUCTURES AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

7.) TOPSOIL SHALL BE STRIPPED AS REQUIRED BY PROJECT DOCUMENTS.

8.) INSTALLATION: THE PIPE SECTION FOR THE DRILLED CROSSING SHALL BE MADE UP WITHIN THE RIGHT–OF–WAY AT THE DRILL EXIT POINT AS SHOWN, AND THE DRILL RIG SHALL PULL THE PIPE STRING INTO THE BORE HOLE FROM THE ENTRY POINT. CONTRACTOR SHALL ASSESS THE NEED FOR AND SUPPLY APPROPRIATE BALLAST DURING PULLBACK.

9.) MUD DISPOSAL: CONTRACTOR SHALL DISPOSE OF EXCESS DRILLING MUD AS DIRECTED BY THE COMPANY REPRESENTATIVE IN ACCORDANCE WITH PERMIT CONDITIONS. UNDER NO CIRCUMSTANCES SHALL DRILLING FLUID BE DISPOSED OF IN WATER BODIES OR WETLANDS. ANY DRILLING MUD WHICH INADVERTENTLY EXISTS AT POINTS OTHER THAN THE ENTRY AND EXIT POINTS SHALL BE CONTAINED AND COLLECTED TO THE EXTENT PRACTICAL AND DISPOSED OF AS DIRECTED BY THE COMPANY REPRESENTATIVE IN ACCORDANCE WITH PERMIT CONDITIONS.

10.) CLEANUP/STABILIZATION/RESTORATION: ALL DISTURBED AREAS SHALL BE RETURNED TO THE ORIGINAL CONTOURS. DISTURBED AREAS SHALL BE SEEDED AS SPECIFIED IN PROJECT DOCUMENTS.

11.) REFER TO AMERICAN GEOTECH, INC. (AGI) GEOTECHNICAL REPORTS DATED JANUARY 2019 FOR CS–1 AND CS–4; KLEINFELDER GEOTECHNICAL REPORT DATED OCTOBER 15, 2019 FOR DRS–HDD–1.

ISSUED FOR FERC

01/10/2025

TRC

MVP SOUTHGATE AMENDMENT PROJECT
H–650 PIPELINE
DAN RIVER HDD

SCALE:	PROJ. NO.	DRAWING NO:	REV.
1" = 100'		HDD–DanRiver–001	P1

C:\users\sjohn12\projectwise\tel\dms27379\HDD–DanRiver–001.dwg

January 17, 2025 – 11:45am

PIPE STATIONING

942+75 HDD ENTRY POINT

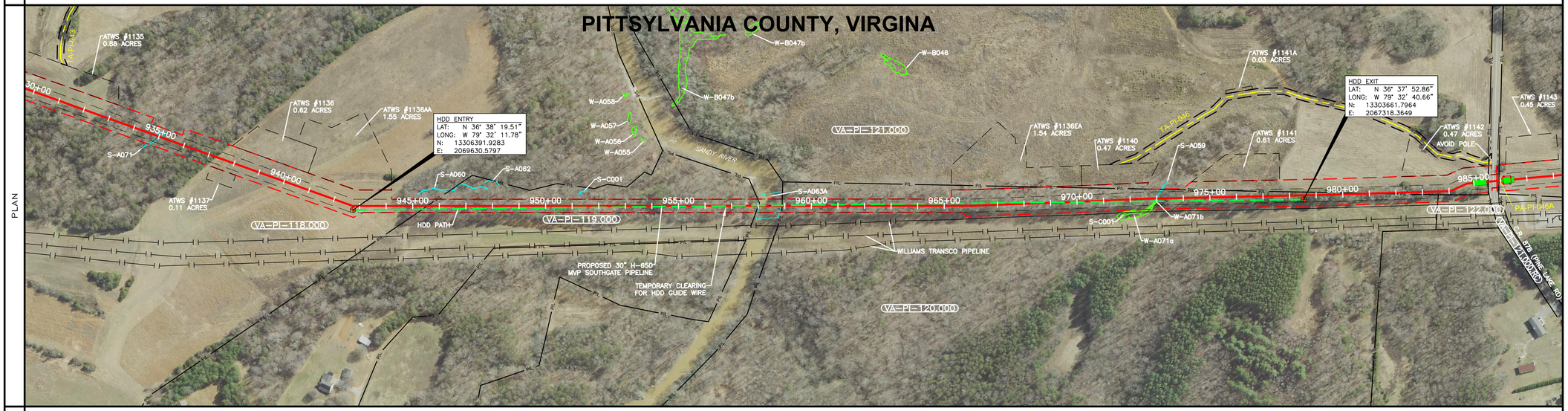
958+00 PROPERTY LINE
958+02 BEGIN SANDY RIVER S-A063A
958+02 EDGE OF WATER
958+44 CL SANDY RIVER S-A063A
958+66 EDGE OF WATER
958+86 END SANDY RIVER S-A063A
958+90 PROPERTY LINE

972+94 CL STREAM S-A059

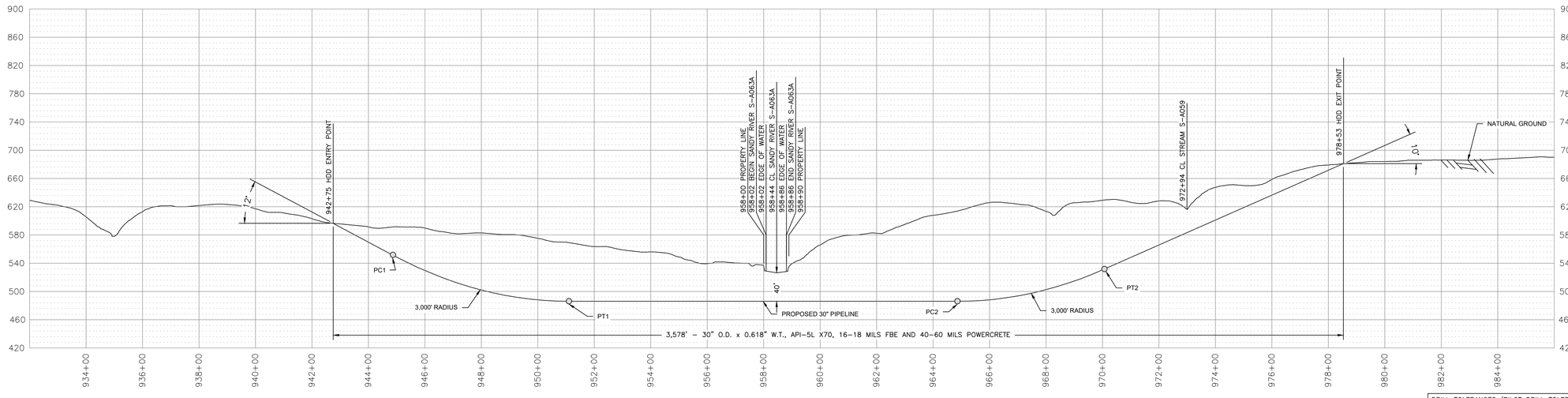
978+53 HDD EXIT POINT

PLAN

PITTSYLVANIA COUNTY, VIRGINIA



PROFILE



DRILL TOLERANCES (PILOT DRILL TOLERANCE)
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VERTICAL DEPTH +10,-0
EXIT POINT +-10'
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LEGEND:

- HDD ENTRY / EXIT POINTS
- GEOTECH BORE HOLE LOCATIONS

GENERAL NOTES:

1.) IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY ARRANGEMENTS IF TRAFFIC CONTROL PLANS AND/OR RAILROAD REPRESENTATION ARE REQUIRED.

2.) CONTRACTOR TO LOCATE, MARK AND POTHOLE FOREIGN LINES PRIOR TO EXCAVATION (AND MONITOR DURING DRILLING).

3.) CONTRACTOR TO MAT OVER ANY FOREIGN PIPELINES CROSSED WITH DRILLING EQUIPMENT.

4.) LOCATIONS OF EXISTING FACILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO LOCATE AND/OR CONFIRM THE LOCATIONS AND DEPTH OF ALL UTILITIES, PIPELINES OR OTHER OBSTACLES PRIOR TO EXCAVATION.

5.) CONTRACTOR TO SUPPORT EXISTING UTILITIES, PIPELINES AND/OR OTHER FEATURES.

6.) CONTRACTOR TO GRADE EXCAVATION AREA AND RESTORE TO ORIGINAL CONDITIONS.

7.) CONTRACTOR TO CONTACT STATE ONE CALL SYSTEM AT LEAST 72 HOURS PRIOR TO DRILLING.

PHOTOGRAPHY:

2023 FLOWN IMAGERY

PROJECTION SYSTEM:

NAD83 UTM 17N (U.S. SURVEY FEET)

INSTALLATION NOTES:

1.) ACCESS: ALL EQUIPMENT MUST ACCESS THE SITE ALONG THE CONSTRUCTION RIGHT-OF-WAY FROM PUBLIC OR APPROVED PRIVATE ROADS.

2.) WORK SPACE: WORK SPACE LIMITS ARE DEPICTED. CLEARING WILL BE RESTRICTED TO THE WORK SPACES INDICATED AT THE ENTRY AND EXIT POINTS AND PULLBACK MAKE-UP AREA ALONG THE RIGHT-OF-WAY. CLEARING BETWEEN THE ENTRY AND EXIT POINTS IS LIMITED TO THE MINIMUM AMOUNT NECESSARY TO STRING LOCATION WIRES AND INSTALL PUMPS AND PIPING TO OBTAIN WATER (WHERE APPROVED).

3.) WATER SOURCE: DRILL WATER AND PRE-INSTALLATION HYDRO-STATIC TEST WATER SHALL BE OBTAINED FROM AN APPROVED SOURCE.

4.) HYDROSTATIC TEST: ABOVE GROUND PRE-INSTALLATION HYDROSTATIC TEST SHALL BE CONDUCTED IN ACCORDANCE WITH PERMIT REQUIREMENTS. THE CONTRACTOR SHALL DISCHARGE HYDROSTATIC TEST WATER IN ACCORDANCE WITH PROJECT PERMITS.

5.) SPILL-PREVENTION: ALL PUMPS SHALL BE SET IN SECONDARY CONTAINMENT AND IN ACCORDANCE WITH THE SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC). EQUIPMENT AND PUMPS OPERATING WITHIN 100 FEET OF ANY WATER BODY OR WETLAND SHALL BE OPERATED AND REFUELED IN ACCORDANCE WITH THE SPCC PLAN. EQUIPMENT REFUELING AND STORAGE OF HAZARDOUS MATERIALS, FUELS, ETC. SHALL BE CONDUCTED AT LEAST 100 FEET FROM WATER BODIES AND WETLAND. EACH CONSTRUCTION CREW SHALL HAVE ON HAND SUFFICIENT TOOLS AND MATERIALS TO STOP LEAKS AND SUPPLIES OF ABSORBENT AND BARRIER MATERIALS TO ALLOW RAPID CONTAINMENT AND RECOVERY OF SPILLED MATERIALS.

6.) EROSION AND SEDIMENT CONTROL: CONTRACTOR SHALL SUPPLY, INSTALL AND MAINTAIN SEDIMENT CONTROL STRUCTURES IN ACCORDANCE WITH CONTRACT DOCUMENTS. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL STRUCTURES AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

7.) TOPSOIL SHALL BE STRIPPED AS REQUIRED BY PROJECT DOCUMENTS.

8.) INSTALLATION: THE PIPE SECTION FOR THE DRILLED CROSSING SHALL BE MADE UP WITHIN THE RIGHT-OF-WAY AT THE DRILL EXIT POINT AS SHOWN, AND THE DRILL RIG SHALL PULL THE PIPE STRING INTO THE BORE HOLE FROM THE ENTRY POINT. CONTRACTOR SHALL ASSESS THE NEED FOR AND SUPPLY APPROPRIATE BALLAST DURING PULLBACK.

9.) MUD DISPOSAL: CONTRACTOR SHALL DISPOSE OF EXCESS DRILLING MUD AS DIRECTED BY THE COMPANY REPRESENTATIVE IN ACCORDANCE WITH PERMIT CONDITIONS. UNDER NO CIRCUMSTANCES SHALL DRILLING FLUID BE DISPOSED OF IN WATER BODIES OR WETLANDS. ANY DRILLING MUD WHICH INADVERTENTLY EXISTS AT POINTS OTHER THAN THE ENTRY AND EXIT POINTS SHALL BE CONTAINED AND COLLECTED TO THE EXTENT PRACTICAL AND DISPOSED OF AS DIRECTED BY THE COMPANY REPRESENTATIVE IN ACCORDANCE WITH PERMIT CONDITIONS.

10.) CLEANUP/STABILIZATION/RESTORATION: ALL DISTURBED AREAS SHALL BE RETURNED TO THE ORIGINAL CONTOURS. DISTURBED AREAS SHALL BE SEEDED AS SPECIFIED IN PROJECT DOCUMENTS.

ISSUED FOR FERC

01/10/2025

HORIZONTAL DIRECTIONAL DRILL DATA

DESCRIPTION	STA.	ELEV.
ENTRY ANGLE @ 12°	942+75	596.6'
POINT OF CURVATURE (PC1) (3,000 FT. RADIUS)	944+86	551.7'
POINT OF TANGENCY (PT1)	951+10	486.2'
POINT OF CURVATURE (PC2) (3,000 FT. RADIUS)	964+86	486.2'
POINT OF TANGENCY (PT2)	970+07	531.7'
EXIT ANGLE @ 10°	978+53	680.9'

HORIZONTAL DIRECTIONAL DRILL PARAMETERS

1.) MAX. OPER. PRESS.: 1440 PSIG

2.) PIPE: 30" O.D. x 0.618" W.T. GRADE: API-5L X70
DESIGN FACTOR: 0.50

3.) PIPE COATING: 16-18 MILS FBE
EXTERNAL COATING: 40-60 MILS POWERCRETE
LENGTH OF CROSSING: 3,578' HORIZONTAL DISTANCE

4.) TYPE OF PIPE JOINT: WELDED X 60' LG.
LENGTH OF PIPE: 3,602 L.F.

REFERENCE DRAWINGS

DWG. NO.	DRAWING TITLE
PA-PIVA-H-650-39	ALIGNMENT SHEET
PA-PIVA-H-650-40	ALIGNMENT SHEET
H-650-12-CONST	HORIZONTAL DIRECTIONAL DRILL (HDD)

NO.	DATE	REVISION	BY	APPD.
P1	01/10/25	ISSUED FOR FERC	AWF	MLT

0 100 200
PLAN SCALE: 1"=200'

0 100 200
PROFILE (H) SCALE: 1"=200'

0 40 80
PROFILE (V) SCALE: 1"=80'

Mountain Valley PIPELINE, LLC

TRC

MVP SOUTHGATE PROJECT
H-650 PIPELINE
SANDY RIVER HDD

DRAWN BY: TRC	DATE: 12/10/24
CHECKED BY: MLT	DATE: 12/12/24
APPROVED BY:	EPO APPROVAL:

SCALE:	PROJ. NO.	DRAWING NO:	REV.
1" = 200'		HDD-SandyRiver-001	P1

C:\Users\ahitz\projectwise\eli\dms27379\HDD-Sandy River-001.dwg

January 17, 2025 - 12:44pm

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Virginia						
Pittsylvania	0.0	1000	VA-PI-001.000, VA-PI-002.000	0.96	CI, FW	parking, pipe storage, material storage
Pittsylvania	0.0	1000A	VA-PI-001.000	1.05	CI	parking, pipe staging, frac tanks for hydro test, materials
Pittsylvania	0.1	1001	VA-PI-002.000	0.23	FW	materials, pumps, mats, pipe fab
Pittsylvania	0.3	1001A	VA-PI-002.000	0.40	FW	materials, equipment, pipe staging, pipe fab, mats
Pittsylvania	0.3	1001E	VA-PI-002.000	7.35	FW	parking, pipe storage, material storage
Pittsylvania	0.4	1001F	VA-PI-002.000	1.52	FW	material, equipment, mats
Pittsylvania	0.5	1008	VA-PI-002.000	0.20	FW	material, equipment, mats, pumps
Pittsylvania	0.6	1009	VA-PI-002.000	0.23	FW	material, pumps, mats
Pittsylvania	0.8	1010	VA-PI-003.000	0.30	FW	material, pumps, mats
Pittsylvania	0.9	1012	VA-PI-003.000	0.36	OL	material, parking, equipment
Pittsylvania	1.0	1013	VA-PI-005.000, VA-PI-003.000.RC	0.50	OL	material, equipment, boring equipment
Pittsylvania	1.1	1014	VA-PI-005.000	0.52	OL	material, pipe, boring equipment, parking
Pittsylvania	1.2	1015	VA-PI-006.000	0.46	FW	material, pipe, boring equipment, parking
Pittsylvania	1.3	1016	VA-PI-008.000	0.46	AG	material, pipe, mats, pumps, equipment
Pittsylvania	1.5	1017	VA-PI-008.000, VA-PI-009.000	0.82	OL	material, pipe, mats, pumps, equipment
Pittsylvania	1.6	1020	VA-PI-009.000	0.69	OL	material, pumps, mats, pipe
Pittsylvania	1.6	1020XA	VA-PI-009.000	0.09	OL	material, equipment, mats
Pittsylvania	1.9	1022	VA-PI-010.000	0.47	OL	parking, material, mats, equipment
Pittsylvania	2.0	1023	VA-PI-010.000	0.03	OL	materials, equipment
Pittsylvania	2.0	1024	VA-PI-010.000	0.14	OL	materials, pumps, mats
Pittsylvania	2.5	1025B	VA-PI-012.000	0.02	OL	materials, pumps, mats, equipment, pipe
Pittsylvania	2.5	1025C	VA-PI-012.000	0.01	OL	materials, pumps, mats, equipment, pipe
Pittsylvania	2.6	1025A	VA-PI-012.000	1.30	OL	materials, pumps, mats, equipment, pipe

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	2.6	1025D	VA-PI-012.000	0.03	OL	materials, pumps, mats, equipment, pipe
Pittsylvania	2.7	1025E	VA-PI-012.000, VA-PI-014.000	0.03	OL	materials, pumps, mats, equipment, pipe
Pittsylvania	2.7	1025F	VA-PI-012.000	0.03	OL	materials, pumps, mats, equipment, pipe
Pittsylvania	3.1	1026	VA-PI-014.000	0.13	OL	materials, equipment, pipe
Pittsylvania	3.1	1027	VA-PI-014.000, VA-PI-015.000	0.21	OL	materials, equipment, pipe
Pittsylvania	3.2	1028	VA-PI-014.000	0.49	OL	material, parking, equipment, pipe
Pittsylvania	3.2	1029	VA-PI-016.000	0.14	OL	materials, equipment
Pittsylvania	3.3	1030	VA-PI-017.000, VA-PI-018.000, VA-PI-019.000, VA-PI-022.000	0.51	AG	boring equipment, materials, parking
Pittsylvania	3.5	1031	VA-PI-022.000, VA-PI-023.000	0.45	OL, FW	materials, pumps, mats, pipe
Pittsylvania	3.6	1032	VA-PI-023.000	0.51	AG	materials, pumps, mats, pipe
Pittsylvania	3.7	1033	VA-PI-023.000	0.12	AG	turn around, materials, equipment
Pittsylvania	3.7	1034	VA-PI-023.000	0.09	AG	turn around, materials, equipment
Pittsylvania	3.7	1033A	VA-PI-023.000	0.03	AG	materials, pumps, mats, equipment, pipe
Pittsylvania	3.7	1033B	VA-PI-023.000	0.03	AG	materials, pumps, mats, equipment, pipe
Pittsylvania	3.8	1035	VA-PI-023.000	0.29	AG	pumps, mats, equipment
Pittsylvania	3.9	1036	VA-PI-022.000	0.19	FW	pumps, mats, equipment
Pittsylvania	4.0	1037	VA-PI-022.000	0.17	OL	materials, parking, turn around,
Pittsylvania	4.1	1037A	VA-PI-025.000	0.39	AG	materials, equipment, pipe
Pittsylvania	4.3	1038	VA-PI-025.000	0.21	AG	pumps, mats, equipment
Pittsylvania	4.4	1039	VA-PI-025.000, VA-PI-026.000	0.35	AG	pumps, mats, equipment
Pittsylvania	4.5	1040	VA-PI-025.000, VA-PI-026.000	0.22	AG	pumps, mats, equipment
Pittsylvania	4.5	1041	VA-PI-026.000, VA-PI-027.000	0.21	AG	boring equipment, materials, parking
Pittsylvania	4.6	1042	VA-PI-029.000, VA-PI-030.000	0.15	FW, RD	boring equipment, materials, parking, pipe

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	4.6	1043	VA-PI-031.000	0.22	FW	boring equipment, materials, parking, pipe
Pittsylvania	4.6	1044	VA-PI-031.000, VA-PI-026.000.RC	0.28	OL, FW	boring equipment, materials, parking, pipe
Pittsylvania	4.7	1045	VA-PI-032.000	0.59	FW	fab sections, equipment, materials, parking
Pittsylvania	4.7	1046	VA-PI-032.000	0.66	FW	fab sections, equipment, materials, parking
Pittsylvania	4.9	1047	VA-PI-032.000, VA-PI-033.000	1.23	FW	pipe, material, parking, turn around
Pittsylvania	5.1	1049	VA-PI-032.000	0.46	OL	pumps, mats, equipment, material
Pittsylvania	5.3	1050	VA-PI-034.000	0.11	FW	pumps, mats, equipment, material
Pittsylvania	5.4	1051	VA-PI-034.000	0.70	FW	pumps, mats, pipe, equipment, material
Pittsylvania	5.4	1051C	VA-PI-034.100	0.03	OL	materials, equipment, pipe
Pittsylvania	5.4	1051D	VA-PI-034.100	0.03	OL	materials, equipment, pipe
Pittsylvania	5.4	1051E	VA-PI-034.100	0.03	OL	materials, equipment, pipe
Pittsylvania	5.5	1051A	VA-PI-034.000	0.03	FW	materials, equipment, pipe
Pittsylvania	5.5	1051B	VA-PI-034.000	0.03	FW	materials, equipment, pipe
Pittsylvania	5.5	1052	VA-PI-034.000	0.35	FW	boring equipment, pipe, materials
Pittsylvania	5.6	1053	VA-PI-035.000	0.44	FW	boring equipment, pipe, materials
Pittsylvania	5.9	1054	VA-PI-036.000	0.69	FW	pipe, materials, turn around, parking
Pittsylvania	6.0	1054A	VA-PI-036.000	0.03	OL	materials, equipment, pipe
Pittsylvania	6.1	1055	VA-PI-036.000	1.06	OL	pipe, materials, turn around, parking
Pittsylvania	6.2	1056	VA-PI-036.000	0.40	CI	materials, mats, equipment
Pittsylvania	6.3	1057	VA-PI-036.000	0.46	FW	pumps, mats, equipment, material
Pittsylvania	6.4	1058	VA-PI-036.000	0.25	FW	pumps, mats, equipment, material
Pittsylvania	6.5	1059	VA-PI-036.000	0.46	FW	pumps, mats, equipment, material

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	6.6	1060	VA-PI-036.000, VA-PI-037.000	0.46	FW	pumps, mats, equipment, material
Pittsylvania	6.6	1061	VA-PI-037.000	0.83	OL	parking, mats, material, pipe
Pittsylvania	6.6	1061A	VA-PI-037.000	0.03	CI	materials, equipment, pipe
Pittsylvania	6.6	1061B	VA-PI-035.100, VA-PI-037.000	0.03	CI	materials, equipment, pipe
Pittsylvania	6.8	1062	VA-PI-037.000	0.20	FW	pumps, mats, equipment, material
Pittsylvania	7.0	1063	VA-PI-038.000	0.42	FW	pumps, mats, equipment, material
Pittsylvania	7.1	1064	VA-PI-038.000	0.25	SC	mats, material, parking
Pittsylvania	7.2	1064A	VA-PI-038.000	0.03	SC	materials, equipment, pipe
Pittsylvania	7.2	1064B	VA-PI-039.000	0.03	SC	materials, equipment, pipe
Pittsylvania	7.2	1064C	VA-PI-039.000	0.03	SC	materials, equipment, pipe
Pittsylvania	7.3	1065	VA-PI-039.000	0.53	FW	pumps, mats, equipment, material
Pittsylvania	7.4	1066	VA-PI-040.000	1.53	FW	pumps, mats, equipment, material
Pittsylvania	7.5	1068	VA-PI-041.000	0.58	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	7.7	1069	VA-PI-042.000	0.24	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	7.8	1070	VA-PI-043.000, VA-PI-044.000	0.48	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	7.9	1071	VA-PI-043.000, VA-PI-044.000	0.26	OL	pumps, mats, equipment, material
Pittsylvania	7.9	1072	VA-PI-043.000, VA-PI-044.000	0.23	OL	pumps, mats, equipment, material
Pittsylvania	8.3	1074	VA-PI-045.000, VA-PI-045.001	0.47	OL	pumps, mats, equipment, material
Pittsylvania	8.3	1075	VA-PI-045.001	0.27	OL	pumps, mats, equipment, material
Pittsylvania	8.4	1076	VA-PI-045.002, VA-PI-045.001	0.52	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	8.4	1077	VA-PI-046.000, VA-PI-047.000	0.32	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	8.5	1078	VA-PI-047.000	0.34	OL	parking, pipe storage, material storage

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	8.6	1080B	VA-PI-048.000	0.03	CI	materials, equipment, pipe
Pittsylvania	8.6	1080C	VA-PI-048.000	0.03	CI	materials, equipment, pipe
Pittsylvania	8.7	1079	VA-PI-047.000, VA-PI-048.000	0.52	OL	pumps, mats, equipment, material
Pittsylvania	8.8	1080	VA-PI-048.000	0.63	OL	pumps, mats, equipment, material
Pittsylvania	8.8	1080A	VA-PI-048.000	0.03	OL	materials, equipment, pipe
Pittsylvania	8.9	1081	VA-PI-048.000	0.52	FW	pumps, mats, equipment, material
Pittsylvania	9.2	1082	VA-PI-050.000	0.87	AG	parking, pipe storage, material storage
Pittsylvania	9.3	1083	VA-PI-050.000, VA-PI-051.000	0.66	OL	parking, pipe storage, material storage
Pittsylvania	9.3	1082A	VA-PI-051.000	0.03	AG	materials, equipment, pipe
Pittsylvania	9.3	1082B	VA-PI-050.000	0.03	AG	materials, equipment, pipe
Pittsylvania	9.3	1082C	VA-PI-051.000	0.03	AG	materials, equipment, pipe
Pittsylvania	9.3	1082D	VA-PI-051.000	0.03	AG	materials, equipment, pipe
Pittsylvania	9.4	1084	VA-PI-051.000, VA-PI-052.000	0.30	OL, AG	pumps, mats, equipment, material
Pittsylvania	9.6	1085	VA-PI-052.000	0.37	AG	pipe, materials, parking, equipment, boring equipment
Pittsylvania	9.7	1086A	VA-PI-053.000	0.27	OL	materials, equipment, pipe
Pittsylvania	9.7	1086	VA-PI-053.000	0.08	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	9.9	1088	VA-PI-053.000	0.64	AG	turn around for trucks, material
Pittsylvania	10.1	1088A	VA-PI-053.000	0.20	AG	materials, equipment, pipe
Pittsylvania	10.1	1088B	VA-PI-053.000	0.20	AG	pumps, mats, equipment, material
Pittsylvania	10.1	1088C	VA-PI-053.000	0.03	AG	pumps, mats, equipment, material
Pittsylvania	10.3	1090	VA-PI-053.000	0.61	OL	pumps, mats, equipment, material
Pittsylvania	10.4	1091	VA-PI-0.55.000	0.23	CI	pumps, mats, equipment, material
Pittsylvania	10.4	1092	VA-PI-055.000	0.23	CI	pumps, mats, equipment, material

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	10.7	1093	VA-PI-061.000	0.69	OL	parking, pipe storage, material storage
Pittsylvania	11.1	1094	VA-PI-075.000	1.35	CI	pipe, materials, parking, equipment, boring equipment
Pittsylvania	11.2	1094A	VA-PI-075.000	0.03	SC	pumps, mats, equipment, material
Pittsylvania	11.2	1094B	VA-PI-075.000	0.03	SC	pumps, mats, equipment, material
Pittsylvania	11.3	1095A	VA-PI-075.000	0.77	SC	pumps, mats, equipment, material
Pittsylvania	11.4	1096	VA-PI-075.000	1.68	SC	parking, pipe storage, material storage
Pittsylvania	11.8	1098	VA-PI-076.000	0.51	FW	pumps, mats, equipment, material
Pittsylvania	11.9	1099	VA-PI-076.000	0.48	FW	pumps, mats, equipment, material
Pittsylvania	12.0	1100	VA-PI-077.000	0.36	FW	pumps, mats, equipment, material
Pittsylvania	12.2	1101	VA-PI-077.000	0.47	FW	pumps, mats, equipment, material
Pittsylvania	12.3	1103	VA-PI-077.000	0.69	FW	materials, pipe, equipment
Pittsylvania	12.7	1105	VA-PI-079.000	0.52	AG	pipe, materials, parking, equipment, boring equipment
Pittsylvania	12.7	1106	VA-PI-082.000	0.28	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	12.8	1106A	VA-PI-082.000	0.23	OL	materials, pipe, equipment
Pittsylvania	13.0	1107	VA-PI-082.000	0.97	AG	materials, pipe, equipment
Pittsylvania	13.1	1108	VA-PI-082.000	0.24	OL	pumps, mats, equipment, material
Pittsylvania	13.2	1109	VA-PI-084.000	0.46	OL	pumps, mats, equipment, material
Pittsylvania	13.4	1110	VA-PI-084.000	0.46	OL	materials, pipe, equipment
Pittsylvania	13.6	1111	VA-PI-085.000	0.26	OL	materials, pipe, equipment
Pittsylvania	13.7	1112	VA-PI-084.000, VA-PI-087.000	0.43	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	13.7	1112A	VA-PI-087.000	0.11	OL	pipe, materials, parking, equipment, boring equipment

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	13.7	1113	VA-PI-089.000	0.05	OL	material, pumps, mats, pipe, boring equipment
Pittsylvania	13.8	1114	VA-PI-090.000	0.53	OL	pumps, mats, equipment, material
Pittsylvania	14.0	1114A	VA-PI-090.000	0.65	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	14.1	1114B	VA-PI-091.000	0.26	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	14.5	1116	VA-PI-092.000, VA-PI-094.000	0.50	OL	materials, pipe, equipment
Pittsylvania	14.6	1117	VA-PI-094.000	0.46	OL	pumps, mats, equipment, material
Pittsylvania	14.7	1118	VA-PI-094.000	0.50	OL	pumps, mats, equipment, material
Pittsylvania	14.7	1116A	VA-PI-092.200	0.06	AG	pipe, materials, parking, equipment, boring equipment
Pittsylvania	15.1	1118A	VA-PI-094.000	0.15	FW	pumps, mats, equipment, material
Pittsylvania	15.2	1118B	VA-PI-095.000, VA-PI-096.000	0.46	FW	pumps, mats, equipment, material
Pittsylvania	15.2	1119	VA-PI-096.000	0.47	CI	pipe, materials, parking, equipment, boring equipment
Pittsylvania	15.3	1120	VA-PI-100.000	0.19	CI	pipe, materials, parking, equipment, boring equipment
Pittsylvania	15.6	1120A	VA-PI-099.000	0.13	AG	pumps, mats, equipment, material
Pittsylvania	15.6	1120B	VA-PI-100.000	0.39	AG	pumps, mats, equipment, material
Pittsylvania	16.0	1122	VA-PI-101.000	0.56	OL	pumps, mats, equipment, material
Pittsylvania	16.1	1123	VA-PI-102.000, VA-PI-103.000	0.52	OL	pumps, mats, equipment, material
Pittsylvania	16.2	1124	VA-PI-102.000, VA-PI-103.000	0.90	FW	pumps, mats, equipment, material
Pittsylvania	16.4	1126	VA-PI-106.000	0.29	FW	pipe, materials, parking, equipment, boring equipment
Pittsylvania	16.4	1126A	VA-PI-106.000	0.23	FW	materials, pipe, equipment
Pittsylvania	16.4	1127	VA-PI-106.000	0.54	FW	pumps, mats, equipment, material
Pittsylvania	16.5	1128	VA-PI-106.000	0.21	FW	pumps, mats, equipment, material

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	16.7	1129	VA-PI-107.000	0.46	OL	materials, pipe, equipment
Pittsylvania	16.8	1130	VA-PI-110.000, VA-PI-111.000	0.30	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	16.9	1131	VA-PI-115.000	0.53	AG	pipe, materials, parking, equipment, boring equipment
Pittsylvania	17.0	1131A	VA-PI-115.000	0.35	AG	pumps, mats, equipment, material
Pittsylvania	17.1	1132	VA-PI-115.000	0.07	OL	pumps, mats, equipment, material
Pittsylvania	17.2	1133	VA-PI-115.000	0.06	AG	pumps, mats, equipment, material
Pittsylvania	17.3	1134	VA-PI-115.000	0.66	AG	pumps, mats, equipment, material, pipe
Pittsylvania	17.5	1135C	VA-PI-115.100	0.03	OL	vehicle pull-off in the event construction vehicles or landowner vehicles are utilizing the road at the same time
Pittsylvania	17.5	1135D	VA-PI-115.100	0.03	OL	vehicle pull-off in the event construction vehicles or landowner vehicles are utilizing the road at the same time
Pittsylvania	17.6	1135	VA-PI-118.000	0.88	OL	pumps, mats, equipment, material, pipe
Pittsylvania	17.6	1135A	VA-PI-118.000	0.03	OL	vehicle pull-off in the event construction vehicles or landowner vehicles are utilizing the road at the same time
Pittsylvania	17.6	1135B	VA-PI-118.000	0.03	OL	pumps, mats, equipment, material
Pittsylvania	17.8	1136	VA-PI-118.000	0.62	OL	pumps, mats, equipment, material, pipe
Pittsylvania	17.8	1136AA	VA-PI-118.000	1.55	OL	pumps, mats, equipment, material, pipe
Pittsylvania	17.8	1137	VA-PI-118.000	0.11	OL	pumps, mats, equipment, material, pipe

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	18.3	1136EA	VA-PI-120.000, VA-PI-121.000	1.54	CI, FW	vehicle pull-off in the event construction vehicles or landowner vehicles are utilizing the road at the same time
Pittsylvania	18.4	1140	VA-PI-121.000	0.47	CI	pumps, mats, equipment, material, pipe
Pittsylvania	18.5	1141	VA-PI-121.000	0.61	CI	pumps, mats, equipment, material, pipe
Pittsylvania	18.5	1141A	VA-PI-121.000	0.03	CI	pumps, mats, equipment, material, pipe
Pittsylvania	18.6	1142	VA-PI-121.000	0.47	CI	pipe, materials, parking, equipment, boring equipment
Pittsylvania	18.7	1143	VA-PI-124.000	0.45	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	19.1	1144	VA-PI-125.000, VA-PI-126.000, VA-PI-128.000	0.57	AG	materials, pipe, equipment
Pittsylvania	19.4	1145	VA-PI-126.000, VA-PI-128.000	0.59	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	19.4	1146	VA-PI-130.000, VA-PI-131.000	0.41	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	19.7	1146A	VA-PI-132.000	0.17	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	19.7	1147	VA-PI-134.000, VA-PI-135.000, VA-PI-136.000	0.32	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	19.8	1147A	VA-PI-137.100	0.19	OL	materials, pipe, equipment
Pittsylvania	20.1	1148	VA-PI-144.000	0.23	FW	material, pumps, mats, pipe
Pittsylvania	20.2	1149	VA-PI-150.000	0.23	FW	material, pumps, mats, pipe
Pittsylvania	20.3	1150	VA-PI-150.000, VA-PI-150.100	2.03	CI	pipe, materials, parking, equipment, boring equipment
Pittsylvania	20.3	1151	VA-PI-150.000, VA-PI-151.000	0.27	OL, CI	pipe, materials, parking, equipment, boring equipment

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	20.4	1152	VA-PI-152.00	0.05	FW	pipe, materials, parking, equipment, boring equipment
Pittsylvania	20.4	1152A	VA-PI-152.000	0.34	OL	materials, pipe, equipment
Pittsylvania	20.8	1158	VA-PI-160.000	0.46	OL	material, pumps, mats, pipe
Pittsylvania	20.9	1160	VA-PI-160.000	0.66	OL	material, pumps, mats, pipe
Pittsylvania	20.9	1160A	VA-PI-160.000	0.17	OL	materials, pipe, equipment
Pittsylvania	21.0	1161	VA-PI-160.000	0.46	OL	material, pumps, mats, pipe
Pittsylvania	21.0	1160B	VA-PI-160.000	0.06	OL	materials, pipe, equipment
Pittsylvania	21.1	1162	VA-PI-160.000, VA-PI-161.000	0.37	CI	material, pumps, mats, pipe
Pittsylvania	21.4	1163	VA-PI-162.000	0.46	FW	material, pumps, mats, pipe
Pittsylvania	21.5	1164	VA-PI-162.000, VA-PI-163.000	0.65	FW	material, pumps, mats, pipe
Pittsylvania	21.6	1165	VA-PI-163.000, VA-PI-164.000	0.46	FW	material, pumps, mats, pipe
Pittsylvania	21.7	1166	VA-PI-163.000	0.46	FW	material, pumps, mats, pipe
Pittsylvania	22.1	1167	VA-PI-165.000	0.11	FW	turn around for trucks, material
Pittsylvania	22.4	1169	VA-PI-169.000	0.11	RD	material, pumps, mats, pipe, boring equipment
Pittsylvania	22.5	1170	VA-PI-171.000	0.46	FW	material, pumps, mats, pipe, boring equipment
Pittsylvania	22.6	1170A	VA-PI-171.000	0.41	FW	material, pumps, mats, pipe
Pittsylvania	22.8	1171	VA-PI-171.000, VA-PI-172.000, VA-PI-173.000	0.34	FW	turn around for trucks, material
Pittsylvania	22.8	1173	VA-PI-173.000	0.94	FW	materials, pipe, equipment
Pittsylvania	22.9	1173A	VA-PI-173.000	0.66	FW	material, pumps, mats, pipe
Pittsylvania	22.9	1173B	VA-PI-173.000	0.18	FW	material, pumps, mats, pipe
Pittsylvania	23.1	1178E	VA-PI-172.000	0.03	FW	material, pumps, mats, pipe
Pittsylvania	23.1	1178F	VA-PI-172.000	0.03	FW	material, pumps, mats, pipe
Pittsylvania	23.1	1173D	VA-PI-173.000	0.29	FW	material, pumps, mats, pipe

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	23.1	1173C	VA-PI-173.000	0.28	FW	material, pumps, mats, pipe
Pittsylvania	23.1	1173DXA	VA-PI-173.000	0.06	FW	material, pumps, mats, pipe
Pittsylvania	23.2	1173E	VA-PI-173.000	0.20	FW	material, pumps, mats, pipe
Pittsylvania	23.3	1178A	VA-PI-174.000	0.03	FW	material, pumps, mats, pipe
Pittsylvania	23.3	1178B	VA-PI-174.000	0.03	FW	material, pumps, mats, pipe
Pittsylvania	23.3	1178C	VA-PI-172.000	0.03	FW	material, pumps, mats, pipe
Pittsylvania	23.3	1178D	VA-PI-172.000	0.03	FW	material, pumps, mats, pipe
Pittsylvania	23.4	1173F	VA-PI-174.000	0.30	FW	material, pumps, mats, pipe
Pittsylvania	23.6	1173G	VA-PI-174.000	0.18	FW	material, pumps, mats, pipe
Pittsylvania	23.6	1173H	VA-PI-174.000	0.16	FW	material, pumps, mats, pipe
Pittsylvania	23.7	1173I	VA-PI-174.000, VA-PI-175.000	0.24	FW	material, pumps, mats, pipe
Pittsylvania	23.8	1173J	VA-PI-175.000	0.39	FW	material, pumps, mats, pipe
Pittsylvania	23.9	1173K	VA-PI-175.000	0.49	FW	material, pumps, mats, pipe
Pittsylvania	24.0	1173L	VA-PI-175.000	0.52	FW	material, pumps, mats, pipe
Pittsylvania	24.2	1173N	VA-PI-178.000, VA-PI-175.000.RC	0.57	FW, CI	material, pumps, mats, pipe
Pittsylvania	24.2	1173O	VA-PI-178.000, VA-PI-175.000.RC	0.49	CI	material, pumps, mats, pipe
Pittsylvania	24.4	1173P	VA-PI-178.000	0.34	FW	material, pumps, mats, pipe
Pittsylvania	24.4	1173Q	VA-PI-178.000	0.34	FW	material, pumps, mats, pipe
Pittsylvania	24.7	1188	VA-PI-178.000	0.35	CI	material, pumps, mats, pipe
Pittsylvania	24.7	1189	VA-PI-178.000	0.31	CI	material, pumps, mats, pipe
Pittsylvania	24.9	1190	VA-PI-178.000	0.52	CI	parking, pipe storage, material storage
Pittsylvania	25.0	1191	VA-PI-178.000	0.45	CI	material, pumps, mats, pipe
Pittsylvania	25.3	1193	VA-PI-178.000	0.59	CI	parking, pipe storage, material storage

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Pittsylvania	25.5	1195	VA-PI-178.000, VA-PI-179.000	1.02	OL	parking, pipe storage, material storage
Pittsylvania	25.6	1196	VA-PI-179.000	0.47	OL	pipe, materials, parking, equipment, boring equipment
Pittsylvania	25.7	1197	VA-PI-180.000	0.43	FW	pipe, materials, parking, equipment, boring equipment
Pittsylvania	25.8	1198	VA-PI-180.000	0.69	FW	parking, pipe storage, material storage
Pittsylvania	25.8	1200	VA-PI-180.000	0.23	FW	material, pumps, mats, pipe
Pittsylvania	26.3	1201	VA-PI-180.000	0.46	FW	material, pumps, mats, pipe
Pittsylvania	26.4	1202	VA-PI-180.000	0.46	FW	material, pumps, mats, pipe
Pittsylvania	26.5	1203	VA-PI-180.000	0.35	FW	material, pumps, mats, pipe
Pittsylvania	26.6	1204	VA-PI-180.000	0.46	SC	material, pumps, mats, pipe
Pittsylvania	26.6	1205	VA-PI-180.000	0.46	SC	parking, pipe storage, material storage
North Carolina						
Rockingham	26.9	1206	NC-RO-001.000	0.53	SC	pipe, materials, parking, equipment, boring equipment
Rockingham	27.1	1208	NC-RO-002.000, NC-RO-004.000	0.46	CI	pipe, materials, parking, equipment, boring equipment
Rockingham	27.2	1209	NC-RO-004.000, NC-RO-002.000.RC	0.50	OL	pipe, materials, parking, equipment, boring equipment
Rockingham	27.3	1210	NC-RO-004.000	0.34	OL	parking, pipe storage, material storage
Rockingham	27.4	1211	NC-RO-004.000	1.24	OL	parking, pipe storage, material storage
Rockingham	27.6	1212	NC-RO-004.000	0.14	OL	pipe, materials, parking, equipment, boring equipment
Rockingham	27.7	1213	NC-RO-005.000	0.84	OL	pipe, materials, parking, equipment, boring equipment
Rockingham	27.7	1213A	NC-RO-005.000	1.30	RD	parking, pipe storage, material storage
Rockingham	28.1	1218	NC-RO-006.000	1.16	OL	parking, pipe storage, material storage
Rockingham	28.3	1222	NC-RO-006.000	0.76	OL	materials, pipe, equipment

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Rockingham	28.5	1224	NC-RO-006.000	0.93	OL	materials, pipe, equipment
Rockingham	28.6	1224F	NC-RO-006.000	0.04	OL	materials, pipe, equipment
Rockingham	28.7	1224A	NC-RO-006.000	1.68	OL	material, mats, pipe
Rockingham	28.8	1224B	NC-RO-006.000	1.79	OL	materials, pipe, equipment
Rockingham	28.9	1229	NC-RO-006.000	0.13	OL	materials, pipe, equipment
Rockingham	28.9	1230	NC-RO-006.000	1.05	OL	materials, pipe, equipment
Rockingham	28.9	1224C	NC-RO-006.000	0.03	OL	materials, pipe, equipment
Rockingham	28.9	1224E	NC-RO-006.000	0.03	OL	materials, pipe, equipment
Rockingham	28.9	1129A	NC-RO-006.000	0.12	OL	materials, pipe, equipment
Rockingham	29.1	1231	NC-RO-006.000	0.23	FW	material, pumps, mats, pipe
Rockingham	29.1	1232	NC-RO-006.000	0.91	OL	materials, pipe, equipment
Rockingham	29.2	1224D	NC-RO-006.000	0.03	OL	materials, pipe, equipment
Rockingham	29.3	1233	NC-RO-006.000	0.46	OL	materials, pipe, equipment
Rockingham	29.4	1234	NC-RO-006.000, NC-RO-007.000	0.50	FW, OL	materials, pipe, equipment
Rockingham	29.5	1235	NC-RO-007.000	0.46	FW	materials, pipe, equipment
Rockingham	29.5	1236	NC-RO-007.000	0.46	FW	material, pumps, mats, pipe
Rockingham	29.7	1237	NC-RO-007.000	0.46	SC	material, pumps, mats, pipe
Rockingham	29.8	1239	NC-RO-007.000	0.49	CI	materials, pipe, equipment
Rockingham	29.8	1239A	NC-RO-007.000	0.03	CI	materials, pipe, equipment
Rockingham	29.9	1240	NC-RO-007.000	0.46	SC	materials, pipe, equipment
Rockingham	30.0	1240A	NC-RO-007.000	0.93	OL	materials, pipe, equipment
Rockingham	30.1	1240B	NC-RO-007.000	0.25	FW	materials, pipe, equipment
Rockingham	30.2	1242A	NC-RO-007.000	0.03	OL	materials, pipe, equipment
Rockingham	30.2	1242B	NC-RO-007.000	0.03	OL	materials, pipe, equipment

Appendix 1-D

Additional Temporary Workspace Areas Associated with Construction of the Amendment Project

State / County	MP	Name ID Number a/	Ownership	Area (ac.)	Current Land Use b/	Purpose
Rockingham	30.3	1241	NC-RO-007.000	0.23	OL	material, pumps, mats, pipe
Rockingham	30.3	1242	NC-RO-007.000	0.46	CI	materials, pipe, equipment
Rockingham	30.3	1243	NC-RO-007.000	0.74	AG	material, pumps, mats, pipe
Rockingham	30.4	1247C	NC-RO-011.000	0.03	RD	materials, pipe, equipment
Rockingham	30.4	1247D	NC-RO-011.000	0.02	CI	materials, pipe, equipment
Rockingham	30.6	1244	NC-RO-007.000, NC-RO-011.000	1.55	AG	material, pumps, mats, pipe, boring equipment
Rockingham	30.6	1244A	NC-RO-011.000	0.55	AG	material, pumps, mats, pipe, boring equipment
Rockingham	30.6	1247	NC-RO-011.000	0.39	AG	materials, pipe, equipment
Rockingham	30.7	1247A	NC-RO-011.000	0.03	AG	materials, pipe, equipment
Rockingham	30.7	1247B	NC-RO-011.000	0.03	AG	materials, pipe, equipment
Rockingham	30.8	1244B	NC-RO-013.000	0.52	AG	material, pumps, mats, pipe, boring equipment
Rockingham	31.0	1251A	NC-RO-014.000, NC-RO-015.000	4.92	AG	materials, pipe, equipment
Rockingham	31.0	1251B	NC-RO-013.000	2.95	AG	materials, pipe, equipment
Rockingham	31.2	1249	NC-RO-014.000, NC-RO-016.000	3.62	OL	material, mats, pumps, pipe, equipment, hydro testing materials
Rockingham	31.2	1249A	NC-RO-014.000, NC-RO-015.000	0.10	OL	materials, pipe, equipment
Rockingham	31.2	1252	NC-RO-015.000	0.07	WL, CI	material, pumps, mats, pipe, boring equipment
Rockingham	31.3	1253	NC-RO-018.000, NC-RO-019.000, NC-RO-015.000.RC	0.29	FW, OL	materials, pipe, equipment
Amendment Project Total:				**135.02**		

a/ Includes additional temporary workspace ("ATWS") areas for the H-650 pipeline and aboveground facilities.
b/ AG = Agricultural; CI = Commercial/Industrial; FW = Upland Forest/Woodland; OL = Upland Open Land; RD = Residential; SC = Silviculture; WL = Wetland.

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-E1

Existing Utility Corridors Adjacent to the Amendment Project

Appendix 1-E1

Existing Utility Corridors Adjacent to the Amendment Project

Begin MP	End MP	Name	Type	Distance (miles)	Offset between Pipe and Edge of Right-of-Way	Construction Right-of-Way Overlap (feet)
H-650 Pipeline						
0.35	1.50	Transco	Pipeline Transmission	1.15	25	15
1.65	3.72	Transco	Pipeline Transmission	2.07	25	15
4.73	5.30	Transco	Pipeline Transmission	0.57	25	15
5.62	9.54	Transco	Pipeline Transmission	3.91	25	15
9.72	9.93	Transco	Pipeline Transmission	0.21	25	15
10.40	11.31	Transco	Pipeline Transmission	0.90	25	15
11.81	11.99	Transco	Pipeline Transmission	0.19	25	15
12.22	13.39	Transco	Pipeline Transmission	1.17	25	15
14.12	15.09	Transco	Pipeline Transmission	0.97	25	15
16.06	16.30	Transco	Pipeline Transmission	0.24	25	15
16.45	16.76	Transco	Pipeline Transmission	0.31	25	15
18.30	18.64	Transco	Pipeline Transmission	0.34	25	15
18.85	22.84	Transco	Pipeline Transmission	3.99	25	15
25.31	27.19	Transco	Pipeline Transmission	1.87	25	15
27.27	28.95	Transco	Pipeline Transmission	1.68	25	15
29.36	29.95	Transco	Pipeline Transmission	0.59	25	15

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-E2

Deviations from Existing Utility Corridors along the Amendment Project

Appendix 1-E2 Deviations from Existing Corridors Along the Amendment Project			
Begin MP	**End MP**	**Distance (miles)**	**Reasons for Deviation**
H-650 Pipeline			
0.0	0.13	0.13	Terrain and location of pipeline starting point
1.5	1.7	0.2	Avoid sensitive resource area
3.7	4.7	1.0	Pond, home site
5.3	5.5	0.2	Large stream and wetland
9.2	9.4	0.2	Existing pipeline facility
9.6	10.1	0.5	Avoid sensitive resource area and less impact to stream
11.0	11.4	0.4	Terrain, stream
11.7	11.9	0.2	Avoid sensitive resource area
13.4	14.1	0.7	Multiple homes, terrain
15.1	16.1	1.0	Home site, pond
16.3	16.5	0.2	Avoid sensitive resource area
16.8	17.9	1.1	Road crossing, home sites, avoid a sensitive resource
18.6	18.8	0.2	Avoid sensitive resource area
23.2	23.3	0.1	Terrain
23.3	23.4	0.1	Terrain
23.6	24.2	0.6	Existing pipeline facility
24.2	25.0	0.8	Berry Hill Development
30.0	30.2	0.2	Terrain
30.6	31.0	0.4	Location of meter station and horizontal directional drill

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-F

Proposed New, Improved, and Private Access Roads for the Amendment Project

Appendix 1-F

Proposed New, Improved, and Private Access Roads for the Amendment Project

State/ Facility/ Road ID a/	Road Name	MP b/	New or Existing	Proposed for Temporary or Permanent Use	Ownership / Management	Road Dimensions		Existing Surface c/	Existing Land Use d/	Proposed Improvement e/	Construction Area (ac.) f/	Operation Area (ac.) g/
						Width (feet)	Length (feet)					
Virginia												
TAR	TA-PI-000	0.0	Existing	TAR	Mountain Valley Pipeline, LLC	25	334	Gr	CI	G, S	0.19	0.00
TAR	TA-PI-000A	0.0	New	TAR	Private	68	9	G	CI, OL	S, W	0.01	0.00
TAR	TA-PI-001C	0.0	New	TAR	Transcontinental Gas Pipe Line Company, LLC (“Transco”)	20	713	D	CI	S, W	0.34	0.00
TAR	TA-PI-001A	0.3	Existing	TAR	Transco, Mountain Valley Pipeline, LLC	17	4,012	A, G, D	CI, OL, WL, FW	S, W	1.55	0.00
TAR	TA-PI-004	1.9	Existing	TAR	Private	28	2,874	D	CI, OL, WL	S, W	1.82	0.00
TAR	TA-PI-005	2.6	Existing	TAR	Sandra Batterman Church	26	3,755	G, D, Gr	FW, OL, WL	S, C, W	2.20	0.00
TAR	TA-PI-006	3.7	Existing	TAR	Private	25	1,285	G, D, Gr	AG	S, C, W	0.75	0.00
TAR	TA-PI-008	4.8	Existing	TAR	Private	25	304	G	RD	S, W	0.17	0.00
TAR	TA-PI-007	4.9	New	TAR	Private	26	896	G, D, Gr	RD, FW, OL	S, W	0.53	0.00
TAR	TA-PI-011	5.4	New	TAR	Private	25	5,360	D	FW, OL, WL	S, W	3.09	0.00
TAR	TA-PI-015	6.1	Existing	TAR	Pittsylvania County, VA	25	1,076	G	CI, FW	S, W	0.62	0.00
TAR	TA-PI-016	6.2	New	TAR	Pittsylvania County, VA	25	3,461	G, Gr	OL, CI	S, W	1.99	0.00
TAR	TA-PI-017	6.5	Existing	TAR	Pittsylvania County, VA	27	823	G	CI, OL	S, W	0.51	0.00
TAR	TA-PI-018	7.2	New	TAR	Private	25	1,530	D	SC	S, W	0.89	0.00
PAR	PA-PI-018B	7.7	New	PAR	Private	17	50	Gr	CI, OL	S, W	0.02	0.02
TAR	TA-PI-022	8.8	Existing	TAR	Private	25	2,899	D	CI, FW, OL	S, W	1.66	0.00
TAR	TA-PI-023	9.3	Existing	TAR	Private	25	2,121	G	AG, CI, OL	S, W	1.23	0.00
PAR	PA-PI-024	9.7	New	PAR	Private	29	16	Gr	CI, FW	S, W	0.01	0.01
TAR	TA-PI-025	9.9	New	TAR	Private	27	2,219	D, Gr	AG, CI, FW	S, W	1.37	0.00
TAR	TA-PI-026B	10.7	New	TAR	Private	38	31	D, Gr	CI, FW, OL	S, W	0.03	0.00
TAR	TA-PI-027	11.4	Existing	TAR	Independent Timber, Inc.	25	1,590	G, D	SC	S, W	0.92	0.00
TAR	TA-PI-027	11.4	Existing	TAR	Independent Timber, Inc.	25	1,052	G	SC	S, W	0.92	0.00
TAR	TA-PI-032	13.5	New	TAR	Private	25	735	G	OL, CI	S, W	0.60	0.00

Appendix 1-F

Proposed New, Improved, and Private Access Roads for the Amendment Project

State/ Facility/ Road ID a/	Road Name	MP b/	New or Existing	Proposed for Temporary or Permanent Use	Ownership / Management	Road Dimensions		Existing Surface c/	Existing Land Use d/	Proposed Improvement e/	Construction Area (ac.) f/	Operation Area (ac.) g/
						Width (feet)	Length (feet)					
TAR	TA-PI-033	13.6	New	TAR	Private	26	4,378	D, Gr	CI, OL	S, W	0.43	0.00
TAR	TA-PI-035	14.6	Existing	TAR	Private	25	25	Gr	G, CI, OW, FW, OL, WL	S, W	2.52	0.00
TAR	TA-PI-037A	16.3	New	TAR	Private	23	41	Gr	CI, FW	S, W	0.01	0.00
TAR	TA-PI-037B	16.4	New	TAR	Private	20	19	G	CI, FW	S, W	0.02	0.00
TAR	TA-PI-041	17.0	New	TAR	Private	52	2,123	D	CI	S, W	0.02	0.00
TAR	TA-PI-043	17.6	Existing	TAR	Private	25	1,543	G, D, Gr	RD, FW, OL, WL	S, W	1.23	0.00
TAR	TA-PI-046	18.4	New	TAR	Sandy Oaks Farms, LLC c/o Brian Lavinder	25	24	Gr	CI	S, W	0.89	0.00
PAR	PA-PI-046A	18.7	New	PAR	Sandy Oaks Farms, LLC c/o Brian Lavinder	22	17	Gr	CI, OL	S, W	0.01	0.01
PAR	PA-PI-050	20.4	New	PAR	VDOT	26	307	Gr	CI, OL	S, W	0.19	0.00
TAR	TA-PI-050	20.4	New	TAR	VDOT	26	101	D, Gr	CI, OL	S, W	0.19	0.00
TAR	TA-PI-051A	20.6	Existing	TAR	Private	25	2,778	A	CI, FW	None	0.06	0.00
TAR	TA-PI-052	20.9	Existing	TAR	EST Enterprises, LLC	25	916	D	OL	S, W	1.60	0.00
TAR	TA-PI-053	21.5	New	TAR	Private	25	3,512	D	CI, OL	S, C, W	0.53	0.00
TAR	TA-PI-061	23.4	Existing	TAR	Danville-Pittsylvania Regional Industrial Facility Authority	25	2,345	G	FW, WL	S, W	2.03	0.00
TAR	TA-PI-066	25.5	Existing	TAR	Private	27	1,917	G, D, Gr	CI, OL, FW	S, C, W	1.45	0.00
TAR	TA-PI-067	25.7	New	TAR	Private	27	1,530	G, D, Gr	CI, WL	S, W	1.20	0.00
										Virginia Subtotal	**32.68**	**0.06**
North Carolina												
TAR	TA-RO-072	27.6	Existing	TAR	Ranch Properties, LLC	25	1,049	G	CI, RD, FW	S, W	0.61	0.00
TAR	TA-RO-072B	27.6	Existing	TAR	Circle Bar D Ranch, LLC	25	423	G, Gr	OL	S, W	0.25	0.00
TAR	TA-RO-072A	27.6	Existing	TAR	Circle Bar D Ranch, LLC	27	229	Gr	RD, OL	S, W	0.14	0.14
TAR	TA-RO-077A	28.4	New	TAR	Willow Oaks Plantation, LLC	25	253	Gr	OL	S, W	0.15	0.00

Appendix 1-F

Proposed New, Improved, and Private Access Roads for the Amendment Project

State/ Facility/ Road ID a/	Road Name	MP b/	New or Existing	Proposed for Temporary or Permanent Use	Ownership / Management	Road Dimensions		Existing Surface c/	Existing Land Use d/	Proposed Improvement e/	Construction Area (ac.) f/	Operation Area (ac.) g/
						Width (feet)	Length (feet)					
TAR	TA-RO-075	28.8	New	TAR	Willow Oaks Plantation, LLC	25	2,219	G, D, Gr	OL	S, W	1.28	0.00
TAR	TA-RO-077	28.8	Existing	TAR	Willow Oaks Plantation, LLC	25	3,079	G, D, Gr	OL, WL	S, W	1.77	0.00
PAR	PA-RO-000	28.9	Existing	PAR	Willow Oaks Plantation, LLC	25	4,999	G, Gr	OL, WL	S, W	2.89	2.89
TAR	TA-RO-076	29.1	Existing	TAR	Willow Oaks Plantation, LLC	25	1,323	G, D	OL, AG, FW	S, W	0.77	0.00
TAR	TA-RO-078	29.9	Existing	TAR	Private	25	2,209	C, G, D	CI, OL	S, W	1.29	0.00
TAR	TA-RO-079A	30.3	Existing	TAR	Private	25	1,846	G, D, Gr	CI	S, W	1.07	0.00
TAR	TA-RO-079	30.3	Existing	TAR	Private	25	288	G, D, Gr	CI, AG	S, W	0.17	0.00
TAR	TA-RO-080	30.6	Existing	TAR	Private	26	3,587	G, D, Gr	G, CI, RD	S, W	2.15	0.00
TAR	TA-RO-080A	30.8	New	TAR	Private	21	1,476	Gr	AG, FW	S, W	0.70	0.00
TAR	TA-RO-083	31.1	Existing	TAR	PSNC, Attn: David Knott	22	241	G, Gr	CI, OL, FW, WL	S, W	0.12	0.00
PAR	PA-RO-082A	31.2	New	PAR	PSNC, Attn: David Knott	23	62	G	CI, OL	S, W	0.03	0.03
PAR	PA-RO-082	31.2	Existing	PAR	Private	39	161	G	CI, OL	S, W	0.14	0.14
TAR	TA-RO-081	31.2	Existing	TAR	Private	36	58	G	OL	S, W	0.05	0.00
TAR	TA-RO-083A	31.2	Existing	TAR	Private	25	51	Gr	AG	S, W	0.06	0.00
PAR	PA-RO-082B	31.2	Existing	PAR	PSNC	30	210	Gr	CI, OL	S, W	0.14	0.00
TAR	TA-RO-082D	CY-05	Existing	TAR	Private	59	6	A	CI	None	0.01	0.00
TAR	TA-RO-082E	CY-05	New	TAR	Private	73	7	A	CI	None	0.01	0.00
										North Carolina Subtotal:	**13.79**	**3.20**
										Amendment Project Total:	**46.47**	**3.26**

Note: The totals shown in this table may not equal the sum of addends due to rounding.
a/ TAR = Temporary Access Road, PAR = Permanent Access Road.
b/ Milepost ("MP") at final intersection of access road with construction workspace. Approximate MP rounded to the nearest tenth.
c/ Dominant surface condition provided. A = Asphalt, C = Concrete, D = Dirt, G = Gravel, Gr = Greenfield.
d/ AG = Agricultural; CI = Commercial/Industrial; FW = Upland Forest/Woodland; OL = Upland Open Land; OW = Open Water; RD = Residential; SC = Silviculture; WL = Wetland.
e/ P = Paving, G = Grading, S = Stone, C = Culverts, W = Widening, R = Realignment. No improvements to occur within wetlands crossed by the access road.
f/ Does not include area overlapping with pipeline, aboveground facility, or contractor/pipe storage yard construction workspaces.
g/ Does not include area overlapping with pipeline permanent right-of-way or aboveground facility permanent facility boundary (fenceline/footprint). Only PARs will have an operational area impact.

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Construction Plans

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Emergency Response Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Exotic and Invasive Species Control Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Fire Prevention and Suppression Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

General Blasting Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Hill View Farm Protection Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Horizontal Directional Drill Contingency Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Landowner Complaint Resolution Procedure

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Nighttime Construction Noise Management Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Public, Stakeholder, and Agency Participation Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Spill Prevention, Control and Countermeasure Plan and Unanticipated Discovery of Contamination Plan for Construction Activities in Virginia and North Carolina

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Traffic and Transportation Management Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Unanticipated Discovery Plan for Paleontological Resources

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Upland Erosion Control and Revegetation and Maintenance Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Water Resources Identification and Testing Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Wetland and Waterbody Construction and Mitigation Procedures

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-G

Winter Construction Plan

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-H

Foreign Utility Lines Crossed by the Amendment Project

Appendix 1-H

Foreign Utility Lines Crossed by the Amendment Project

State / County	MP	Type (Gas/Electric/Other)	Owner
Virginia			
Pittsylvania	0.30	Gas	Transco
Pittsylvania	0.30	Gas	Transco
Pittsylvania	0.30	Fiber Optic	AT&T
Pittsylvania	0.31	Gas	Transco
Pittsylvania	0.31	Gas	Transco
Pittsylvania	0.87	Electric	Appalachian Power Co.
Pittsylvania	1.15	Electric	Duke Energy
Pittsylvania	3.22	Unknown	Unknown
Pittsylvania	3.23	Electric	Dominion
Pittsylvania	3.28	Electric	Appalachian Power Co.
Pittsylvania	3.56	Electric	Unknown
Pittsylvania	4.63	Electric	VEPCO
Pittsylvania	4.67	Electric	C&PVA
Pittsylvania	6.40	Electric	Dominion
Pittsylvania	6.41	Electric	Dominion
Pittsylvania	6.41	Electric	Dominion
Pittsylvania	7.49	Fiber Optic	C & P Telephone
Pittsylvania	7.49	Electric	Danville Utilities
Pittsylvania	7.73	Water	Unknown
Pittsylvania	7.74	Electric	Enerco
Pittsylvania	9.62	Gas	Columbia Gas
Pittsylvania	9.65	Electric	Enerco
Pittsylvania	10.56	Electric	Enerco
Pittsylvania	10.77	Electric	Unknown
Pittsylvania	11.08	Electric	Danville Utilities
Pittsylvania	11.08	Fiber Optic	C&P Telephone
Pittsylvania	11.09	Fiber Optic	C&P Telephone
Pittsylvania	11.09	Electric	Danville Utilities
Pittsylvania	12.68	Electric	Danville Utilities
Pittsylvania	12.70	Fiber Optic	Unknown
Pittsylvania	13.51	Electric	Duke Energy
Pittsylvania	15.27	Electric	City of Danville
Pittsylvania	16.34	Electric	Enerco
Pittsylvania	16.35	Electric	Unknown
Pittsylvania	16.82	Electric	Enerco
Pittsylvania	16.85	Electric	VPCO
Pittsylvania	17.08	Electric	Duke Energy
Pittsylvania	17.08	Electric	Duke Energy
Pittsylvania	17.09	Electric	VPCO
Pittsylvania	18.67	Electric	City of Danville
Pittsylvania	18.72	Electric	Danville Utilities
Pittsylvania	18.73	Electric	Danville Utilities

Appendix 1-H Foreign Utility Lines Crossed by the Amendment Project			
State / County	**MP**	**Type (Gas/Electric/Other)**	**Owner**
Pittsylvania	18.73	Electric	Danville Utilities
Pittsylvania	19.25	Electric	VEPCO
Pittsylvania	19.47	Electric	Duke Energy
Pittsylvania	19.61	Electric	Duke Energy
Pittsylvania	19.65	Electric	Duke Energy
Pittsylvania	19.68	Electric	Enerco
Pittsylvania	19.77	Gas	Transco
Pittsylvania	19.78	Fiber Optic	AT&T
Pittsylvania	19.78	Gas	Transco
Pittsylvania	19.79	Gas	Transco
Pittsylvania	19.91	Electric	Danville Utilities
Pittsylvania	19.97	Electric	Danville Utilities
Pittsylvania	20.03	Electric	Danville Utilities
Pittsylvania	20.03	Electric	Danville Utilities
Pittsylvania	20.13	Sewer	City
Pittsylvania	20.28	Gas	Transco
Pittsylvania	20.28	Gas	Transco
Pittsylvania	20.29	Fiber Optic	AT&T
Pittsylvania	20.29	Gas	Transco
Pittsylvania	20.36	Electric	City of Danville
Pittsylvania	20.39	Electric	Centel
Pittsylvania	20.64	Electric	Duke Energy
Pittsylvania	22.47	Electric	Danville Utilities
Pittsylvania	22.85	Gas	Transco
Pittsylvania	22.86	Fiber Optic	AT&T
Pittsylvania	22.86	Gas	Transco
Pittsylvania	22.87	Gas	Transco
Pittsylvania	23.93	Electric	Unknown
Pittsylvania	24.19	Electric	Unknown
Pittsylvania	24.45	Gas	Southwestern Virginia Gas
Pittsylvania	24.45	Gas	Southwestern Virginia Gas
Pittsylvania	25.29	Gas	Transco
Pittsylvania	25.29	Gas	Transco
Pittsylvania	25.30	Fiber Optic	AT&T
Pittsylvania	25.30	Gas	Transco
Pittsylvania	25.37	Electric	APCO
Pittsylvania	26.61	Electric	Enerco
Pittsylvania	26.61	Electric	Enerco
North Carolina			
Rockingham	27.22	Electric	Duke Energy
Rockingham	27.62	Electric	Duke Energy
Rockingham	27.62	Water	Landowner
Rockingham	27.72	Gas	Transco

Appendix 1-H Foreign Utility Lines Crossed by the Amendment Project			
State / County	**MP**	**Type (Gas/Electric/Other)**	**Owner**
Rockingham	27.72	Gas	Transco
Rockingham	27.73	Fiber Optic	AT&T
Rockingham	27.73	Gas	Transco
Rockingham	28.32	Sewer	Unknown
Rockingham	28.91	Gas	Transco
Rockingham	28.91	Electric	Duke Power
Rockingham	28.96	Gas	Transco
Rockingham	28.96	Fiber Optic	AT&T
Rockingham	28.97	Gas	Transco
Rockingham	28.97	Gas	Transco
Rockingham	31.10	Gas	Transco
Rockingham	31.31	Electric	Duke Energy

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-I

Agency Correspondence

(Provided Under Separate Cover)

MVP Southgate Amendment Project

Docket No. CP25-XX-000

Resource Report 1

Appendix 1-J

Stakeholder Lists

Landowner Line List

(CUI//PRIV, Privileged and Confidential Information, Provided Under Separate Cover)

Federal, State, Local Stakeholder List (Public)

MVP Southgate Amendment Project
Appendix 1-J
U.S. Government Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Senator	Mark Warner		Senator	United States Senate				703 Hart Senate Office Building		Washington	20510		DC	
	Rachel Cohen		Press Secretary	Office of US Senator Mark Warner, Virginia				703 Hart Senate Office Building		Washington	20510		DC	
Senator	Tim Kaine		Senator	United States Senate				231 Russell Senate Office Building		Washington	20510		DC	
	Janine Kritschgau		Press Secretary	Office of US Senator Tim Kaine, Virginia				231 Russell Senate Office Building		Washington	20510		DC	
Senator	Thom Tillis		Senator	United States Senate				113 Dirksen Senate Office Building		Washington	20510		DC	
	Adam Webb		Press Secretary	Office of US Senator Thom Tillis, North Carolina				113 Dirksen Senate Office Building		Washington	20510		DC	
Senator	Ted Budd		Senator	United States Senate				304 Russell Senate Office Building		Washington	20510		DC	
Mr.	Mike Reynard		Press Secretary	Office of US Senator Ted Budd, North Carolina				304 Russell Senate Office Building		Washington	20510		DC	
Representative	Bob Good		Representative	United States House of Representatives				461 Cannon HOB		Washington	20515		DC	
Ms.	Courtney Ball		Legislative Assistant	Office of US Representative Bob Good, Virginia				461 Cannon HOB		Washington	20515		DC	
Representative	Addison McDowell		Representative	United States House of Representatives				1032 Longworth House Office Building		Washington	20515		DC	
Mr.	Zach Suero		Legislative Correspondent/ Press Assistant	Office of US Representative Addison McDowell, North Carolina				1032 Longworth House Office Building		Washington	20515		DC	
Representative	Tim Moore		Representative	United States House of Representatives				1424 Longworth House Office Building		Washington	20515		DC	
Ms.	Caleigh McDonough		Legislative Assistant	Office of US Representative Tim Moore, North Carolina				1424 Longworth House Office Building		Washington	20515		DC	

MVP Southgate Amendment Project
Appendix 1-J
Federal Agencies Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Mr.	Tommy Fennel		Supervisory Regulatory Project Manager	U.S. Army Corps of Engineers, Wilmington District	910-251-4952	Tommy.E.Fennel@usace.army.mil		69 Darlington Avenue		Wilmington	28403		NC	
Mr.	Dicky Harmon		Raleigh Regulatory Field Office Rep. for Rockingham County	U.S. Army Corps of Engineers, Wilmington District	919-724-8773	Richard.G.Harmon@usace.army.mil		3331 Heritage Trade Drive	Suite 105	Wake Forest	27587		NC	
Mr.	David Bailey		Project Manager	U.S. Army Corps of Engineers, Wilmington District	919-554-4884 x 30	David.E.Bailey2@usace.army.mil		3331 Heritage Trade Drive	Suite 105	Wake Forest	27587		NC	
Col.	Brian P. Hallberg		Norfolk District Commander	U.S. Army Corps of Engineers Norfolk District	757-201-7652			803 Front Street		Norfolk	23510		VA	
Mr.	Tom Walker		Regulatory Chief	U.S. Army Corps of Engineers Norfolk District	757-201-7657	William.T.Walker@usace.army.mil		803 Front Street		Norfolk	23510		VA	
Ms.	Jennifer Serafin		Western Section Chief	U.S. Army Corps of Engineers Norfolk District	540-344-1498	Jennifer.M.Serafin@usace.army.mil		Richard H. Poff Federal Building	210 Franklin Rd, SW Room 749	Roanoke	24018		VA	
Mr.	Todd Miller		Southern Section Chief	U.S. Army Corps of Engineers Norfolk District	804-323-3782	Todd.M.Miller@usace.army.mil		9100 Arboretum Parkway	Suite 235	Richmond	23236		VA	
Mr.	Troy Anderson		Acting Field Supervisor	U.S. Fish and Wildlife Service, Virginia Ecological Services Field Office	804-693-6694 x 166	troy_andersen@fws.gov		6669 Short Lane		Gloucester	23061		VA	
Ms.	Jennifer Stanhope		Acting Assistant Field Office Supervisor	U.S. Fish and Wildlife Service, Virginia Ecological Services Field Office	804-905-9781	Jennifer_stanhope@fws.gov		6669 Short Lane		Gloucester	23061		VA	
Mr.	Pete Benjamin		Field Office Supervisor	U.S. Fish and Wildlife Service, Raleigh Ecological Field Office	984-308-0802	pete_benjamin@fws.gov		3916 Sunset Ridge Road		Raleigh	27607		NC	
Mr.	John Ellis		Biologist	U.S. Fish and Wildlife Service, Eastern North Carolina Ecological Services	984-308-0809	John_ellis@fws.gov	P.O. Box 33726			Raleigh	27636	3726	NC	

MVP Southgate Amendment Project
Appendix 1-J
Tribe Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Ms.	Wenonah G. Haire, DMD		Tribal Historic Preservation Officer	Catawba Indian Nation	803-328-2427 x 224	wenonah.haire@catawba.com		1536 Tom Steven Road		Rock Hill	29730		SC	
Ms.	Caitlin Rogers		Assistant Tribal Historic Preservation Officer	Catawba Indian Nation	803-417-9057			1536 Tom Steven Road		Rock Hill	29730		SC	
Ms.	Elizabeth Toombs		Tribal Historic Preservation Officer	Cherokee Nation of Oklahoma	918-453-5000	elizabeth-toombs@cherokee.org	P.O. Box 948	Cattashowrock Town		Tahlequah	74465		OK	
Mr.	Walt "Red Hawk" Brown		Chief	Cheroenhaka (Nottoway) Tribe	757-562-7760	wdbrowniii@aol.com	P.O. Box 397			Courtland	23837		VA	
Ms.	Caroh "Water Blossom" Holley		Tribal Administrator	Cheroenhaka (Nottoway) Tribe		jokeoharrak@gmail.com	P.O. Box 397			Courtland	23837		VA	
Mr.	Stephen Adkins		Chief	Chickahominy Tribe		stephen.adkins@chickahominytribe.org		8200 Lott Cary Road		Providence Forge	23140		VA	
Ms.	Lindsey Johnson		Tribal Administrator	Chickahominy Tribe		lindsey.johnson@chickahominytribe.org		8200 Lott Cary Road		Providence Forge	23140		VA	
Mr.	Gerald "Jerry" A. Stewart		Chief	Chickahominy Tribe Eastern Division	804-966-7815	jerry.stewart@cit-ed.org		2895 Mt. Pleasant Road		Providence Forge	23140		VA	
Ms.	Penny Wynn		Tribal Administrator	Chickahominy Tribe Eastern Division	804-966-7815	penny.wynn@cit-ed.org		2895 Mt. Pleasant Road		Providence Forge	23140		VA	
Mr.	Greg Jacobs		Executive Director	Coharie Tribe	910-564-6909	greg_jacobs53@yahoo.com		7531 N. U.S. Highway 421		Clinton	28328		NC	
	Ammie Gordon "Gordie"		Chief	Coharie Tribe				7531 N. U.S. Highway 421		Clinton	28328		NC	
Ms.	Katelyn Lucas		Tribal Historic Preservation Officer	Delaware Nation	405-246-2448	klucas@delawarenation-nsn.gov		31064 SH 281		Anadarko	73005		OK	
Mr.	Michell Hicks		Chief	Eastern Band of Cherokee Indians	828-359-7000		P.O. Box 1927			Cherokee	28719		NC	
Ms.	Pam Straughan		Tribal Administrator	Eastern Band of Cherokee Indians		pamstraughan@ebci-nsn.gov	P.O. Box 1927			Cherokee	28719		NC	
Mr.	Russell Townsend		Tribal Historic Preservation Officer	Eastern Band of Cherokee Indians	828-554-6851	russtown@ebci-nsn.gov	P.O. Box 455	Qualla Boundary Reservation		Cherokee	28719		NC	
Dr.	Ogletree Richardson		Chief	Haliwa-Saponi Tribe	252-586-4017		P.O. Box 99			Hollister	27844		NC	
Ms.	Shalene Kanseah		Tribal Administrator	Haliwa-Saponi Tribe	252-586-4017	skanseah@haliwa-saponi.org	P.O. Box 99			Hollister	27844		NC	
Mr.	John Lowery		Chief	Lumbee Tribe	910-521-7861	jlowery@lumbeetribe.com	P.O. Box 2709			Pembroke	28372		NC	
Mr.	Ricky Harris		Tribal Administrator	Lumbee Tribe		rharris@lumbeetribe.com	P.O. Box 2709			Pembroke	28372		NC	
Mr.	Mark Custalow		Chief	Mattaponi Tribe	804-353-5908	mcustalow1@gmail.com		1314 Mattaponi Reservation Circle		West Point	23181		VA	
Mr.	Jonathan Caudill, Jr.		Chief	Meherrin Indian Tribe		billyoilman2@yahoo.com	P.O. Box 274			Ahoskie	27910		NC	
Mr.	Billy Melton		Councilman	Meherrin Indian Tribe		meherrincouncil@gmail.com	P.O. Box 274			Ahoskie	27910		NC	
Ms.	Diane Shields		Chief	Monacan Indian Nation	434-363-4864	Chief@MonacanNation.gov		111 Highview Drive		Madison Heights	24572		VA	
Mr.	Adrian Compton		Tribal Administrator	Monacan Indian Nation	434-363-4864	TribalAdmin@MonacanNation.gov		111 Highview Drive		Madison Heights	24572		VA	
Mr.	Keith Anderson		Chief	Nansemond Tribe		contact@nansemond.gov		1001 Pembroke Lane		Suffolk	23434		VA	
Ms.	Lynette Allston		Chief	Nottoway Indian Tribe of Virginia	252 325-5651	allstonfam@aol.com	P.O. Box 246	23187 Main Street		Capron	23829		VA	
Ms.	Vickie Jeffires		Tribal Administrator	Occaneechi Band of the Saponi Nation	919-304-3723	vickiejeffries@yahoo.com	P.O. Box 356			Mebane	27302		NC	
Mr.	W.A. "Tony" Hayes		Chief	Occaneechi Band of the Saponi Nation	336-421-1317	tony.hayes@trancasnc.com	P.O. Box 356			Mebane	27302		NC	
Mr.	Robert Gray		Chief	Pawmunkey Tribe	804-843-2353	robert.gray@pamunkey.org		1054 Pocahontas Trail		King William	23086		VA	
Mr.	Charles "Bootsie" Bullock		Chief	Patawomeck Tribe	540-842-0501	patawomecktribalcenter@gmail.com		638 Kings Highway		Fredericksburg	22405		VA	
Ms.	Minnie M. Lightner		Tribal Administrator	Patawomeck Tribe	540-842-0501	patawomecktribalcenter@gmail.com		638 Kings Highway		Fredericksburg	22405		VA	
Ms.	Anne Richardson		Chief and Tribal Administrator	Rappahannock Tribe	804-769-0260	info@rappahannocktribe.org		5036 Indian Neck Road		Indian Neck	23148		VA	
Mr.	Otis K. Martin		Chief	Sapony Tribe	484-585-3352	sappony@msn.com	P.O. Box 3265			Roxboro	27574		NC	
Mr.	Dante Desiderio		Tribal Administrator	Sapony Tribe	484-585-3352	sappony@msn.com	P.O. Box 3265			Roxboro	27574		NC	
Mr.	W. Frank Adams		Chief	Upper Mattaponi	804-769-0041	chief@umitribe.org		13476 King William Road		King William	23086		VA	
Mr.	Reggie Tupponce		Tribal Administrator	Upper Mattaponi	804-769-0041			13476 King William Road		King William	23086		VA	
Reverend	Rev. Mike Jacobs		Chief	Waccamaw Siouan Tribe	910-619-3967	revmdjacobs@gmail.com		7275 Old Lake Road		Bolton	28423		NC	

MVP Southgate Amendment Project
Appendix 1-J
Virginia State Agencies Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Mr.	Dave Davis		Manager of Office of Wetlands & Stream Protection	Virginia Department of Environmental Quality	804-698-4105	Dave.Davis@deq.virginia.gov	P.O. Box 1105			Richmond	23218		VA	
Ms.	Rebeccah Rochet		Deputy Director Division of Water Permitting	Virginia Department of Environmental Quality	804-801-2950	rebeccah.rochet@deq.virginia.gov	P.O. Box 1105			Richmond	23218		VA	
Mr.	Michael Mussomeli		Permit Specialist	Virginia Department of Environmental Quality	757-956-3188	michael.mussomeli@deq.virginia.gov	P.O. Box 1105			Richmond	23218		VA	
Ms.	Rene Hypes		Environmental Review Coordinator	Virginia Department of Conservation and Recreation, Natural Heritage Environmental Review	804-371-2708	rene.hypes@dcr.virginia.gov		600 East Main Street		Richmond	23219		VA	
Mr.	Roger Kirchen		Director	Virginia Department of Historic Resources, Division of Review and Compliance	804-482-6091	roger.kirchen@dhr.virginia.gov		2801 Kensington Avenue		Richmond	23221		VA	
	Adrienne Birge-Wilson		Project Review Architectural Historian	Virginia Department of Historic Resources, Division of Review and Compliance	804-482-6092	Adrienne.Birge-Wilson@dhr.virginia.gov		2801 Kensington Avenue		Richmond	23221		VA	
Ms.	Nicki Gustafson		Project Review Assistant	Virginia Department of Conservation and Recreation, Natural Heritage Environmental Review	804-625-3979	Nicki.Gustafson@dcr.virginia.gov		600 East Main Street		Richmond	23219		VA	
Ms.	Hannah Schul		Program Manager	Virginia Department of Wildlife Resources	804-968-8546	Hannah.Schul@DWR.virginia.gov	P.O. Box 1105			Richmond	23218		VA	
Mr.	Mike Rolband		Director	Virginia Department of Environmental Quality	804-698-4020	michael.rolband@deq.virginia.gov	P.O. Box 1105			Richmond	23218		VA	
	Danielle Simms		Manager	Virginia Department of Environmental Quality, Office of Environmental Justice	804-914-3508	Danielle.Simms@deq.virginia.gov	P.O. Box 1105			Richmond	23218		VA	

MVP Southgate Amendment Project
Appendix 1-J
Virginia State Government Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Gov.	Glenn Youngkin		Governor	Commonwealth of Virginia		glenn.youngkin@governor.virginia.gov	P.O. Box 1475	Commonwealth of Virginia	Constituent Services	Richmond	23218		VA	
	John Littel		Chief of Staff	Office of the Governor of Virginia			P.O. Box 1475	Commonwealth of Virginia	Constituent Services	Richmond	23218		VA	
	Caren Merrick		Secretary	Commerce and Trade			P.O. Box 1475			Richmond	23218		VA	
	Travis Voyles		Secretary	Natural and Historic Resources			P.O. Box 1475			Richmond	23218		VA	
	Terrance C. Cole		Secretary	Public Safety and Homeland Security			P.O. Box 1475			Richmond	23218		VA	
Lt. Gov.	Winsome Earle-Sears		Lieutenant Governor	Commonwealth of Virginia		ltgov@ltgov.virginia.gov	P.O. Box 1195			Richmond	23218		VA	
	Daniel W. Marshall III		Delegate	Virginia House of Delegates - District 49			P.O. Box 439			Danville	24543		VA	
	Eric Phillips		Delegate	Virginia House of Delegates - District 48			P.O. Box 406			Richmond	23218		VA	
	Terry Kilgore		Delegate	Virginia House of Delegates			P.O. Box 669			Gate City	24251		VA	
	Eric Zehr		Delegate	Virginia House of Delegates - District 51				21430 Timberlake Road		Lynchburg	24502		VA	
	Tommy Wright		Delegate	Virginia House of Delegates - District 50			P.O. Box 1323			Victoria	23974		VA	
	Todd Gilbert		House Republican Leader	Virginia House of Delegates			P.O. Box 309			Woodstock	22664		VA	
	Don Scott		Speaker of the House	Virginia House of Delegates				355 Crawford Street	Suite 704	Portsmouth	23704		VA	
	Ryan McDougle		Senate Republican Leader	Virginia Senate			P.O. Box 187			Mechanicsville	23111		VA	
	Tammy Mulchi		Senator	Virginia Senate			P.O. Box 1845			Clarksville	23927		VA	
	Bill Stanley		Senator	Virginia Senate				13508 Booker T. Washington Hwy		Moneta	24121		VA	
	Louise Lucas		Senate President Pro Tempore	Virginia Senate			P.O. Box 700			Portsmouth	23705		VA	
	Scott Surovell		Senate Democratic Leader	Virginia Senate			P.O. Box 289			Mount Vernon	22121		VA	

MVP Southgate Amendment Project
Appendix 1-J
Virginia Local Government Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Chair	Darrell Dalton		Chair, Board of Supervisors	Pittsyvlania County	434-334-6377		P.O. Box 426			Chatham	24531		VA	
Mr.	Robert M. Tucker		Vice Chairman, Board of Supervisors	Pittsyvlania County	434-306-2099		P.O. Box 426			Chatham	24531		VA	
Mr.	William V. "Vic" Ingram		Supervisor	Pittsyvlania County	434-770-3921		P.O. Box 426			Chatham	24531		VA	
Mr.	Tim Dudley		Supervisor	Pittsyvlania County	434-770-3692		P.O. Box 426			Chatham	24531		VA	
Mr.	Kenneth Bowman		Supervisor	Pittsyvlania County	434-346-7021		P.O. Box 426			Chatham	24531		VA	
Mr.	Eddie Hite		Supervisor	Pittsyvlania County	434-346-7022		P.O. Box 426			Chatham	24531		VA	
Mr.	Murray Whittle		Supervisor	Pittsyvlania County	434-346-7013		P.O. Box 426			Chatham	24531		VA	
Mr.	Vincent Shorter		Interim County Administrator/Treasurer	Pittsyvlania County	434-432-7960		P.O. Box 426			Chatham	24531		VA	
Mr.	Matt Rowe		Economic Development Director	Pittsyvlania County			P.O. Box 426			Chatham	24531		VA	
Mr.	Vaden Hunt		County Attorney	Pittsyvlania County	434-432-7720		P.O. Box 426			Chatham	24531		VA	
Mr.	Dave Arnold		Assistant County Administrator	Pittsyvlania County	434-770-0394		P.O. Box 426			Chatham	24531		VA	
Mr.	Ken Larking		City Manager	City of Danville		klarking@danvilleva.gov	P.O. Box 3300			Danville	24543		VA	
Ms.	Corrie Teague Bobe		Director, Economic Development	City of Danville	434-793-1753	corrie.bobe@discoverdanville.com	P.O. Box 3300			Danville	24543		VA	
Mr.	Chris Adcock		Director, Public Works	Pittsyvlania County	434-432-7135		P.O. Box 426			Chatham	24531		VA	
Mr.	Rodney Poole		Solid Waste Manager	Pittsyvlania County	434-432-7980		P.O. Box 426			Chatham	24531		VA	
	Bobby Higgins		Fire Chief	Chatham Fire Department	434-432-1516			35 Depot St.		Chatham	24531		VA	
	Mark Jones		Superintendent	Pittsylvania County Public Schools	434-432-2761		P.O. Box 232	39 Bank Street SE		Chatham	24531		VA	
	Troy Talley		Fire Chief	Tunstall Fire Department	434-724-6677			740 Tunstall High Road		Dry Fork	24549		VA	
	Bill Hubert		Deputy Fire Chief	Dry Fork Fire Department	434-432-0431			4860 Dry Fork Road		Dry Fork	24549		VA	
	Brent Weinkauf		Director	Pittsylvania County Pet Center	434-432-1989		P.O. Box 426			Chatham	24531		VA	

MVP Southgate Amendment Project
Appendix 1-J
North Carolina State Government Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Governor	Josh Stein		Governor	State of North Carolina	919-814-2000			20301 Mail Service Center		Raleigh	27699	0301	NC	
	Seth Dearmin		Chief of Staff	Office of Governor Josh Stein, North Carolina	919-814-2000			20301 Mail Service Center		Raleigh	27699	0301	NC	
	Jasmine McGhee		Deputy Chief of Staff	Office of Governor Josh Stein, North Carolina	919-814-2000			20301 Mail Service Center		Raleigh	27699	0301	NC	
Lt. Gov.	Rachel Hunt		Lt. Governor	State of North Carolina	919-814-3680			20401 Mail Service Center		Raleigh	27699	0401	NC	
	Krishana Polite		Chief of Staff	Office of Lt. Governor Rachel Hunt	919-814-3680	krishana.polite@nc.gov		20401 Mail Service Center		Raleigh	27699	0401	NC	
Senator	Phil Berger		Senate President Pro Tempore	North Carolina Senate - District 26	919-733-5708	Phil.Berger@ncleg.gov		16 W Jones Street, Room 2007		Raleigh	27601		NC	
Senator	Paul Newton		Senate Majority Leader	North Carolina Senate - District 34	919-733-7223	paul.newton@ncleg.gov		300 N. Salisbury Street, Rm. 300-B		Raleigh	27603		NC	
Senator	Bill Rabon		Senator	North Carolina Senate - District 8	919-733-5963	Bill.Rabon@ncleg.gov		16 W Jones Street, Room 2010		Raleigh	27601		NC	
Senator	Dan Blue		Senator	North Carolina Senate - District 14	919-733-5752	dan.blue@ncleg.gov		16 W Jones Street, Room 1129		Raleigh	27601		NC	
Representative	John R. Bell IV		House Majority Leader	North Carolina House of Representatives - District 10	919-715-3017	John.Bell@ncleg.gov		16 West Jones Street, Rm. 2301		Raleigh	27601	1096	NC	
Representative	Reece Pyrtle		Representative	North Carolina House of Representatives - District 65	919-733-5779	Reece.Pyrtle@ncleg.gov		300 N. Salisbury Street, Rm. 417A		Raleigh	27603	5925	NC	
Representative	Dennis Riddell		Representative	North Carolina House of Representatives - District 64	919-733-5905	Dennis.Riddell@ncleg.gov		6343 Beale Rd		Snow Ca	27349		NC	
Representative	Dean Arp		Representative	North Carolina House of Representatives - District 69	919-715-3007	Dean.Arp@ncleg.gov	P.O. Box 1511			Monroe	28111	1511	NC	
Representative	Kyle Hall		Representative	North Carolina House of Representatives - District 91	919-733-5609	Kyle.Hall@ncleg.gov	P.O. Box 2024			King	27021		NC	
Representative	Robert T. Rieves II		House Minority Leader	North Carolina House of Representatives - District 54	919-733-0057	robert.rieves@ncleg.gov		300 N. Salisbury Street, Rm. 506		Raleigh	27603		NC	
Senator	Tim Moffitt		Senator	North Carolina Senate - District 48	919-733-5745	tim.moffitt@ncleg.gov		16 West Jones St., Room 2111		Raleigh	27601		NC	
Senator	Sydney Batch		Senate Minority Leader	North Carolina Senate - District 17	919-733-5653	Sydney.Batch@ncleg.gov		16 West Jones Street, Rm. 1118		Raleigh	27601		NC	
Representative	Destin Hall		House Speaker	North Carolina House of Representatives - District 87	919-733-3451	destin.hall@ncleg.gov		16 West Jones Street, Rm. 2304		Raleigh	27601		NC	

MVP Southgate Amendment Project
Appendix 1-J
North Carolina State Agencies Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Ms.	Renee Gledhill-Earley		Environmental Review Coordinator	North Carolina State Historic Preservation Office	919-807-6579	renee.gledhill-earey@ncdcr.gov		4619 Mail Service Center		Raleigh	27699	4619	NC	
Ms.	Katie Harville		Environmental Review Specialist	North Carolina State Historic Preservation Office	919-814-6581	katie.harville@dncr.nc.gov		4619 Mail Service Center		Raleigh	27699	4619	NC	
Ms.	Dylan Clark		Deputy State Archaeologist - Land	North Carolina State Historic Preservation Office	828-250-3109	dylan.clark@dncr.nc.gov		4619 Mail Service Center		Raleigh	27699	4619	NC	
	Chris Southerly		State Archaeologist	North Carolina State Historic Preservation Office	919-810-0976	chris.southerly@dncr.nc.gov		4619 Mail Service Center		Raleigh	27699	4619	NC	
Ms.	Rosie Blewitt		Assistant State Archaeologist and Site Registrar	North Carolina State Historic Preservation Office	919-814-6558	rosemarie.blewitt@dcnr.nc.gov		4619 Mail Service Center		Raleigh	27699	4619	NC	
Ms.	Misty Buchanan		Director	North Carolina Natural Heritage Program, Nature Research Center	919-707-8107	misty.buchanan@ncdncr.gov		1651 Mail Service Center		Raleigh	27699	1651	NC	
Ms.	Lauren		Business Services Coordinator	North Carolina Department of Natural and Cultural Resources, Natural Heritage Program	919-707-9392	lauren.schlosser@dncr.nc.gov		1651 Mail Service Center		Raleigh	27699	1651	NC	
Mr.	David Lambert		Director of Intergovernmental Affairs & Economic Development	North Carolina Department of Environmental Quality	919-707-8565	David.Lambert@deq.nc.gov		217 W Jones St.		Raleigh	27603		NC	
Mr.	Johnathan Watts		Environmental Assistance Coordinator	North Carolina Department of Environmental Quality	910-433-3353	Johnathan.watts@deq.nc.gov		225 Green Street	Suite 714	Fayetteville	28301			
Mr.	Vann Stancil		Special Project Coordinator	North Carolina Wildlife Resource Commission	919-284-5218	Vann.Stancil@ncwildlife.org		1701 Mail Service Center		Raleigh	27699	1700	NC	
Mr.	Olivia Munzer		Western Piedmont Habitat Conservation Coordinator	North Carolina Wildlife Resource Commission	919-707-0364	olivia.munzer@ncwildlife.org		1701 Mail Service Center		Raleigh	27699	1700	NC	

MVP Southgate Amendment Project
Appendix 1-J
North Carolina Local Government Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Mr.	Lance Metzler		County Manager	Rockingham County	336-342-8101	lmetzler@co.rockingham.nc.us	P.O. Box 101			Wentworth	27375		NC	
Chair	Charlie Hall		Chairman	Rockingham County Board of Commissioners	336-342-8102	cghall@co.rockingham.nc.us	P.O. Box 101			Wentworth	27375		NC	
Commissioner	Kevin Berger		Commissioner	Rockingham County Board of Commissioners	336-342-8102	kberger@co.rockingham.nc.us	P.O. Box 101			Wentworth	27375		NC	
Commissioner	Don Powell		Vice-Chairman	Rockingham County Board of Commissioners	336-342-8102	dpowell@co.rockingham.nc.us	P.O. Box 101			Wentworth	27375		NC	
Commissioner	Houston Barrow		Commissioner	Rockingham County Board of Commissioners	336-342-8102	hbarrow@co.rockingham.nc.us	P.O. Box 101			Wentworth	27375		NC	
Commissioner	Mark F. Richardson		Commissioner	Rockingham County Board of Commissioners	336-342-8102					Wentworth	27375		NC	
Mrs.	Leigh Cockram		Director	Rockingham County Center for Economic Development, Small Business & Tourism	336-342-8138	lcockram@co.rockingham.nc.us		425 NC 65		Reidsville	27320		NC	
Mr.	Randy Hunt		Director	Rockingham County Small Business Center	336-342-4261 x 2245	huntr7156@rockinghamcc.edu		568 County Home Road		Wentworth	27375		NC	
	Hiram Marziano		Director	Rockingham County Community Development	336-342-8130	planners@co.rockingham.nc.us	P.O. Box 105			Wentworth	27375		NC	
Mr.	Ronnie Tate		Director	Rockingham County Engineering and Public Utilities	336-342-8371	rtate@co.rockingham.nc.us	P.O. Box 132			Wentworth	27375		NC	
Mr.	Rodney Cates		Director	Rockingham County Emergency Services	336-634-3000	rcates@co.rockingham.nc.us	P.O. Box 86			Wentworth	27375		NC	
Mr.	Clyde Albright		County Attorney	Rockingham County	336-342-8347	calbright@co.rockingham.nc.us		371 NC Hwy 65		Reidsville	27320		NC	
	Sam Page		Sheriff	Rockingham County	336-634-3232	spage@co.rockingham.nc.us	P.O. Box 128			Wentworth	27375		NC	
	Sean Gladieux		Director of Safety and PIO	Rockingham County Schools	336-627-2602	sgladieux@rock.k12.nc.us		511 Harrington Highway		Eden	27288		NC	
Mr.	Jon Mendenhall		City Manager	City of Eden	336-623-2110	jmendenhall@edennc.us		308 E Stadium Dr		Eden	27288		NC	
Mr.	Paul Moore		Chief of Police	City of Eden	336-623-9755			308-B E. Stadium Drive		Eden	27288		NC	
Mr.	Ken White		Main Street Director	City of Eden	336-612-8039	kwhite@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Kelly Stultz		Planning Director	City of Eden	336-623-2110	kstultz@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Neville Hall		Mayor	City of Eden	336-623-2110	nhall@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Cindy Adams		Marketing and Special Events Manager	City of Eden	336-623-2110	cadams@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Jason Wood		Council Member	City of Eden	336-623-2110	jwood@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Bruce Nooe		Council Member	City of Eden	336-623-2110	bnooe@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Kenny Kirkman		Council Member	City of Eden	336-623-2110	kkirkman@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Jerry Epps		Council Member	City of Eden	336-623-2110	jepps@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Tommy Underwood		Council Member	City of Eden	336-623-2110	tunderwood@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Greg Light		Council Member	City of Eden	336-623-2110	glight@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Gerald Ellis		Mayor Pro Tem	City of Eden	336-623-2110	gellis@edennc.us		308 E Stadium Dr		Eden	27288		NC	
	Summer Moore		City Manager	Reidsville		smoore@reidsvillenc.gov		230 W. Morehead Street		Reidsville	27320		NC	
	Megan Garner		City Manager	Graham	336-570-6700			201 South Main Street		Graham	27253		NC	
	Sean Tencer		City Manager	Haw River		stencer@townofhawriver.com		403 E Main Street		Haw River	27258		NC	
	Heidi York		County Manager	Alamance County	336-570-4044	heidi.york@alamancecountync.gov		124 West Elm Street		Graham	27253		NC	
	Rik Stevens		County Attorney	Alamance County	336-570-4038			124 West Elm Street		Graham	27253		NC	
	Craig Honeycutt		City Manager	Burlington	336-222-5020	choneycutt@burlingtonnc.gov	P.O. Box 1358	425 S Lexington Ave.		Burlington	27216		NC	
	Kerry Pinnix-Taylor		Deputy Director	Rockingham County Center for Economic Development, Small Business & Tourism	336-342-8138	ktaylor@rockinghamcountync.gov		425 NC 65		Reidsville	27320		NC	

MVP Southgate Amendment Project
Appendix 1-J
Environmental Justic Outreach Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
	Jim Burnette		Executive Director	Eden Chamber of Commerce	336-623-3336	info@edenchamber.com		678 S. Van Buren Road		Eden	27288			
	Anne Moore-Sparks		President & CEO	Danville-Pittsylvania Chamber of Commerce		anne@dpchamber.org		150 Slayton Ave.		Danville	24540		VA	
	Casey Vincent		Executive Director	United Way of Rockingham County	336-342-7768	casey@uwrockingham.org		301 Cherokee Camp Road		Reidsville	27320		NC	
	Gerri Hunt		Board President	United Way of Rockingham County				301 Cherokee Camp Road		Reidsville	27320		NC	
	Gary Terry		Executive Director	Boys and Girls Club of Danville	434-792-6617			123 Foster St.		Danville	24541		VA	
	Cathy Powers		Executive Director	Aging, Disability and Transit Services of Rockingham County	336-394-1307	cpowers@adtsrc.org		105 Lawsonville Avenue		Reidsville	27320		NC	
	Victoria Minton		CEO	Pittsylvania County Community Action Center	434-432-8250	vminton@pccainc.org	P.O. Box 1119	348 N Main St		Chatham	24531		VA	
	Vanessa Scearce		Development Director	Danville Pittsylvania Boys & Girls Clubs	434-792-6617			123 Foster St.		Danville	24541		VA	
	Adam Louhoff		Principal	Pittsylvania County Career & Tech Center	434-432-9416	adam@louhoff@pcs.k12.va.us		11700 US Highway 29		Chatham	24531		VA	
	Tonia Lewis		Owner	Life's Blessings Soup Kitchen				145 N Fieldcrest Rd.		Eden	27288		NC	
	Shannon Hair		Executive director	Danville Community College Foundation	434-797-8495	shannon.hair@danville.edu		1008 South Main Street		Danville	24541		VA	
	Anita Royston		President	Pittsylvania County NAACP				US 29		Chatham	24531		VA	
	David Dillard		Dean	Rockingham Community College	336-342-4261	dillardd6531@rockinghamcc.edu	P.O. Box 38			Wentworth	27375		NC	
	Tim Shelton		Member liaison	Ruritan Club of Pittsylvania County				4860 Dry Fork Road		Dry Fork	24549		VA	
	Wendy Young		Director, Welding Program	Rockingham Community College	336-342-4261	youngw@8050@rockinghamcc.edu	P.O. Box 38	215 Wrenn Memorial Road		Wentworth	27375		NC	
	Sandra Meadows		Co-owner	RoCo Is Home, LLC	276-806-5488	rocoishome@gmail.com		622 Washington St.		Eden	27288		NC	
	Tiffany Haworth		Executive Director	Dan River Basin Association	336-627-6261	thaworth@danriver.org		413 Church St.	Suite 401	Eden	27288		NC	
	Arthur Lewis		Pastor	Gospel Tabernacle				145 N Fieldcrest Rd.		Eden	27288		NC	
	Pete Baker		Executive Director	Boys and Girls Club of Eden	336-627-7960	pbaker@bgceden.com	P.O. Box 4628	1026 Harris St		Eden	27288		NC	
	Dennis Seaver		Pastor	Immanuel Friends Church	336-635-1964			502 S Fieldcrest Road		Eden	27288		NC	
	Johnny Cox		Pastor	Summit Road Church of God	336-627-8989			621 Summit Road		Eden	27288		NC	
	Ronnie Tolbert		Facilities Manager	Draper Pentecostal Holiness Church				1608 E Delaware Ave.		Eden	27288		NC	
	Raphiel Hampton		Treasurer/Director	Hampton Historical Foundation				1508 17th St. NW		Washington	20036		DC	
	Brian Porter		Fire Chief	Draper Volunteer Fire Department				1422 Front St		Eden	27288		NC	
	Tim Shelton		Chair of the Board	Dry Fork Volunteer Fire Department				4860 Dry Fork Road		Dry Fork	24549		VA	
	Bill Hubert		Fire Chief	Dry Fork Volunteer Fire Department				4860 Dry Fork Road		Dry Fork	24549		VA	
	Mike Taylor		Sheriff	Pittsylvania County Sheriff's Office	434-432-7800			21 S Main St		Chatham	24531		VA	
	Troy Simpson		Pastor	Banister Primitive Baptist Church				300 Green Bay Road		Chatham	24531		VA	
	Randy Hunt			Rotary of Eden			P.O. Box 3212			Eden	27289		NC	
	Phil Mauger			Rotary of Chatham			P.O. Box 855			Chatham	24531		VA	
	Mark Jones		Superintendent	Pittsylvania County Public Schools	434-432-2761		P.O. Box 232	39 Bank Street SE		Chatham	24531		VA	
	Sean Gladieux		Director of Safety and PIO	Rockingham County Schools	336-627-2602	sgladieux@rock.k12.nc.us		511 Harrington Highway		Eden	27288		NC	
	Krystal Davis		Executive Director	Habitat for Humanity	434-793-3630			2805 Riverside Drive	Suite J	Danville	24540		VA	
	Butch Salmons		Pastor	Harmony Church	434-685-5673			3965 Oak Hill Road		Danville	24541		VA	
	Antonio Logan		Pastor	Greater Triumph Missionary Baptist Church	434-432-8013			581 Fairview Road		Chatham	24531		VA	
	Bill Carter		Congregant	White Oak Grove Church	434-432-8117			1440 Dry Fork Road		Dry Fork	24549		VA	
	Ann Haynes		Principal	Heritage Academy	434-432-8380			1461 Dry Fork Road		Dry Fork	24549		VA	
	Dorothy Neals		President	Dan River-Blairs Civic League										
	Jason Reece		Principal	STEM Academy	434-432-8185			956 Woodlawn Road		Chatham	24531		VA	

MVP Southgate Amendment Project
Appendix 1-J
NGO Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Mr.	Mike Fox		President & CEO	Piedmont Triad Partnership				416 Gallimore Dairy Rd	Suite M	Greensboro	27409		NC	
Ms.	Penny Whiteheart		Executive Vice President	Piedmont Triad Partnership				416 Gallimore Dairy Rd	Suite M	Greensboro	27409		NC	
	Jim Burnette		Executive Director	Eden Chamber of Commerce	336-623-3336	info@edenchamber.com		678 S. Van Buren Road		Eden	27288		NC	
	Anne Moore-Sparks		President & CEO	Danville-Pittsylvania Chamber of Commerce		anne@dpchamber.org		150 Slayton Ave.		Danville	24540		VA	
Mr.	Jason El Koubi		President and CEO	Virginia Economic Development Partnership		jelkoubi@vedp.org	P.O. Box 798	901 East Cary Street		Richmond	23219		VA	
Mr.	Katherine Goodwin		Senior Vice President, Business Investment	Virginia Economic Development Partnership			P.O. Box 798	901 East Cary Street		Richmond	23219		VA	
Ms.	Nicole Riley		Senior Vice President, Policy and Strategic Partnerships	Virginia Economic Development Partnership			P.O. Box 798	901 East Cary Street		Richmond	23219		VA	
Mr.	Barry DuVal		President & CEO	Virginia Chamber of Commerce				919 East Main Street	Suite 1900	Richmond	23219		VA	
Mr.	Gary Salamido, MS		President and CEO	North Carolina Chamber of Commerce				701 Corporate Center Drive	Suite 400	Raleigh	27607		NC	
Ms.	Kate Catlin Payne		Vice President, Communications	North Carolina Chamber of Commerce				701 Corporate Center Drive	Suite 400	Raleigh	27607		NC	
Mr.	Jake Cashion		Vice President, Government Affairs	North Carolina Chamber of Commerce				701 Corporate Center Drive	Suite 400	Raleigh	27607		NC	
	Josh Grant		Director of Policy and Strategic Partnerships	North Carolina Economic Development Association			P.O. Box 30934			Raleigh	27622		NC	
	Liz Dobbins-Smith		Managing Director	North Carolina Economic Development Association			P.O. Box 30934			Raleigh	27622		NC	
Mr.	Chris Chung		CEO	Economic Development Partnership of North Carolina				15000 Weston Parkway		Cary	27513	2118	NC	
	Kevin Martin		Executive Director	Carolina Utility Customers Association (CUCA)				8386 Six Forks Road	Suite 103	Raleigh	27615		NC	
	David McGowan		Executive Director	API Southeast		mcgowand@api.org		434 Fayetteville St.	Suite 2020	Raleigh	27601		NC	
	Dylan Bishop		Government Affairs	Virginia Oil and Gas Association	804-420-3320	dbishop@wilsav.com		8201 Greensboro Drive	Suite 1001	McLean	22102		VA	
	William Guerrant		President	Pittsylvania Historical Society			P.O. Box 1186			Chatham	24531		VA	
	Coy J. Idol		Executive Director	Rockingham County Historical Society	336-634-4949		P.O. Box 84			Wentworth	27375		NC	
	Gerri Hunt		Board President	United Way of Rockingham County				301 Cherokee Camp Road		Reidsville	27320		NC	
	Gary Terry		Executive Director	Boys and Girls Club of Danville	434-792-6617			123 Foster St.		Danville	24541		VA	
	Vanessa Scearce		Development Director	Boys and Girls Club of Danville	434-792-6617			123 Foster St.		Danville	24541		VA	
	Cathy Powers		Executive Director	Aging, Disability and Transit Services of Rockingham County	336-394-1307	cpowers@adtsrc.org		105 Lawsonville Avenue		Reidsville	27320		NC	
	Victoria Minton		CEO	Pittsylvania County Community Action Center	434-432-8250	vminton@pccainc.org	P.O. Box 1119	348 N Main St		Chatham	24531		VA	
Mr.	Tom Hendrickson		President	Moving NC Forward	919-829-1132	tom@lookoutnc.com		301 Hillsborough Street	Suite 950	Raleigh	27603		NC	
	Adam Louhoff		Principal	Pittsylvania County Career & Tech Center	434-432-9416	adam@louhoff@pcs.k12.va.us		11700 US Highway 29		Chatham	24531		VA	
	Travis Wood		Director, Welding Program	Pittsylvania County Career & Tech Center	434-432-9416	travis.wood@pcs.k12.va.us		11700 US Highway 29		Chatham	24531		VA	
	Tonia Lewis		Owner	Life's Blessings Soup Kitchen				145 N Fieldcrest Rd.		Eden	27288		NC	
	Shannon Hair		Executive director	Danville Community College Foundation	434-797-8495	shannon.hair@danville.edu		1008 South Main Street		Danville	24541		VA	
	Brett Vassey		President and CEO	Virginia Manufacturers Association	804-643-7489	bvassey@vamanufacturers.com		2112 W Laburnum Ave #205		Richmond	23227		VA	
	Nancy Hawkins		Finance Director	Danville Pittsylvania Boys & Girls Clubs	434-792-6617			123 Foster St.		Danville	24541		VA	
	Lisa Griffith		Publisher	Eden's Own Journal	336-627-9234	lisag63@edensown.com		5197 NC Highway 14		Eden	27288		NC	
	Lee Cassada		Executive Director	Olde Dominion Agricultural Complex	434-432-8026	lcassada@theodac.com		19783 US Highway 29		Chatham	24531		VA	
	Casey Vincent		Executive Director	United Way of Rockingham County	336-342-7768	casey@uwrockingham.org		301 Cherokee Camp Road		Reidsville	27320		NC	
	David Dillard		Dean	Rockingham Community College	336-342-4261	dillardd6531@rockinghamcc.edu	P.O. Box 38			Wentworth	27375		NC	
	Wendy Wood		Owner	Railroad Cafe	336-635-1709			239 N Main St.		Eden	27288		NC	
	Tim Shelton		Member liaison	Ruritan Club of Pittsylvania County				4860 Dry Fork Road		Dry Fork	24549		VA	
	Wendy Young		Director, Welding Program	Rockingham Community College	336-342-4261	youngw@8050@rockinghamcc.edu	P.O. Box 38	215 Wrenn Memorial Road		Wentworth	27375		NC	
	Sandra Meadows		Co-owner	RoCo Is Home, LLC	276-806-5488	rocoishome@gmail.com		622 Washington St.		Eden	27288		NC	
Mr.	Rodney Cheek		Chair	Alamance County Historical Properties Commission				215 N. Graham-Hopedale Road		Burlington	27253		NC	
Dr.	William Murray Vincent		Director	Alamance County Historical Museum				4777 NC Highway 62 South		Burlington	27215		NC	
Ms.	Noell Purcell		Secretary, Graham Historical Museum Advisory Board	Graham Historical Museum		grahamhistoricalmuseum@cityofgraham.com		135 West Elm Street		Graham	27253		NC	
				Haw River Historical Association			P.O. Box 936			Haw River	27258		NC	
Ms.	Traci Davenport		Executive Director	Mebane Historical Museum			P.O. Box 1541			Mebane	27302		NC	
				Textile Heritage Museum		textileheritagemuseum@gmail.com		2406 Glencoe Street		Burlington	27217		NC	
	Chris Ayers		Executive Director	North Carolina Utilities Commission	919-733-2435	chris.ayers@psncuc.nc.gov		4326 Mail Service Center		Raleigh	27699	4300	NC	

MVP Southgate Amendment Project
Appendix 1-J
ENGO Contact List

Prefix	Contact Name	Blank	Contact Title	Contact Organization	Phone	Email	P.O. Box	Address Line 1	Address Line 2	City	Zip 1	Zip 2	State	Docket
Ms.	Tiffany Haworth		Executive Director	Dan River Basin Association	336-627-6261	thaworth@danriver.org		413 Church St.	Suite 401	Eden	27288		NC	
Mr.	Mark Bishopric		President	Irvine River Company	336-627-6204	markb@irvineriver.com	P.O. Box 3207	413 Church St.		Eden	27289		NC	
Mr.	Geoff Gisler		Staff Attorney	Southern Environmental Law Center	919-967-1450	ggisler@selcnc.org		601 West Rosemary St.	Suite 220	Chapel Hill	27516	2356	NC	
Ms.	Elaine Murrin		Chair	Graham Historical Museum Advisory Board		Ekmurrin5@gmail.com	P.O. Drawer 357			Graham	27253		NC	