
*Invasive Species Control Plan for
Didymosphenia geminata at Gunpowder Falls*

Line MB Extension Project

Prepared for

Columbia Gas Transmission, LLC

January 31, 2014

CH2MHILL®

1100 Wayne Avenue

Suite 670

Silver Spring, MD 20910

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Table(s)

Table 1 Acceptable Disinfection Methods to be Used for Didymo Control on the Line MB Extension Project

Attachment(s)

Attachment 1 – Decontamination Station Location Maps

Introduction

Columbia Gas Transmission, LLC (Columbia) has proposed to construct the Line MB Extension Project (Project), in Baltimore and Harford Counties, Maryland (Figure 1.1). This *Invasive Species Control Plan for Didymosphenia geminata at Gunpowder Falls* (Plan) describes the methods and measures that will be implemented at the crossing of Gunpowder Falls to prevent the spread of the invasive microscopic alga *Didymosphenia geminata*, also known as ‘rock snot’ or ‘Didymo.’

Didymo is an algal diatom that forms long stalks which combine into heavy mats that can suffocate a stream bottom. Didymo mats appear to be slimy, but are like wet cotton or wool to the touch. These mats can be white, yellow or brown and up to eight inches thick. The mats occur in late winter and early spring and can impact stream-bottom habitat for an extended period of time by choking out bottom-dwellers and removing food organisms for game fish and other aquatic species (Commonwealth of Pennsylvania, 2013).

The diatoms can be easily and unknowingly transported from one stream to another by fishing gear, felt bottom boots, waders, shoes, etc. According to the Maryland Department of Natural Resources (MDNR), a single Didymo cell can contaminate a new waterway. Once Didymo is established, it can cover and suffocate a stream bottom (MDNR, 2008).

Project Description

The Project includes the extension of a 26-inch gas pipeline (Line MB). The proposed pipeline extension will be approximately 21.1 miles and connect the existing Owing Mills Metering and Regulation Station (M&R Station) in Baltimore County, Maryland to the existing Rutledge Compressor Station in Harford County, Maryland. The construction method for Gunpowder Falls will be either via an open cut stream crossing or via horizontal directional drill (HDD). Regardless of stream crossing technique, the methods discussed in this Plan will be implemented for any gear or equipment coming in contact with water from Gunpowder Falls.

Risks Posed by Didymo

Didymo is a microscopic pest that can be spread by a single drop of water (New Zealand Ministry for Primary Industries, 2013). Cells are able to survive and remain viable in cool, damp, dark conditions for at least 40 days (Kilroy 2005 cited in Spaulding and Elwell 2007). Fishing equipment, such as boot tops, neoprene waders, and felt-soles in particular, provide a site where cells remain viable; at least during short term studies (Kilroy et al. 2006, cited in Spaulding and Elwell 2007).

According to MDNR, Didymo has been identified in Gunpowder Falls, and Gunpowder Falls is one of the waterbodies to be crossed by the proposed Project. Given the Project’s multiple waterbody crossings, there is a risk of introducing Didymo to uncontaminated waterbodies as construction equipment and staff move from Gunpowder Falls to the other stream crossings.

Control or Management Options

Gunpowder Falls is off-limits to construction between October 1 and April 30, which loosely coincides with the time of year that Didymo mats are thickest and will therefore assist in minimizing the risk of spreading the algae. Nonetheless, precautions must be taken to ensure that no diatoms are transported from Gunpowder Falls to an uncontaminated stream.

Several methods have been proposed to prevent the spread of Didymo. Although most of these approaches were developed for anglers and boaters, the methods described below have been adapted to a large-scale construction operation such as the Project.

4.1 Plan Implementation

Columbia will institute thorough and consistent implementation of the Plan during construction efforts at Gunpowder Falls. A third-party environmental inspector will oversee environmental compliance for the Project during construction. The environmental inspector's responsibilities will include oversight of Plan implementation including managing, distributing, and implementing the information contained herein. Specifically, the inspector's role shall include pre-construction briefing of work crews on the Plan requirements and on how to prevent the spread of Didymo; preparing and submitting reports to MDNR regarding adherence to the Plan; providing 24-hour notice to MDNR of any incidents that occur which could result in the spread of Didymo; and conducting regular inspections to make sure the workers are following the Plan. Columbia's Natural Resource Permitting Project Manager for this project (Jennifer Cannon) will be responsible for ensuring that the third-party environmental inspector maintains proper oversight of plan implementation. Columbia will also be funding a third party environmental monitor that will report directly to MDE, who may provide specific direction to the monitor for inspecting and reporting on the activities at Gunpowder Falls and the implementation of this plan.

The control measures and methods detailed in Sections 4.2, 4.3, and 4.4 shall be used for all equipment and gear that comes in contact with Gunpowder Falls' water or stream substrate, including stream banks. This equipment includes temporary bridges, sandbags, backhoes, dozers, trucks, cranes, pumps, water hoses, boats, tanks, and trailers, as applicable.

4.2 Standard Practices

The following standard practices will be implemented to prevent the spread of Didymo:

- This Plan shall be addressed in daily tailgate meetings during any in-stream activities at Gunpowder Falls.
- No water, animals or plants shall be moved from one stream to another – Note this is illegal in Maryland.
- No felt-soled boots shall be worn – Note these are illegal in Maryland.
- Water from streams (including Gunpowder Falls) shall not be used for dust control, hydrostatic testing, or other construction needs.
- Drain all water completely from equipment (including pumps and hoses, if used) directly back into Gunpowder Falls as this equipment is being removed from Gunpowder Falls. If this is not possible, all water shall be drained at the decontamination station (details in Section 4.3). During construction at Gunpowder Falls all extracted material (soil, sediment, gravel, silt and sand) shall be piled on high ground adjacent to where it was extracted from and allowed to drain back into the Gunpowder Falls, preventing drainage into an adjacent waterway (New Zealand Ministry for Primary Industries 2013). Temporary stockpiles will be protected by silt fence in accordance with the County approved Erosion and Sediment Control Plan in order to prevent any sediment-laden water from draining back into the waterway. Extracted material (including algal debris) shall be returned to the stream bottom or banks within 5 days of being stockpiled during backfilling operations or will be integrated into the general rough- or final-grading on the slopes immediately adjacent to Gunpowder Falls.
- When moving any items including construction equipment, personal gear, and sampling equipment between Gunpowder Falls and other waterways, the Check, Clean Method (see Section 4.3) in conjunction with Disinfection Techniques (Section 4.4) shall be used to prevent the spread of Didymo.
- Duplicate gear can be used in place of decontaminated gear when more than one waterbody will be accessed in a short span of time.

4.3 Check, Clean Method

The Check, Clean method described below will be conducted onsite. After gear and equipment have come in contact with in-stream water or material from Gunpowder Falls, the items will be moved to the onsite decontamination station(s) (decon station) located on high ground within the Gunpowder Falls drainage and in close proximity to Gunpowder Falls. The mapping provided as Attachment 1 depicts the decon station location for an open-cut stream crossing method and the decon station locations for an HDD stream crossing method. All wash water, dirt, and debris will be collected from the decon station(s), sealed in containers such as 55-gallon drums marked as non-hazardous (Cal-IPC 2012), and disposed of in a municipal landfill along with any other non-hazardous waste generated by the Project.

Disinfection/decontamination of sampling equipment is permissible at an offsite location such as a laboratory if all measures outlined in the Plan are adhered to and if the equipment is properly labeled and segregated from other equipment until it has undergone the proper decontamination/disinfection procedures.

Check

- Check all items for water, clumps of algae (or any other live organisms), dirt and debris.
- As possible, remove all water, dirt, and debris from all equipment and gear that comes in contact Gunpowder Falls' water including boots, clothing, boats, motors, pumps, hoses, backhoes, etc.

Clean

- All items that have come in contact with the Gunpowder Falls' water or sediments shall be scrubbed well with clean water, soaked, sprayed, or flushed (as appropriate) with a disinfection solution (see Section 4.4).
- Clean water will be obtained from a municipal source or drinking water well. Municipal water shall be dechlorinated prior to use for the purposes outlined in this Plan.
- Treatment shall apply to items including but not limited to wheels, undercarriage, tires, tracks/treads, pumps, water hoses, filter screens, dam components, boat keels, boots, clothing, and personal protective equipment.
- At least one of the appropriate treatments shall be used for decontamination as described in Section 4.4 and Table 1.
- If present, carpeted surfaces such as those found on boats and boat trailers can be disinfected using spray bottle containing 1/4oz Lysol® per gal water or straight vinegar, followed by clean water rinse, if available (see Table 1).

4.4 Disinfection Techniques

Decontamination will be achieved using one of the treatments detailed in Table 1. These treatments can involve applying or removing heat, applying a disinfection solution, or allowing items to dry completely for a given length of time. The decon station(s) that will be established on site will be equipped with at least one of the disinfection treatments detailed in Table 1. Because debris and rinse water produced at the cleaning/disinfection station could potentially contaminate a waterbody, and because disinfectants can impact living things in the water, the debris, disinfectant, and rinse water (as applicable) will be collected into sealed containers and disposed of in a municipal landfill so that it will not be allowed to drain back into any waterbodies.

TABLE 1
Acceptable Disinfection Methods to be Used for Didymo Control on the Line MB Extension Project

Treatment	% solution	Formula	Treatment Duration	Gear
Salt water	10%	4 cups/2.5 gallon water	>1 minute	All
Dish detergent (Palmolive or Dawn)	5%	1 cup/gallon water	>1 minute	All
Virkon Aquatic*	2%	2:100 solution in water	>1 minute	All
Hot water soak	>140° F		>1 minute	All
Hot water power wash	>140° F		>1 minute	All
Hot water and detergent	>113° F 5% solution	95 parts water: 5 parts detergent	>1 minute	All
Drying	-	-	>48 hours	All
Freezing	-	-	To frozen solid	Porous items that will stand-up to freezing
Lysol	0.2%	¼ ounce/gallon water	>1 minute	All
Vinegar, white	100%	as available in bottle	>1 minute	All

Table as modified from Rivers, Susan. 2009. Biosecurity Protocol Inland Fisheries. Maryland Fisheries Service. Annapolis, Maryland.

* Note, Virkon S; is a related but different product that shall be avoided as it should not be used near waterbodies.

References

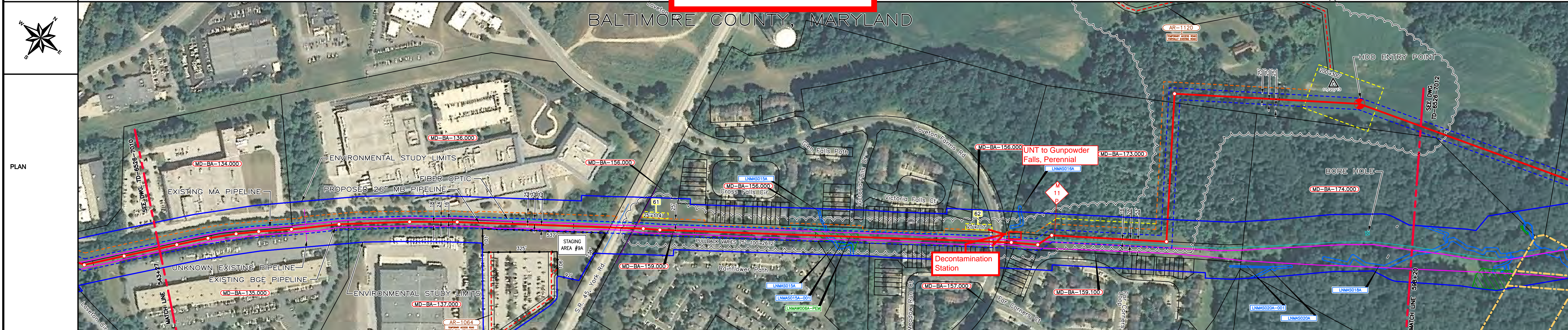
- California Invasive Plant Council (Cal-IPC). 2012. *Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors*. Cal-IPC Publication 2012-01. California Invasive Plant Council, Berkeley, CA.
- Commonwealth of Pennsylvania. 2013. *Didymo Fact Sheet*. Pennsylvania Fish and Boat Commission. http://www.fish.state.pa.us/water/habitat/ans/didymo/faq_didymo.html.
- Kilroy, C. 2005. *Tests to determine the effectiveness of methods for decontaminating materials that have been in contact with Didymosphenia geminata*. National Institute of Water and Atmospheric Research, New Zealand. Client Report: CHC2005-005, NIWA Project MAF05501.
- Kilroy, C., Lagerstedt, A., Davey, A., Robinson, K. 2006. *Studies on the survivability of the exotic, invasive diatom Didymosphenia geminata under a range of environmental and chemical conditions*. NIWA Client Report: CHC2006-116, NIWA Project MAF06506.
- Maryland Department of Natural Resources. 2008. *Invasive Algae Found in Maryland*. Press Release. <http://dnr.maryland.gov/dnrnews/pressrelease2008/050608c.html>.
- New Zealand Ministry of Primary Industries. 2013. *Didymo Didymosphenia geminata*. <http://www.biosecurity.govt.nz/didymo>.
- Rivers, Susan. 2009. *Biosecurity Protocol Inland Fisheries*. Maryland Fisheries Service. Annapolis.
- Root, S. and C.M. O'Reilly. 2012. *Didymo control: increasing the effectiveness of decontamination strategies and reducing spread*. Fisheries 37(10):440-448.
- Spaulding, S. and L. Elwell. 2007. *Increase in nuisance blooms and geographic expansion of the freshwater diatom Didymosphenia geminata. Recommendations for response*. White Paper. US Environmental Protection Agency and Federation of Fly Fishers. January 2007.

Attachment 1

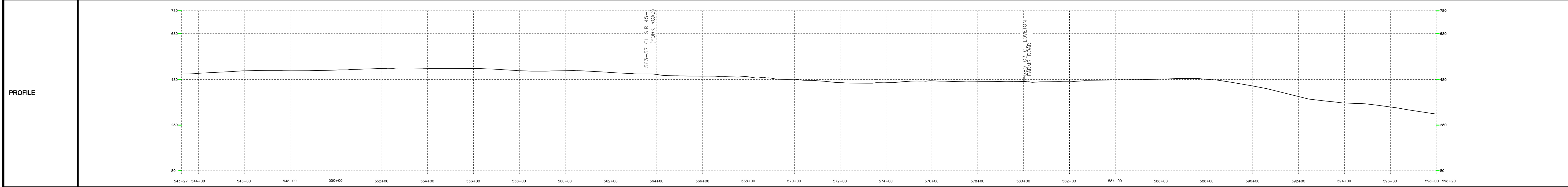
Decontamination Station Location Maps

OWNERSHIP	MD-BA-134.000 BECTON, DICKINSON AND COMPANY	MD-BA-136.000 BECTON, DICKINSON AND COMPANY	MD-BA-135.000 LOVETON INVESTORS LLC	MD-BA-137.000 BT NEWYO LLC	S.R. 45 (YORK ROAD)	MD-BA-156.000 CROSS FALLS HOMEOWNERS ASSOCIATION, INC.	MD-BA-155.000 CROSS FALLS HOMEOWNERS ASSOCIATION, INC.	MD-BA-157.000 CROSS FALLS HOMEOWNERS ASSOCIATION, INC.	MD-BA-173.000 BALTIMORE COUNTY MARYLAND	MD-BA-174.000 BALTIMORE COUNTY MARYLAND	MD-BA-174.000 BALTIMORE COUNTY MARYLAND
STATIONING	543+27	543+27	543+27	543+27	543+27	543+27	543+27	543+27	543+27	543+27	543+27

WETLANDS/ STREAMS	LNMA5015A-001										
T&E SPECIES/ CULTURAL SITES	LNMA5015A-001										
SPECIAL CONSIDERATIONS	LNMA5015A-001										



PIPE DATA	2014 CONSTRUCTION										
CLASS LOCATION	3										
DESIGN FACTOR	0.5										



ITEM NUMBER	MATERIALS				COATING				INDUCTION BENDS & SEGMENTABLE ELBOWS				INDUCTION BENDS & SEGMENTABLE ELBOWS				INDUCTION BENDS & SEGMENTABLE ELBOWS																	
	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	MANUFACTURER	ITEM	DESCRIPTION	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	
1	20"	0.375"	X-70	TBD	A	14-18 (16 AVG) MILS FBE	IB-73	TBD	20"	0.500"	X-70	40°	RD W/2 TANGENTS	FBE																				
2	20"	0.500"	X-70	TBD	B	14-18 (16 AVG) MILS DUAL FBE & ADDITIONAL 32-36 (24 AVG) MILS	IB-74	TBD	20"	0.500"	X-70	40°	RD W/2 TANGENTS	FBE																				

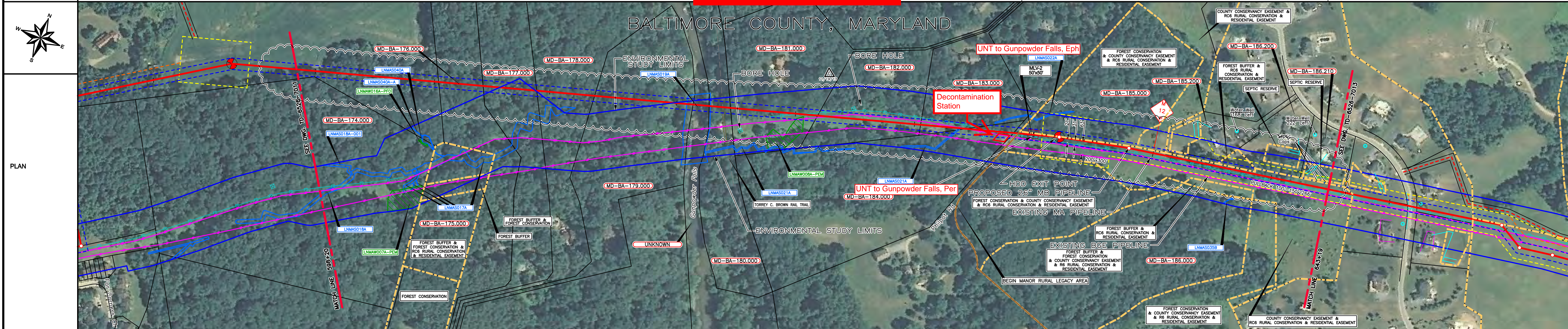
HDD VARIANCE
11-21-13

NOTES	LEGEND	SCALE: 1"=200'	FIELD SERVICES ENGINEERING SERVICES	NISource Gas Transmission & Storage	
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ISSUED FOR BID	ISSUED FOR SUPPLEMENTAL FERC FILING	GATE 2 SUBMITTAL	07-31-12	07-31-12	
REVISIONS		REVISIONS		REVISIONS	
No.	REVISIONS	APPROVED BY	DATE	No.	REVISIONS
Dwg. No.			REFERENCE		
TD-6526-8452			STATE ROAD 45 (YORK ROAD) (M.P. 10.63)		
DRAWN BY	JAM	DATE	1-9-12	DRAWING NUMBER	SHEET
CHECKED BY	RSC	DATE	10-09-12	TD-6526-7011	18 OF 30
ENGINEER					

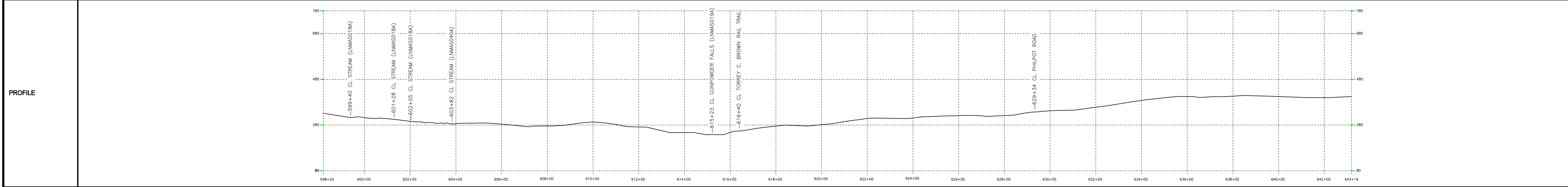
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OWNERSHIP	598+20	(MD-BA-174.000) BALTIMORE COUNTY MARYLAND 507' 603+27	(MD-BA-175.000) METTINS, NICHOLAS L. & STEPHANIE S. 155' 604+82	(MD-BA-176.000) MCQUAID, ANDREW T. 191' 606+73	(MD-BA-177.000) FOWLER, DAVID & CAROLYN 165' 608+38	(MD-BA-178.000) NORTH, JACQUELINE R. & RICHARD B. JR. & CATHERINE 178' 610+11	(MD-BA-179.000) TRUCHON, MARGARET E. 474' 614+80	UNKNOWN GUNPOWDER FALLS 84' 616+74	(MD-BA-180.000) STATE OF MARYLAND DEPT OF NATURAL RESOURCES 100' 618+74	(MD-BA-181.000) THOMPSON, MATTHEW S. & PATRICK, MARTINA M. 388' 620+62	(MD-BA-182.000) LANG, SHARON M. 450' 624+12	(MD-BA-183.000) MASIELLO, LEONARD N. & CAROL M. 275' 628+12	(MD-BA-184.000) GEORGE, STEPHEN S. & FRANCES 137' 632+45	PHILPOT ROAD 20' 636+44	(MD-BA-185.000) HOLLER, TRAVIS & BUEHRER, LAUREN 1375' 640+19	(MD-BA-185.200) JONES, BARBARA B. & WILLIAM J. 1375' 640+19	(MD-BA-186.200) JONES, RHONDA FAYE & RICK ALLEN 1375' 640+19	(MD-BA-186.210) LIME, AMY C. & JEFFREY K. 1375' 640+19		
STATIONING	MATCH LINE																		MATCH LINE	
WETLANDS/ STREAMS	LNMSO18A 30'	LNMSO18A 10'	LNMSO18A 120'	LNMSO40A-A 2'	LNMSO40A 2'	LNMSO17A 167'	LNMSO17A 26'	LNMSO17A 26'	LNMSO21A 26'	LNMSO22A 26'	LNMSO21A 26'	LNMSO22A 26'	LNMSO21A 26'	LNMSO22A 26'	LNMSO21A 26'	LNMSO22A 26'	LNMSO21A 26'	LNMSO22A 26'	LNMSO21A 26'	
T&E SPECIES/ CULTURAL SITES																				
SPECIAL CONSIDERATIONS																				

HDD Alignment



PIPE DATA	598+20	598+73	610+46	614+66	616+67	629+19	629+49	640+70	643+19
CLASS LOCATION	1								
DESIGN FACTOR	.72								



ITEM NUMBER	MATERIALS				COATING				INDUCTION BENDS & SEGMENTABLE ELBOWS				INDUCTION BENDS & SEGMENTABLE ELBOWS				INDUCTION BENDS & SEGMENTABLE ELBOWS																
	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	MANUFACTURER	ITEM	DESCRIPTION	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1	20"	0.375"	X-70	TBD	A	14-18 (16 AVG) MILS FIBRE																											
2	20"	0.500"	X-70	TBD	B	14-18 (16 AVG) MILS DUAL FIBRE & ADDITIONAL 32-36 (34 AVG) MILS																											

HDD VARIANCE
11-21-13

NOTES

- ISSUED FOR FERC SUPPLEMENTAL
- ISSUED FOR BID

LEGEND

- MILEPOST
- ROUTE
- CULTURAL SITE
- ABANDONED PIPELINE
- FOREIGN PIPELINE
- EASEMENT
- PERMANENT ROW
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- ACCESS ROAD
- PROPERTY TRACT NUMBER
- ACCESS ROAD NUMBER
- WETLAND ID
- STREAM ID
- ADD. TEMP. WORKSPACE NO.
- TEST LEAD (TYPE)
- CONTRACTOR YARD
- OVERHEAD POWER LINE
- FIBER OPTIC
- ENVIRONMENTAL STUDY LIMITS
- WETLAND
- STREAMS

SCALE: 1"=200'

REVISIONS

No.	REVISIONS	APPROVED BY	DATE
1	ISSUED FOR FERC SUPPLEMENTAL FILING	WEW	6-28-13
2	ISSUED FOR SUPPLEMENTAL FERC FILING	WEW	3-07-13

REVISIONS

No.	REVISIONS	APPROVED BY	DATE
1	ISSUED FOR FERC FILING	WEW	12-21-12
2	GATE 2 SUBMITTAL	WEW	12-21-12

REFERENCE

Dwg. No.	REFERENCE
TD-6526-8456	TORREY C. BROWN RAIL TRAIL (M.P. 11.63)
TD-6526-8454	PHILPOT ROAD (M.P. 11.88)

FIELD SERVICES ENGINEERING SERVICES
1700 WOODBRIDGE AVENUE SE, CHARLESTON, WV 25304

NISource Gas Transmission & Storage

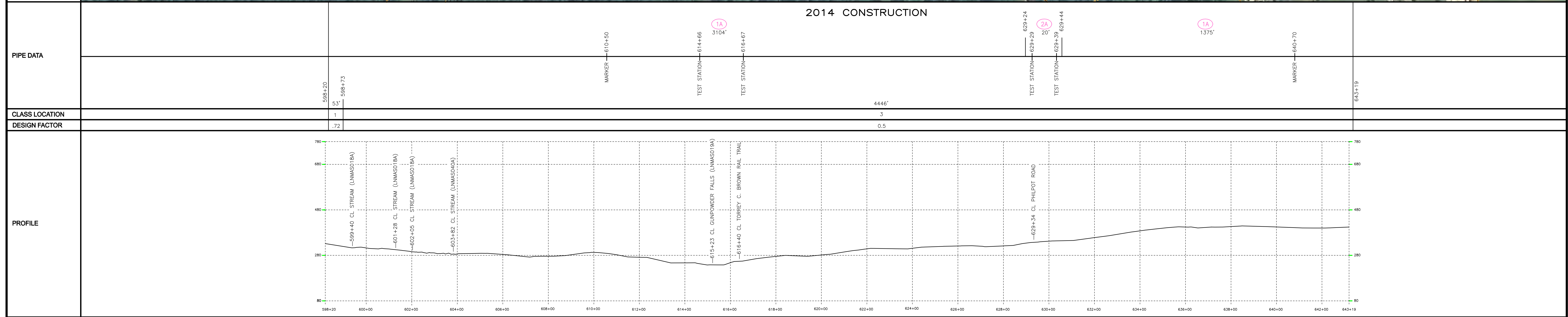
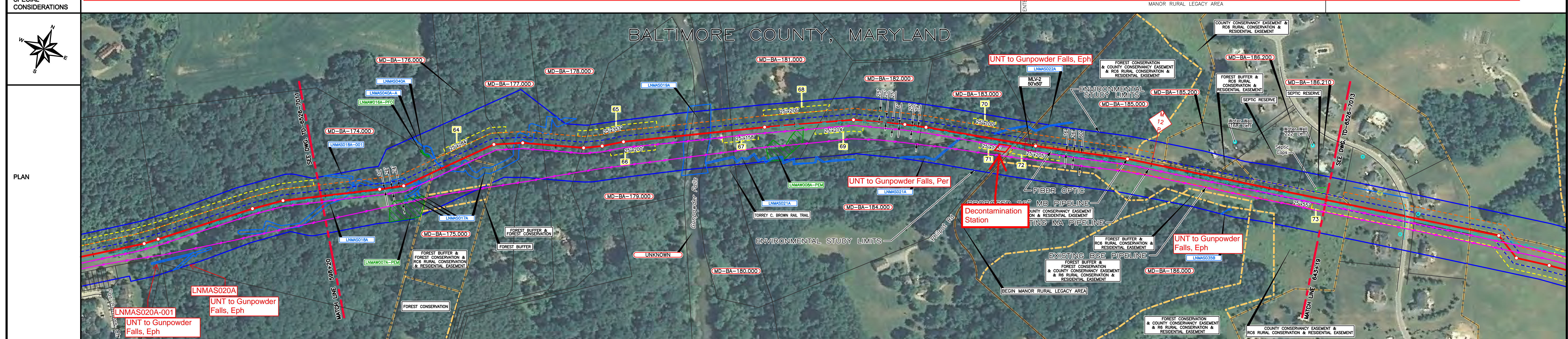
LINE MB EXTENSION PROJECT
PRELIMINARY ALIGNMENT SHEET
BALTIMORE COUNTY, MD

DRAWN BY: JAM	DATE: 1-9-12	DRAWING NUMBER: TD-6526-7012	SHEET: 19 OF 30	ISSUE: C
CHECKED BY: RSC	DATE: 10-09-12			

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OWNERSHIP	598+20	(MD-BA-174.000) BALTIMORE COUNTY MARYLAND 507'	(MD-BA-175.000) METTINS, NICHOLAS L. & STEPHANIE S. 155'	(MD-BA-176.000) MCQUAID, ANDREW T. 604+82 191'	(MD-BA-177.000) FOWLER, DAVID & CAROLYN 606+73 165'	(MD-BA-178.000) NORTH, JACQUELINE R. & RICHARD B. JR. & CATHERINE 608+39 178'	(MD-BA-179.000) TRUCHON, MARGARET E. 614+90 474'	UNKNOWN GUNPOWDER FALLS 615+73 83'	(MD-BA-180.000) STATE OF MARYLAND DEPT OF NATURAL RESOURCES 616+74 101'	(MD-BA-181.000) THOMPSON, MATTHEW S. & PATRICK, MARTINA M. 620+16 388'	(MD-BA-182.000) LANG, DAVID R. & SHARON M. 625+12 450'	(MD-BA-183.000) MASIELLO, LEONARD N. & CAROL M. 629+12 275'	(MD-BA-184.000) GEORGE, STEPHEN S. & FRANCES 627+43 137'	PHILPOT ROAD 629+44 20'	(MD-BA-185.000) HOLLIS, TRAVIS & BUEHRER, LAUREN 640+54 640+63 640+70 642+63	(MD-BA-185.200) JONES, BARBARA B. & WILLIAM J. 1375'	(MD-BA-186.000) JONES, RHONDA FAYE & RICK ALLEN 1375'	(MD-BA-186.200) LIME, AMY C. & JEFFREY K. 1375'	(MD-BA-186.210) LIME, AMY C. & JEFFREY K. 1375'	643+19
STATIONING	MATCH LINE			599+40 CL CREEK 604+82 P.I. 1' 31'31" LT. 604+28 CL CREEK 601+87 P.I. 16' 28'16" LT. 602+16 TOP OF BANK, BEGIN LAY IN PARALLEL CREEK 603+82 CL CREEK 604+06 TOP OF BANK, END LAY IN PARALLEL CREEK 606+23 P.I. 21' 37'11" RT.	607+50 P.I. 7' 43'23" RT. CL CREEK, LT. 23"	610+48 MARKER (MA), RT. 27" 610+48 MARKER (MA), RT. 27" 611+00 P.I. 5' 40'41" LT. 611+96 P.I. 5' 21'41" RT.	614+66 TOP OF BANK 615+23 CL GUNPOWDER FALLS 615+80 TOP OF BANK 616+40 CL DIRT TRAIL (TORREY C. BROWN RAIL TRAIL) 616+78 VENT (MA), RT. 25"	618+19 P.I. 1' 8'9" RT.	622+11 P.I. 10' 07'7" RT.	624+38 P.I. 2' 25'33" RT. 625+32 P.I. 2' 0'44" RT.	626+13 PARALLEL 26" MA PIPELINE, PARALLEL BURIED TELEPHONE CABLE (NEON TRANSCOM, INC.), RT. 7" 628+14 PARALLEL 26" MA PIPELINE, PARALLEL BURIED TELEPHONE CABLE (NEON TRANSCOM, INC.), RT. 7" 629+15 METAL GATE, RT. 9"	629+24 EDGE OF ROAD, PARALLEL 26" MA PIPELINE, PARALLEL BURIED TELEPHONE CABLE (NEON TRANSCOM, INC.), RT. 7" 630+10 EXPOSED CONDUIT, RT. 14" 630+28 P.I. 1' 36'36" LT.	634+28 P.I. 3' 36'45" RT.	640+54 PARALLEL BURIED TELEPHONE CABLE (NEON TRANSCOM, INC.), RT. 11" 640+63 CL. TEL. BRG. PIPELINE, RT. 53" 640+70 MARKER (MA), RT. 24"	642+63 SEPTIC CAPS, LT. 26" 643+01 SEPTIC CAPS, LT. 28"					MATCH LINE

NOTE: The originally proposed open cut alignment is presented on this page



ITEM NUMBER	MATERIALS				COATING				INDUCTION BENDS & SEGMENTABLE ELBOWS				INDUCTION BENDS & SEGMENTABLE ELBOWS				INDUCTION BENDS & SEGMENTABLE ELBOWS																
	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	MANUFACTURER	ITEM	DESCRIPTION	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL	ITEM NUMBER	INSERVICE DATE	OUTSIDE DIAMETER	WALL THICKNESS	GRADE	DEGREE	RADIUS	COATING	BEVEL
1	26"	0.375"	X-70	TBD	A	14-18 (16 AVG) MILS FIBRE																											
2	26"	0.500"	X-70	TBD	B	14-18 (16 AVG) MILS DUAL FIBRE & ADDITIONAL 32-36 (34 AVG) MILS																											

ISSUED FOR REVIEW
06-28-13

NOTES

- ISSUED FOR FERC SUPPLEMENTAL
- ISSUED FOR FERC SUPPLEMENTAL FILING
- ISSUED FOR FERC FILING
- ISSUED FOR SUPPLEMENTAL FERC FILING
- GATE 2 SUBMITTAL

LEGEND

- MILEPOST
- ROUTE
- CULTURAL SITE
- ABANDONED PIPELINE
- FOREIGN PIPELINE
- EASEMENT
- PERMANENT ROW
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- ACCESS ROAD
- PROPERTY TRACT NUMBER
- ACCESS ROAD NUMBER
- WETLAND ID
- STREAM ID
- ADD. TEMP. WORKSPACE NO.
- TEST LEAD (TYPE)
- CONTRACTOR YARD
- OVERHEAD POWER LINE
- FIBER OPTIC
- ENVIRONMENTAL STUDY LIMITS
- WETLAND
- STREAMS

SCALE: 1"=200'

FIELD SERVICES ENGINEERING SERVICES
1700 WASHINGTON AVENUE SE, CHARLESTON, WV 25304

NIsource Gas Transmission & Storage

LINE MB EXTENSION PROJECT
PRELIMINARY ALIGNMENT SHEET
BALTIMORE COUNTY, MD

TORREY C. BROWN RAIL TRAIL (M.P. 11.63)
PHILPOT ROAD (M.P. 11.88)

DATE: 1-9-12
DRAWING NUMBER: TD-6526-7012
SHEET: 19 OF 30
ISSUE: C

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