

**ATLANTIC COAST PIPELINE, LLC
ATLANTIC COAST PIPELINE**

and

**DOMINION TRANSMISSION, INC.
SUPPLY HEADER PROJECT**

**Supplemental Filing
February 24, 2017**

APPENDIX M

Correspondence for the Atlantic Coast Pipeline

APPENDIX M

Supplemental Summary of Public Agency Correspondence for the Atlantic Coast Pipeline

Agency/Contact Name(s)	Date of Correspondence	Format	Description
MULTIPLE AGENCIES			
U. S. Forest Service – George Washington National Forest, Virginia Department of Game and Inland Fisheries (cc)			
Troy Morris	2/20/17	Letter	Transmittal of the Study Plan for Tiger Salamander Survey in Virginia (note: the study plan is provided in Appendix G).
U.S. Fish and Wildlife Service, North Carolina Wildlife Resource Commission			
Gabriela Garrison, Sarah McRae	2/17/17	Letter	Transmittal of the Neuse River Supplemental Mussel Survey Report in North Carolina (note: the survey report is provided in Appendix H).
U.S. Forest Service – Monongahela National Forest, U.S. Fish and Wildlife Service (cc)			
Clyde Thompson	2/24/17	Letter	Transmittal of the Small Whorled Pogonia Microclimate Analysis Report (note: the report is provided in Appendix H).
U.S. Forest Service – Monongahela and George Washington National Forests, Federal Energy Regulatory Commission			
Jennifer Adams, Kent Karriker, Pam Edwards, Karen Stevens, Stephanie Connolly, Steffany Scagline, Angela Parish, Pauline Adams, Tom Bailey, Tom Collins	12/8/16	Minutes	Meeting to discuss the Best in Class approach to stabilizing terrain on steep slopes.
FEDERAL AGENCIES			
Department of the Army			
William Scott	11/14/16	Letter	Letter confirming no impact on the Army Compatible Use Buffer at Fort Pickett.
U.S. Army Corps of Engineers			
Adam Fannin	2/24/17	Letter	Transmittal of updated, draft Pre-Construction Nitification Materials under Section 404/10/408 for the Huntington District.
Josh Shaffer	2/24/17	Letter	Transmittal of updated, draft Pre-Construction Nitification Materials under Section 404/10/408 for the Pittsburgh District.
Samantha Dailey	2/24/17	Letter	Transmittal of updated, draft Pre-Construction Nitification Materials under Section 404/10/408 for the Wilmington District.
Steve Gibson	2/24/17	Letter	Transmittal of updated, draft Pre-Construction Nitification Materials under Section 404/10/408 for the Norfolk District.
U.S. Fish and Wildlife Service			
Sumalee Hoskins	2/24/17	Letter	Response to the FWS regarding the draft Biological Assessment for the Projects (note: attachments are provided with Appendix L).
U.S. Forest Service – Monongahela National Forest			
Cathy Johnson, Cheryl Tanner, Amy Coleman	11/4/16	Minutes	Minutes from a field meeting to review habitat for West Virginia northern flying squirrel.
Clyde Thompson	2/2/17	Letter	Response to USFS comments on the Year 2 Survey Interim Report of Protected Bat Species and Karst Survey Report.

APPENDIX M (CONTINUED)

Supplemental Summary of Public Agency Correspondence for the Atlantic Coast Pipeline

Agency/Contact Name(s)	Date of Correspondence	Format	Description
Clyde Thompson	2/3/17	Letter	Application for Amendment to Special Use Permit for survey activities.
U.S. Forest Service – George Washington National Forest			
Joby Timm	2/3/17	Letter	Application for Amendment to Special Use Permit for survey activities.
Clyde Thompson	2/10/17	Letter	Biological survey results for an access road to support geotechnical studies.
Troy Morris	2/17/17	Letter	Transmittal of Revised Locally Rare Species Report (note: the report is provided in Appendix E).
Troy Morris	2/24/17	Letter	Transmittal letter for the update to the Myriapod/Gastropod Survey Report (note: the updated report is provided as Appendix F).
U.S. Forest Service – Monongahela and George Washington National Forests			
Clyde Thompson, Jennifer Adams, Joby Timm, Karen Stevens, Alex Faight, Steffany Scagline, Stephanie Connolly, Kent Karriker, Adrienne Nottingham, JoBeth Brown, Tom Bailey, Karen Overcash, Tom Collins	11/21/16	Minutes	Meeting to discuss Best in Class steep slope program.
Jennifer Adams, Kent Karriker, Pam Edwards, Karen Stevens, Stephanie Connolly, Steffany Scagline, Angela Parish, Pauline Adams, Tom Bailey, Tom Collins	12/8/16	Minutes	Meeting to discuss Best in Class steep slope program.
Clyde Thompson, Joby Timm, Kent Karriker, Todd Hess, Alex Faight, Jennifer Adams	1/31/17	Email	Transmittal of the comment matrix for the Construction, Operations, and Mitigation Plan (note: the comment matrix is provided in appendix B).
Clyde Thompson, Joby Timm	2/10/17	Letter	Transmittal of the access road improvement maps for the Construction, Operations, and Maintenance Plan (note: the maps are provided in Appendix C).
Clyde Thompson, Joby Timm	2/24/17	Letter	Transmittal letter for Revised Karst Assessment and Survey Report (note: the report is provided as Appendix A).
STATE/COMMONWEALTH AGENCIES			
WEST VIRGINIA AGENCIES			
West Virginia Division of Culture and History			
Susan Pierce	2/3/17	Letter	Comments on the Historic Architectural Survey Report Addendum 4.
West Virginia Department of Environmental Protection			
Nancy Dickson	2/6/17	Call Log	Documentation that a Natural Stream Preservation Act Permit is not required for the proposed crossing of the Greenbrier River.
VIRGINIA AGENCIES			
Virginia Department of Conservation and Recreation			
Rene Hypes	2/15/17	Letter	Response to the VDCR's January 30, 2017 letter on the Handsom-Gum Powerline and Emporia Powerline Bog Hydrologic Study Plan.

APPENDIX M (CONTINUED)

Supplemental Summary of Public Agency Correspondence for the Atlantic Coast Pipeline

Agency/Contact Name(s)	Date of Correspondence	Format	Description
Virginia Department of Environmental Quality			
Bettina Sullivan	2/10/17	Letter	Transmittal of the updated Coastal Consistency Statement (note: the Coastal Consistency Statement is provided in Appendix J).
Virginia Department of Game and Inland Fisheries			
Brian Watson	2/15/17	Email	Email confirming that surveys for Chowanoke crayfish in Virginia are not required.
Virginia Department of Historic Resources			
Roger Kirchen	1/26/17	Letter	Transmittal of Additional Deliverables for the Architectural Reconnaissance Survey Addendum 2 Report.
Roger Kirchen	1/31/17	Letter	Comments on the Archaeological Survey Addendum 1 Report.
Roger Kirchen	2/1/17	Letter	Comments on a revised Archaeological Survey Report.
Roger Kirchen	2/2/17	Letter	Comments on the Archaeological Survey Addendum 2 Report.
Roger Kirchen	2/3/17	Letter	Comments on the Archaeological Survey Addendum 3 Report.
Roger Kirchen	2/14/17	Letter	Transmittal of Additional Deliverables for the Architectural Reconnaissance Survey Addendum 3 Report.
Roger Kirchen	2/21/17	Letter	Transmittal of the Archaeological Survey Addendum 4 Report (note: the updated report is provided in Appendix I).
NORTH CAROLINA AGENCIES			
North Carolina Department of Natural and Cultural Resources			
Renee Gledhill-Earley	2/24/17	Letter	Transmittal of the Archaeological Survey Addendum 4 Report (note: the updated report is provided in Appendix I).
FEDERALLY RECOGNIZED INDIAN TRIBES			
Delaware Tribe			
Brice Obermeyer	2/9/17	Letter	Transmittal of Archaeological Survey Reports.
Eastern Band of Cherokee Indians			
Russell Townsend	2/9/17	Letter	Transmittal of Archaeological Survey Reports.

Multiple Agencies

U.S. Forest Service - George Washington National Forest, Virginia
Department of Game and Inland Fisheries

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 20, 2017

BY E-MAIL

Mr. Troy Morris
USDA Forest Service
George Washington and Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline
Submittal of Study Plan: Eastern Tiger Salamander (*Ambystoma t. trigrinum*) Surveys along
the Proposed Atlantic Coast Pipeline within George Washington National Forest in Virginia**

Dear Mr. Morris:

Throughout 2014, 2015, and 2016, Atlantic Coast Pipeline (ACP) Project has been conducting routing, environmental, cultural resource, and civil surveys along the proposed pipeline route to collect information needed by Federal Energy Regulatory Commission (FERC) and other regulatory and land managing agencies to review and permit the ACP Project.

The proposed ACP facilities in Virginia fall within the range of the state-listed eastern tiger salamander. Atlantic Coast Pipeline, LLC (Atlantic) requests your review and concurrence of the attached 2017 study plan for the eastern tiger salamander surveys along the proposed Atlantic Coast Pipeline within GWNF in Virginia. This study plan describes the projected 2017 scope and methods the Project will implement to determine the extent of salamander habitat and presence along the current Project route within GWNF boundaries.

Atlantic anticipates field habitat assessments will be completed in late February and early March, and surveys will be completed in April and May, 2017. Surveys will be carried out under ESI-2's current scientific collection permits: VDGIF Scientific Collection Permit #053963 and VDGIF Threatened and Endangered Species Permit #056429 as well as the Project USFS Special Use Permit GW433202T.

Project and Company Background

Atlantic is a company formed by four major U.S. energy companies – Dominion Resources, Inc., Duke Energy Corporation, Piedmont Natural Gas Co., Inc., and Southern Gas Company. Atlantic will own and operate the proposed ACP, an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. The ACP will deliver up to 1.5 million cubic feet per day (bcf/d) of natural gas to be used to generate electricity, heat homes, and run local businesses. The underground pipeline project will facilitate cleaner air, increase reliability and security of natural gas supplies, and provide a significant economic boost in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic

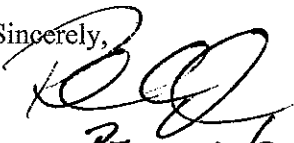
Mr. Troy Morris
February 17, 2017
Page 2 of 2

has contracted with DTI, a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

Dominion looks forward to continued coordination with you on this project. Please contact Mr. Richard B. Gangle at (804) 273-3019 or Richard.B.Gangle@dom.com, if there are questions regarding this report. Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



~~FOR~~ RICHARD GANGLE

Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

Cc: Richard B. Gangle, Dominion
Fred Huber, George Washington National Forest
Russ MacFarlane, George Washington National Forest
Jennifer Adams, U.S. Forest Service
Amy Ewing, VA Dep. of Game and Inland Fisheries

Attachments: Study Plan: Eastern Tiger Salamander (*Ambystoma t. trigrinum*) Surveys along the Proposed Atlantic Coast Pipeline within the George Washington National Forest in Virginia

U. S. Fish and Wildlife Service, North Carolina Wildlife Resources Commission

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 17, 2016

BY E-MAIL

Ms. Gabriela Garrison
North Carolina Wildlife Resources Commission
1701 Mail Service Center
Raleigh, NC 27699

Ms. Sarah McRae
U.S. Fish & Wildlife Service
Raleigh Field Office
551F Pylon Drive
Raleigh, NC 27606

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline
Submittal of Rare, Threatened, and Endangered Freshwater Mussel Studies on the Neuse
River for the Proposed Atlantic Coast Pipeline in North Carolina.**

Dear Ms. Garrison and Ms. McRae:

Atlantic Coast Pipeline, LLC (Atlantic) is pleased to provide the Rare, Threatened, and Endangered Mussel Studies Report for the Proposed Atlantic Coast Pipeline in North Carolina ("ACP North Carolina Neuse River Mussel Report") (attached). This report describes the scope, methods, and results of the additional mussel surveys performed along the Neuse River to determine the extent of the mussel assemblages observed during the initial aquatic species surveys performed in June 2016.

The North Carolina Wildlife Resources Commission (NCWRC) reviewed the initial June 2016 results of aquatic species surveys and provided comments regarding the diversity and density of state rare, threatened, and endangered (RTE) species detected during surveys on the Neuse River. Based on the results of the initial Neuse River mussel surveys, the NCWRC recommended assessing additional areas in the upstream and downstream reaches of the Neuse River to determine whether mussel habitat and abundance were similar in quantity and quality as previously identified. On December 13 and 14, 2016, additional mussel surveys involving spot dives and timed search areas occurred at 10 upstream and 10 downstream locations from the previous Neuse River survey extent.

Atlantic is requesting your review and concurrence that the attached ACP North Carolina Neuse River Mussel Report addresses the request for additional information regarding freshwater mussels in the Neuse River raised by NCWRC following the findings of the initial survey. Species density and diversity varied only slightly between the upstream and downstream reach; however, habitat and abundance of state RTE species were observed throughout the upstream and downstream areas.

Project and Company Background

Atlantic is a company formed by four major U.S. energy companies – Dominion Resources, Inc., Duke Energy Corporation, Piedmont Natural Gas Co., Inc., and Southern Gas Company. Atlantic will own and operate the proposed ACP, an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. The ACP will deliver up to 1.5 million cubic feet per day (bcf/d) of natural gas to be used to generate electricity, heat homes, and run local businesses. The underground pipeline project will facilitate cleaner air, increase reliability and security of natural gas supplies, and provide a significant economic boost in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with DTI, a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

Dominion looks forward to continued coordination with you on this project. Please contact Mr. Richard B. Gangle at (804) 273-3019 or Richard.B.Gangle@dom.com, if there are questions regarding this report. Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



For
Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

Cc: Richard Gangle, Dominion
Tyler Black, North Carolina Wildlife Resources Commission
Vann Stancil, North Carolina Wildlife Resources Commission

Attachments:

Rare, Threatened, and Endangered Freshwater Mussel Studies on the Neuse River for the Proposed Atlantic Coast Pipeline in North Carolina

U. S. Forest Service - Monongahela National Forest, U.S. Fish and Wildlife Service



February 24, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Clyde Thompson
U.S. Forest Service
Monongahela National Forest
200 Sycamore Street
Elkins, West Virginia 26241

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline:
Submittal of Atlantic Coast Pipeline Evaluation of the Small Whorled Pogonia –
Monongahela and George Washington National Forests and the Seneca State Forest**

Dear Mr. Thompson,


Atlantic Coast Pipeline, LLC (Atlantic) is a company formed by four major U.S. energy companies – Dominion, Duke Energy, Piedmont Natural Gas, and Southern Company Gas. The company was created to develop, own, and operate the proposed Atlantic Coast Pipeline (ACP), an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with Dominion Transmission, Inc. (DTI), a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

A portion of the ACP crosses U.S. Forest Service (USFS) lands within the Monongahela National Forest in West Virginia and the George Washington National Forest in Virginia. As requested in a comment letter from the USFS dated September 7, 2016 Atlantic has prepared a report describing the potential impacts of the ACP on the four populations of Small Whorled Pogonia documented during field surveys.

We would appreciate your review the enclosed report and look forward to continuing to work with you on the ACP. Please contact Richard B. Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this report. Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,


FOR RICHARD GANGLE

Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

cc: Jennifer Adams, U.S. Forest Service
Richard B. Gangle, Dominion
Liz Stout, U.S. Fish and Wildlife Service
Sumalee Hoskins, U.S. Fish and Wildlife Service

Attachments: Atlantic Coast Pipeline Evaluation of the Small Whorled Pogonia –
Monongahela and George Washington National Forests and the Seneca State
Forest

**U. S. Forest Service - Monongahela and George Washington National Forests,
Federal Energy Regulatory Commission**

ACP SITE SPECIFIC STABILIZATION MEETING**Date/Time:** December 8, 2016 @ 3:00pm- 5:00pm US Eastern Standard Time**Location:** Conference Call/GoTo Meeting**Attendees:**

Forest Service	Jennifer Adams, Kent Karriker, Pam Edwards, Karen Stevens, Stephanie Connolly, Steffany Scagline, Angela Parish, Pauline Adams, Tom Bailey, Tom Collins
Federal Energy Regulatory Commission (FERC)	Robert Kopka
Merjent	Kim Jessen, Jeff Mackenthun, Kate Mize
Dominion	Richard Gangle, Brian Wilson, Brittany Moody, Greg Park, Leslie Hartz, Robert Hare, Colin Olness
Geosyntec	Alex Green, Tony Rice, Kathleen Harrison, Logan Brandt, Rodolfo Sancio
Golder Associates	Andreas Kammereck
W. Virginia University	Jim Thompson
Galileo Project	Maria Martin, Peter Rocco

Meeting Attachments: **Attach A:** Tom Collins Presentation, **Attach B:** Rev B Updates to Site Specific Geohazard Mitigation Design Drawings, **Attach C:** MP 73 Rev B Site Specific Design Drawings, **Attach D:** MP 85 Rev B Site Specific Design Drawings

Introduction & Background

The Forest Service (FS) reviewed the materials presented on the November 21, 2016 meeting and scheduled this meeting to further discuss Atlantic Coast Pipeline's (ACP) Best in Class (BIC) approach to stabilizing terrain on steep slopes.

Discussion

Effectiveness of controls: The FS asked for specific/targeted evidence of the effectiveness of the BIC controls to stabilize terrain on conditions similar to that found in the two forests. Kent Karriker noted the FS has asked for this documentation several times, starting with their comments on the draft resource report. The FS needs assurances the BIC approach has a reasonable chance of preventing the types of slope failures seen recently. Pam Edwards said the FS understands some of this information might be proprietary and there may be a small sample size, but whatever information that Dominion has would be useful. After Dominion asked about the type of evidence the FS would like, she indicated that the FS ideally would like to see peer reviewed data and research, preferably quantifiable comparisons of the different controls if that is available. Jim Thompson added ACP hopefully put some thought into selecting the BIC controls. Consequently, the data and evidence used in this selection process should be shared with the FS.. He noted that peer-reviewed studies may be limited in number, so case studies may have to be used. Any case studies presented should represent an exhaustive cross-section of successes and failures.

Colin Olness indicated that he understands what type of information the FS is looking for. He suggested, however, that it may be difficult to compile because individual pipeline owners track effectiveness for their own projects and do not make that information available to the public. Andreas Kammereck said the BIC controls are industry standard and were selected based on practical experience and work done over decades in a variety of terrains. Golder Associates considered their experience with other pipeline clients in West Virginia during BIC program development. He noted that identifying the problems and problem locations was more in the purview of Geosyntec and that Golder Associates was brought in to help identify controls to address the specific topography, soil, geology and hydrologic conditions found here. He said there are places in the project area where the FS could see these controls installed.

Stephanie Connolly expressed appreciation for Andreas Kammereck's summary. Citing research concluding that frequently used and generally accepted silt fences are not effective, Stephanie Connolly said the FS may not be willing to accept the BIC controls just because everyone else uses them, the FS needs evidence. General acceptance does not necessarily equate to effectiveness. Pam Edwards said the FS understands there is some variability based on whether controls are installed correctly and maintained, but information to support the effectiveness is needed.

Robert Kopka suggested that if the FS has pipelines on National Forest System (NFS) lands FS could go into the field to review the effectiveness of controls. He said FERC has inspection reports available and in his experience has not seen a project cause a major landslide. He noted that erosion and slips are normal occurrences on pipeline construction sites. Kent Karriker replied the FS has seen issues on NFS lands. Jim Thompson asserted that the burden of proof is on ACP, not the FS. Robert Kopka suggested that ACP could coordinate a field trip for FS to inspect pipelines in the area.

Stephanie Connolly stated that the FS does not monitor the pipelines for the companies that have special use permits on the Forest. She stated that these lines are decades old and were constructed in a time period where Forest Management Plans did not exist. This comparison of our existing pipelines and this proposal is not relevant to our current discussions with complying with the MNF current Forest Plan and laws like the Clean Water Act.

Colin Olness noted Andreas Kammereck recently presented a summary of lessons learned to the Interstate Natural Gas Association of America (INGAA). Andreas Kammereck clarified the presentation was more about a program to identify and mitigate site conditions rather than a summary of effectiveness of controls. He will further investigate options for collecting data on effectiveness that can be correlated, if any, to the site conditions on the NFS lands. Jim Thompson and Stephanie Connolly suggested geology and the Order 2 Soil Survey information could help with the correlation.

Action: **Andreas Kammereck** provides his INGAA report.

Action: **ACP** considers how to provide documentation of erosion control effectiveness and slope stability effectiveness.

Site selection criteria: Kent Karricker said the FS wants to know how ACP identified the 24 sites proposed for the site-specific design portion of the BIC program. Colin Olness said the 24 sites did not fit into the 6 typical BIC scenarios presented in the materials submitted for the November 21 meeting. Tony Rice said approximately 500 locations with slopes greater than 30% or longer than 100 feet were screened for inclusion in the BIC program. Site specific designs within the BIC program were selected because they have evidence of active movement or the potential for increased instability when disturbed. He said the BIC controls would not be limited to the 24 sites; the controls would be used on any slope greater than 30%.

Jim Thompson asked what constitutes evidence of movement and what goes into the determination that a slope may become unstable. Tony Rice said screening for evidence of movement was conducted using aerial images, LiDAR and field reconnaissance. Evidence of active movement included: evidence of tension cracking, timber deformation, bulging and poor drainage. Geologic formation, soils and slope were analyzed to identify potential for site instability. Jim Thompson mentioned the presence of colluvium could also be a sign. Tony Rice agreed, but said ACP primarily looked at the features he mentioned. Colin Olness mentioned there were two sites in the George Washington Jefferson National Forest undergoing more site specific investigations.

Action: **Tony** provides additional narrative on how ACP identified the 24 locations for the site-specific design portion of the BIC program.

Design plans: Using GoTo Meeting, Tom Collins commented on the slides in his presentation. *See the presentation for his comments.* Colin Olness noted the design plans were not in final form and ACP intended to schedule a meeting to solicit FS feedback before the designs were updated. Tom Collins said the FS would like to see design narrative based on site conditions and a construction narrative that includes a discussion of the construction sequence and operations in relation to the plans and drawings. He also would like to know what the post reclamation profile would look like, in some cases it may not be possible to restore to the original slope. Stephanie Connolly noted that due to clay mineralogy in some parts of the MNF, the excavated soil expands and may not fit back in the trench. Also, sediment basins are often inadequate in areas with this type of mineralogy. She asked how the BIC program accounts for differences in texture and mineralogy. Colin Olness indicated that those aspects would be addressed.

Action: **ACP** provides Tom Collins with the most recent alignment sheets.

Action: **Jennifer** Adams closes the loop on whether the location identified in slide 16 is still under consideration.

Action: **ACP** updates the design plans.

Action: **Jennifer** Adams and **Richard** Gangle coordinate a workshop to further discuss the design plans.

In-field expertise: Stephanie Connolly said a lot of planning and thought was put into the BIC class program and asked if subject matter experts from Golder Associates. would be in the field during construction to guide implementation. She specifically noted the Golder Associates has this expertise about the BIC controls and asked if that firm would have representatives in the field during construction, because she noted that until Golder Associates became involved, ACP was not displaying this type of detail or steep slope methodology in their previous presentations or filed documents. She has concerns that this level of understanding on the designs and BIC is not universal amongst all contractors. Colin Olness said the geotechnical experts would be in the field during construction; this is written into sign-off forms.

Action: **ACP** incorporates discussion of geotechnical presence during construction phase into the Construction, Operations, and Maintenance (COM) Plan.

Material safety data sheets (MSDS): Stephanie Connolly referred to her comments regarding water quality made on November 21, 2016. She said agency stakeholders are interested in finding out what the water quality from the water diversion features would be. To help inform those discussions and define parameters for water quality testing, the FS would like MSDS for the pipeline, construction, rehabilitation, and maintenance related materials brought on site. Pam Edwards said this list would include fertilizers, foam materials, and pipeline coatings. Richard Gangle said ACP has not identified every potential material that would be used during the project, but noted there could be hundreds of MSDSs. Richard Gangle continued that this is an unrealistic expectation prior to construction, as it would depend on the exact manufacturer and make of every material brought onsite. MSDS for any material brought onsite are maintained onsite during the project, but cannot be identified so far in advance. He said that they could identify materials associated with the trench breakers. Jennifer Adams said this conversation could be continued; and suggested the MSDS be attached to the COM Plan.

Kent Karriker and Stephanie Connolly asked for a full description of the structures and techniques maintenance program, and they noted that lack of maintenance likely would lead to failure. Pam Edwards clarified that the FS is asking for information about maintenance related to slope stability, not routine vegetation maintenance. Colin Olness indicated that he thought such maintenance information was covered in the BIC portion of the COM plan.

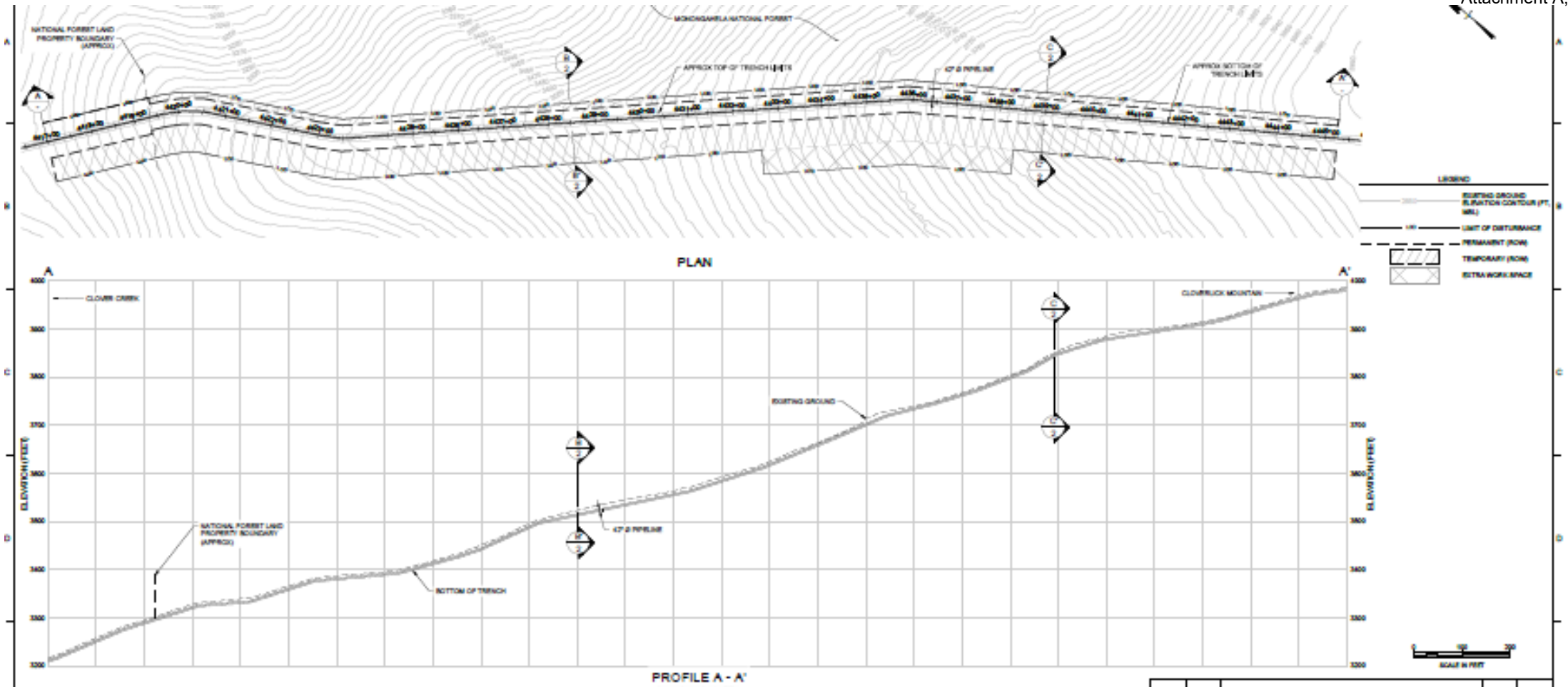
Other discussion FS staff asked several questions that were not discussed during the call. Those questions include:

- Stephanie Connolly asked what criteria are used to determine the location of trench breakers and associated bleeder drains.
- Tom Collins requested a narrative account of the construction sequence to accompany the drawings. He said that the design needs to account for swell factors, imported material for trench fill, and disposal of excess material. It may not be possible to restore the original contour.
- Pauline Adams requested that ACP give the FS an opportunity to confirm the final route alignment for the location with the US Fish and Wildlife Service related adjustment to buffer the small whorled pogonia site near a stream crossing, before final site specific drawings are created. Talking about the differences in right-of-way alignment from the 11May16 version to the Rev11a version based on GIS shapefiles.

Action: **Stephanie Connolly and Pam Edwards** compile a list of questions on BIC and site specific design plans.

Pam Edwards said the FS review of literature related to these controls suggested that maintenance is important. She said it critical for ACP to communicate what will be done to maintain the BIC control features and avoid failures that might result in pollutant release or slope instability.

Action: **ACP** updated the COM Plan to include discussion of controls maintenance and other topics discussed.

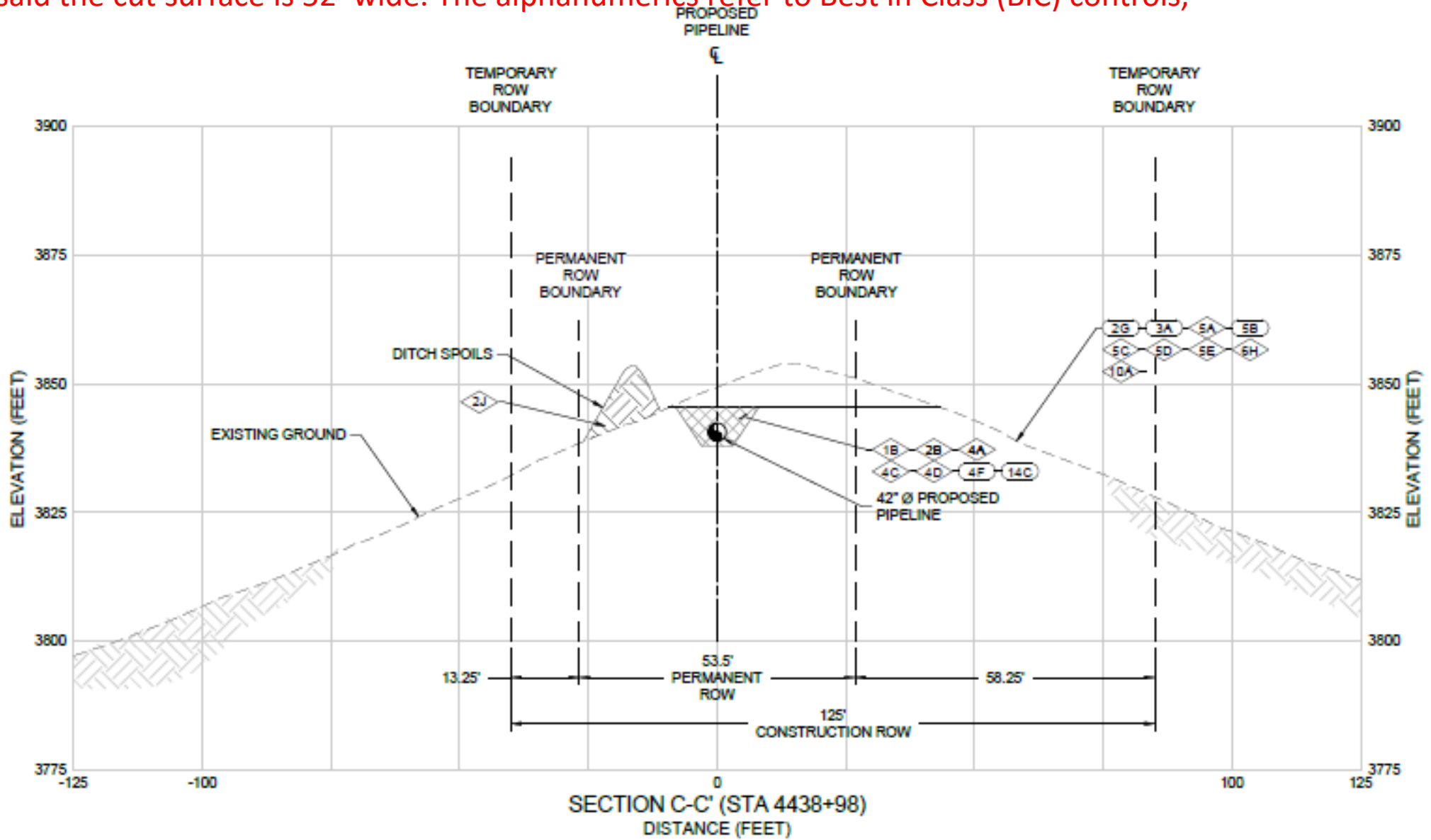


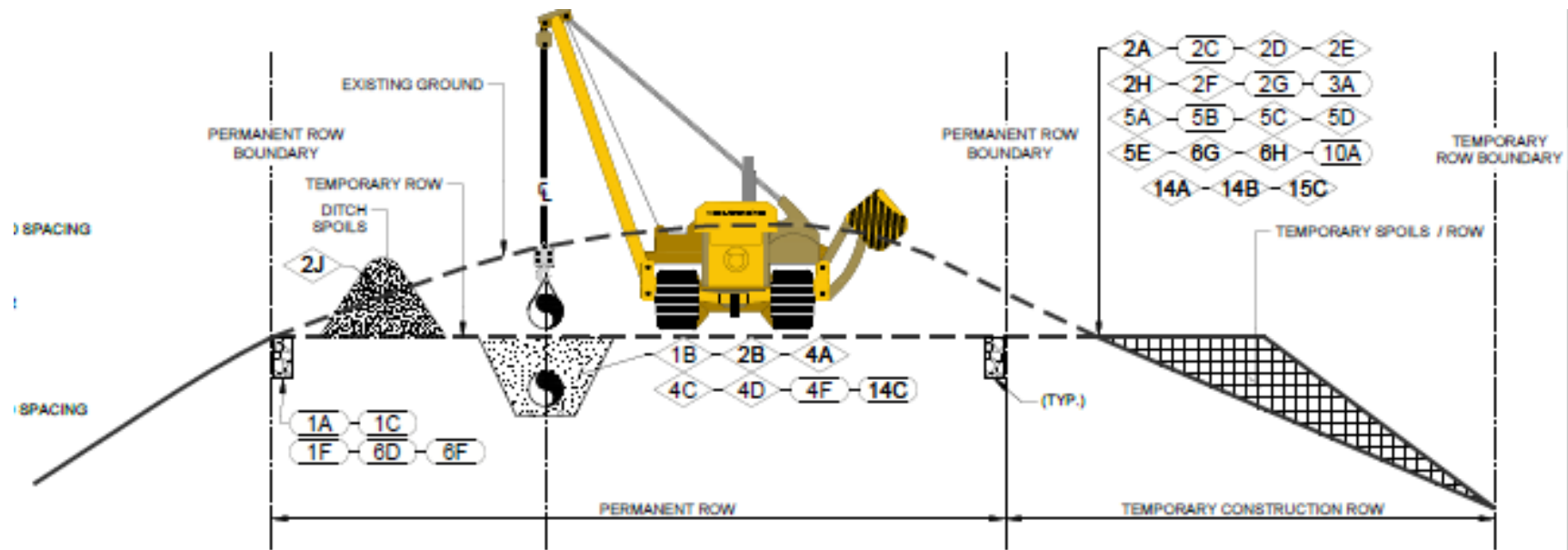
NOTES

1. MAPPING AND TOPOGRAPHY BASED ON UTM COORDINATE SYSTEM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MICHIGAN S. 1. N.
2. STATIONING SHOWN IS SLOPE STATIONING.
3. CONTOURS AND TOPOGRAPHIC FEATURES DERIVED FROM LIDAR DATA AND GPS SURVEYER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC.
4. STRIPMAP AND WETLAND DATA PROVIDED BY WAGNER.
5. FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
6. VOLUMES, GRADES, SURVEYING AND QUANTITIES WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
7. STANDARD PROVISION AND SEGMENT CONTROL (A/NON/SC) ARE SEPARATELY PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.

NO.	DATE	DESCRIPTION	BY	CHK
GEOHAZARD MITIGATION SITE-SPECIFIC DESIGN PLAN AND PROFILE A-A'				
ATLANTIC COAST PIPELINE, REV 11a				
SITE SPECIFIC DESIGN MP 73.20 TO 73.50 (AP-1)				
DESIGNED BY:	LS/TE	DATE:	NOVEMBER 2018	
DRAWN BY:	JL/JOH	PROJECT NO.:	T200007-13	
CHECKED BY:	LS/TE	FILE:	T20000710001	
REVISION BY:	BB	REVISION NO.:		
APPROVED BY:	TS	1 of 2		
PRELIMINARY NOT FOR CONSTRUCTION				

Tom C. said the cut surface is 52' wide. The alphanumeric refer to Best in Class (BIC) controls,





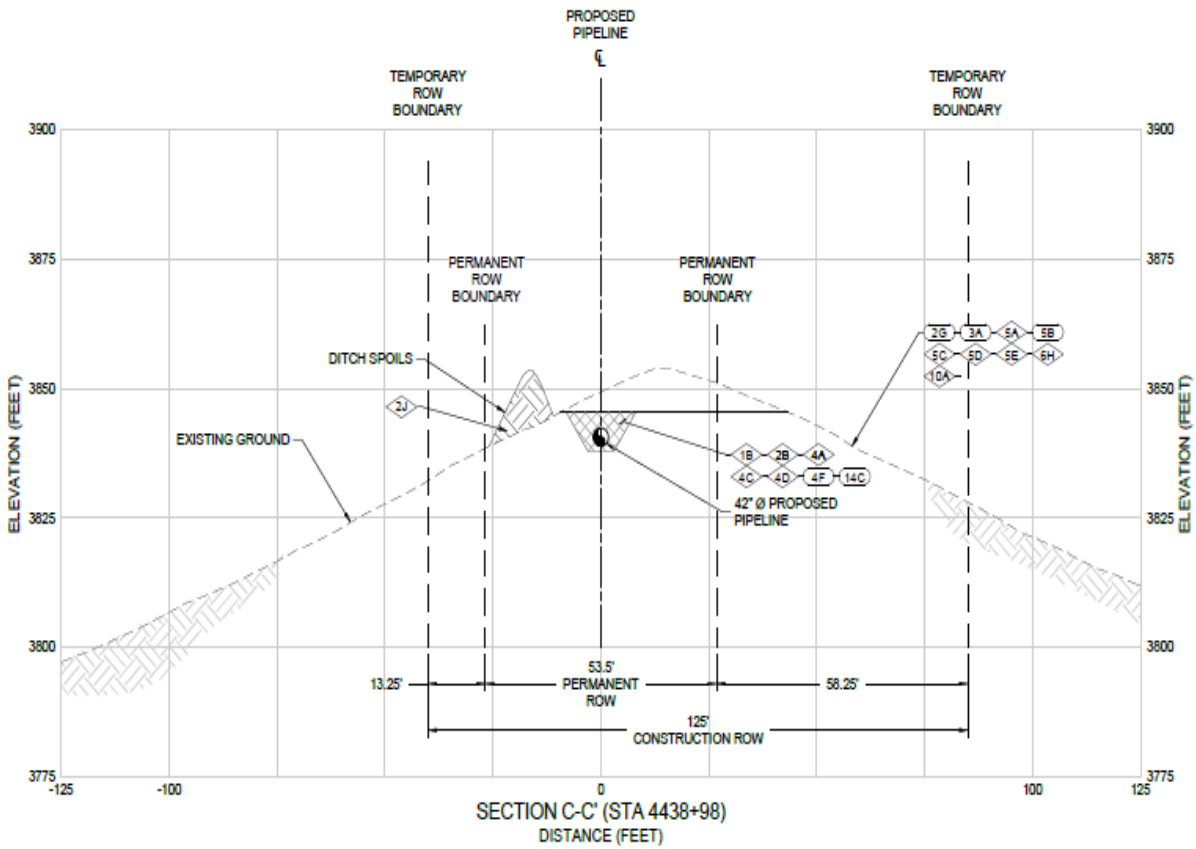
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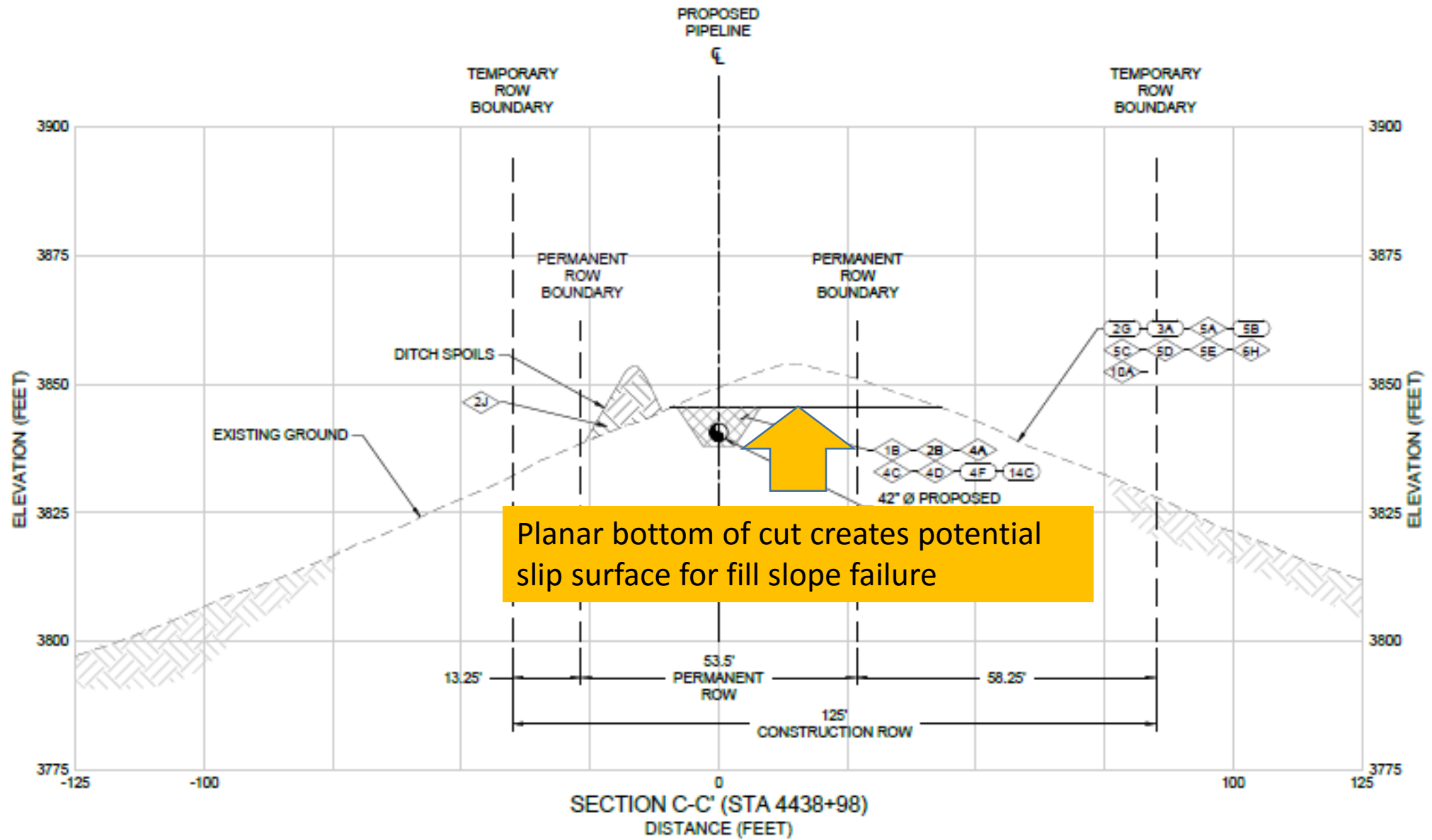
1. FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE TARGETED CONDITIONS.
2. VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
3. SCENARIO SHOWN WHERE RIDGE TOP IS GENERALLY CENTERED, BUT MAY VARY WITH CUT/FILL TO ONE SIDE OR THE OTHER.

LEGEND

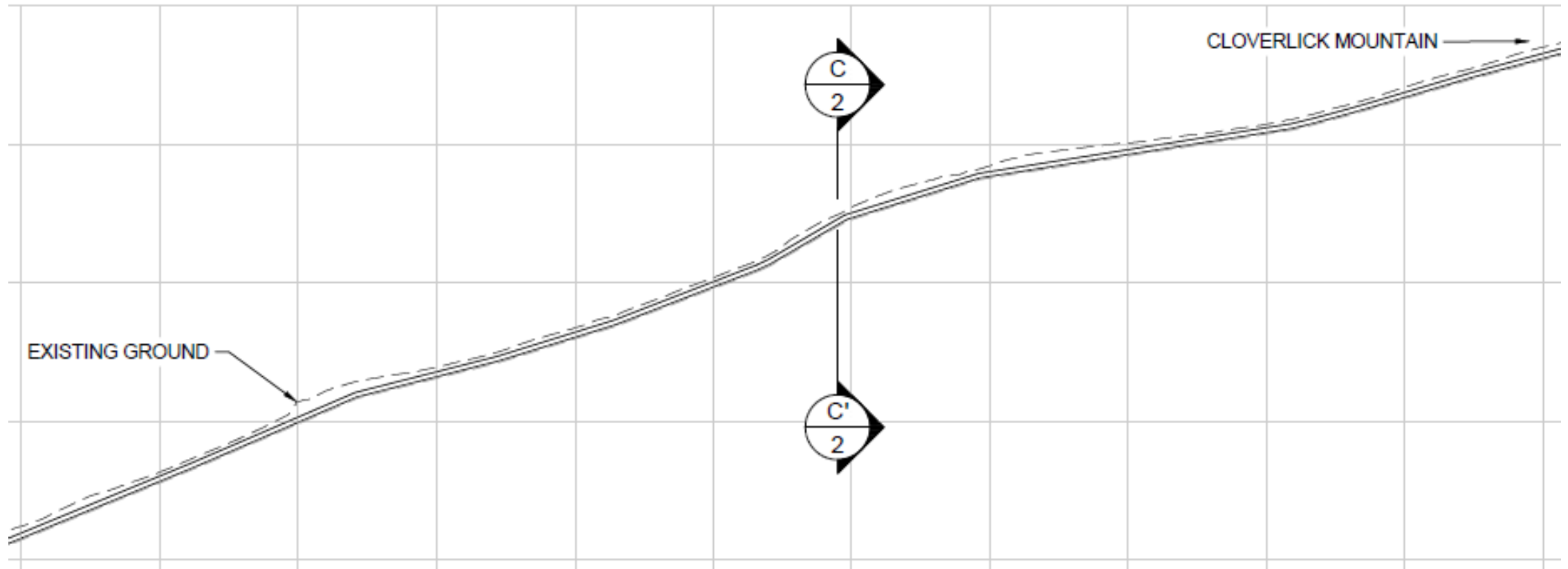
- XX SCHEDULE A
- XX SCHEDULE B

	2018-11-10	WORKING - DRAFT	DBC	THR	AGM	AQK
REV	DATE	REVISION DESCRIPTION	DES	CADD	CHK	R/W
NOTES						
DRAFT						
PROJECT						
BIC STEEP SLOPE HAZARD MITIGATION PROGRAM						
TITLE						
D - STEEP SLOPES NEAR NARROW RIDGE TOPS						
		PROJECT No.	1538050	FILE No.	TypScenario1	
		DESIGN	DBC	2018-11-10	SCALE	AS SHOWN
		CADD	THR	2018-11-10	FIGURE	
		CHECK	AQK	2018-11-10		
		REVIEW	AQK	2018-11-10	1 OF 1	

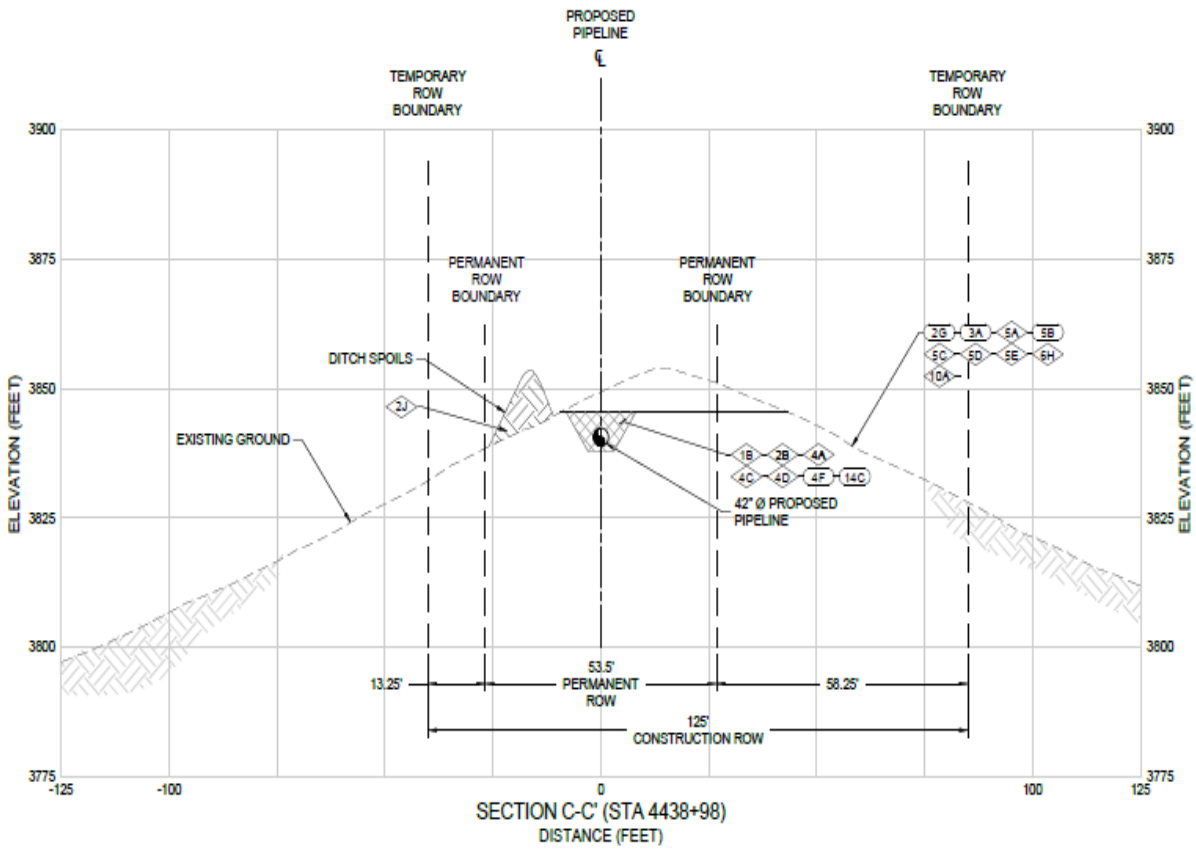




Tom C. said this 52' wide cut creates a surface for slippage.

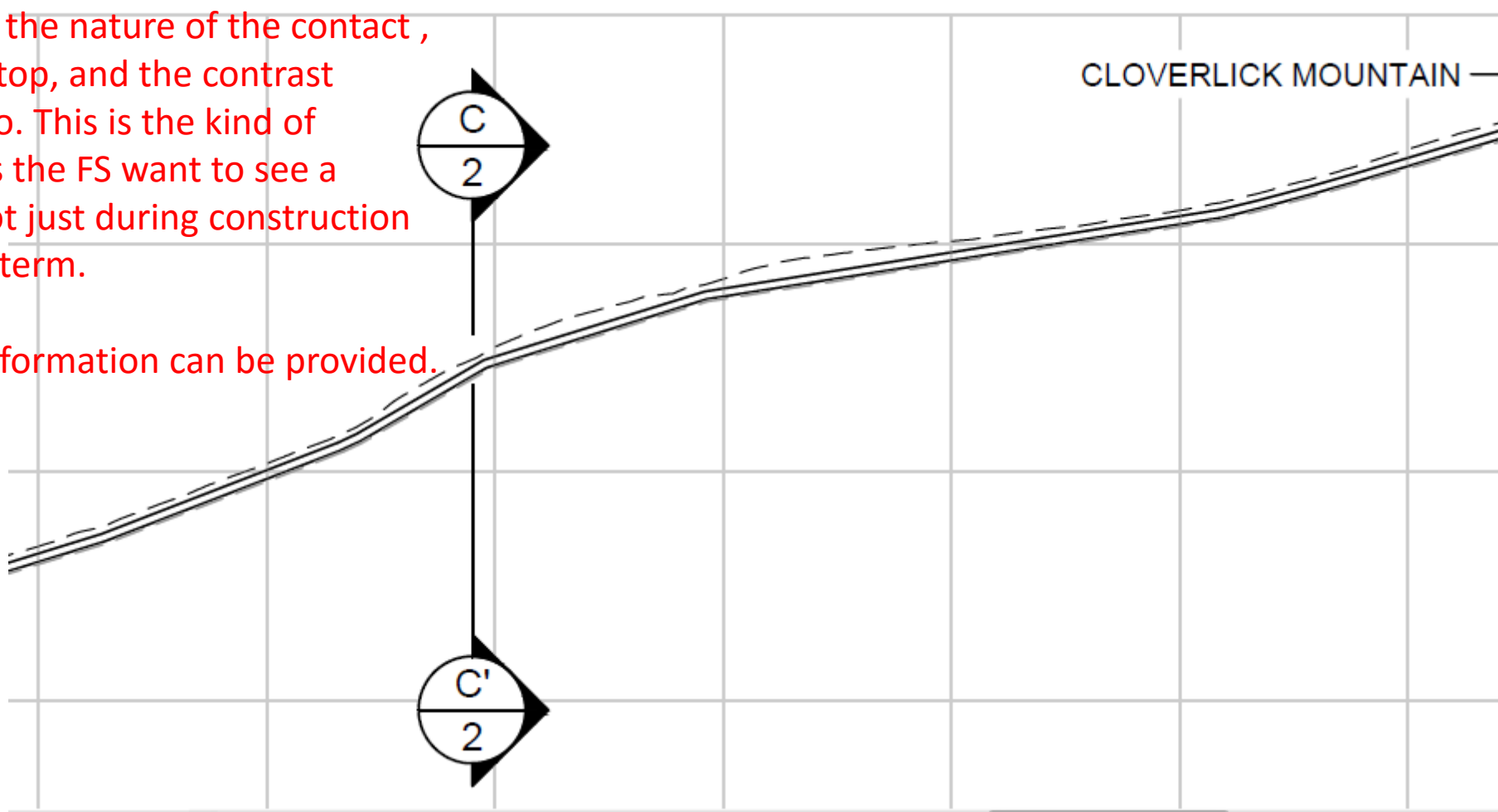


Tom C. said this is the profile, planar surface roughly parallel to the existing slope, in order to look at that the FS will need a plan in detail.

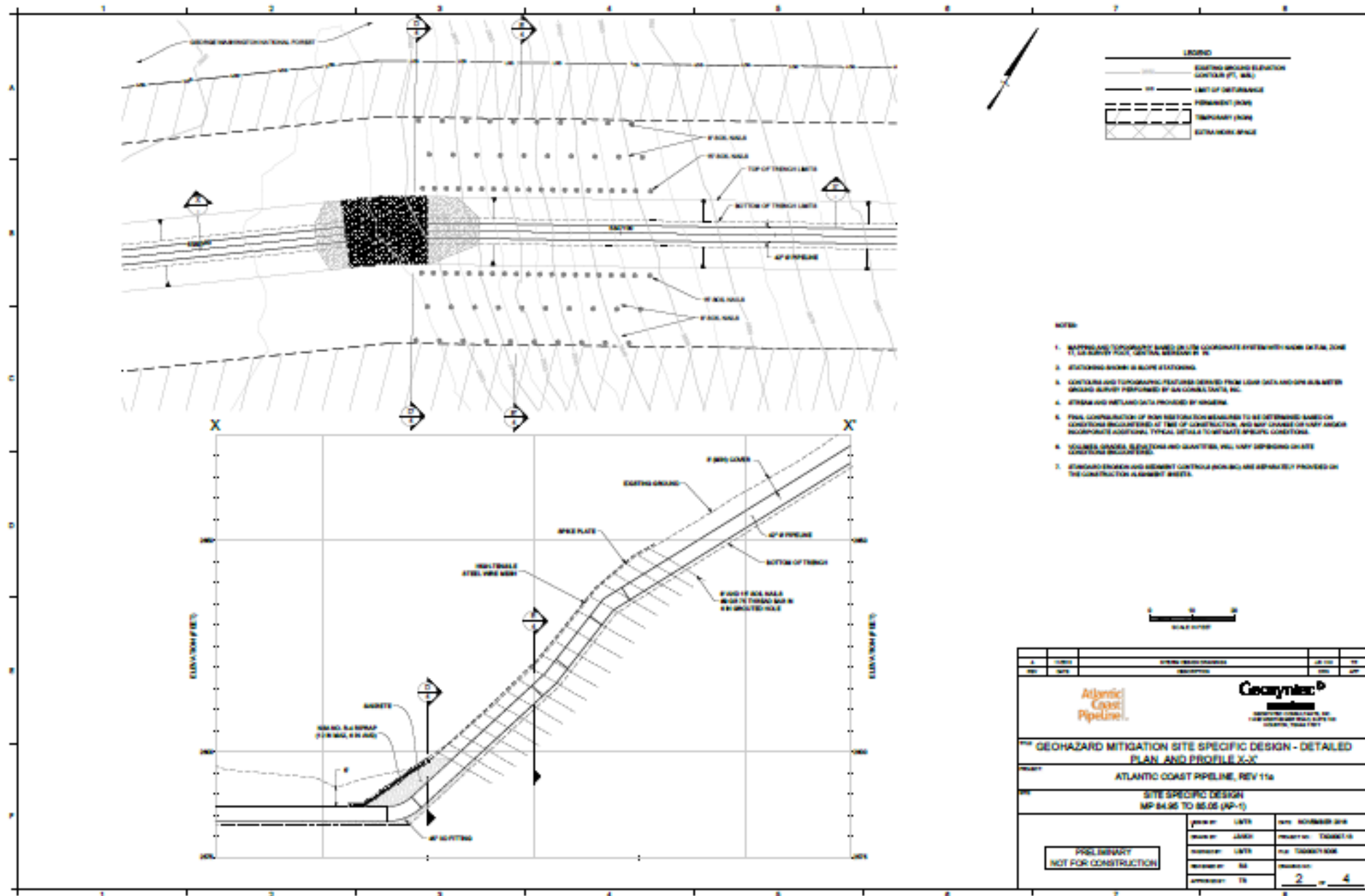


Tom C. said the project is doing 2 things, creating a planar slip surface and then piling loose aggregate on top of that. FS needs to look at the nature of the contact, the material on top, and the contrast between the two. This is the kind of detailed analysis the FS want to see a narrative on; not just during construction but for the long term.

Colin said this information can be provided.

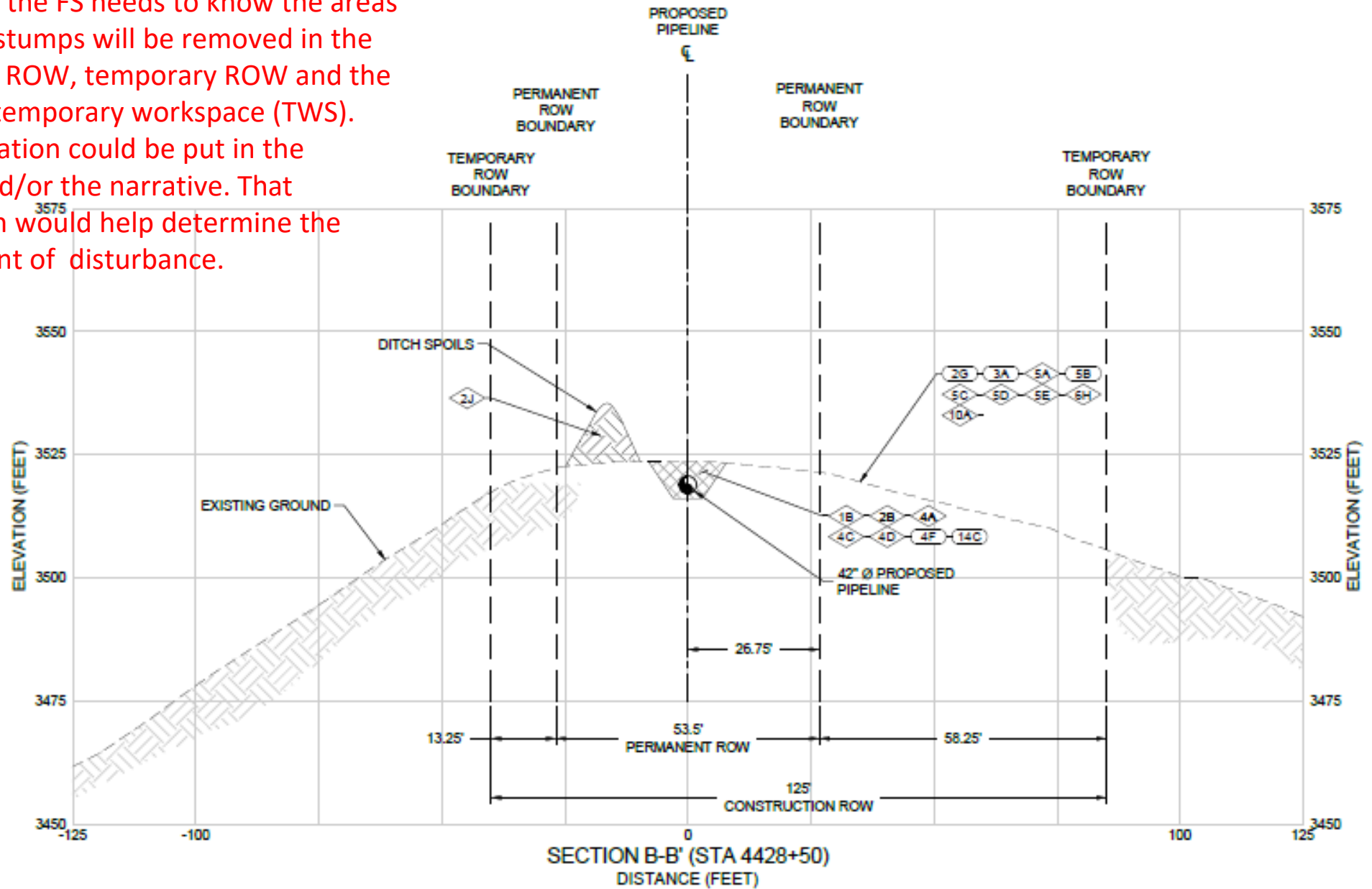


Tom C. said this is from the George Washington Jefferson National Forest, there is an overall plan and then a detailed plan. For the cross section the FS would need something that includes 100' up and down slope that shows the nature of the surface and amount of materials. This is a place where the BIC can be shown in plan and profile view.



Tom C. said it would be good to have some narrative on why the BIC were chosen.

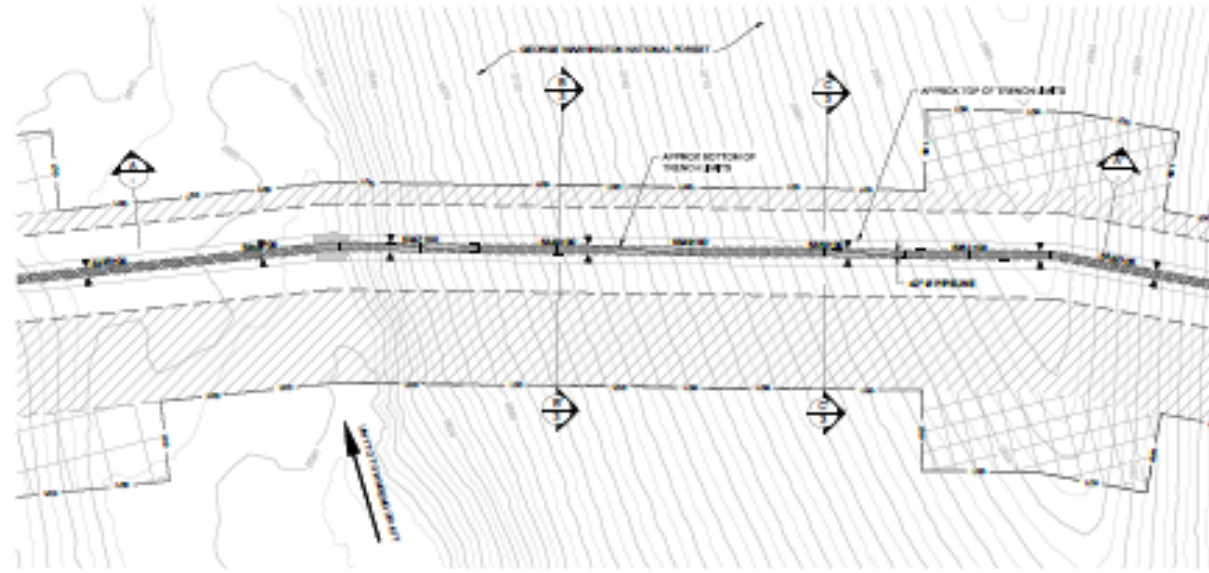
Tom C. said the FS needs to know the areas where the stumps will be removed in the permanent ROW, temporary ROW and the additional temporary workspace (TWS). The information could be put in the drawing and/or the narrative. That information would help determine the total amount of disturbance.



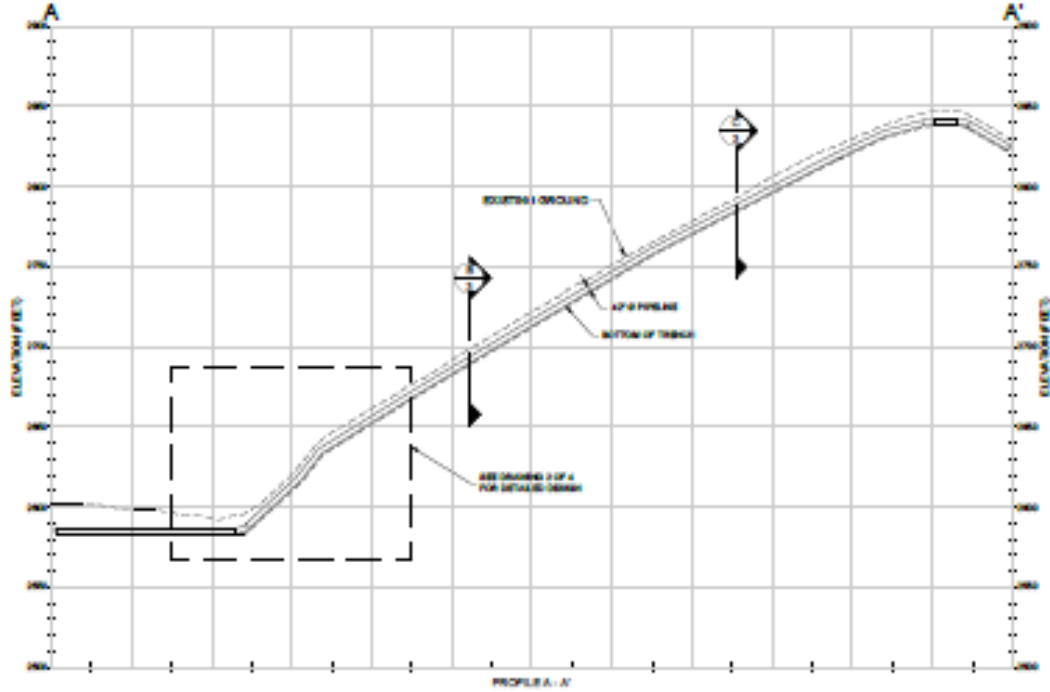
NOTES:

1. FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
2. VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
3. ACTUAL CUT/FILL CONFIGURATIONS MAY VARY DEPENDING ON ACTUAL SITE CONDITIONS.

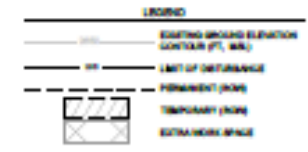
Colin- the restoration measures are not here but are on the alignment sheets. Atlantic Coast Pipeline didn't include on the site specific drawing but can show them.



PLAN

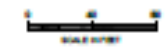


PROFILE A-A'



NOTES

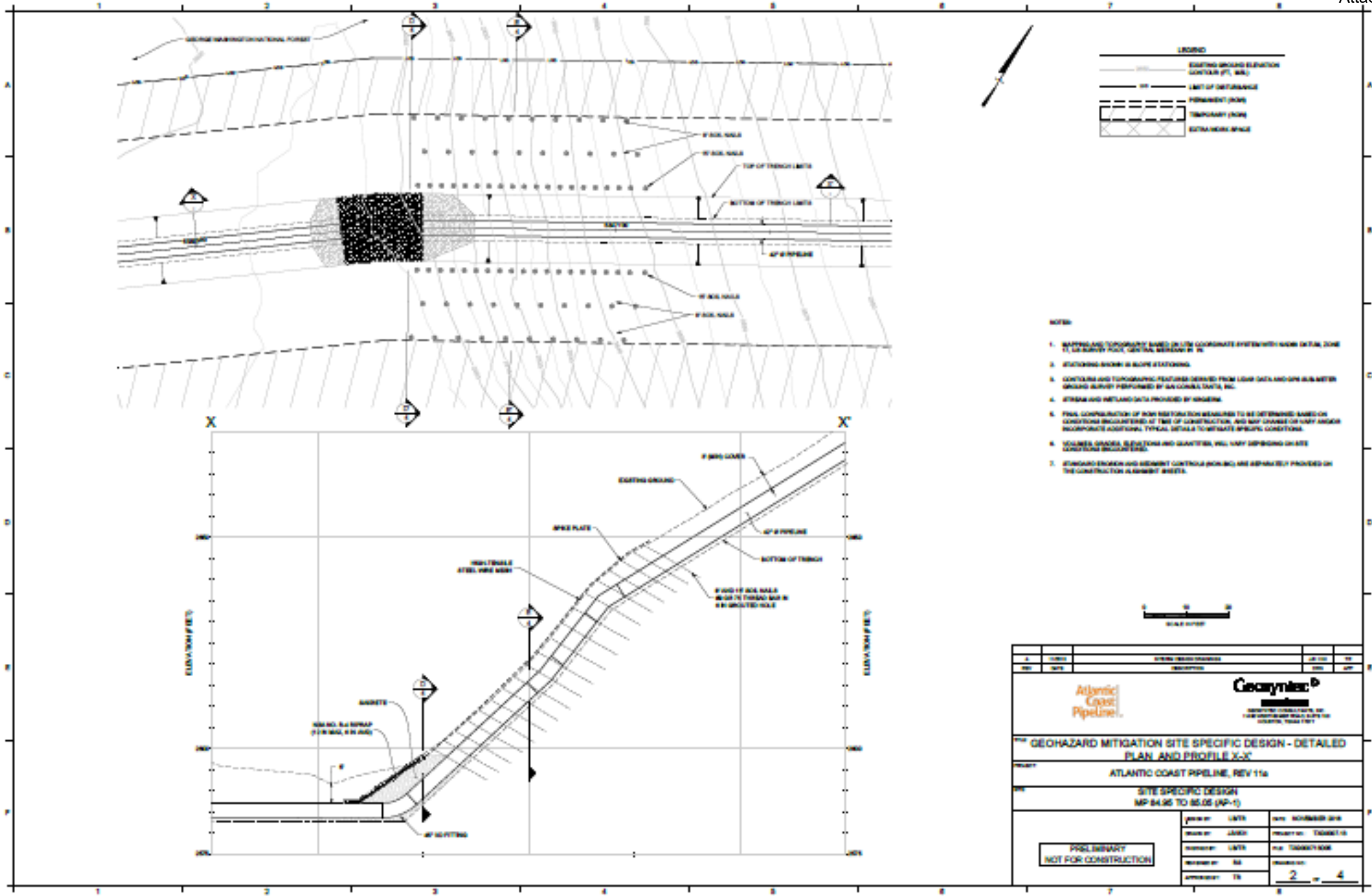
1. MAPPING AND TOPOGRAPHY BASED ON LTM COORDINATE SYSTEM WITH NOAA DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN N. W.
2. STATIONING SHOWN IS SLOPE STATIONING.
3. CONTOUR AND TOPOGRAPHIC FEATURES DERIVED FROM LIDAR DATA AND OPEN AIR METER GROUND SURVEY PERFORMED BY GW CONSULTANTS, INC.
4. STREAM AND WETLAND DATA PROVIDED BY ENGINEER.
5. FINAL DETERMINATION OF SOIL REMEDIATION MEASURES TO BE DETERMINED BASED ON CONDITIONS EXISTING AT END OF TIME OF CONSTRUCTION AND MAY BE MODIFIED TO MEET REGULATORY ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIAL CONDITIONS.
6. VOLUMES, GRADES, ELEVATIONS AND QUANTITIES WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
7. STATIONING, BRUSH AND ASPHALT CURBS AND PAVEMENT ARE ABSTRACTLY PROVIDED BY THE CONTRACTOR FOR A BENCHMARK. SEE 101.



NO.	DATE	BY	DESCRIPTION	APP.
GEOHAZARD MITIGATION SITE SPECIFIC DESIGN PLAN AND PROFILE A-A'				
PROJECT: ATLANTIC COAST PIPELINE, REV 11a				
SITE SPECIFIC DESIGN MP 84.95 TO 85.05 (AP-1)				
PREPARED BY: LNTS		DATE: NOVEMBER 2016		
CHECKED BY: JAKOB		PROJECT NO.: TDM2016-10		
APPROVED BY: LNTS		PLAN: TDM2016-10-04		
DRAWING NO.: 84		SHEET NO.:		
APPROVED BY: TB		1 OF 4		
PRELIMINARY NOT FOR CONSTRUCTION				

Tom C. said the plan drawing shows the TWS at the top of the slope but the alignment sheet shows the TWS at the bottom of the slope. On the Monongahela National Forest and GWJ there was no cross section on the TWS. The FS wants to see a cross section and profile of the TWS.

TC-



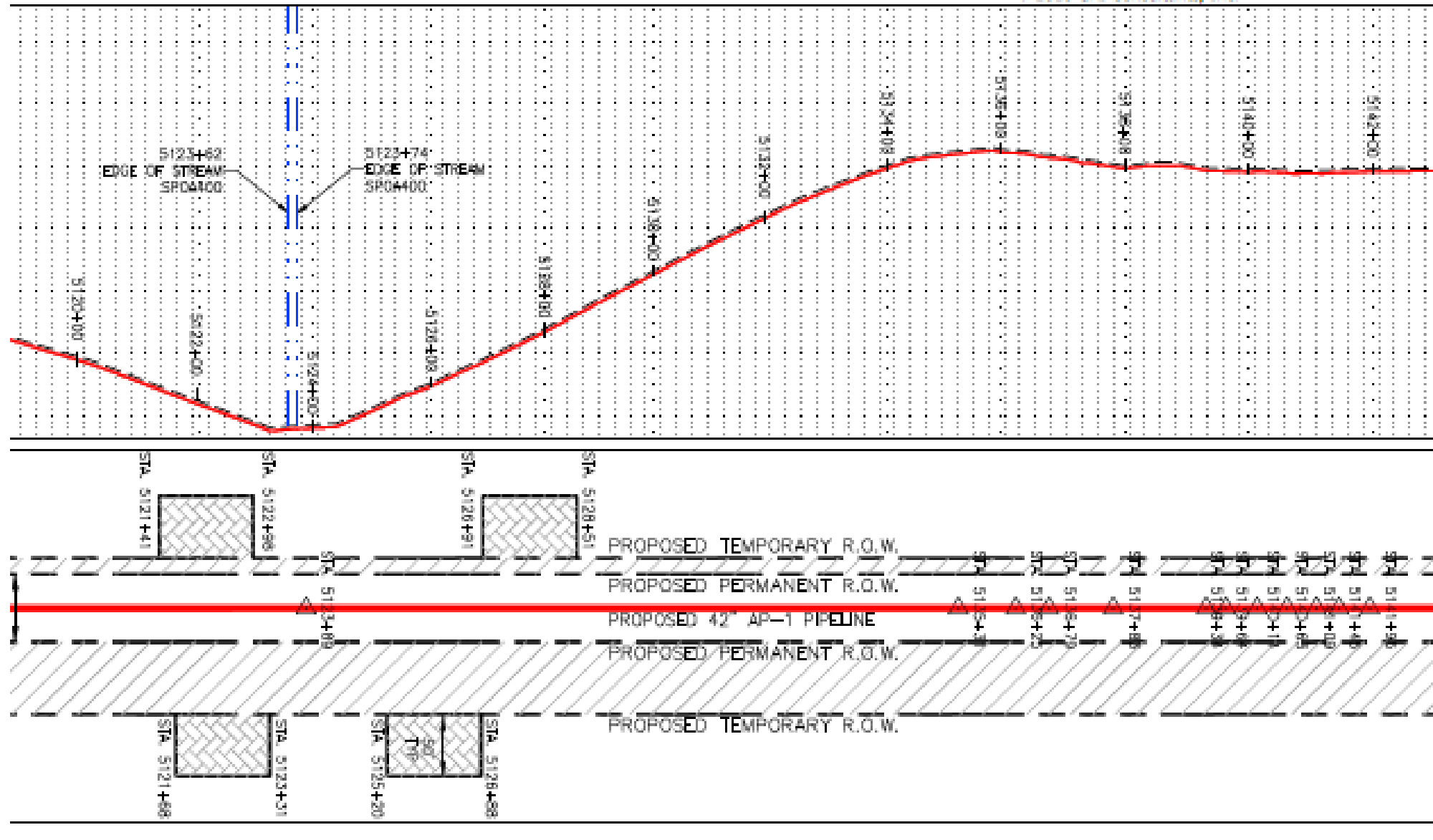
LEGEND

	EXISTING GROUND ELEVATION
	LIMIT OF DISTURBANCE
	PERMANENT (ZONE)
	TEMPORARY (ZONE)
	EXTRA WORK SPACE

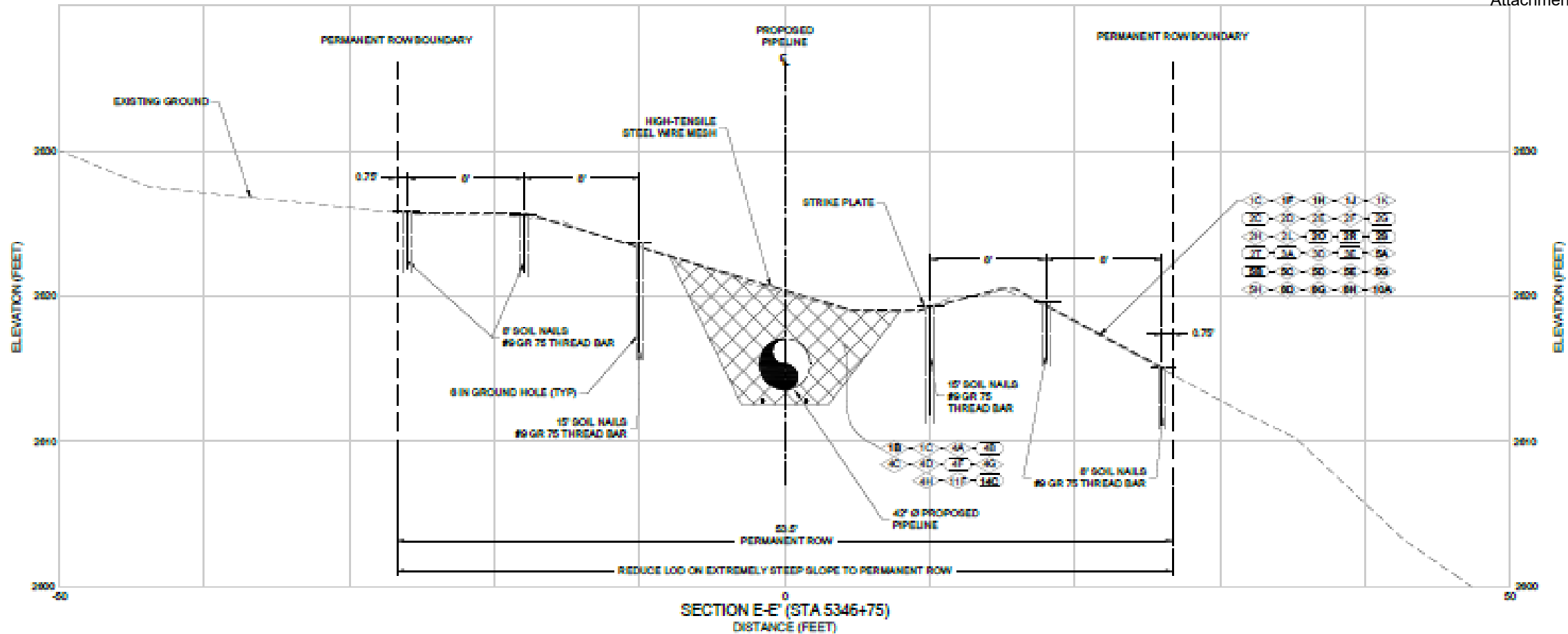
- NOTES**
1. MAPPIING AND TOPOGRAPHIC BASED ON UTM COORDINATE SYSTEM WITH NAD 83 DATUM, ZONE 18, UTM NORTH, CENTRAL MERIDIAN IN.
 2. STATIONING SHOWN IS BUREAU STATIONING.
 3. CONTOURS AND TOPOGRAPHIC FEATURES DERIVED FROM LIDAR DATA AND ONE METER GRID SURVEY PERFORMED BY SAN CONDE SAUTS, INC.
 4. STREAM AND WETLAND DATA PROVIDED BY WISCONSIN.
 5. FINAL DETERMINATION OF SOIL DISTURBANCE REQUIRED TO BE DETERMINED BASED ON CONDITIONS PREVALENT AT TIME OF CONSTRUCTION, AND MAY CHANGE ON VARY AREAS. INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
 6. VOLUMES, GRADES, SECTIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS PREVALENT.
 7. STANDARD ENGINE AND SURVEY CONTROL DRAWINGS, ARE APPROPRIATE PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.



DATE	DESCRIPTION	BY	APP
GEHAZARD MITIGATION SITE SPECIFIC DESIGN - DETAILED PLAN AND PROFILE X-X'			
PROJECT: ATLANTIC COAST PIPELINE, REV 11a			
SHEET: SITE SPECIFIC DESIGN MP 84.95 TO 85.05 (AP-1)			
DESIGNED BY	DATE	CHECKED BY	DATE
DRAWN BY	DATE	PROJECT MANAGER	DATE
APPROVED BY	DATE	CLIENT REPRESENTATIVE	DATE
PRELIMINARY NOT FOR CONSTRUCTION		SCALE: 1" = 40'	



Tom C. said the alignment sheet shows the TWS is at the bottom of the slope but the plan drawing shows it at the top of the slope. Action- ACP provides most recent alignment sheets.



Tom C asked if the equipment will be able to navigate this terrain, or if it would need to be leveled out. Also, the illustrations for the trenches use about a 6' bottom width and 18-16' top, but in the Construction, Operations and Monitoring (COM) Plan it says on steep slopes the top width might be 30'. On these steep slopes, will the COM Plan dimensions apply? Colin said that winches are being used to assist equipment in this portion. What is shown is the typical width for trench, on some steep slopes the extra width used so the pipe can be laid in and welded in place. Tom C. said if that applies that is what the drawing should show. Greg- said ACP needs to look at this particular slope again to inform site specific plans. How the soil responds when digging begins will also inform the depth and width of digging. The FS said there may be an adjustment to the route in this area.



11490 Westheimer Road, Suite 150
Houston, Texas 77077
PH 281.920.4601
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www.geosyntec.com

Memorandum

Date: 6 December 2016
To: Colin Olness, Dominion
Copies to: Tony Rice, Geosyntec Seattle
From: Logan Brant, Geosyntec Houston
Subject: Revision B Updates to Site Specific Geohazard Mitigation Design Drawings
Atlantic Coast Pipeline
Geosyntec Project: TXG0007 / 013 / 1210

Following the 21 November, 2016 meeting in Harrisonburg VA, Geosyntec Consultants, Inc. (Geosyntec) has revised the site specific geohazard mitigation design drawings developed for the two steep slope sites requested by the Forest Service, located along the Atlantic Coast Pipeline (ACP) Segment AP-1 between Mileposts (MP) 73.20 to 73.50 and MP 84.95 to 85.05. The revised drawings are identified as Revision B and are dated December 2016. The changes are largely intended to improve the clarity and consistency of the drawings and address some of the comments made during the meeting by the Forest Service.

The following lists summarize the changes on each drawing incorporated into Revision B.

ACP AP-1 MP 73.20 to 73.50 – Drawing No.: 1 of 2:

- Pipeline centerline and stationing added to legend.
- Note 2 expanded to identify stationing referenced to “Route Rev 11a (3D)”.
- Pipeline centerline, right of way (ROW) and limits of disturbance (LOD) extended to the edge of the plan.
- Title revised to removed hyphen between site and specific.
- Date changed to “December 2016”.
- Revision B line added to the revision block.

ACP AP-1 MP 73.20 to 73.50 – Drawing No.: 2 of 2:

Revision B Updates
6 December 2016
Page 2

- “Proposed pipeline” changed to “pipeline” on centerline label and pipeline label.
- Dimensions of ditch spoils piles reduced.
- Additional labels added to Section C-C’ to identify the “temporary cut” surface and the “existing / final ground” surface.
- Additional axes labels added to the horizontal offset distances on the sections.
- Title revised to removed hyphen between site and specific.
- Date changed to “December 2016”.
- Revision B line added to the revision block.

ACP AP-1 MP 84.95 to 85.05 – Drawing No.: 1 of 4:

- Pipeline centerline and stationing added to legend.
- Note 2 expanded to identify stationing referenced to “Route Rev 11a (3D)”.
- Arrow indicating direction of stream flow reversed.
- Hatching in extra work space made consistent throughout drawings.
- Additional axes tick marks removed from Profile A-A’.
- Pipe bends near crest of slope removed from Profile A-A’.
- Date changed to “December 2016”.
- Revision B line added to the revision block.

ACP AP-1 MP 84.95 to 85.05 – Drawing No.: 2 of 4:

- Pipeline centerline and stationing added to legend.
- Note 2 expanded to identify stationing referenced to “Route Rev 11a (3D)”.
- Hatching in extra work space made consistent throughout drawings.
- Additional axes tick marks removed from Detailed Profile X-X’.
- Missing grid lines added to Detailed Profile X-X’.
- Title formatting revised.
- Date changed to “December 2016”.
- Revision B line added to the revision block.

ACP AP-1 MP 84.95 to 85.05 – Drawing No.: 3 of 4:

- “Proposed pipeline” changed to “pipeline” on centerline label and pipeline label.
- Dimensions of ditch spoils piles reduced.
- Additional axes labels added to the horizontal offset distances on the sections.

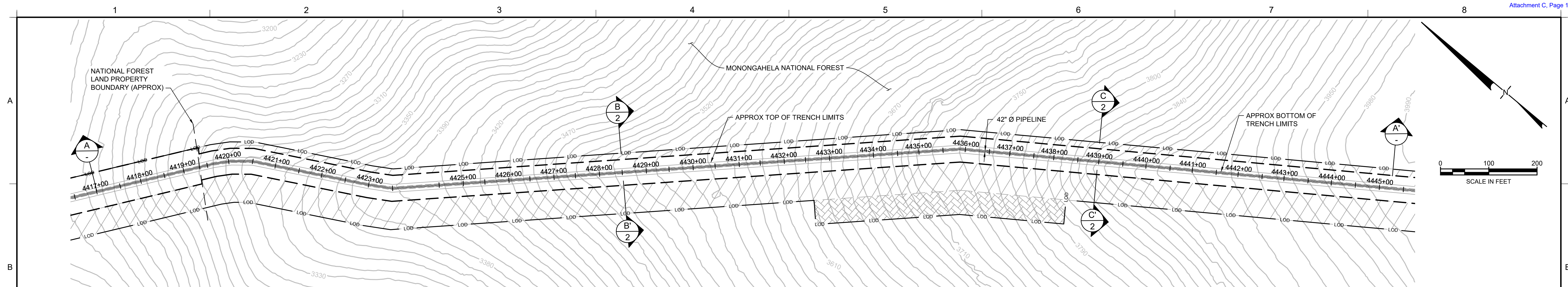
Revision B Updates
6 December 2016
Page 3

- Limits of Section C-C' expanded for consistency with Section B-B'.
- Title revised to "Geohazard mitigation site specific design section B-B' and C-C'".
- Date changed to "December 2016".
- Revision B line added to the revision block.

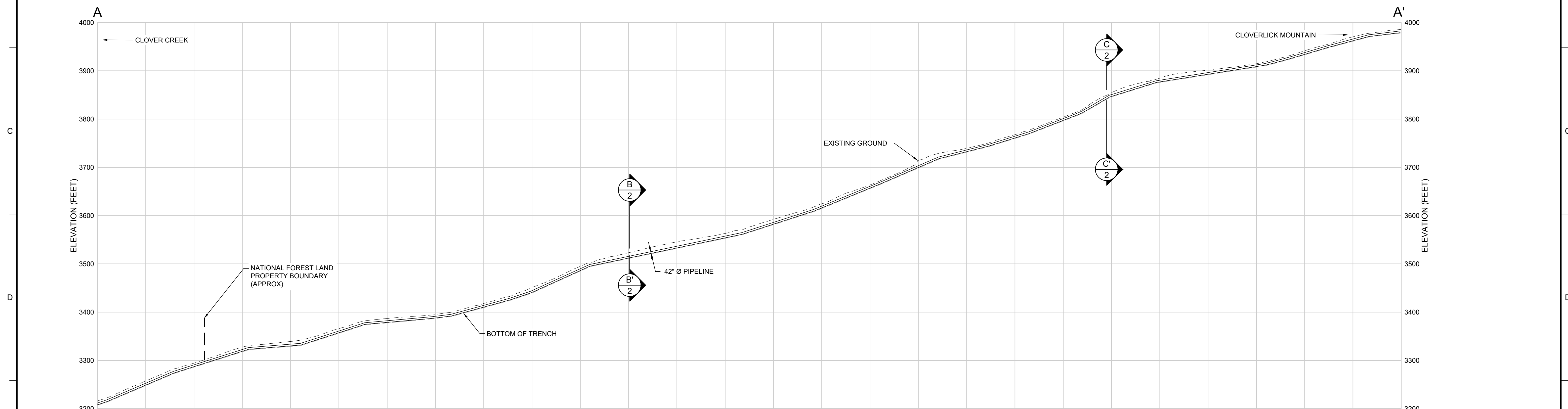
ACP AP-1 MP 84.95 to 85.05 – Drawing No.: 4 of 4:

- "Proposed pipeline" changed to "pipeline" on centerline label and pipeline label.
- Additional axes labels added to the sections.
- Label of "NSA No. R-1 Riprap" replaced with "Sakrete" on Section D-D'.
- Label of "strike plate" replaced with "spike plate" on Section E-E'.
- Label of "6 in ground hole (typ)" replaced with "6 in grouted hole (typ)" on Section E-E'.
- Title revised to remove hyphen between design and sections.
- Date changed to "December 2016".
- Revision B line added to the revision block.

* * * * *



PLAN



PROFILE A - A'

LEGEND

	EXISTING GROUND ELEVATION CONTOUR (FT, MSL)
	LIMIT OF DISTURBANCE
	PERMANENT (ROW)
	PIPELINE CENTERLINE AND STATIONING
	TEMPORARY (ROW)
	EXTRA WORK SPACE

- NOTES:
- MAPPING AND TOPOGRAPHY BASED ON UTM COORDINATE SYSTEM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81 W.
 - STATIONING SHOWN IS SLOPE STATIONING FOR ROUTE REV 11A (3D).
 - CONTOURS AND TOPOGRAPHIC FEATURES DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC.
 - STREAM AND WETLAND DATA PROVIDED BY NRG/ERM.
 - FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
 - VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
 - STANDARD EROSION AND SEDIMENT CONTROLS (NON-BIC) ARE SEPARATELY PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.

B	12/2016	PRELIMINARY - NOT FOR CONSTRUCTION	JJV	LCB
A	11/2016	INTERIM DESIGN DRAWINGS	JJV / KH	TR
REV	DATE	DESCRIPTION	DRN	APP



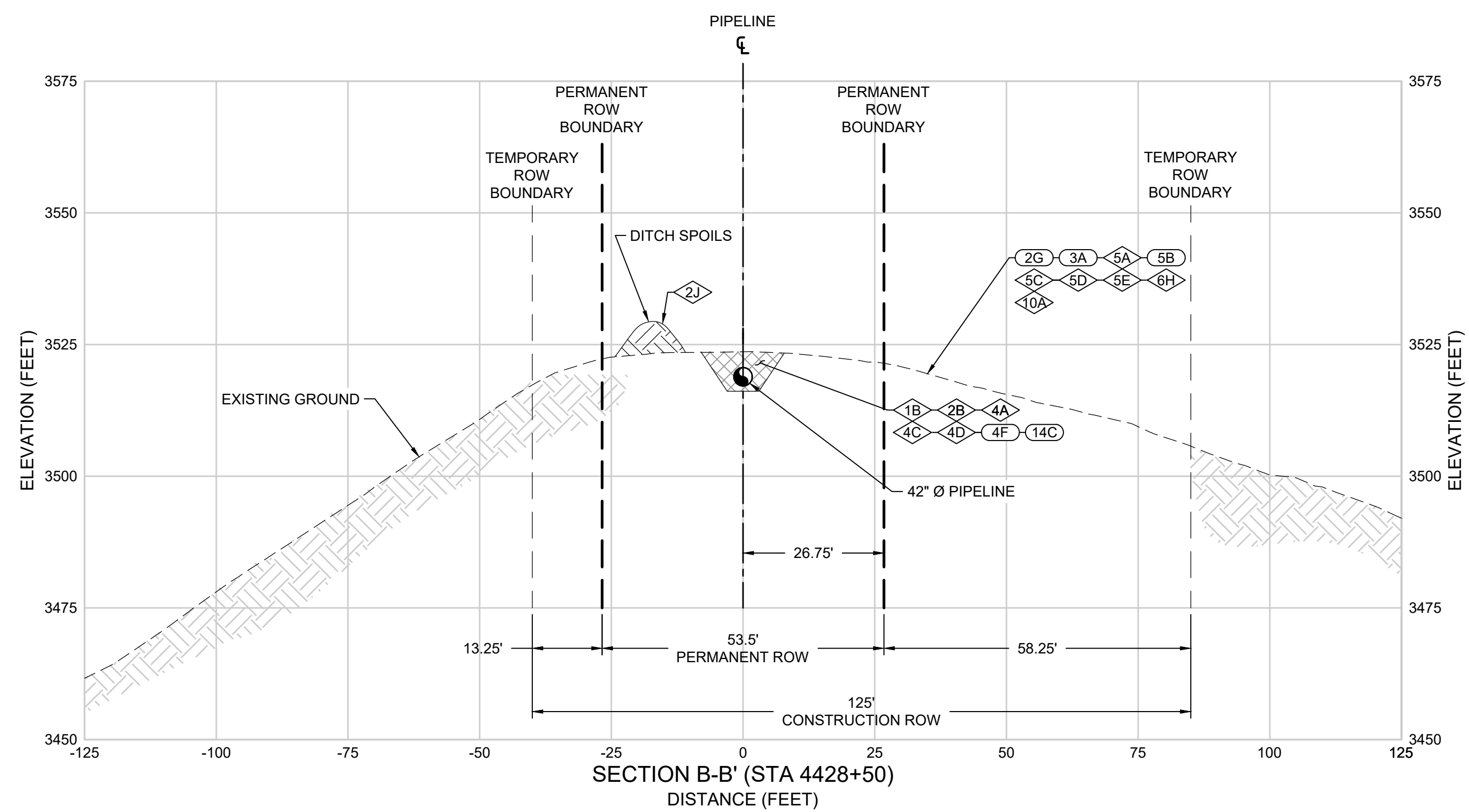
TITLE: **GEOHAZARD MITIGATION SITE SPECIFIC DESIGN PLAN AND PROFILE A-A'**

PROJECT: **ATLANTIC COAST PIPELINE, REV 11a**

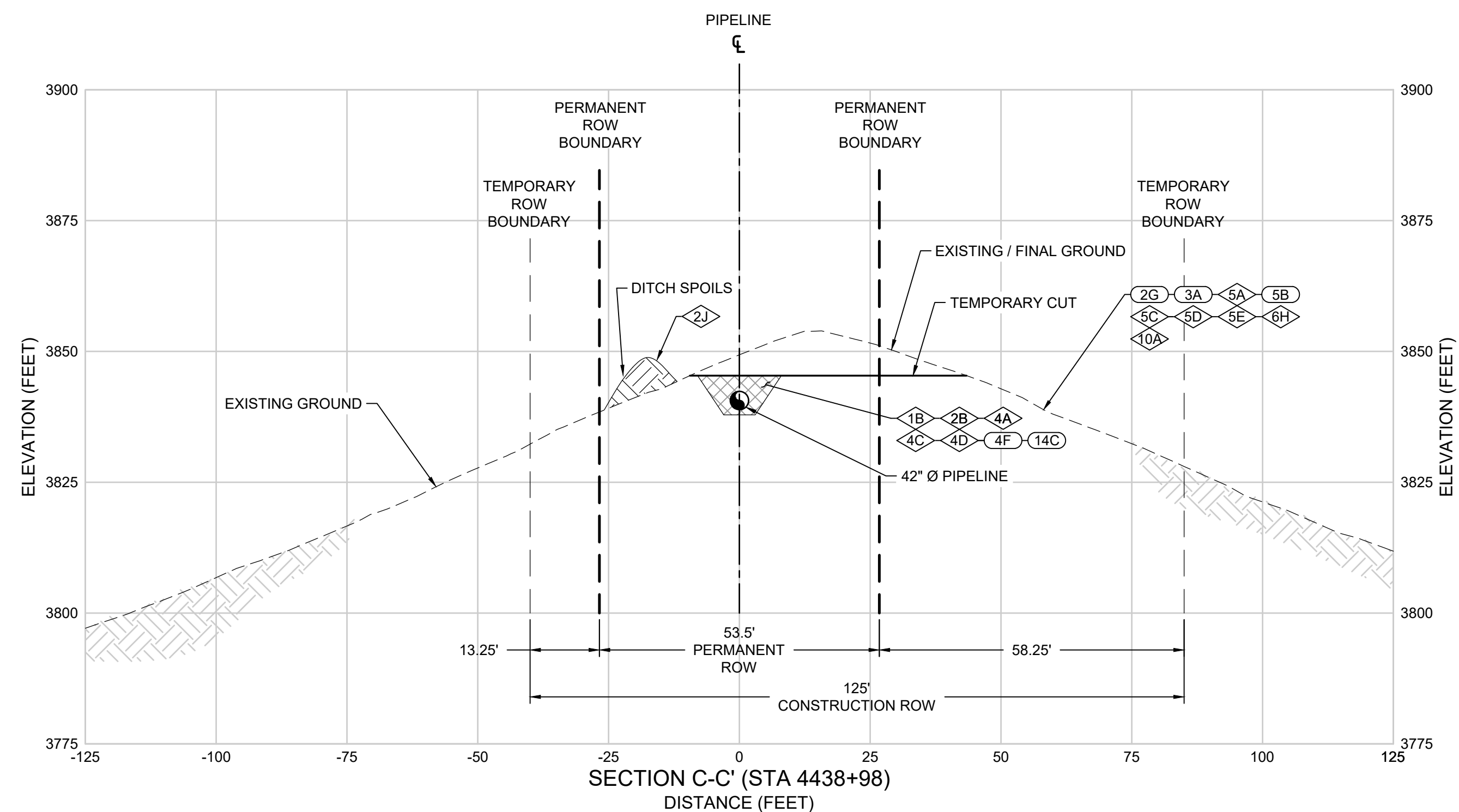
SITE: **SITE SPECIFIC DESIGN MP 73.20 TO 73.50 (AP-1)**

PRELIMINARY NOT FOR CONSTRUCTION

DESIGN BY:	LB/TR	DATE:	DECEMBER 2016
DRAWN BY:	JJV/KH	PROJECT NO.:	TXG007.13
CHECKED BY:	LB/TR	FILE:	TXG00713D01
REVIEWED BY:	RS	DRAWING NO.:	
APPROVED BY:	TR		




- BEST IN CLASS (BIC) INCREMENTAL CONTROLS**
- 1B ENHANCED DRAIN (GERMAN DRAIN)
 - 2A GRADING TEMPORARY ROW SURFACE
 - 2B GRADING TRENCH WITH OUTBOARD WEDGE
 - 2G GRADING TO MATCH EXISTING CONTOURS
 - 2J SPOILS MANAGEMENT
 - 3A TRACK DISTURBED SLOPES
 - 4A TRENCH BREAKERS (FOAM AND SANDBAGS), MODIFIED SPACING
 - 4C SACK-CRETE BREAKERS (STRUCTURAL BREAKER)
 - 4D SLEEVE INTERFACE BETWEEN PIPELINE AND BREAKER
 - 4F TRENCH BREAKER WITH DRAINAGE
 - 5A SLOPE BREAKERS (TEMP AND PERMANENT), MODIFIED SPACING
 - 5B SLOPE BREAKER ARMORED OUTLET
 - 5C SLOPE BREAKERS WITH DIVERSION CHANNELS
 - 5D ACCESS ROADS
 - 5E TEMPORARY SLOPE BREAKER WITH DRAIN PIPE
 - 6H TYP SURFACE WATER CONTROL LAYOUT
 - 10A BENCH RE-CONSTRUCTION THROUGH NATURAL STEPS
 - 14C BLASTING PLAN(S)



- NOTES:**
- FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
 - VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
 - ACTUAL CUT/FILL CONFIGURATIONS MAY VARY DEPENDING ON ACTUAL SITE CONDITIONS.
 - STANDARD EROSION AND SEDIMENT CONTROLS (NON-BIC) ARE SEPARATELY PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.



B	12/2016	PRELIMINARY - NOT FOR CONSTRUCTION	JJV	LCB
A	11/2016	INTERIM DESIGN DRAWINGS	JJV / KH	TR
REV	DATE	DESCRIPTION	DRN	APP



Geosyntec
consultants
GEOSYNTEC CONSULTANTS, INC.
11490 WESTHEIMER ROAD, SUITE 150
HOUSTON, TEXAS 77077

TITLE: GEOHAZARD MITIGATION SITE SPECIFIC DESIGN
SECTIONS B-B' AND C-C'

PROJECT: ATLANTIC COAST PIPELINE, REV 11a

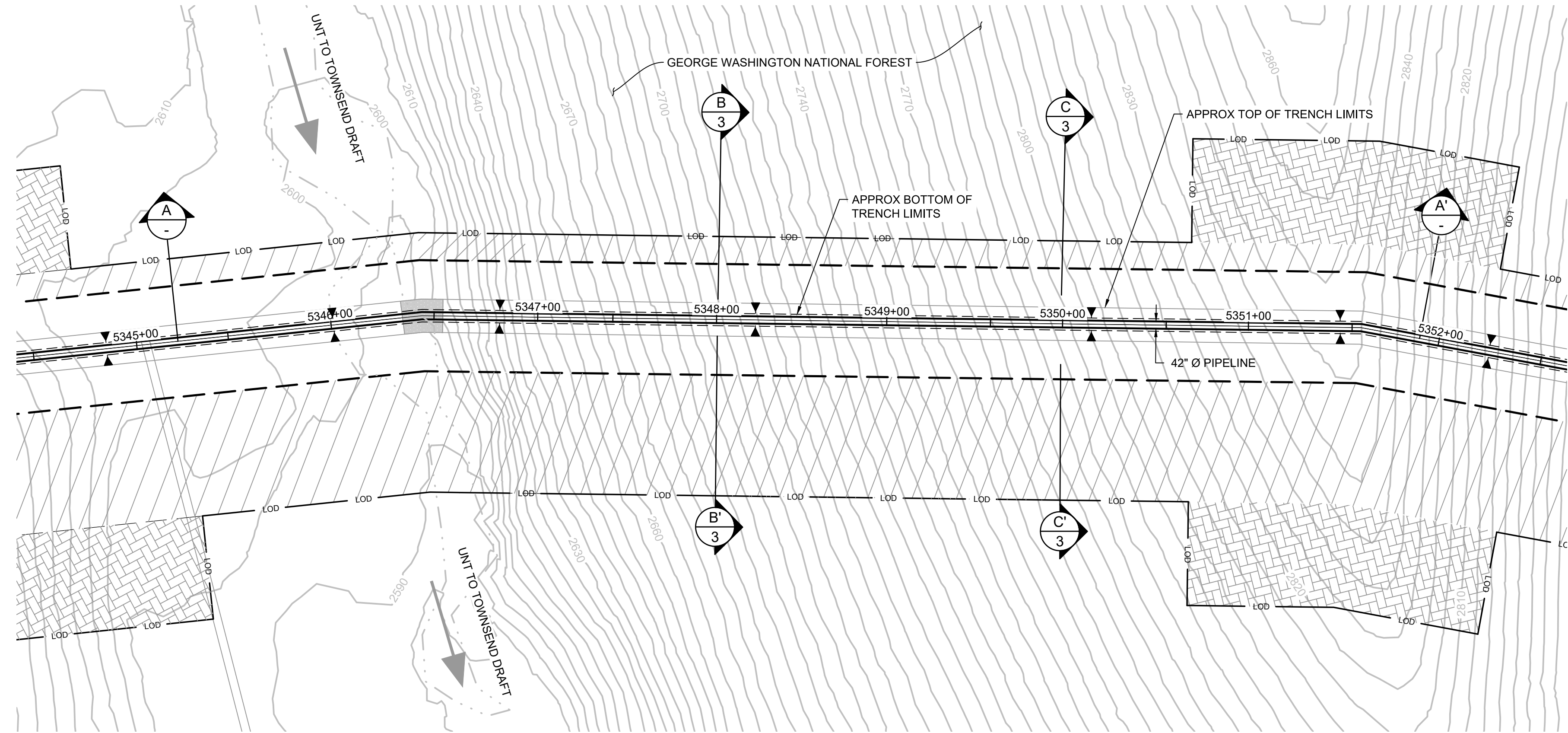
SITE: SITE SPECIFIC DESIGN
MP 73.20 TO 73.50 (AP-1)

DESIGN BY:	LB/TR	DATE:	DECEMBER 2016
DRAWN BY:	JJV/KH	PROJECT NO.:	TXG0007.13
CHECKED BY:	LB/TR	FILE:	TXG000713D02
REVIEWED BY:	RS	DRAWING NO.:	
APPROVED BY:	TR		

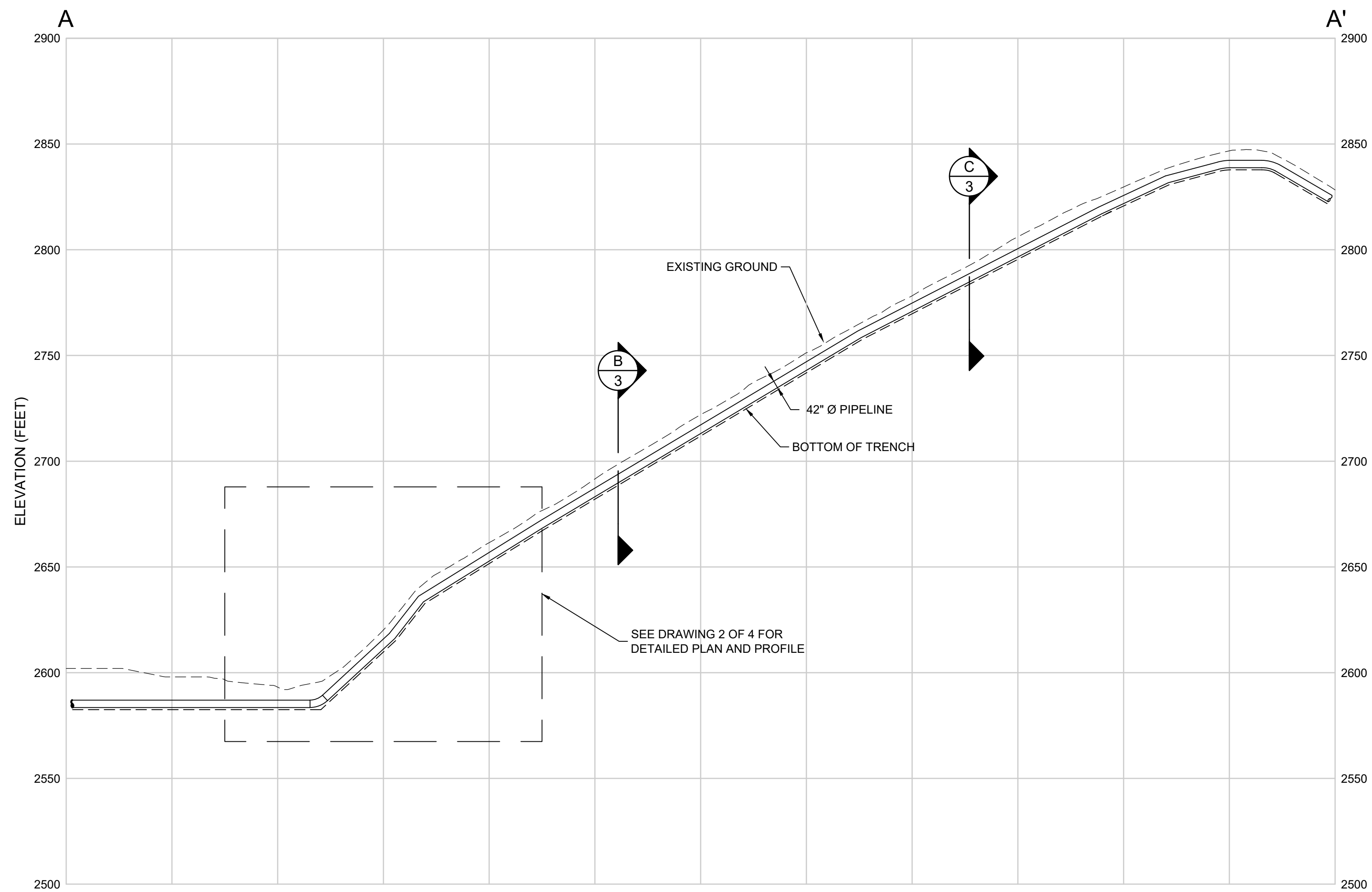
**PRELIMINARY
NOT FOR CONSTRUCTION**

2 OF **2**

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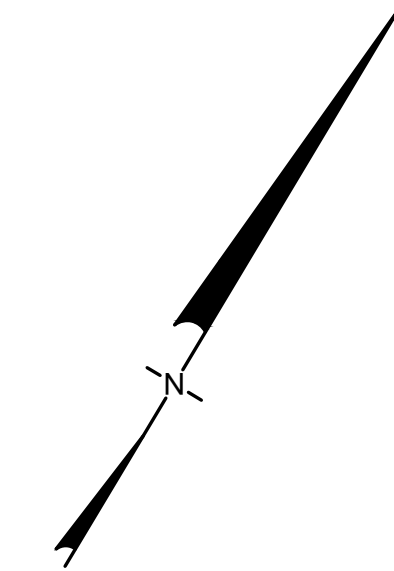
PLAN



PROFILE A - A'

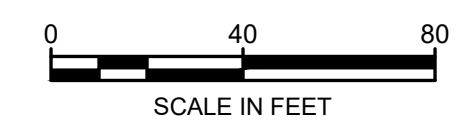
LEGEND

- EXISTING GROUND ELEVATION CONTOUR (FT, MSL)
- EXISTING STREAM LINE
- ACCESS ROAD
- LIMIT OF DISTURBANCE
- PERMANENT (ROW)
- PIPELINE CENTERLINE AND STATIONING
- TEMPORARY (ROW)
- EXTRA WORK SPACE



NOTES:

1. MAPPING AND TOPOGRAPHY BASED ON UTM COORDINATE SYSTEM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81° W.
2. STATIONING SHOWN IS SLOPE STATIONING FOR ROUTE 11A (3D).
3. CONTOURS AND TOPOGRAPHIC FEATURES DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC.
4. STREAM AND WETLAND DATA PROVIDED BY NRG/ERM.
5. FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
6. VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
7. STANDARD EROSION AND SEDIMENT CONTROLS (NON-BIC) ARE SEPARATELY PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.



B	12/2016	PRELIMINARY - NOT FOR CONSTRUCTION	JJV	LCB
A	11/2016	INTERIM DESIGN DRAWINGS	JJV / KH	TR
REV	DATE	DESCRIPTION	DRN	APP

Geosyntec
consultants
GEOSYNTEC CONSULTANTS, INC.
11490 WESTHEIMER ROAD, SUITE 150
HOUSTON, TEXAS 77077

TITLE: **GEOHAZARD MITIGATION SITE SPECIFIC DESIGN
PLAN AND PROFILE A-A'**

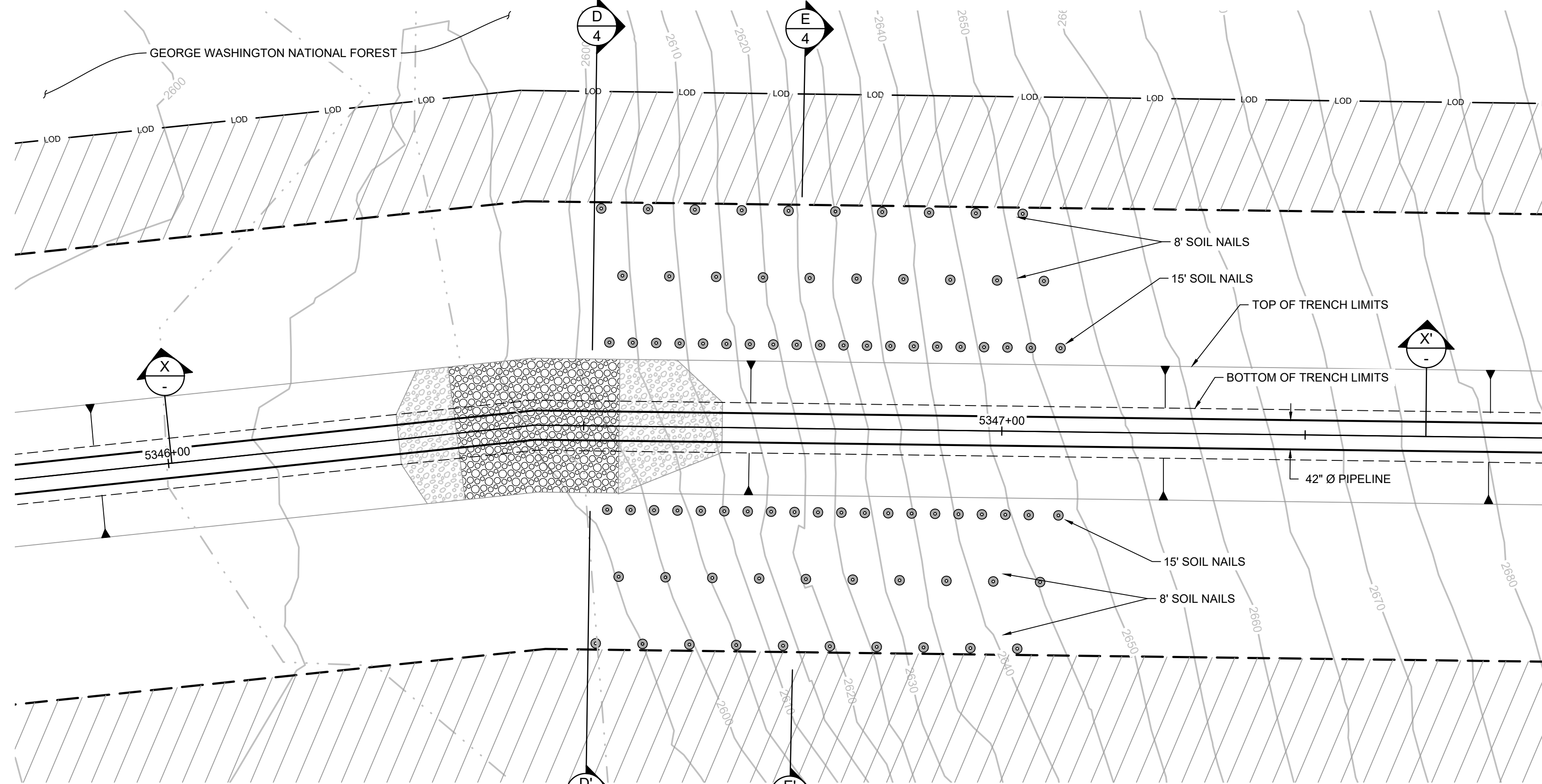
PROJECT: **ATLANTIC COAST PIPELINE, REV 11a**

SITE: **SITE SPECIFIC DESIGN
MP 84.95 TO 85.05 (AP-1)**

DESIGN BY: LB/TR	DATE: DECEMBER 2016
DRAWN BY: JJV/KH	PROJECT NO.: TXG007.13
CHECKED BY: LB/TR	FILE: TXG00713D03
REVIEWED BY: RS	DRAWING NO.:
APPROVED BY: TR	1 OF 4

**PRELIMINARY
NOT FOR CONSTRUCTION**

P:\CADD\PROJECTS\ATLANTIC COAST PIPELINE\GEOHAZARD ANALYSIS\MITIGATION DESIGN\SERVICE SITE DESIGN\TXG00713\DRAWINGS\TXG00713D03

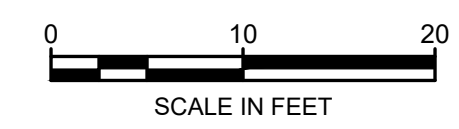
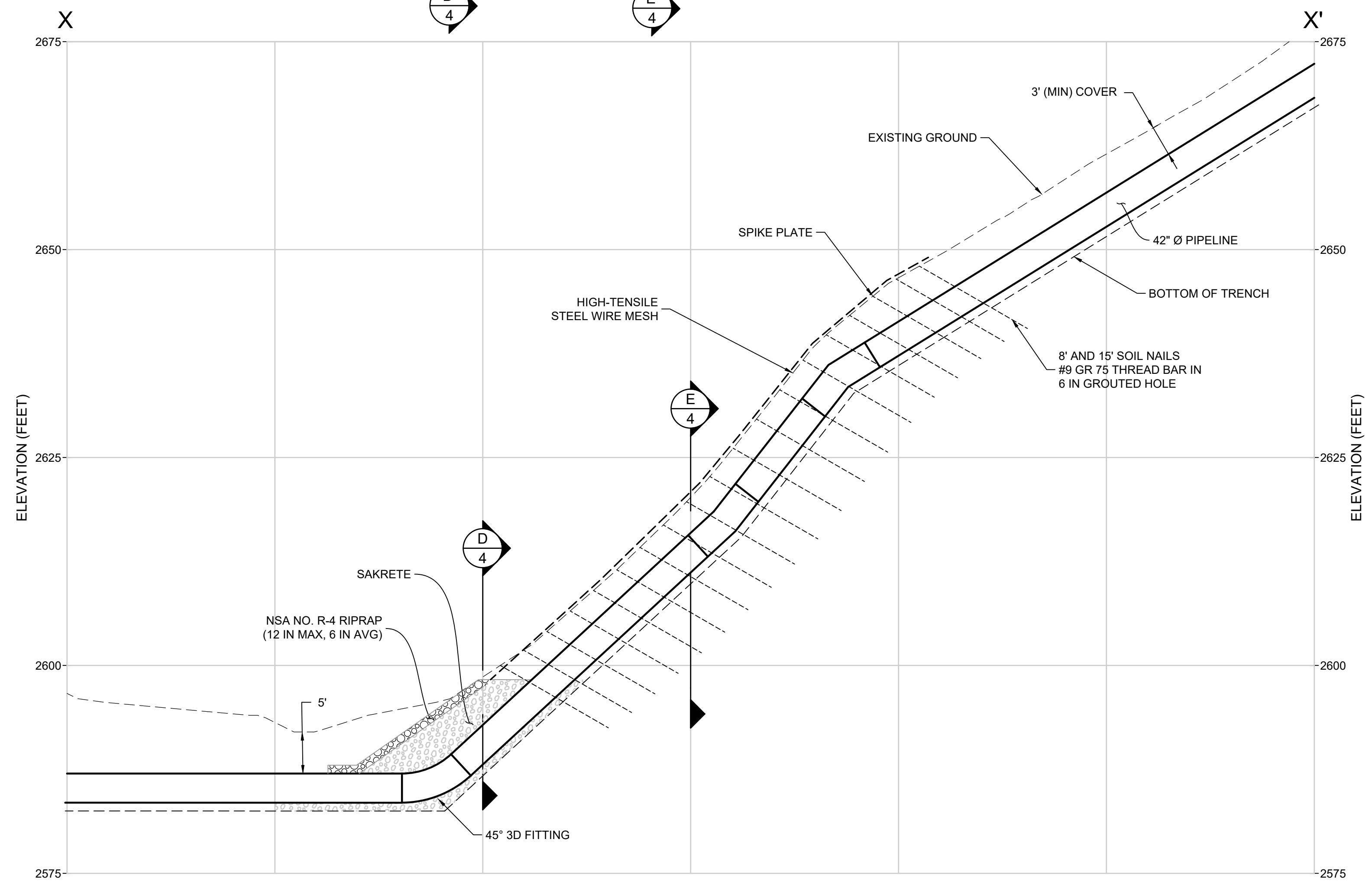


LEGEND

	EXISTING GROUND ELEVATION CONTOUR (FT, MSL)
	EXISTING STREAM LINE
	LIMIT OF DISTURBANCE
	PERMANENT (ROW)
	PIPELINE CENTERLINE AND STATIONING
	TEMPORARY (ROW)

NOTES:

- MAPPING AND TOPOGRAPHY BASED ON UTM COORDINATE SYSTEM WITH NAD83 DATUM, ZONE 17, US SURVEY FOOT, CENTRAL MERIDIAN 81 W.
- STATIONING SHOWN IS SLOPE STATIONING FOR ROUTE 11A (3D).
- CONTOURS AND TOPOGRAPHIC FEATURES DERIVED FROM LIDAR DATA AND GPS SUB-METER GROUND SURVEY PERFORMED BY GAI CONSULTANTS, INC.
- STREAM AND WETLAND DATA PROVIDED BY NRG/ERM.
- FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
- VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
- STANDARD EROSION AND SEDIMENT CONTROLS (NON-BIC) ARE SEPARATELY PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.



B	12/2016	PRELIMINARY - NOT FOR CONSTRUCTION	JJV	LCB
A	11/2016	INTERIM DESIGN DRAWINGS	JJV / KH	TR
REV	DATE	DESCRIPTION	DRN	APP

Geosyntec
consultants
GEOSYNTEC CONSULTANTS, INC.
11490 WESTHEIMER ROAD, SUITE 150
HOUSTON, TEXAS 77077

TITLE: GEOHAZARD MITIGATION SITE SPECIFIC DESIGN
DETAILED PLAN AND PROFILE X-X'

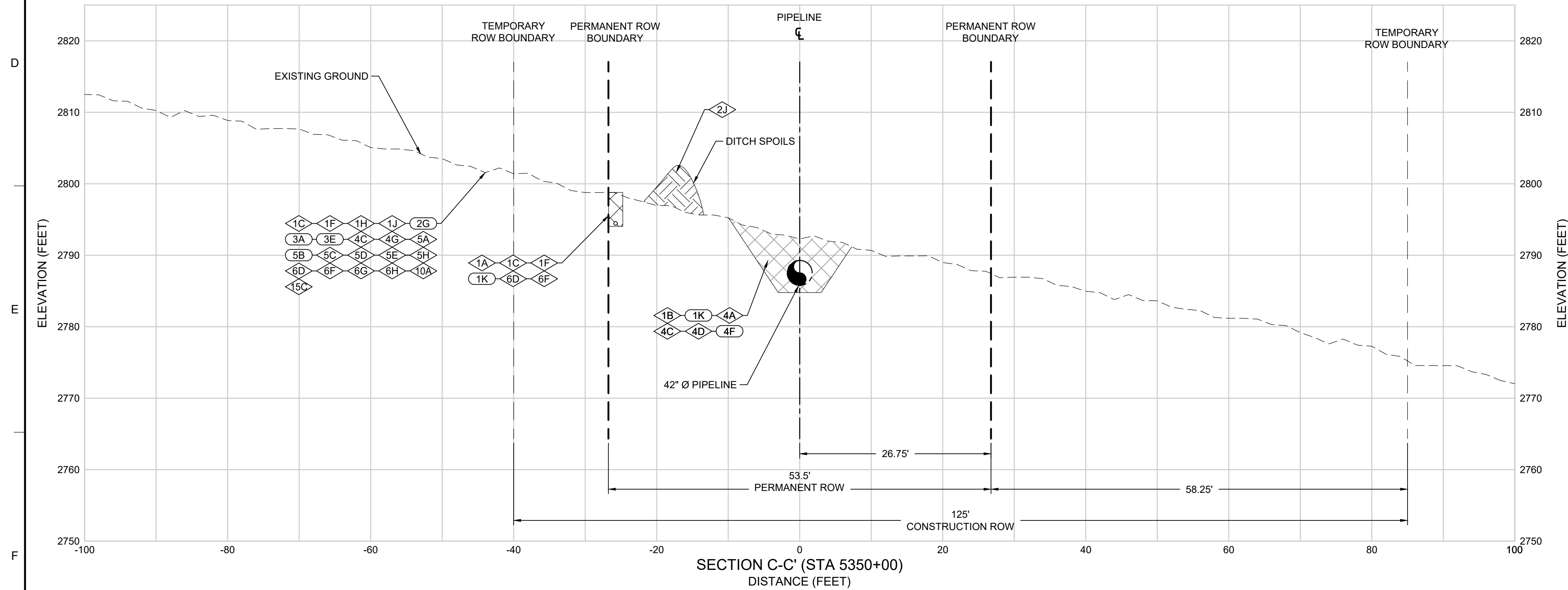
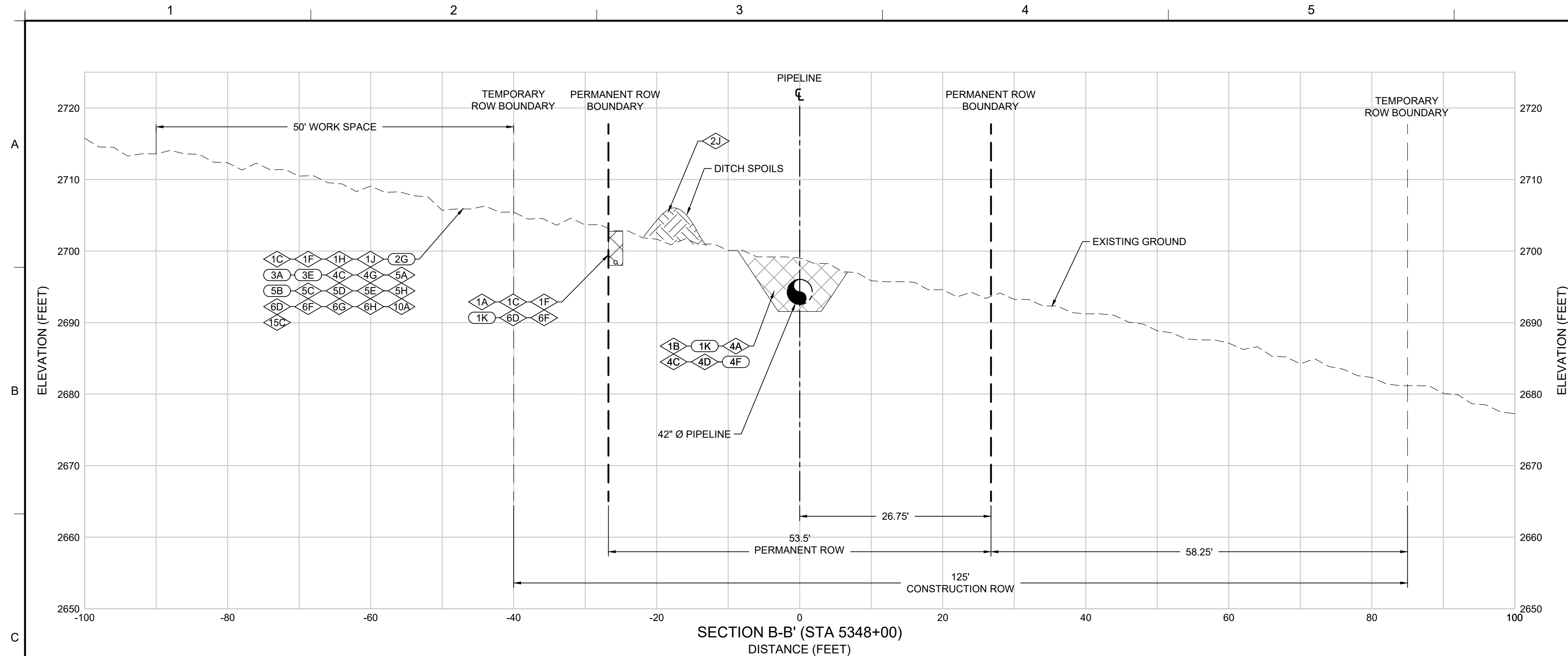
PROJECT: ATLANTIC COAST PIPELINE, REV 11a

SITE: SITE SPECIFIC DESIGN
MP 84.95 TO 85.05 (AP-1)

DESIGN BY: LB/TR	DATE: DECEMBER 2016
DRAWN BY: JJV/KH	PROJECT NO.: TXG007.13
CHECKED BY: LB/TR	FILE: TXG00713D05
REVIEWED BY: RS	DRAWING NO.:
APPROVED BY: TR	2 OF 4

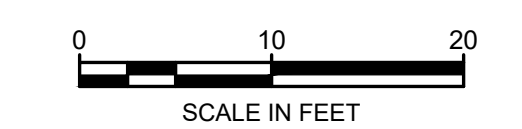
**PRELIMINARY
NOT FOR CONSTRUCTION**

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- BEST IN CLASS (BIC) INCREMENTAL CONTROLS
- 1B ENHANCED DRAIN (GERMAN DRAIN)
 - 1C TARGETED SEEP DRAINS, AT INTERSEPTED SEEPS
 - 1F ARMORED CHANNEL WITH DRAIN PIPE
 - 1H STEEP CONVEYANCE CHANNEL
 - 1I CHANGED SEEP CHARACTERISTICS
 - 1J SINGLE TARGETED SEEP COLLECTOR
 - 1K ENERGY DISSIPATION BASIN
 - 2G GRADING TO MATCH EXISTING CONTOURS
 - 2J SPOILS MANAGEMENT
 - 3A TRACK DISTURBED SLOPES
 - 3E COIR LOGS ON DISTURBED SLOPES
 - 4A TRENCH BREAKERS (FOAM AND SANDBAGS), MODIFIED SPACING
 - 4C SACK-CRETE BREAKERS (STRUCTURAL BREAKER)
 - 4D SLEEVE INTERFACE BETWEEN PIPELINE AND BREAKER
 - 4F TRENCH BREAKER WITH DRAINAGE
 - 4G SACK-CRETE ARMOR WITH BREAKERS
 - 5A SLOPE BREAKERS (TEMP AND PERMANENT), MODIFIED SPACING
 - 5B SLOPE BREAKER ARMORED OUTLET
 - 5C SLOPE BREAKERS WITH DIVERSION CHANNELS
 - 5D ACCESS ROADS
 - 5E TEMPORARY SLOPE BREAKER WITH DRAIN PIPE
 - 5H SURFACE WATER DIVERSIONS
 - 6D ARMORED CHANNEL
 - 6F RIPRAP GRADATIONS
 - 6G ARMORED V-SHAPED AND U-SHAPED CHANNELS
 - 6H TYP SURFACE WATER CONTROL LAYOUT
 - 10A BENCH RE-CONSTRUCTION THROUGH NATURAL STEPS
 - 15C ACCESS TO REMOTE ROW LOCATIONS

- NOTES:
- FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
 - VOLUMES, GRADES, ELEVATIONS AND QUANTITIES, WILL VARY DEPENDING ON SITE CONDITIONS ENCOUNTERED.
 - ACTUAL CUT/FILL CONFIGURATIONS MAY VARY DEPENDING ON ACTUAL SITE CONDITIONS.
 - STANDARD EROSION AND SEDIMENT CONTROLS (NON-BIC) ARE SEPARATELY PROVIDED ON THE CONSTRUCTION ALIGNMENT SHEETS.



B	12/2016	PRELIMINARY - NOT FOR CONSTRUCTION	JJV	LCB
A	11/2016	INTERIM DESIGN DRAWINGS	JJV / KH	TR
REV	DATE	DESCRIPTION	DRN	APP

Geosyntec
consultants
GEOSYNTEC CONSULTANTS, INC.
11490 WESTHEIMER ROAD, SUITE 150
HOUSTON, TEXAS 77077

TITLE: GEOHAZARD MITIGATION SITE SPECIFIC DESIGN
SECTIONS B-B' AND C-C'

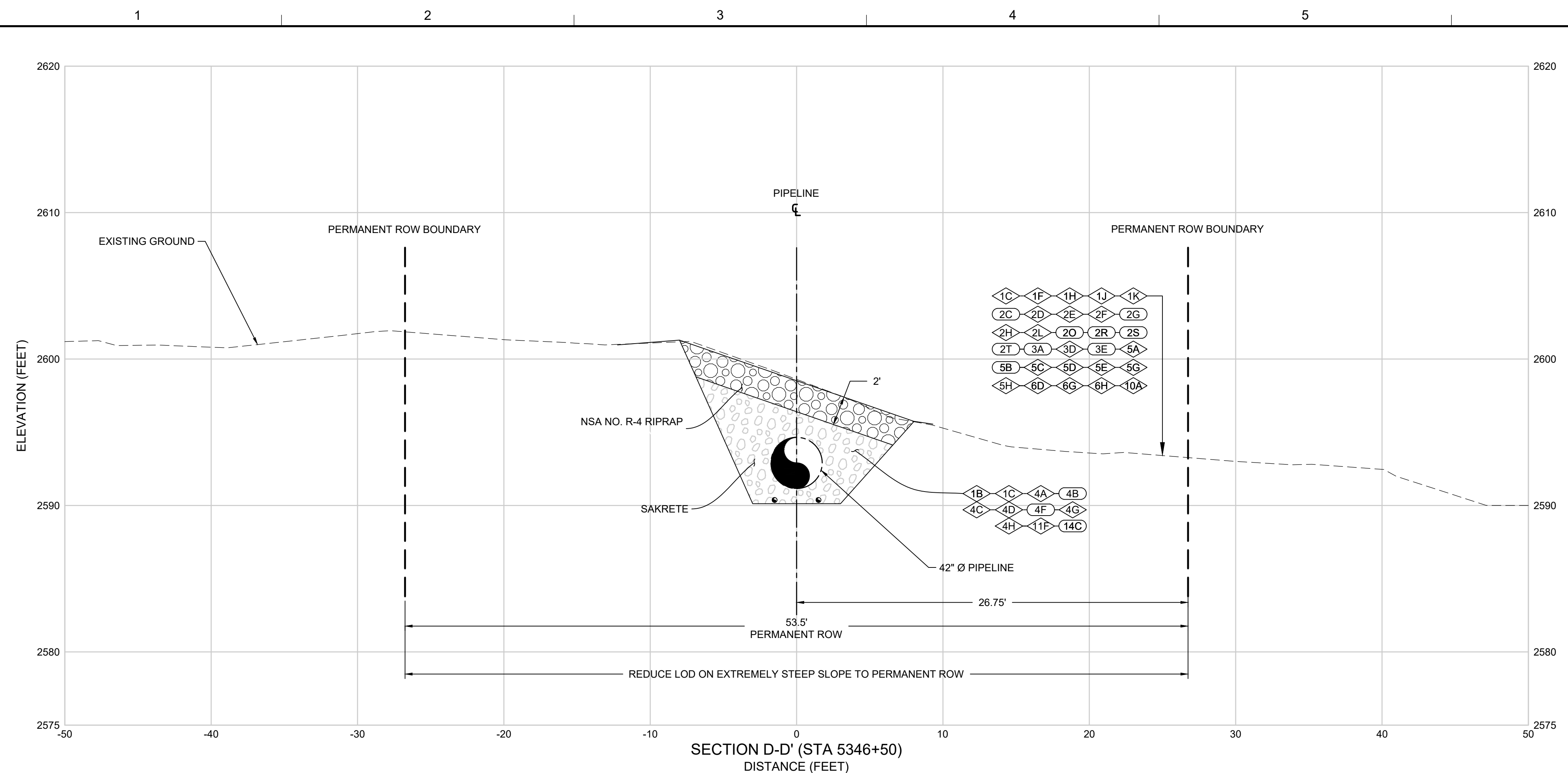
PROJECT: ATLANTIC COAST PIPELINE, REV 11a

SITE: SITE SPECIFIC DESIGN
MP 84.95 TO 85.05 (AP-1)

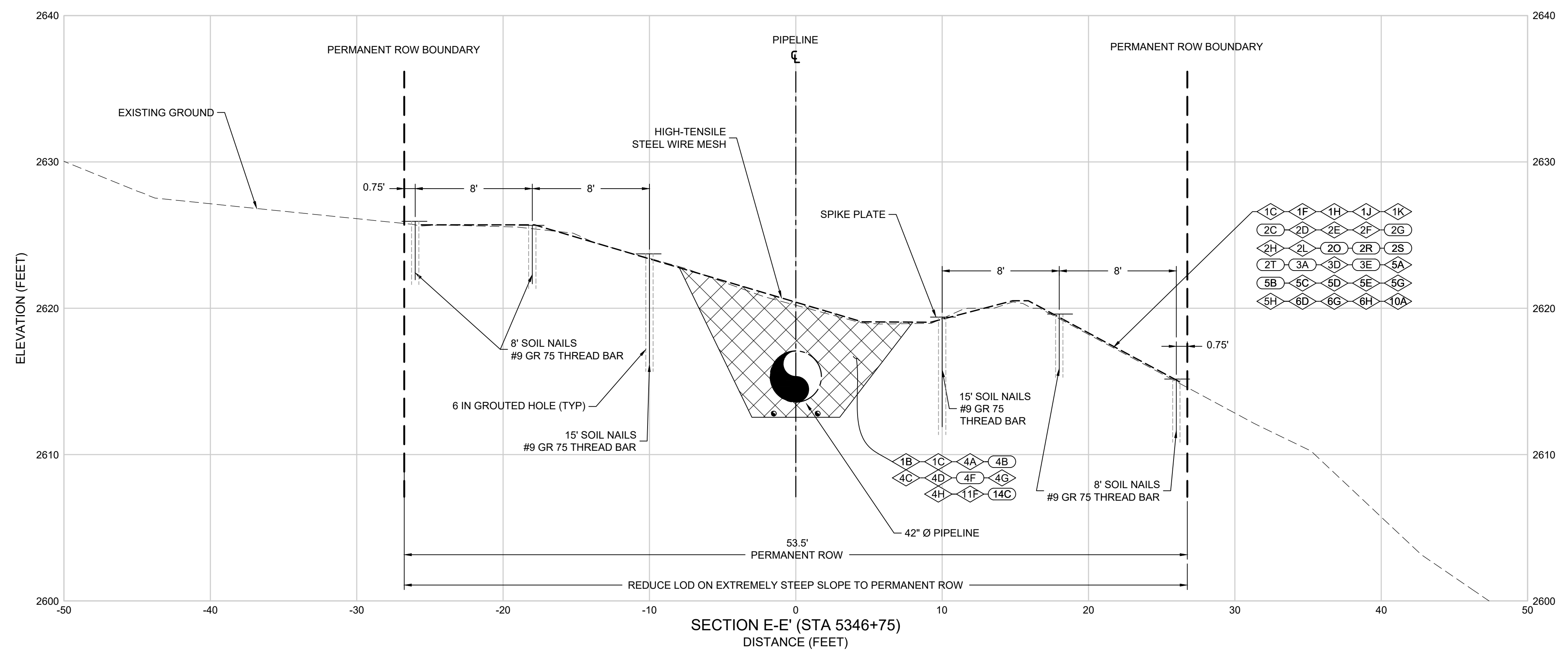
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DRAWN BY: JJV/KH	PROJECT NO.: TXG0007.13
CHECKED BY: LB/TR	FILE: TXG000713D04
REVIEWED BY: RS	DRAWING NO.:
APPROVED BY: TR	3 OF 4

PRELIMINARY
NOT FOR CONSTRUCTION

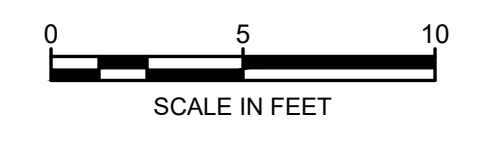
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- BEST IN CLASS (BIC) INCREMENTAL CONTROLS**
- | | |
|-------------------------------------------------|----------------------------------------------------------|
| 1B ENHANCED DRAIN (GERMAN DRAIN) | 4A TRENCH BREAKERS (FOAM AND SANDBAGS), MODIFIED SPACING |
| 1C TARGETED SEEP DRAINS, AT INTERSEPTED SEEPS | 4B TRENCH DAMS (FOAM BAGS OR FINE GRAINED SOILS) |
| 1F ARMORED CHANNEL WITH DRAIN PIPE | 4C SACK-CRETE BREAKERS (STRUCTURAL BREAKER) |
| 1H STEEP CONVEYANCE CHANNEL | 4D SLEEVE INTERFACE BETWEEN PIPELINE AND BREAKER |
| 1I CHANGED SEEP CHARACTERISTICS | 4F TRENCH BREAKER WITH DRAINAGE |
| 1J SINGLE TARGETED SEEP COLLECTOR | 4G SACK-CRETE ARMOR WITH BREAKERS |
| 1K ENERGY DISSIPATION BASIN | 5G NO WOOD CHIPS IN ROW |
| 2B GRADING TRENCH WITH OUTBOARD WEDGE | 4H FLOWABLE FILL FOR TRENCH BACKFILL |
| 2C COMPACT BACKFILL | 5A SLOPE BREAKERS (TEMP AND PERMANENT), MODIFIED SPACING |
| 2D DRY SOILS AND BACKFILL | 5B SLOPE BREAKER ARMORED OUTLET |
| 2E REMOVE UNSUITABLE EXISTING SOILS AS BACKFILL | 5C SLOPE BREAKERS WITH DIVERSION CHANNELS |
| 2F ROCK BACKFILL (WITH DRAIN) | 5D ACCESS ROADS |
| 2G GRADING TO MATCH EXISTING CONTOURS | 5E TEMPORARY SLOPE BREAKER WITH DRAIN PIPE |
| 2H GRADING TO MINIMIZE BACKFILL | 5G NO WOOD CHIPS IN ROW |
| 2L SOIL-NAIL WITH TECCO MESH | 5H SURFACE WATER DIVERSIONS |
| 2O BENCH AND REGRADE WITH BACKFILL | 6D ARMORED CHANNEL |
| 2R TYP SECTION VIEW FILL WITH ROCK UNDER DRAIN | 6G ARMORED V-SHAPED AND U-SHAPED CHANNELS |
| 2S TYP PLAN VIEW FILL WITH ROCK UNDER DRAIN | 6H TYP SURFACE WATER CONTROL LAYOUT |
| 3A TRACK DISTURBED SLOPES | 10A BENCH RE-CONSTRUCTION THROUGH NATURAL STEPS |
| 3D ROCK ARMORING ON DISTURBED SLOPES | 11F AS-BUILT SURVEY TRENCH AND SLOPE BREAKERS |
| 3E COIR LOGS ON DISTURBED SLOPES | 14C BLASTING PLAN(S) |



- NOTES:**
- FINAL CONFIGURATION OF ROW RESTORATION MEASURES TO BE DETERMINED BASED ON CONDITIONS ENCOUNTERED AT TIME OF CONSTRUCTION, AND MAY CHANGE OR VARY AND/OR INCORPORATE ADDITIONAL TYPICAL DETAILS TO MITIGATE SPECIFIC CONDITIONS.
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B	12/2016	PRELIMINARY - NOT FOR CONSTRUCTION	JJV	LCB
A	11/2016	INTERIM DESIGN DRAWINGS	JJV / KH	TR
REV	DATE	DESCRIPTION	DRN	APP

GEOSYNTEC CONSULTANTS, INC.
11490 WESTHEIMER ROAD, SUITE 150
HOUSTON, TEXAS 77077

TITLE: GEOHAZARD MITIGATION SITE SPECIFIC DESIGN
SECTIONS D-D' AND E-E'

PROJECT: ATLANTIC COAST PIPELINE, REV 11a

SITE: SITE SPECIFIC DESIGN
MP 84.95 TO 85.05 (AP-1)

DESIGN BY:	LB/TR	DATE:	DECEMBER 2016
DRAWN BY:	JJV/KH	PROJECT NO.:	TXG0007.13
CHECKED BY:	LB/TR	FILE:	TXG000713D07
REVIEWED BY:	RS	DRAWING NO.:	4 OF 4
APPROVED BY:	TR		

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Federal Agencies

Department of the Army



REPLY TO
ATTENTION OF

**DEPARTMENT OF THE ARMY
ARMY NATIONAL GUARD MANEUVER TRAINING CENTER
BLDG 472, MILITARY ROAD
FORT PICKETT
BLACKSTONE, VIRGINIA 23824-9000**

NGVA-MTC-CMD

14 November 2016

MEMORANDUM FOR The Ward Burton Wildlife Foundation, Attn: Mr. Ward Burton, P.O. Box 519, Halifax, VA 24558

SUBJECT: Atlantic Coast Pipeline effects on Fort Pickett training

1. There has been an evaluation completed on the proposed route of the Atlantic Coast Pipeline near Fort Pickett. Some of the proposed route goes through a compatible use buffer that is managed by the Ward Burton Wildlife Foundation. The Ward Burton Wildlife Foundation has title to these properties pursuant to a Cooperative Agreement with the U.S. Army National guard under the Army Compatible Use Buffer (ACUB) program.
2. After review, it has been determined that the project is compatible with the purpose of the Fort Pickett Army Compatible Use Buffer program. Further, it is determined that the routes of the pipeline does not produce any significant risk to current or future planned military operations in the installation.
3. The Ward Burton Wildlife Foundation may proceed with negotiating for an easement for the pipeline to cross the Army Compatible Use Buffer properties without further review of authorization by Fort Pickett.
4. POC is the Directorate of Plans, Training and Security, MTC Fort Pickett, LTC Paul C. Gravely at paul.c.gravely.mil@mail.mil or (434) 292-2697.

WILLIAM P. SCOTT
LTC, FA
Commanding

U.S. Army Corps of Engineers

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 24, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Adam Fannin
U.S. Army Corps of Engineers – Huntington District
Regulatory Division
502 Eighth Street
Huntington, WV 25701-2070

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline
Draft Submittal for Review – Pre-Construction Notification Materials under Section
404/10/408 for the U.S. Army Corps – Huntington District**

Dear Mr. Fannin:

Please find enclosed the revised, draft Standard Joint Permit Application and supporting documentation for Atlantic Coast Pipeline, LLC's (Atlantic) proposed Atlantic Coast Pipeline (ACP or Project). Atlantic appreciates the time and attention you have given the Project, and trusts that you will find review of the draft application as a useful opportunity to reengage the details of the project leading up to final submittal of the Project application in a few months.

Atlantic has prepared the enclosed draft pre-construction notification according to the Nationwide Permit 12 requirements as outlined in the updated 2017 nationwide permits. Please review the application materials and provide any comments you may have. We respectfully request that you provide comments you may have within 30 calendar days to allow time for Atlantic to consider any feedback you have provided and make adjustments, as necessary, to the final application materials.


Dominion appreciates the coordination to date and looks forward to continuing to work with you on this project. Please contact Richard Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this submittal.

Please direct written responses to:

Richard Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

U.S. Army Corps of Engineers – Huntington District
Atlantic Coast Pipeline – Pre-Construction Notification
February 24, 2017
Page 2 of 2

Sincerely,



FOR RICHARD GANGLE

Robert M. Bisha
Director, Environmental Business Support

cc: Richard Gangle, Dominion

Attachments:

Draft – Nationwide Permit 12, pre-construction notification
2 hard copies – including form, supplemental text, and maps
2 DVDs – Electronic version of draft application, including the appendices

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 24, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Ms. Josh Shaffer
U.S. Army Corps of Engineers – Pittsburgh District
Regulatory Division
1000 Liberty Avenue
Regulatory Branch, Suite 2200
Pittsburgh, PA 15222

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline
Draft Submittal for Review – Pre-Construction Notification Materials under Section
404/10/408 for the U.S. Army Corps – Pittsburgh District**

Dear Mr. Shaffer:

Please find enclosed the revised, draft Standard Joint Permit Application and supporting documentation for Atlantic Coast Pipeline, LLC's (Atlantic) proposed Atlantic Coast Pipeline (ACP or Project). Atlantic appreciates the time and attention you have given the Project, and trusts that you will find review of the draft application as a useful opportunity to reengage the details of the project leading up to final submittal of the Project application in a few months.

Atlantic has prepared the enclosed draft pre-construction notification according to the Nationwide Permit 12 requirements as outlined in the updated 2017 nationwide permits. Please review the application materials and provide any comments you may have. We respectfully request that you provide comments you may have within 30 calendar days to allow time for Atlantic to consider any feedback you have provided and make adjustments, as necessary, to the final application materials.

Dominion appreciates the coordination to date and looks forward to continuing to work with you on this project. Please contact Richard Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this submittal.

Please direct written responses to:

Richard Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



FOR RICHARD GANGLE

Robert M. Bisha
Director, Environmental Business Support

cc: Richard Gangle, Dominion

Attachments:

- Draft – Nationwide Permit 12, pre-construction notification
- 2 hard copies – including form, supplemental text, and maps
- 2 DVDs – Electronic version of draft application, including the appendices

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 24, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Ms. Samantha Dailey
U.S. Army Corps of Engineers – Wilmington District
Regulatory Division
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline
Draft Submittal for Review – Joint Permit Application for: U.S. Army Corps, Wilmington
District Sections 404/10/408 Review; North Carolina of Environmental Quality Virginia 401
Water Quality/Riparian Buffer Authorization**

Dear Ms. Dailey:

Please find enclosed the revised, draft Pre-Construction Notification Form and supporting documentation for Atlantic Coast Pipeline, LLC's (Atlantic) proposed Atlantic Coast Pipeline (ACP or Project). Atlantic appreciates the time and attention you have given the Project, and trusts that you will find review of the draft application as a useful opportunity to reengage the details of the project leading up to final submittal of the Project application in a few months.

Atlantic has prepared the enclosed draft supplemental information document to accompany the draft pre-construction notification form for the work in the U.S. Army Corps – Wilmington District. Please review the application materials and provide any comments you may have. We respectfully request that you provide comments you may have within 30 calendar days to allow time for Atlantic to consider any feedback you have provided and make adjustments, as necessary, to the final application materials.

Dominion appreciates the coordination to date and looks forward to continuing to work with you on this project. Please contact Richard Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this submittal.

U.S. Army Corps of Engineers – Wilmington District
Atlantic Coast Pipeline – Draft Pre-Construction Notification
February 24, 2017
Page 2 of 2

Please direct written responses to:

Richard Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



~~FOR~~ RICHARD GANGLE
Robert M. Bisha
Director, Environmental Business Support

cc: Richard Gangle, Dominion
Jennifer Burdette, NCDEQ

Attachments:

Draft – Pre-Construction Notification
2 hard copies – including form, supplemental text, and maps
2 DVDs – Electronic version of draft application, including the appendices

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 24, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Steve Gibson
U.S. Army Corps of Engineers - Norfolk District
Regulatory Division
803 Front Street
Norfolk, VA 23508

Re: Dominion Transmission, Inc., Atlantic Coast Pipeline
Draft Submittal for Review – Joint Permit Application for: U.S. Army Corps, Norfolk
District Sections 404/10/408 Review; Virginia Marine Resources Commission Subaqueous
Lands and Tidal Waters; Virginia Department of Environmental Quality Virginia Water
Protection Permit

Dear Mr. Gibson:

Please find enclosed the revised, draft Standard Joint Permit Application and supporting documentation for Atlantic Coast Pipeline, LLC's (Atlantic) proposed Atlantic Coast Pipeline (ACP or Project). Atlantic appreciates the time and attention you have given the Project, and trusts that you will find review of the draft application as a useful opportunity to reengage the details of the project leading up to final submittal of the Project application in a few months.

Atlantic has prepared the enclosed draft supplemental information document to accompany the draft JPA form used by the USACE, VMRC, VDEQ, and the Local Wetlands Boards (LWB) for permitting purposes involving water, wetlands, and dune/beach resources in the Commonwealth of Virginia. Please review the application materials and provide any comments you may have. We respectfully request that you provide comments you may have within 30 calendar days to allow time for Atlantic to consider any feedback you have provided and make adjustments, as necessary, to the final application materials.

Dominion appreciates the coordination to date and looks forward to continuing to work with you on this project. Please contact Richard Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this submittal.

U.S. Army Corps of Engineers – Norfolk District
Atlantic Coast Pipeline – Draft Joint Permit Application
February 24, 2017
Page 2 of 2

Please direct written responses to:

Richard Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



FOR RICHARD GANGLE

Robert M. Bisha
Director, Environmental Business Support

cc: Richard Gangle, Dominion

Attachments:

Draft – Virginia Standard Joint Permit Application & supporting materials
2 hard copies – including form, supplemental text, and maps
2 DVDs – Electronic version of draft application, including the appendices

U.S. Fish and Wildlife Service

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 24, 2017

Ms. Sumalee Hoskins
U.S. Fish and Wildlife Service
Virginia Ecological Services Field Office
Gloucester, Virginia 23061

Re: Atlantic Coast Pipeline and Supply Header Project Response to U.S. Fish and Wildlife Service letter to FERC dated January 31, 2017

Dear Ms. Hoskins:

Atlantic Coast Pipeline, LLC (Atlantic) is a company formed by four major U.S. energy companies – Dominion, Duke Energy, Piedmont Natural Gas, and Southern Company Gas. The company was created to develop, own, and operate the proposed Atlantic Coast Pipeline (ACP), an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with Dominion Transmission, Inc. (DTI), a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

In addition, DTI proposes to construct and operate approximately 37.5 miles of pipeline loop and modify existing compression facilities in Pennsylvania and West Virginia. This project is referred to as the Supply Header Project (SHP) and will enable DTI to provide firm transportation service of up to 1.5 million dekatherms per day to various customers, including Atlantic. Atlantic will be a Foundation Shipper in the SHP, and will utilize the SHP capacity to allow its shippers access to natural gas supplies from various DTI receipt points for further delivery to points along the ACP.

Atlantic and DTI are seeking authorization from the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act to construct, own, operate, and maintain the proposed facilities. As required under Section 7 of the Endangered Species Act of 1973 (as amended), projects that require Federal authorization must undergo consultation with U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service.

Atlantic and DTI filed a copy of the fourth draft of the Biological Assessment (BA) for the ACP and SHP (collectively referred to as the Projects) on October 20, 2016. Atlantic and DTI met with the FWS to discuss the BA on November 29, 2016, and received a comment matrix from the FWS on December 12, 2016. On December 30, 2016, the FERC issued a draft Environmental Impact Statement (DEIS) for the Projects and requested that the FWS initiate formal consultation. Atlantic and DTI filed a copy of the fifth and final draft of the BA for the Projects on January 27, 2017 at the request of the FERC as the lead federal agency. Comments received during the November 29, 2016 meeting and written comments received from the FWS on December 12, 2016 were addressed in the final draft of the BA filed on January 27, 2017, or were addressed as responses to the attached comment matrix.

The following addresses items outlined in the FWS letter to FERC dated January 31, 2017:

The ROW centerline is approximately 0.6 miles from the edge of the Virginia Department of Conservation and Recreation Natural Heritage Conservation Site, Barterbrooke Blue, which encompasses the Cave Hill/Stegar's fissure area, located approximately 2.3 miles from the ROW centerline. Stegar's fissure is the top ranked location for the MCI.

See Comment Response Number 76.

The Service recommends that a third party observer be present at locations where pipeline placement occurs in the sensitive karst areas.

The request for third party monitors for karst features in Madison Cave isopod habitat has been acknowledged. Atlantic will have karst specialists on site during construction as described in the Karst Terrain Assessment, Construction, Monitoring, and Mitigation Plan; two of the three FWS approved karst specialists are monitoring work in karst areas on the Project.

The Service recommends Atlantic monitor karst features in MCI potential habitat areas for 1-3 years post-construction to ensure karst features are stable.

See Comment Response Number 101.

Prior to pipeline construction, the Service also recommends Atlantic conduct a hydrologic delineation for karst features in MCI potential habitat. The delineation will inform on-site personnel about the flow direction in case a spill occurs.

See Comment Response Number 78. Atlantic assumes karst features are interconnected and connected to the groundwater. As such, a Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan (Karst Mitigation Plan) was developed to protect karst features and area receptors from impact. Atlantic's karst plan details the measures which will be implemented to prevent contamination (e.g. sediment, spills) from entering wells, springs, and recharge areas.

The Karst Survey Report has been updated and filed in February 2017 and provides information on the location (surveyed in the field) of karst features in relation to the right-of-way. The detailed mapping coupled with the Karst Mitigation Plan will protect the wells, springs, and recharge areas.

The Service is currently awaiting results of the electrical resistivity imaging testing of the sinkholes near Cochran's Cave. The Service cannot complete a thorough and accurate MCI effects analysis until the results are received.

The results from electrical resistivity imaging testing of the sinkholes near Cochran's Cave were provided on February 2, 2017 to Virginia and West Virginia FWS.

*There are 3 Indiana bat (*Myotis sodalis*), federally listed endangered, hibernacula within 5 miles of the proposed ROW for the ACP/SHP project.*

See Comment Response Number 39.

The Service recommended Atlantic conduct pedestrian surveys for potential bat hibernacula and conduct Phase I and II portal assessments as necessary in WV. The Service is currently awaiting the results of the remaining pedestrian surveys, along 18% of the proposed ROW in WV and any necessary follow-up Phase I and II portal assessments resulting from the remaining pedestrian surveys.

See Comment Response Numbers 18, 55, and 121.

Based on the draft BA, survey results, and karst documents noted above, the Service cannot complete a thorough and accurate effects analysis for Indiana bat and NLEB at this time. While discussions at our November 29, 2016, meeting suggest that multiple avoidance measures will be implemented as part of the proposed project, the avoidance measures have not been adequately documented within the draft BA and associated documents.

See Comment Response Numbers 18, 55, and 121.

The karst plan, karst survey report, and draft BA do not include any avoidance measures. Mitigation and remediation of potential impacts to features found in the field are noted, but no effort to avoid such features is provided.

An updated Karst Terrain Assessment, Construction, Monitoring, and Mitigation Plan (Karst Plan) was provided in Attachment F of the BA. Additional conservation measures for karst features have been included in the Karst Plan and conservation measures specific to the Madison Cave isopod have been included in Section 5.12.4 of the BA. Avoidance measures for karst features which were implemented during routing are discussed in Sections 5.4.3, 5.5.3, 5.6.3, 5.7.3, and 5.12.3 of the BA.

The proposed ROW bisects a karst-rich area of WV that has multiple hibernacula for both Indiana bats and NLEBs north and south of the proposed line. In the center of this known-use area, surveys for potential hibernacula along the proposed ROW have not been completed due to land access issues. Without data which support that no cave passages cross underneath the proposed ROW through this section, the Service cannot conclude that the project will not adversely affect winter habitat for Indiana bats or NLEBs.

Surveys are on-going, and results will be provided as they become available. See Comment Response Numbers 18, 55, and 121.

The karst plan and karst survey report have conflicting numbers regarding miles of karst crossed by the project (32.5 miles vs. 71.3 miles); this should be clarified and corrected.

An updated Karst Survey Report will be provided in February 2017 and corrections will be made.

The West Virginia and Virginia Field Offices recommend Atlantic reach out to the West Virginia and Virginia Speleological Societies to inquire about cave mapping data in the vicinity of the unsurveyed area for the ACP/SHP project. Data showing mapped passages and where they exist in relation to the project will help demonstrate how the project may or may not impact these passages. Once these data have been gathered, Atlantic should discuss why proposed actions involved with construction and operation of the project (i.e., blasting and trenching) will not have an impact on complex cave/karst systems in the near (e.g., 1-mile or less) vicinity of the project. If Atlantic cannot document and support why these systems will remain unaltered through all aspects of construction/operation, monitoring devices may need to be placed within the caves to gather microclimate data on changes that may occur.

Atlantic has reached out to the speleological societies and received available data. An analysis of those features in the Project area has been included in Section 5.4.2 of the BA.

*The current route, Rev 11, affects the upslope drainage of the federally listed threatened small whorled pogonia (*Isotria medeoloides*). We recommend Atlantic adjust the route to avoid and minimize impacts to this species. If that is not possible, we recommend that Atlantic, in coordination with the Service, develop appropriate compensation for impacts to this species.*

Atlantic adopted a route adjustment in the Monongahela National Forest to minimize impacts on a population of small whorled pogonia identified during surveys near Project Milepost 80.5. See Section 5.13.3 of the BA for further discussion of impacts on the three populations of small whorled pogonia found during surveys. See Section 5.13.4 of the BA for conservation measures that would be implemented to avoid and minimize impacts on the small whorled pogonia. Atlantic will continue to coordinate with the FWS to mitigate for potential impacts on small whorled pogonia.

*On January 11, 2017 the Service listed the rusty patched bumble bee (*Bombus affinis*) as endangered. The current route of the proposed project passes through Nelson County, VA, which*

has historical occurrences of rusty patched bumble bee. The Service recommends that Atlantic implement voluntary conservation measures to reduce impacts to the rusty patched bumble bee including: avoid the use of herbicides and pesticides, plant native flowers to support pollinator habitat, and conduct surveys prior to project implementation.

Discussion of rusty patched bumble bee is included in Section 5.15 of the BA. Per an email from Virginia FWS, dated January 6, 2017, no surveys would be required for the species in Virginia. Information regarding the species was requested from the Pennsylvania, West Virginia, and North Carolina FWS field offices, and additional review and survey needs for the species is pending those responses.

Specific to the 7 watersheds in North Carolina and 5 areas in Virginia, the Service recommends the following be incorporated into the BA:

- *For locations where proposed pipeline placement occurs in watersheds with known occurrences of federally listed or petitioned species, the Service recommends third party inspectors. We will work with Atlantic to determine details.*

The request for third party monitors for sensitive waterbodies has been acknowledged. Atlantic will continue to work with FWS regarding providing third party monitors.

- *Coordinate with the Service 60 calendar days prior to any instream work to determine the appropriate method of rock removal.*

Atlantic and DTI discussed rock removal methods with the FWS at the November 29, 2016 meeting. Based on these discussions, Atlantic and DTI selected the least environmentally impactful method of rock removal, which was determined to be blasting (not mechanical rock removal). See Section 2.2.3 of the BA for a discussion of rock removal methods.

- *Alert the Service and the State agencies when work begins in these areas.*

Atlantic and DTI will commit to notifying the FWS office, no less than 48 hours in advance, when work will begin in the sensitive waterbodies; sensitive waterbodies are defined in Table B-3 in Attachment B of the BA.

- *Water for drilling purposes or hydrostatic testing should not be withdrawn from or released into waterbodies that may have federally listed species. If this is not possible Atlantic should provide an alternatives analysis and include detailed minimization and mitigation measures to protect listed species and their associated habitats.*

See Comment Response Number 2.

- *Provide more stringent erosion and sediment control measures.*

See Comment Response Numbers 1, 2, 6, 37, and 64.

- *No ground disturbing activities within 50 feet of a waterbody from November 15 – April 1 of any year. Performing ground disturbing activities during the growing season would allow vegetation to sprout thus reducing the potential for erosion.*

See Comment Response Number 1.

- *Locate temporary work spaces at least 300 feet from streams. If this is not possible, Atlantic should provide an alternatives analysis including detailed minimization and mitigation measures to protect species and their associated habitats.*

See Comment Response Number 5.

Additional information regarding pipeline construction, access road improvement, and crossing of smaller streams/tributaries in these sensitive watersheds should be provided (e.g., what activities are proposed to improve the access roads and will Atlantic implement additional erosion and sediment control measures). Atlantic should detail how they will protect the streams/tributaries within these sensitive watersheds.

See Comment Response Numbers 6, 64, 73, and 74.

Atlantic should provide more detail regarding monitoring, notification procedures, and contingency planning within the “Horizontal Directional Drill Drilling Fluid Monitoring, Operations and Contingency Plan.” Such details include: alerting the Service and State agencies when work begins in these watersheds; additional measures to protect the aquatic ecosystem while allowing cleanup to occur in these watersheds; having experts ready to salvage organisms; ways to maintain instream flow downstream of an area should an inadvertent return occur; and subsequent measures to return the system to its prior condition.

See Comment Response Numbers 105 through 119. The HDD Plan and additions included in Section 2.8.2.11 of the BA provide details regarding HDDs. Atlantic and DTI will commit to notifying the FWS office, no less than 48 hours in advance, when work will begin in the sensitive waterbodies; sensitive waterbodies are defined in Table B-3 in Attachment B of the BA. Individual drilling companies will develop site specific plans which will address in-water monitoring. This information will be provided once available.

*The James spiny mussel (*Pleurobema collina*), federally listed endangered, occurs in the Cowpasture River in Bath County, VA. This occurrence was omitted from the draft BA, Atlantic needs to include this occurrence and an effects analysis in their BA. All of the avoidance and minimization measures applied to the freshwater mussels such as: stream crossings methodology, hydrostatic water testing, and rock removal method should be applied to the James spiny mussel in the Cowpasture River.*

See Comment Response Numbers 59, 66, and 83.

*Additionally, until the comments above are addressed, the Service does not concur with the may affect, not likely to adversely determinations in the draft BA for the federally listed endangered James spinymussel, Roanoke logperch (*Percina rex*), dwarf wedgemussel (*Alasmidonta heterodon*), and Tar River spinymussel (*Elliptio steinstansana*). Nor do we agree with your conclusion for the federally petitioned Atlantic pigtoe (*Fusconcia masoni*) and yellow lance (*Elliptio lanceolata*).*

Updated impacts analyses and determinations of effect for the referenced species were provided in the BA based on changes to project activities and input from FWS.

We recommend Atlantic implement a time-of-year restriction for migratory songbirds that no trees be cleared between April 1 and August 31 of any year. Many raptors and owls begin nesting prior to April 1 and may be impacted by project activities conducted between January 1 and March 31. The Service recommends that surveys be conducted by a qualified biological monitor prior to tree clearing to identify raptor nests within 150 feet of either edge of the proposed project area. If raptor nests are found, implement a 100 foot buffer around the nest. Work should not occur within the buffer until chicks are no longer utilizing the nest.

The Migratory Bird Plan submitted January 27, 2017 included implementation of time of year restrictions for migratory songbirds based on prior consultation with the FWS field offices as follows:

Pennsylvania: April 1 – August 31
West Virginia: April 1 – August 31
Virginia: March 15 – August 15
North Carolina: April 15 – August 1

Atlantic has reached out to the Virginia FWS for clarification on changes to the time of year restriction to April 1 through August 31 and where it would apply. For tree clearing activities occurring between January 1 and March 31, Atlantic and DTI will have a qualified biologist conduct pedestrian surveys for raptors within a 300 foot wide corridor of the project centerline. If any active raptor nests are identified, a 100-foot no-activity buffer will be implemented until the nest is no longer active.

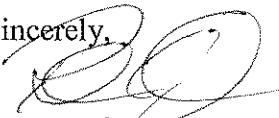
*A qualified biological monitor should accompany the clearing crews for work conducted in areas where golden eagles (*Aquila chrysaetos*) are present or likely to be present during the winter (December 1 - March 31). These areas include Pocahontas and Randolph Counties, WV and Augusta, Bath, Highland, and Nelson Counties, VA. Protocols provided in the ACP/SHP draft BA, section 5.2.2 for project areas in the George Washington National Forest or Monongahela National Forest should be followed for all areas where bald eagles (*Haliaeetus leucocephalus*) or golden eagles are likely to be present in the above counties.*

Atlantic and DTI will conduct monitoring for golden eagles in the above listed counties, as described in Section 5.2.2 of the Migratory Bird Plan filed on January 27, 2017.

Atlantic and DTI believe that the draft BA on January 27, 2017 and responses to the comment matrix provides all of the information requested by FWS to initiate formal consultation. We look forward to continuing to work with you on the ACP and DTI. Please contact Richard B. Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this report. Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



FOR *REICHARD GANGLE*

Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline and Supply Header Project

Cc: Cindy Schulz, Virginia Ecological Services
John Schmidt, West Virginia Ecological Services
John Ellis, North Carolina Ecological Services
Melinda Turner, Pennsylvania Ecological Services
Richard Gangle, Dominion

Enclosures: Comment Response Table

U.S. Forest Service – Monongahela National Forest

ATLANTIC COAST PIPELINE

PROJECT MEETING MINUTES



MEETING WITH (COMPANY/AGENCY):

U.S. Forest Service (USFS) – Monongahela National Forest (MNF)

DATE:

November 4, 2016

LOCATION:

Field Meeting in MNF

ATTENDEES AND THEIR AFFILIATION:

Cathy Johnson – MNF
Cheryl Tanner – MNF
Amy Coleman – MNF
Spencer Trichell - Dominion
Greg Park – Dominion
Brittney Moody – Dominion
Luke Knapp - Dominion
Maggie Voth – Environmental Resources Management (ERM)

PREPARED BY:

Maggie Voth – ERM

MEETING MINUTES:

Northern Flying Squirrels

Representatives from the MNF, Dominion, and ERM met for a field visit at the site of modeled northern flying squirrel habitat along FR 1026 in the MNF.

Greg Park provided a brief overview of survey results and previous discussions regarding the access road in the immediate vicinity of the squirrel habitat:

- Originally, an access road (05-001-C009.AR1) was proposed to link the existing FR 1026 to the ACP workspace; a portion of that access road would have utilized a short existing road bed/pullout location on the ridgetop between MP 71.7 and 71.8.
- An occurrence of federally endangered running buffalo clover (RBC) was identified on the edge of the existing pullout location during 2016 plant surveys.
- A wetland was also identified in the area just east of the RBC and extending south.
- A field meeting held at the RBC site earlier in the summer discussed plans to reroute the access road to the north to avoid negative impacts to both the wetland and the RBC.

Cathy Johnson and Cheryl Tanner of the USFS MNF visited the site prior to the meeting to field truth the modeled and desktop delineated habitat areas. Cathy showed the group a map of the delineated squirrel habitat, which was larger than the original modeled area and extended further to the north and south along the proposed route than the original model. Regenerating red spruce and hemlock trees were scattered throughout the area; as such, the area falls into the regenerating northern hardwood and spruce habitat community type. The FS reps thought the area was located in MNF LRMP management prescription 4.1 (spruce restoration), but upon checking the maps later, they confirmed that it is located in management prescription 3.0 (vegetation diversity). Regardless of the management prescription, any areas that meet the definition of suitable habitat for the northern flying squirrel are subject to LRMP's Forest-wide direction for that habitat.

There was some discussion about ownership boundaries within the area, as the USFS GIS data, county parcel data, and USGS topographic maps depicting the MNF property line all differ from the boundary markers in the field. If the boundary markers in the field are accurate, then

the mainline workspace should be located entirely on private property in this region and would not require any adjustments. Cathy mentioned that MNF may have access to a land surveyor, but that alternatively if the USFS identified a surveyor, perhaps Dominion would be willing to pay for the boundary survey in this area. Greg mentioned that civil survey within the area for the APC was already conducted and would have been triangulated similarly to land survey procedures; Dominion offered to provide the identified MNF boundary in this region to the MNF.

Greg confirmed that the two currently proposed (as of Rev 11a in July 2016) segments of access road connecting the mainline to FR 1026 would be completely superseded by the one identified during this field meeting. He also stated that the road would be permanent. Cathy asked about the road substrate and Greg and Brittany Moody responded that the access road would be built to the USFS specifications, including the gravel surface. While access road surveys on the ACP cover a 50-foot-wide swath, the construction workspace would be 30 feet wide and the permanent footprint would be 12-15 feet wide. Brittney clarified that the 30 foot width would also include all ENS controls, ditches, and periodic pullout areas.

Cathy mentioned that knowing the type and specific locations of roadway improvements planned in the MNF is essential for the MNF to identify additional species impacts. FR 1026, in particular, has adjacent Allegheny woodrat habitat and other patches of northern flying squirrel habitat that may require additional discussions, depending on the construction/improvement plans. Greg stated that a third party sub-consultant assessed the MNF roads and confirmed that no adjustments, blasting, or other construction is planned along existing forest service roads (including FR1026). The access road discussed today is expected to be the only new road crossing MNF land; other existing roads will likely be graded and receive maintenance, as needed, but would not require any further updates. Cathy requested the profile and engineering specifications for this new road, when available.

To minimize impacts to squirrel habitat, Cathy suggested the following:

- Keep the road to the edge of the habitat to minimizing habitat fragmentation;
- Route the road to avoid sizable spruce and hemlock trees;
- Save and transplant regenerating spruce and hemlock saplings in the construction workspace of the road beyond the workspace on USFS land.

In order to save some of the spruce and hemlock trees, side trimming will be necessary and should be included in the evaluation of habitat impacts, per Cathy's request. Side trimming should be completed in a way that does not jeopardize the survival of the spruce and hemlock trees.

The proposed access road workspace was roughed out in the field and marked with flagging. Dominion and MNF staff agreed upon the rough location and identified trees for removal. MNF staff provided input regarding which trees they would prefer to save during the routing process. Maggie will provide a map including the GPS locations of the proposed centerline and trees that would be removed.

Running Buffalo Clover

The RBC occurrence at this site was also discussed. The adjusted road location is unlikely to impact the RBC, as the patch remains outside the construction footprint and the road will be adjusted to veer further away from the identified patch. The first road adjustment included plans to clear 5-6 trees, which was expected to benefit the RBC. We briefly discussed whether

Dominion should remove additional trees for the RBC, but MNF staff decided to wait and make any habitat adjustments for the RBC after the new access road was constructed and light levels could be reassessed.

Allegheny Woodrat

Two areas with confirmed woodrat activity were identified during surveys along FR 1026 during Summer 2016. Based on previous discussion, this road does not need to be widened. The MNF's main remaining concern for the habitat to the west of the road (Rock Outcrop 1) was drainage, including any drainage changes stemming from road regrading and/or clogged culverts. Erosion controls such as silt fencing would not be an appropriate alternative, as they would prevent woodrats from crossing the road to forage.

Increased road traffic should also be included as an impact to the species. Brittney stated that during construction, workers typically work 6 10-hour days, beginning at 7 am or so, which means increased traffic is unlikely to be an issue during or prior to sunrise and during or after sunset.

Cathy requested wildlife monitors pre- and post-construction.

Additional Northern Flying Squirrel Habitat Areas

Other areas of northern flying squirrel habitat were also found on both sides of FR 1026 and at the intersection of FR 1026 and 1026A. All of these areas provide the high elevation northern hardwood/spruce forest that squirrels would occupy, though some of the habitat appeared to be marginal.

ACTION ITEMS

ACTION REQUIRED:	BY WHOM:
Provide shapefile of delineated squirrel habitat	MNF
Send meeting minutes	ERM
Provide shapefile and map of preliminary location of modified access road and trees that would be cut.	ERM
Provide profile and engineering specifications for the proposed adjusted access road	Dominion
Provide surveyed MNF property boundaries for the FR 1026 region	Dominion

cc: Project Files

February 2, 2017

Clyde Thompson, Forest Supervisor
U.S. Forest Service
Monongahela National Forest
Forest Supervisor's Office
200 Sycamore Street
Elkins, WV 26241

**RE: Atlantic Coast Pipeline, LLC, Atlantic Coast Pipeline Project
Responses to Forest Service Comments on the Year 2 Survey Interim Report of Protected
Bat Species on the Monongahela National Forest and Karst Survey Report**

Dear Mr. Thompson:

Atlantic Coast Pipeline, LLC (Atlantic) appreciates the detailed review and comments from the U.S. Forest Service (USFS) filed with the Federal Energy Regulatory Commission on November 21, 2016, regarding Year 2 Survey Interim Report of Protected Bat Species and the Karst Survey Report on the Monongahela National Forest ("MNF"). The bat report was submitted to the Forest Service on August 17, 2016 and the Karst Survey Report was submitted on August 24, 2016, by Atlantic to support the evaluation of the Atlantic Coast Pipeline project.

Many of the comments identified in the November 21 letter had already been discussed with Atlantic, and, in turn, were addressed in the bat addendum report that Atlantic submitted on October 20, 2016.

USFS's comments (in italics) and Atlantic's responses are provided below.

Mist net and roost tree surveys

1. *On page 7 it is noted that the subcontractor biologists were granted WV Scientific Collection Permits on August 15, 2016 – this is a typo (since surveys were conducted in June 2016); Appendix B indicates they were granted on June 3 and expire on August 15.*

Response: This statement was corrected prior to the submission of the final bat reports.

2. *Appendix C shows mist-net and roost tree results. Based on that map, it appears that mist-net surveys were conducted in all FS portions from mile markers 76-84, but not west of that. If mist-net surveys were conducted west of MM 74, those should be shown. If surveys were not conducted there (specifically from MM 73-74 and 71-72), a valid reason should be given for excluding that portion of FS lands (as the entire Forest is considered to provide potential roosting habitat for Indiana and northern long-eared bats).*

Response: As requested by the MNF, mist netting surveys were conducted for survey sites located on Forest Service land. The bat survey location points were determined by splitting the centerline into 1 kilometer (km) segments along the centerline for the entire 600 mile project route. Field surveyors utilized the best available habitat for survey within each 1 km survey unit; for 1 km segments that fell partially on MNF land and partially on private land, surveyors did not

default to survey directly on MNF lands when more suitable survey locations were available on adjacent private lands.

The survey corridor through MP 71-72 at the time of survey planning (Rev 10) did not contain any corridors or gaps suitable for placement of a mist net site on MNF lands. As such, an acoustic survey site was planned and conducted on adjacent private land 0.3 km west of MP 71.1 and 0.1 km south of MP 71.6. The MNF lands between MP 73-74 are similarly forested, and provided no suitable locations for mist netting survey on MNF land. Acoustic monitors for the survey units in this area were placed on either side of the MNF lands where bats were most likely to be detected. This methodology is consistent with survey protocols outlined in approved study plans and with previous conversations with the USFWS and USFS.

Please see Appendix D from the West Virginia Segment Protected Bat Species Presence/Probable Absence Survey Report for acoustic survey locations adjacent to MNF lands provided on October 17, 2016 as well as GIS data submitted on January 12, 2017.

3. *P. 11 and Appendix C roost tree mapping shows only 9 primary or secondary roost trees found, all between MM 76-77. Pg. 10 of the report notes that roost tree surveys were conducted within 3 miles of northern long-eared bat (NLEB) capture locations. Based on MNF bat mist-netting results from 1997-2015, MM ~80.7-86 and ~70.8-73.8 are within 3 miles of NLEB bat captures (other areas may be as well, based on captures on private lands); seven historical MNF mist-net sites are located on and within ~ 0.5 miles of MM 83-84 and six of those have had multiple NLEB captures, but no primary or secondary roost trees were identified in this area according to this report. While no bats were tracked to roost trees in the area as part of the MNF's annual mist-net survey work, it is highly likely that such trees are present, and surprising that no roost trees were found in this area as part of the current survey efforts. Please provide a spatial database (GIS) to the MNF Wildlife Biologist, including all primary and secondary roost tree locations, so that survey results can be field-checked by a FS biologist.*

Response: The terrestrial species GIS data for West Virginia provided by Liz Stout on February 29, 2016 did not show NLEB captures in the area referenced, therefore no roost tree mapping was completed in this area. Notably, Atlantic confirmed with Liz Stout, USFWS West Virginia Field Office, during a meeting on November 29, 2016 that roost tree mapping is no longer requested within three mile buffers of NLEB captures under the 4(d) rule. At the request of Atlantic, Cathy Johnson (Wildlife Biologist at the MNF) provided additional NLEB capture data to Atlantic on November 21, 2016. Atlantic will review the NLEB survey data provided by Cathy Johnson. Although roost tree mapping is no longer recommended by the FWS, Atlantic will complete roost tree mapping in 2017 on the MNF for consistency with data gathered in 2015 and 2016.

Acoustic surveys

4. *Results of acoustic surveys in proximity to the MNF (within 1 mile at a minimum) should be provided to the MNF for review.*

Forty-one acoustic sites are located within 1 mile of the MNF boundary, including three acoustic sites in Virginia. Of those sites, AR-024 and GWNF-6_066 in Pocahontas County had positive detections for NLEB. Follow-up mist netting on AR-024 resulted in one juvenile NLEB capture. Access to suitable mist netting locations at site GWNF-6_066 was denied and could not be

completed in 2016. Surveys are planned for May 2017 pending access permission from the adjacent private landowner.

See Section 4.1 of the West Virginia Segment Protected Bat Species Presence/Probable Absence Survey Report submitted to the MNF on October 17, 2016 for more information.

5. *Software used to review acoustic data should incorporate the gray bat (*Myotis grisescens*) as a possible result since this species was recently found in WV (some software packages allow the selection of species prior to running the data through and the gray bat is not necessarily one of the bats automatically included for WV).*

On September 8, 2016, on a conference call with the USFWS West Virginia Field Office, Liz Stout requested that gray bats be included in all report results. The West Virginia Segment Protected Bat Species Presence/Probable Absence Survey Report submitted to the MNF on October 17, 2016 included 10 sites where the automated program had produced a low p-value for the species. At the time of the report submittal these sites had not yet been qualitatively vetted to determine likely presence of the species.

Since the October report submission, these sites have been qualitatively vetted and none were found to have likely presence of gray bats. The potential gray bat calls identified by the automated program were likely false positives created by low quality call recordings or non-search phase behavior by red bats, tricolored bats, or little brown bats. This information was provided to the USFWS West Virginia Field Office on December 6, 2016 and was forwarded to the MNF biologists on January 12, 2017.

Eastern small-footed bat surveys

6. *We request more information regarding these surveys, including specifics of why certain habitats were surveyed or not. Page 11 notes that the survey was focused on two areas within the MNF that totaled 4.4 miles. Please provide shapefiles for the surveyed locations as well as justification for why other areas with rocky habitat were not surveyed.*

Pedestrian surveys for eastern small-footed roosting habitat were conducted by qualified bat biologists within with MNF Special Use Permit area (approximately 1,000 ft on either side of the ACP centerline). The language in the interim report is unclear, suggesting only two areas were surveyed. In fact, the entire length of the ACP crossing of the MNF (a total of 5.1 miles) was surveyed and two areas of potential habitat were found. Potential hibernacula and rocky outcrops encountered by surveyors were evaluated for potential use by eastern small-footed bats in the field; some rocky outcrops were eliminated as likely habitat due to factors such as sun exposure, water flow, accessibility to bats, or predation risk.

Those outcrops deemed suitable for eastern small-footed bat roosting on MNF lands were reported in the October 2016 West Virginia Segment Protected Bat Species Habitat Assessment Addendum Report. Datasheets containing photos and additional survey information for the roosting site were included in Appendix H of the October report. GIS data of the site locations and field evaluations was also provided on August 31, 2016 and on January 12, 2017.

Hibernacula Surveys & Karst Survey Report – general issues with the 2 documents:

7. *The Karst Construction, Monitoring and Mitigation Plan (hereafter referred to as the Karst Plan) was included with the Bat Species Year 2 Survey Interim Report. However, the Karst Survey Report (dated 8/1/2016) is also very relevant to potential impacts to bats and so is reviewed here as well. The division of these reports is confusing (there are elements of the Karst Survey Report that are not in the Bat Interim Report/Karst Plan and elements of the Karst Plan that were not included in the Karst Survey Report) and as a result all the appropriate reviewers are not necessarily aware of all relevant information. Further, statements in the Bat Interim Report are contradictory to some of what is presented in the Karst Survey Report. As such, we recommend that the hibernacula survey be included as part of the Karst Survey Report, which would put all of the karst/cave survey information in one place (drafted by a Karst Specialist).*

The Karst Survey Report was generated by karst specialists and geologists for the ACP. That karst survey and reporting effort was conducted independently of bat surveys and was not intended to address or evaluate bat or other sensitive species concerns, but to identify and characterize karst features for engineering constraints and for avoidance and minimization of subterranean impacts. The purpose of the Karst Plan was to give an overall view of karst terrain, describe the pre-construction karst findings, and discuss the best management practices (BMPs) to be utilized for mitigating, remediating, and minimizing impacts to karst features that may be encountered during construction activities.

Bat hibernacula surveys within karst topography focused solely on the identification of potential bat hibernacula according to USFWS survey criteria, while the karst surveys addressed a wider range of karst features relevant to the project, such as closed depressions and sinkholes which are not applicable to the bat survey. The portions of the karst survey report relevant to the bat survey – namely, open throat and cave sites identified during the karst desktop review and field survey – were incorporated into the bat survey effort and revisited by bat biologists in order to evaluate potential suitability for bat species. This information is in the bat reports.

The purpose of these two reports is very distinct and separate. Where the documents appear contradictory, it is because they are addressing different survey requirements and objectives. The evaluation of bat habitat made use of all information from karst surveys and also conducted additional field assessments to determine potential bat habitat. Karst surveys were completed independent (prior to) bat-specific assessments, but the Karst Report provides additional detail on construction through karst areas that may be helpful for understanding potential impacts from the Project.

- 7a) *Per USFWS request, pedestrian surveys were to be conducted within 1 km on either side of the centerline in areas exhibiting karst topography (Revised WV Bat Study Plan Year 2 dated June 2016, p. 10). This section goes on to say that on MNF lands these surveys will be conducted only within 1,000' of the centerline per the Special Use Permit (though an exemption could be requested for that width for this purpose) and within 150' of the centerline elsewhere. However, the Karst Plan (p. 8) and the Karst Survey Report (p. 2) refer to a 300' corridor (150' on either side of the ROW) for field review. There is no mention of field review within 1 km or 1,000'. Please confirm that MNF lands within 1,000' of the centerline were surveyed for karst features (potential hibernacula) and provide detailed methodology and results from surveys of those areas.*

The USFWS request pertained to hibernacula surveys within 1 km of the ACP in karst topography and within 1,000 feet of the centerline within the MNF. We can confirm that pedestrian surveys for potential bat hibernacula were completed by qualified bat biologists within the indicated areas, as proposed within the 2016 study plan and described in the October 2016 West Virginia Segment Protected Bat Species Habitat Assessment Addendum Report. Hibernacula survey results and datasheets are provided in the October 2016 report.

Distances listed in the Karst Survey Report or Karst Plan pertained to karst surveys conducted by qualified geologists and did not include any evaluation of bat hibernacula suitability. While bat biologists used information from the karst report to determine potential locations, the survey for bat locations was greater than the survey area that had been specifically evaluated by karst specialists.

- 7b) *The desktop assessment for hibernacula in the Bat Survey Interim Report (p. 8) appears to be analogous to the “Phase 1” assessment for karst features in the Karst Survey Plan, but far less detailed. As this data was used to determine where Phase 1 and Phase 2 hibernacula surveys would be necessary, the Karst Survey Report desktop analysis (referred to as Phase 1 in that report) should be used to determine where Phase 1 and Phase 2 bat hibernacula surveys are necessary.*

Phase 1 and Phase 2 mean different things in the Bat Survey Interim Report (which is following USFWS definition for hibernacula survey protocol) and Karst Survey Plan report. Since both are referring to surveys of features that include potential hibernacula, please modify wording in one or clarify meaning wherever used in documents.

Hibernacula surveys described in the bat reports follow Phase 1 and Phase 2 bat hibernacula survey protocols as described in the USFWS 2015 *Bat Survey Protocol for Assessing Use of Potential Hibernacula* and in the 21016 study plan. A Phase 1 assessment according to the USFWS protocol is a field survey intended to evaluate potential hibernacula against criteria specific to determine bat habitat suitability.

The USFWS Phase 1 hibernacula assessment is not analogous to a Phase 1 karst survey, nor was Karst Survey Report data utilized in lieu of Phase 1 USFWS hibernacula assessment by qualified bat biologists. Open throat and cave features identified by the karst survey were visited by qualified bat biologists in order to evaluate potential suitability for bat species.

- 7c) *The description of pedestrian hibernacula surveys in the Bat Survey Interim Report (p. 8) is lacking in detail. It says that “visual encounter surveys were conducted during related fieldwork (e.g., roost tree and mist net surveys) to identify and locate cave and mine openings ...” Since those three survey efforts were all conducted for different specific purposes, please describe the method of looking for karst features (caves, sinkholes, linear openings in rock, etc.) that might be indicative of potential hibernacula. Were systematic transects used? If so, provide the specifications that were used for the transect surveys (spacing, field indicators, etc.) Provide documentation of the effectiveness of the survey techniques in locating relevant karst features.*

Please see the methodologies described in the 2016 bat survey study plan, approved by USFWS on July 14, 2016, and the West Virginia Segment Protected Bat Species Habitat Assessment Addendum Report submitted on October 20, 2016. A pedestrian survey effort within 1,000’ of

the centerline in the MNF was requested after the original study plan submittal in 2015; this level of effort was carried through to the 2016 study plan, field work and report. Pre-determined linear transects were not utilized for hibernacula surveys due to physical impediments, survey area shape and size, and vertical relief; however, bat surveyors did track survey paths to ensure adequate coverage of the survey areas.

- 7d) *The Karst Survey Report describes the field/pedestrian surveys differently (p. 3) indicating that systematic transects were walked looking for surface karst features that fit specific criteria. However, this was only done within 150' of the proposed centerline. The process described in the Karst Survey Report should be used rather than the pedestrian review described in the bat report, but should be expanded to the 1,000' buffer of the centerline within the MNF.*

The methodologies described in the 2016 bat survey study plan were based on USFWS hibernacula survey protocols and approved by USFWS for Project hibernacula surveys. Pre-determined linear transects were not utilized for hibernacula surveys due to physical impediments, survey area shape and size, and vertical relief; however, bat surveyors did track survey paths to ensure adequate coverage of the survey areas.

The Karst Survey Report methodology does not apply to the pedestrian bat hibernacula survey methodology approved by USFWS on July 14, 2016. The Karst Survey Report methodology was utilized by the karst specialists and geologists within the 300 foot study corridor. However, the USFWS (Gloucester, VA) approved both the survey protocols and avoidance and minimization measures (AMMs) for conservation of the subsurface (karst) habitat of the Madison Cave Isopod (*Antrolina lira*). Atlantic has adopted the protocols from both the NiSource Multi-Species Habitat Conservation Plan, Appendix L, and the Columbia Pipeline Group Habitat Conservation Program HCP and NonHCP Species Best Management Practices Document, Version 1.0 (March 12, 2014). The approved AMMs are specifically designed to minimize impacts to the karst aquifer by protecting access points such as open-throat sinkholes, cave entrances, losing streams and ponors (sinkholes that have an open throat with an active stream or other perennial water body enters the subsurface).

- 7e) *The Bat Survey Interim Report (p. 11, 4.1.3) notes that during roadside surveys, "two potential portals were identified during this survey and are currently being investigated." Please provide the locations of these features in a confidential filing and explain how these features are related to the many cave and karst resources identified in the Karst Resource Report (Tables 1-5). The results of this and other ongoing bat resource surveys will need to be provided in the final report.*

These two potential hibernacula did not receive Phase 1 assessments in 2016 due to land access restrictions; both are planned for survey in 2017 pending access permission from the landowner.

Karst Survey Report

8. *This report is far more detailed than what is currently included in the Bat Interim Report regarding potential hibernacula (other than the missing Construction Monitoring and Karst Mitigation and Conservation Procedures sections). As such, the discussion of karst in the final bat report should refer to a revised version of the Karst Survey Report for desktop and field analyses of karst/cave surveys associated with the proposal.*
- *The pedestrian/field survey within the MNF (karst) should be at least 1,000' on either side of the centerline (1 km elsewhere in karst landscape).*

For the karst survey, Atlantic is adhering to protocols previously established with the USFWS and embodied in the aforementioned NiSource/Columbia Gas HCP and BMPs for HCP and non-HCP species. The protocols related in these documents specify that the area that is assessed by field (“pedestrian”) survey comprises the “work area” or workspace (i.e. the 300-ft corridor), temporary workspaces, additional temporary workspaces and access roads. There is no requirement for assessing a corridor 1,000-ft on either side of the proposed centerline; the 1000-ft request was specific to bat surveys and was completed by bat biologists for the Project.

- *Evaluate potential methods to detect the presence of underground features that are not visible as part of the karst pedestrian/field surveys (e.g., ground-penetrating radar, electrical resistivity tomography, passive seismic surveys, etc.), particularly within the 300’ buffer. In addition to the hydrology concerns repeatedly noted in the report, the potential for breaking into a cave passage or impacting sinkholes that connect to cave passages is a major risk to any bats that may use these caves. Even a small fracture or change in the geology could affect the air flow as well as hydrology, potentially rendering the area unsuitable for bats. Thus, it is critical that such areas be identified and avoided in the planning process.*

As part of the construction process, electrical resistivity and track drill probes will be conducted prior to the start of excavations along the proposed centerline in all karst terrains for the very purpose of identifying near-surface, air-filled voids (i.e. “caverns”)

- *The report indicates that landowner permissions were not obtained for a large percentage of the area (e.g., 31% of the Pocahontas County line from MM 66.7-83.9; p.14), some of which may be adjacent, potentially with subsurface connections, to FS lands. What is the plan for identifying karst features in these areas so that high risk areas can be avoided?*

These areas will be assessed prior to any land-disturbing activities and/or when landowner permission is granted.

- *All of the caves identified by desktop or field review within 1 km of the centerline should be reviewed for their potential to support bats, particularly those noted to have passages extending beneath the ROW (e.g., p. 14; Canis Majoris Cave). For those caves which the report did not indicate length underground or which were known to exist but could not be located in the field (e.g., p. 14 - Tapp’s Trap, located only ~ 0.3 mi. from FS lands, and p. 16 - Impatient Pit), further efforts should be made to define the existence and extent of those Caves (e.g., ground-penetrating radar, electrical resistivity tomography or some other technological means to detect such passages)*

Biological staff will review all caves within 1 km of centerline and use both karst survey data and additional desktop resources to identify potential sites. The karst survey consultant works in concert with both the Virginia Speleological Survey (VSS) and the West Virginia Speleological Survey (WVaSS) who provide cave entrance locations, many of which have inaccurate location coordinates. It is of note that WVaSS has informed the consultant that “Tapp’s Trap” probably has incorrect entrance location coordinates and recent efforts by WVaSS also could not locate the cave entrance. We suspect that “Impatient Pit” (in Highland

County, VA) was backfilled by the landowner and are working to verify that with the VSS. Updated information on these two locations will be included in the amended Karst Survey Report.

Based on consultation with WVaSS, the ACP workspace is at least 300 feet above the highest ceiling in the cave, which is 20-ft high at one of the three intersection points. In addition, even though the cave is developed in the relatively flat-lying limestone beds of the Greenbrier Formation, the area where the workspace crosses the cave is mapped as the overlying Bluefield Formation, which is primarily composed of shale bedrock alternating with thin layers of sandstone and limestone. Thus, the shale faces in the Bluefield would act as aquicludes (water-blocking layers), and it is unlikely that any of the open passages or solution enlarged fractures of Canis Majoris Cave extend upward into and/or through the capping stratum of the Bluefield Formation.

Construction Monitoring

9. *Geophysical survey*

- *We are pleased to see that Electrical Resistivity investigations are planned for use in limestone areas prior to earth-disturbing activities. If possible, this should be conducted prior to vegetative clearing (at least in areas where the potential for underground passages exists and/or in areas identified as high risk via desktop and/or field surveys).*

ERI can be performed in areas where clearing is not necessary (i.e. pasture land, row crop fields, open-substory forest, etc), however in heavily forested areas it is not feasible to perform ERIs in a time-efficient manner.

- *The use ground-penetrating radar [GPR] also should be considered in conjunction with ERT in high-risk areas prior to ground disturbance (Carriere et. al. 2013, Journal of Applied Geophysics 94:31-41), or provide justification for why the combined technology would not provide a better picture of the karst features underlying the trench/construction in these high-risk areas.*

GPR has been used successfully to detect cavernous voids beneath slabs, paved areas and in granular, sandy soils, however GPR is extremely limited for use in karst geology in undeveloped areas as it depends on the efficient transmission of microwave IR-radiation, which is almost completely absorbed by moist, clay-rich soils. The soils throughout most of the ACP alignment are not amenable to this method.

10. *Inspection Protocols: Pre-construction Inspection (p.11)*

- *“The KS will inspect the entire section of the pipeline ROW in the designated work area and note any suspect karst features ...” This needs to be completed as part of the current survey and included in the report so that such areas can be avoided in the planning phase; ground-penetrating radar or something similar also should be used in this area to identify any features not evident from a visual surface inspection. For those areas near FS lands that cannot be surveyed due to a lack of landowner permission, that inspection should be completed as soon as surveyors can access the area so that the features and their subsurface extent can be identified and avoided prior to the onset of construction in the area.*

As specified in the karst plan, the KS will inspect all areas of the ROW prior to any land disturbance. Atlantic has completed field surveys of areas near FS lands which will be included in a future update to the Karst Survey Report.

- *c) "...potential impact to the feature by the planned activities, and recommendations to limit impacts if they are expected..." Recommendations should be to avoid impacts first and then minimize impacts to the maximum extent practicable if they cannot be avoided.*

The Karst Plan includes the necessary guidance to avoid impacts to karst features and in the event avoidance is not possible to minimize impacts. Avoidance and minimization are the standard protocol for habitat and resource protection.

11. *Inspection Protocols: Monitoring of Features that are intercepted during Construction*

- *While we expect that all sensitive karst features will have been identified and avoided prior to the onset of construction, we are glad to see that observation of any previously unidentified features during construction will result in an immediate work stoppage. Please ensure that a KS will be onsite during excavation of all areas on karst topography.*

Atlantic will have a KS onsite during excavation in the surveyed karst area.

- *b) "If the feature is determined to have potential impact to the subterranean environment, the KS will advise Atlantic/DTI staff regarding appropriate remedial actions." The appropriate remedial actions should be specified prior to approval of the plan (at least in general/categorical terms).*

Karst feature mitigation/remediation is not "formulaic", and has to be customized for each feature. However the karst mitigation plan contains general protocols and plans for remedial actions.

- *d) Although we expect that features will not be intercepted, we are pleased with the plan to monitor and remediate in years 1, 2, and 5 in the unlikely event that interception occurs. Results for any sites on or affecting National Forest land must be provided to the Forest Service promptly upon completion of each iteration of monitoring.*

All pertinent regulatory agencies, including the USFS, will be notified.

Karst Mitigation and Conservation Procedures

12. *Measures to Avoid Impact to the Karst Aquifer and Environment. As avoidance of sensitive areas is always a primary goal (before minimization and then mitigation), this section should be located before the Construction Monitoring section.*

- *The 300' buffers around karst features noted here is critical to protection of features. However, the report does not state whether any types of activities would occur within the buffers. Please confirm that no activities would occur in the buffers, or explain any activities that may be allowed within the buffers and specify limitations.*

If a karst feature or its 300-ft buffer falls within the 125-ft wide workspace the following steps will be taken:

- a. The workspace will be narrowed (if practicable) to impact as little of the buffer as possible.
 - b. No spraying of insecticides or herbicides shall be allowed within the 300-ft buffer.
 - c. No refueling, repair or maintenance of vehicle or equipment shall be allowed within the 300-ft buffer.
 - d. Soil disturbance within the buffer (i.e. trenching) shall be performed in a manner which prevents sediment from entering the subsurface through the use of carefully designed and continuously maintained sediment and erosion control measures.
 - e. If the karst feature is located downgradient from the area of soil disturbance, drainage shall be directed away from the karst feature and its 300-ft buffer through the use of diversion trenches, water-breaks, or other engineered methods. This shall apply even if the feature itself is located outside of the 125-ft workspace, but the workspace intercepts the 300' buffer.
 - f. No activity of any kind shall be allowed within the parapet of a sinkhole or within a 25-ft buffer around the parapet. The sinkhole and the 25-ft parapet buffer should be delineated using temporary fencing.
- *If any caves on or near National Forest land (with potential subsurface connections) having the potential to provide bat habitat are located within 1 mile of proposed blasting activity, use data loggers or other approved techniques to monitor those caves before, during and after activities to ensure that microclimate conditions (e.g., humidity/temperature profiles) within the cave do not change.*

Monitoring within a 1-mile distance for blasting is not necessary or consistent with useful protocols. Referencing the U. S. Department of the Interior-Office of Surface Mining Publication, Bulletin 656: "Blasting Vibrations and their Effects on Structures" it states: *"Vibration levels of different blasts may be compared at common scaled distances, where scaled distance is the distance divided by the square root of the maximum charge weight per delay. Geology, rock type, and direction affect vibration level within limits. **Empirically, a safe blasting limit based on a scaled distance of 50 ft/lb^{1/2} may be used without instrumentation.**"*

Similarly, the Washington Metro Area Transportation Authority (WMATA) blasting protocols developed to protect the integrity of the subway tunnels of the Washington Metro system states: *"Blasting shall not occur within 100 feet of WMATA structures without prior approval of WMATA, and unless test blasting that generates a particle velocity-scaled distance relationship indicates that peak particle velocity (PPV) measured at the minimum separation distance between the WMATA structure and proposed blasting locations shall not exceed 2.0 inches per second. (See U.S. Army Corps of Engineers ETL 1110-1-142, Engineering and Design – Blasting Vibration Damage and Noise Prediction and Control, available from www.usace.army.mil). A blast-monitoring program shall be provided to verify compliance."*

Site specific blasting plans will be developed for areas with caves on FS lands which will be submitted to the FS for review.

Although relatively little research has been done, the available literature suggests that bats are generally not disturbed by low-level vibrations due to blasting near hibernacula. One study of an Indiana bat hibernaculum in New York suggests vibration levels measured at the entrance to

hibernacula at 0.2 inch/second did not disturb Indiana bats (Besha, 1984). Furthermore, bats are often protected within the cave environment from ground-level disturbances. Underground measurements at bat roost locations in Hellhole Cave, West Virginia suggested that vibrations where bats roosted were 1.33 to 2.76 less than surface measurements (West Virginia Department of Environmental Protection WVDEP, 2006). Blasting associated with ACP construction will be significantly less than blasting associated with the quarrying or construction operations in the literature. No negative long-term population effects are expected due to blasting. Blasting will be conducted in a manner that will not compromise the structural integrity or alter the karst hydrology of known or inferred subsurface karst structures.

Atlantic appreciates the comments from the USFS and looks forward to continuing to work with you on the ACP. Please contact Richard B. Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com if there are questions regarding this report.

Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

Cc:

Jennifer Adams, Special Projects Coordinator, U.S. Forest Service
Richard B. Gangle, Dominion Resources Services, Inc.



February 3, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Clyde Thompson, Forest Supervisor
U.S. Forest Service
Monongahela National Forest
Forest Supervisor's Office
200 Sycamore Street
Elkins, WV 26241

**RE: Atlantic Coast Pipeline, LLC, Atlantic Coast Pipeline
Monongahela National Forest
Application for Amendment to Special Use Authorization for Survey Activities**

Dear Mr. Thompson:

Atlantic Coast Pipeline, LLC (Atlantic) - a joint venture comprised of subsidiaries of Dominion Resources, Duke Energy, Piedmont Natural Gas, and Southern Company Gas - is proposing to construct and operate approximately 600 miles of natural gas transmission pipeline and associated laterals in West Virginia, Virginia, and North Carolina. This project, referred to as the Atlantic Coast Pipeline (ACP), will deliver natural gas from supply areas, including West Virginia, to demand areas in Virginia and North Carolina. Atlantic has contracted with Dominion Transmission, Inc. (from this point on DTI will be referred to as Atlantic) to permit and oversee the construction of the ACP and subsequently to operate and maintain Atlantic's facilities.

Atlantic filed an application with the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act. The ACP is subject to review by FERC under the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), as well as other environmental and natural resource laws. Atlantic is currently conducting field routing, environmental, cultural resources, and civil surveys along the planned pipeline route to collect information needed by FERC and other regulatory agencies to review and permit the ACP.

Approximately 5.2 miles of the proposed ACP route crosses lands under the jurisdiction of the U.S. Forest Service within the Monongahela National Forest (MNF) (Marlinton Ranger District)¹. Atlantic has applied for and received a permit (Permit No. MAR205001) under the U.S. Forest Service's (USFS's) Special Use Authorization regulations (36 CFR Part 251, Subpart B) for the purpose of conducting feasibility studies (i.e., use codes 411 and 412) within a corridor along this segment of the route². We are requesting an amendment to the permit to extend the applicable time period to, where necessary, conduct and complete the stated activities under this permit. Atlantic has prepared the attached Standard Form 299 *Application for Transportation and Utility Systems and Facilities on Federal Lands*. The Form 299 identifies Atlantic's proposed studies, and provides detailed route maps depicting the study corridor across the MNF. Atlantic has previously submitted a digital shape file of the study corridor associated with this request.

¹ The proposed ACP route also crosses the George Washington National Forest for approximately 15.9 miles.

² Atlantic is today also submitting an application to amend its feasibility study permit on the George Washington National Forest. Also, on October 20, 2016 Atlantic submitted an SF-299 application to conduct subsurface geotechnical investigations on the GWNF, and on November 12, 2015 submitted an Application for Transportation and Utility Systems and Facilities on Federal Lands for authorization to construct and operate its proposed Atlantic Coast Pipeline on National Forest Service lands. The latter application was amended on July 29, 2016 to incorporate various route changes.

Atlantic is requesting to amend its existing special use permit to complete activities such as environmental, cultural resources, and civil surveys along a 300-foot-wide survey corridor within the proposed study areas. Additionally, depending on the results of the environmental survey and consultation with USFS and U.S. Fish and Wildlife Service (FWS) biologists, presence/absence surveys for certain species may be required. These surveys are necessary to collect the environmental and cultural resources data needed to support permitting of the ACP, and to record the proposed centerline and other features using global positioning satellite (GPS) receivers.

Atlantic understands that a separate permit under the Archaeological Resources Protection Act (ARPA), in addition to the special use permit, will be required for the cultural resources survey on USFS lands. Atlantic's archaeological consultant (GAI) applied for and received an ARPA permit for the study area and will apply for an amendment to their ARPA permit under separate cover as necessary.

The proposed methodology for each survey is described below.

Planning Permit Activities

Environmental Survey

Atlantic's consultant will complete as needed wetland and waterbody delineation surveys to identify and record the jurisdictional boundaries of "waters of the United States" and to assess the values and functions of those waters. Fieldwork will be completed by up to three crews consisting of 2 to 3 biologists each performing pedestrian reconnaissance within the 300-foot-wide survey corridor. The biologists will navigate the survey corridor by following stakes or flags placed by civil survey crews.

To delineate and map wetlands, biologists will document visual observations of vegetation composition, hydrology, and soils at selected sample locations, and take pictures of notable observations, including but not limited to, biological characteristics of wetlands, adjacent waterbodies, and adjacent uplands. To observe soil conditions, the biologists will use a 3-inch Dutch auger or tile spade to dig a soil pit to a depth of approximately 16 to 20 inches and a width of 3 to 10 inches sufficient to identify the presence or absence of hydric soil indicators and/or soil saturation. Soil pits will be dug in locations with apparent wetland characteristics (i.e., saturation, inundation, or hydrophytic vegetation), in areas adjacent to identified wetlands to confirm upland characteristics, and along the wetland boundary to verify accurate delineation of the wetland boundary in accordance with the U.S. Army Corps of Engineers' wetland delineation protocols (i.e., the 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region). Spoil excavated from the soil pits will be replaced and packed by foot with vegetation replaced prior to leaving each sample location.

Once the wetland boundary has been established, biologists will record the boundary location using map-grade GPS capable of obtaining sub-meter accurate readings, and hang biodegradable survey ribbon around the perimeter of the wetland within the survey corridor. Ribbon will be tied to available vegetation, where present. No ribbon will be placed where vegetation is not available.

To document and map waterbodies, biologists will record observations and take representative photographs of the physical and biological characteristics of ephemeral, intermittent, and perennial waterbodies. One flag will be tied on each bank of the crossing along the pipeline centerline. The ordinary high water mark of waterbodies within the survey corridor will be located using map-grade GPS receivers capable of obtaining sub-meter accurate readings.

In addition to the demarcation of surface waters, biologists will assess the values and functions of wetlands and waterbodies by documenting visual observations of the physical, chemical, and biological

integrity of each feature on data forms. The biologists will rely on non-invasive inspections in the field (e.g., use of field guides and dichotomous keys) and will not collect specimens of the flora or fauna for identification.

In conjunction with the wetland and waterbody delineation surveys, the biologists will document habitat composition within and directly adjacent to the survey corridor. This survey will identify potentially suitable habitat for sensitive species, including federally listed threatened and endangered species known to occur in the vicinity of the survey corridor. Locations of potentially suitable habitat will be recorded using map-grade GPS receivers capable of sub-meter accurate readings. No flora or fauna will be collected while conducting this survey.

Data from the habitat survey will be used in conjunction with consultations with USFS and FWS biologists to determine if presence/absence surveys (e.g., mist net surveys for federally listed bats) are required for any individual species and to focus those surveys in areas with a likelihood of occurrence. Atlantic will coordinate with USFS and FWS biologists to determine the appropriate methodology for conducting presence/absence surveys prior to completing these investigations.

As part of the assessment of habitat composition, biologists will document any populations of invasive weed species that occur within the survey corridor. Locations of noxious weed species will be recorded using map-grade GPS receivers capable of sub-meter accurate readings. Data from this survey will be used to identify appropriate methods for preventing the spread of noxious weeds during construction.

Cultural Resources Survey

Atlantic's consultant will conduct cultural resources surveys as needed to document archaeological sites and other historic resources. Fieldwork will be conducted by up to three crews of 3 to 5 archaeologists each performing pedestrian reconnaissance and shovel testing within the 300-foot-wide survey corridor. The field methodology, data recording, and documentation efforts will meet all state and federal guidelines for Section 106 compliance, including those in accordance with GWNF approved protocols.

The entire length of the survey corridor will be subjected to visual inspection via pedestrian reconnaissance. Subsurface testing methods will vary according to the probability that archaeological resources are present in any given area. Detailed methodologies will be provided in the GAI ARPA permit application.

In some cases, additional (Phase II) testing may be necessary to determine the NRHP eligibility of sites. The methodology for site testing (e.g., unit excavation) will depend on the size and extent of cultural deposits at each site. Atlantic will coordinate with USFS archaeologists and the Virginia Department of Historic Resources (VDHR) to determine appropriate methods at each site prior to completing additional testing.

Survey/testing results will be documented in Technical Reports for review by the USFS, FERC, WVDCH, and VDHR. Any artifacts recovered from survey or site testing within the MNF or GWNF will be curated as directed by the USFS.

Civil Survey

Atlantic's consultant will conduct a civil survey to document the centerline and other features along the route. Fieldwork will be conducted by up to three crews consisting of 3 or 4 land surveyors each. The crews will utilize sub-meter accurate GPS units, survey grade GPS or conventional survey equipment to collect data points along a 200-foot-wide survey corridor centered on the centerline.

As the survey crews traverse the pipeline route, minor amounts of vegetation will be brushed using hand tools to provide line of site and a travel path for survey equipment. Brush cutting will be limited to saplings or limbs less than 2 inches in diameter. The survey crews will traverse the brushed centerline collecting data points for the centerline and major crossing features such as fences, streams, utilities, roads, access roads, occupation lines, property lines, and land use lines. Data also will be collected on physical features such as elevation break points, buildings, delineated wetland points, wells, land features, and any miscellaneous obstructions within the survey corridor.

PK nails with paint markings will be placed on the edges and centerlines of roadways to identify the pipeline crossing location. PIs along the planned pipeline centerline will be recorded and marked with a spike nail and whiskers or biodegradable surveyor flagging. Flagging or plastic pin flags will be left along the proposed pipeline centerline at line of sight intervals to mark the centerline for future viewing by other groups such as permitting agencies. Flagging may be placed near any identified property corners within 200 feet of the centerline.

Access to the Survey Corridor

Atlantic and its consultants will access the survey corridor along the route in the MNF from public roads and approximately 11.1 miles of USFS roads. The USFS roads are listed in the table below.

USFS Access Roads		
USFS Road No.	Road Name(s)	~ Length (miles)
1026	Buzzard Ridge/Knob Dr.	5.5
1012	Sugar Camp	2.8
55	Allegheny/Pub Rd 55	2.8
Total		11.1

Survey crews will park vehicles along the sides of roads near the work area or as directed by the USFS. In general, vehicles will be parked near the beginning and planned ending point for survey each day. All vehicles will have a placard on the dashboard identifying the vehicle as part of the ACP and providing a contact phone number. All crewmembers will carry a photo identification to identify them as part of the ACP.

Schedule

Atlantic expects that a majority of the field surveys will be completed in the spring of 2017, though some follow-up survey (e.g., presence/absence surveys for certain species) may be required in the summer or fall of 2017.

Cost Recovery

Atlantic has established a cost recovery account with the USFS for the ACP. Costs incurred by the MNF for the processing of this application should be charged to the cost recovery account.

Atlantic looks forward to continuing to work with you on this project. Please contact Mr. Richard Gangle at (804) 273-2814, if there are questions regarding this application. Please direct written responses to:

Richard Gangle

Energy Infrastructure Environmental Services
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

Attachments:

- Standard Form 299, *Application for Transportation and Utility Systems and Facilities on Federal Lands*
- Topographic Map depicting the Proposed Study Corridor on USFS lands within the Monongahela National Forest (with Management Prescription Units) – Color

cc: Jennifer Adams, Project Coordinator, U.S. Forest Service
Todd Hess, Reality Specialist / Special Use Manager, Monongahela National Forest
Kent Karriker, Ecosystems Group Leader, Monongahela National Forest
Richard Gangle, Dominion Resources Services, Inc.

APPLICATION FOR TRANSPORTATION AND
 UTILITY SYSTEMS AND FACILITIES
 ON FEDERAL LANDS

FORM APPROVED
 OMB Control Number: 0596-0082
 Expiration Date: 10/31/2012

FOR AGENCY USE ONLY

Application Number

Date Filed

3. Telephone (area code)

Applicant
 804-771-4468

Authorized Agent
 804-273-2814

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

1. Name and address of applicant (include zip code)

Atlantic Coast Pipeline, LLC
 c/o Leslie Hartz
 707 East Main Street
 Richmond, Virginia 23219

2. Name, title, and address of authorized agent if different from item 1 (include zip code)

Dominion Transmission, Inc.
 c/o Richard Gangle
 5000 Dominion Boulevard
 Glen Allen, VA 23060

4. As applicant are you? (check one)

- a. Individual
- b. Corporation*
- c. Partnership/Association*
- d. State Government/State Agency
- e. Local Government
- f. Federal Agency

* If checked, complete supplemental page

5. Specify what application is for: (check one)

- a. New authorization
- b. Renewing existing authorization No.
- c. Amend existing authorization No.
- d. Assign existing authorization No.
- e. Existing use for which no authorization has been received *
- f. Other*

* If checked, provide details under item 7

6. If an individual, or partnership are you a citizen(s) of the United States? Yes No

7. Project description (describe in detail): (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (Length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (Attach additional sheets, if additional space is needed.)

Atlantic Coast Pipeline, LLC - a company formed by four major U.S. energy companies - Dominion Resources, Inc., Duke Energy Corporation, Piedmont Natural Gas Co., Inc., and Southern Company Gas - is proposing to construct and operate approximately 600 miles of natural gas transmission pipeline and associated laterals in West Virginia, Virginia, and North Carolina. This project, referred to as the Atlantic Coast Pipeline (ACP), will deliver natural gas from supply areas in the Appalachian region, including West Virginia, to demand areas in Virginia and North Carolina. Dominion Transmission, Inc. (DTI) will build and operate the ACP on behalf of Atlantic. Atlantic is seeking renewal of Permit No. MAR205001 to continue routing, environmental, cultural resources and civil surveys where the planned pipeline route crosses the MNF.

Approximately 5.4 miles of the proposed route will cross lands under the jurisdiction of the U.S. Forest Service within the Monongahela National Forest (Marlinton Ranger District). Additional information about the proposed survey activities is included in the cover letter to this application.

8. Attach a map covering area and show location of project proposal

9. State or Local government approval: Attached Applied for Not Required

10. Nonreturnable application fee: Attached Not required

11. Does project cross international boundary or affect international waterways? Yes No (if "yes," indicate on map)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

DTI maintains 7,800 miles of natural gas pipeline in six states — Ohio, West Virginia, Pennsylvania, New York, Maryland and Virginia, and stores and transports large quantities of natural gas for large customers, such as major utilities and power plants. The company has significant experience in the design, construction, ownership, and operation of large, long-term pipeline projects requiring significant capital investment. DTI also operates one of the largest underground natural gas storage systems in the United States with links to other major pipelines and to markets in the Midwest, Mid-Atlantic and Northeast regions of the United States.

13a. Describe other reasonable alternative routes and modes considered.

Atlantic has included analyses of other reasonable alternatives to the crossing of National Forest lands in its application to the FERC for a Certificate of Public Convenience and Necessity for the proposed ACP (Exhibit F-1, Resource Report 10), filed on September 18, 2015, and in a subsequent data response to the FERC filed on February 16, 2016.

b. Why were these alternatives not selected?

See response provided in Atlantic's application and data response to the FERC as referenced in 13a above.

c. Give explanation as to why it is necessary to cross Federal Lands.

Federal lands extend continuously along the Appalachian Range in VA and WV and are oriented perpendicular to any reasonable path between the proposed pipeline's receipt and delivery points (Harrison County WV, to southeastern VA and NC). Consequently, avoidance of Federal lands is not feasible.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

Atlantic filed an application to the FERC for a Certificate of Public Convenience and Necessity for the proposed ACP on September 18, 2015.

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

The ACP will provide natural gas from supply areas in the Appalachian region to demand areas in Virginia and North Carolina. This application is for survey activities only. Information on the ACP's economic feasibility is provided in its Application for a Certificate of Public Convenience and Necessity, filed with the FERC on September 18, 2015.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

No effects are anticipated. This application is for survey activities only.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

No effects are anticipated. This application is for survey activities only.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

No effects are anticipated. This application is for survey activities only.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities.

"Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

No hazardous materials as defined herein will be utilized, produced, transported or stored on USFS lands during the proposed survey activities.

20. Name all the Department(s)/Agency(ies) where this application is being filed.

Monongahela National Forest.

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date

2/2/17

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved right-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture
Regional Forester, Forest Service (USFS)
Federal Office Building,
P.O. Box 21628
Juneau, Alaska 99802-1628
Telephone: (907) 586-7847 (or a local Forest Service Office)

Department of the Interior
Bureau of Indian Affairs (BIA)
Juneau Area Office
Federal Building Annex
9109 Mendenhall Mall Road, Suite 5
Juneau, Alaska 99802
Telephone: (907) 586-7177

Department of the Interior
Bureau of Land Management
222 West 7th Avenue
P.O. Box 13
Anchorage, Alaska 99513-7599
Telephone: (907) 271-5477 (or a local BLM Office)

U.S. Fish & Wildlife Service (FWS)
Office of the Regional Director
1011 East Tudor Road
Anchorage, Alaska 99503
Telephone: (907) 786-3440

National Park Service (NPA)
Alaska Regional Office, 2225
Gambell St., Rm. 107
Anchorage, Alaska 99502-2892
Telephone: (907) 786-3440

Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Office, P.O. Box 120, 1675 C Street, Anchorage, Alaska 9513.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7587
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS
(Items not listed are self-explanatory)

- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9, 10, and 12 The responsible agency will provide additional instructions.
- 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certification for the use of Federal lands. The Federal agencies use this information to evaluate the applicant's proposal. The public is obligated to submit this form if they wish to obtain permission to use Federal lands.

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
I - PRIVATE CORPORATIONS	ATTACHED	FILED*
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input type="checkbox"/>	<input type="checkbox"/>

*If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

NOTICES

Note: This applies to the Department of Agriculture/Forest Service (FS)

This information is needed by the Forest Service to evaluate the requests to use National Forest System lands and manage those lands to protect natural resources, administer the use, and ensure public health and safety. This information is required to obtain or retain a benefit. The authority for that requirement is provided by the Organic Act of 1897 and the Federal Land Policy and Management Act of 1976, which authorize the secretary of Agriculture to promulgate rules and regulations for authorizing and managing National Forest System lands. These statutes, along with the Term Permit Act, National Forest Ski Area Permit Act, Granger-Thye Act, Mineral Leasing Act, Alaska Term Permit Act, Act of September 3, 1954, Wilderness Act, National Forest Roads and Trails Act, Act of November 16, 1973, Archeological Resources Protection Act, and Alaska National Interest Lands Conservation Act, authorize the Secretary of Agriculture to issue authorizations or the use and occupancy of National Forest System lands. The Secretary of Agriculture's regulations at 36 CFR Part 251, Subpart B, establish procedures for issuing those authorizations.

BURDEN AND NONDISCRIMINATION STATEMENTS

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average 8 hours hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720- 2600 (voice and TDD).


To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.



Monongahela National Forest

Pipeline Route

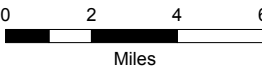
-  Main Line
-  Lateral

 Study Corridor

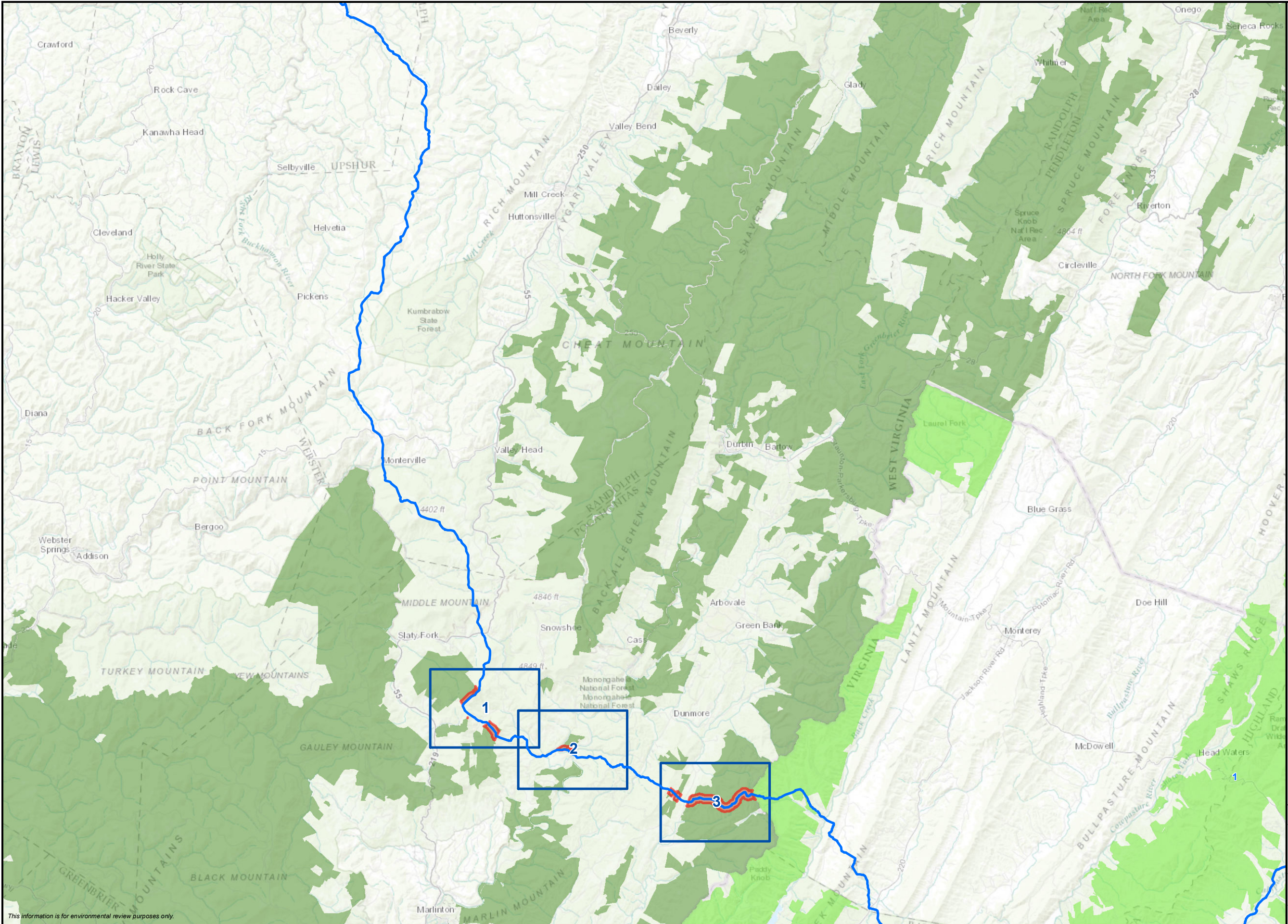
National Forest Land

-  Monongahela
-  George Washington

 Study Area



1:283,273

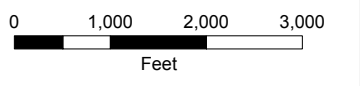
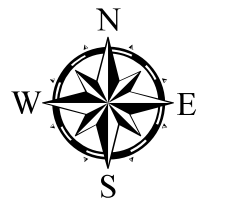


This information is for environmental review purposes only.

Monongahela National Forest

Sheet 1 of 3

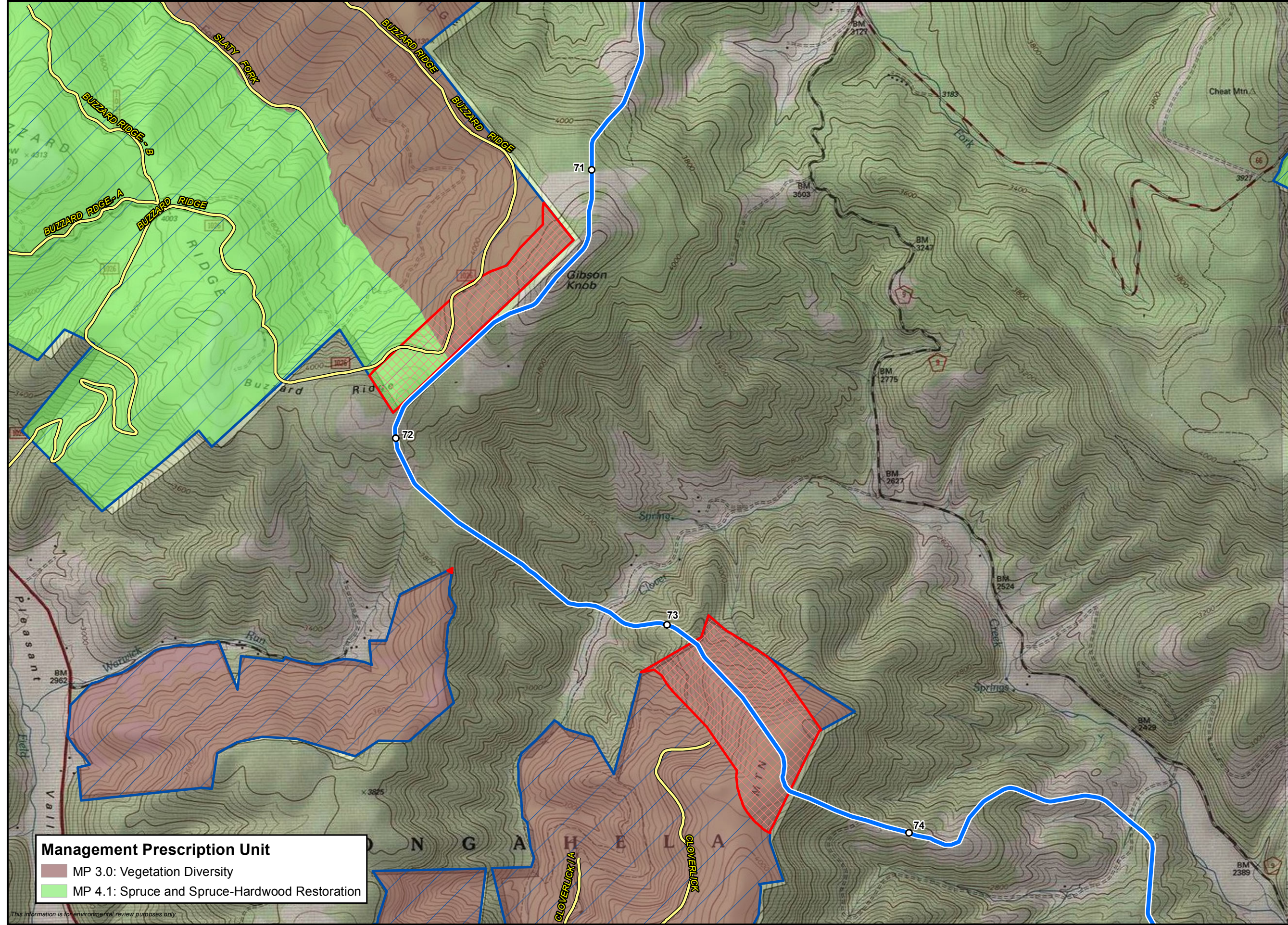
- Milepost
- ▬ Pipeline
- ▨ 2,000 Ft. Study Corridor
- ▬ Forest Road
- ▭ Monongahela National Forest
- ▭ State Boundary
- ▭ County Boundary



1:24,000



Management Prescription Unit	
▭ (Brown)	MP 3.0: Vegetation Diversity
▭ (Green)	MP 4.1: Spruce and Spruce-Hardwood Restoration

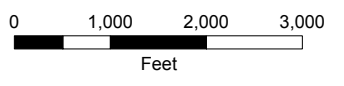
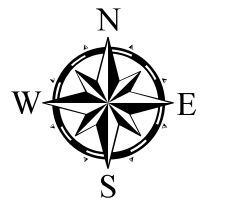


This information is for environmental review purposes only.

Monongahela National Forest

Sheet 2 of 3

- Milepost
- ▬ Pipeline
- ▨ 2,000 Ft. Study Corridor
- ▬ Forest Road
- ▭ Monongahela National Forest
- ▭ State Boundary
- ▭ County Boundary

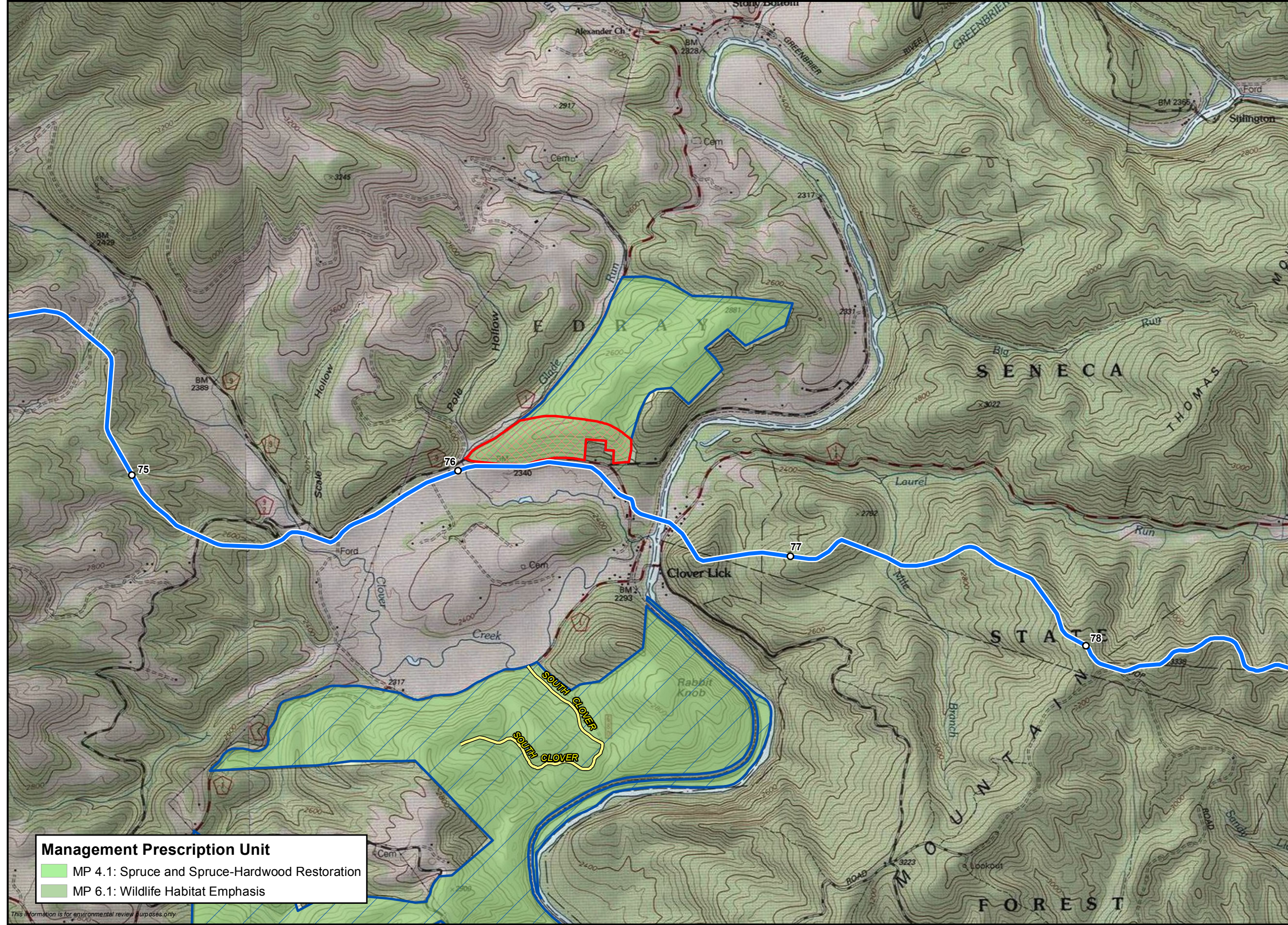


1:24,000



Management Prescription Unit

- MP 4.1: Spruce and Spruce-Hardwood Restoration
- MP 6.1: Wildlife Habitat Emphasis

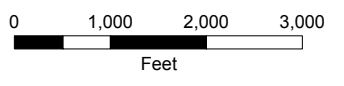
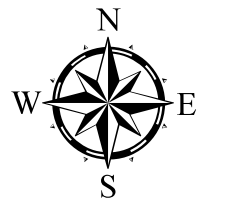


This information is for environmental review purposes only.

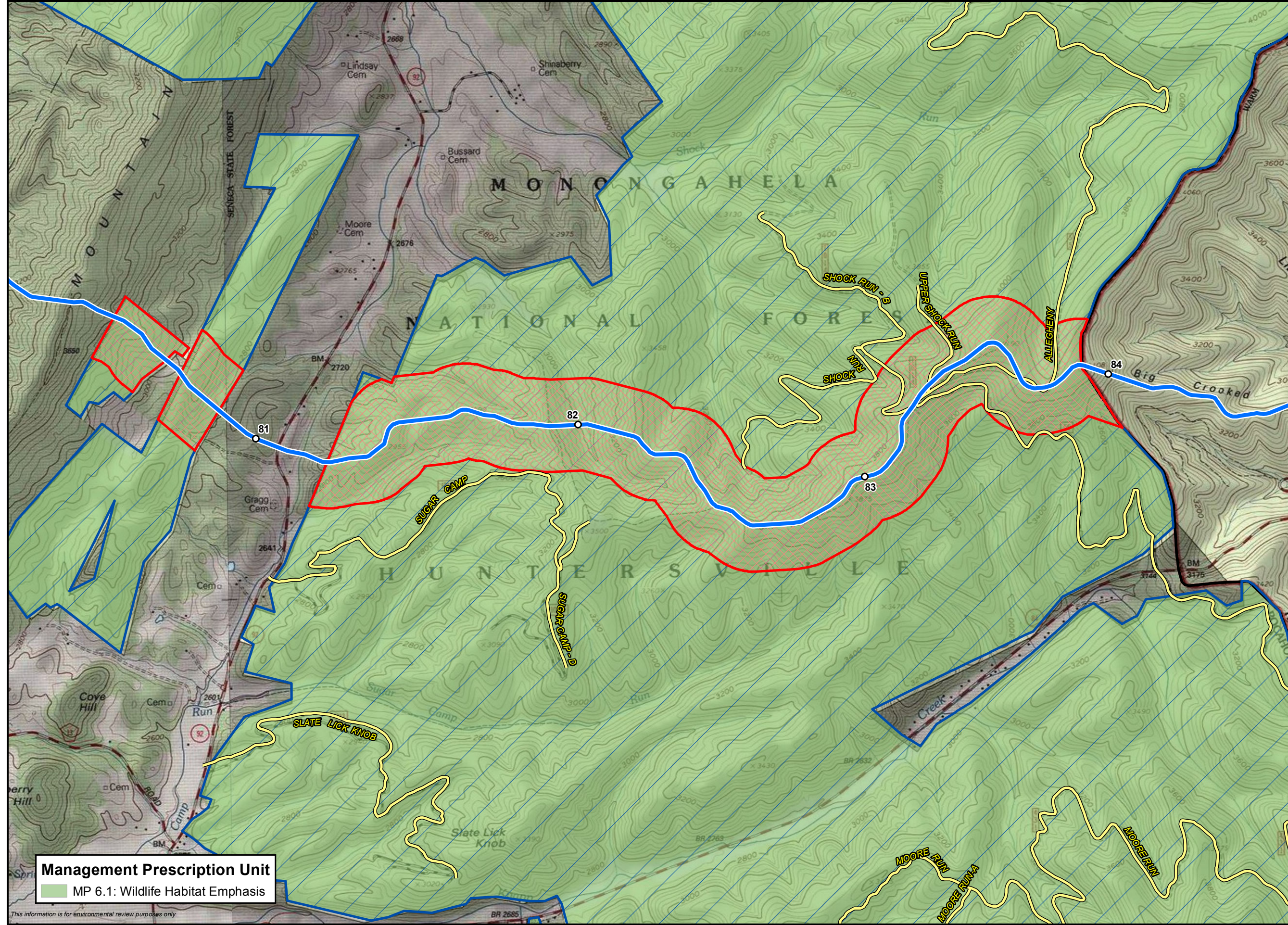
Monongahela National Forest

Sheet 3 of 3

- Milepost
- ▬ Pipeline
- ▨ 2,000 Ft. Study Corridor
- ▬ Forest Road
- ▭ Monongahela National Forest
- ▭ State Boundary
- ▭ County Boundary



1:24,000



Management Prescription Unit
MP 6.1: Wildlife Habitat Emphasis

This information is for environmental review purposes only.

U.S. Forest Service – George Washington National Forest



February 3, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Joby P. Timm, Forest Supervisor
U.S. Forest Service
George Washington National Forest
Forest Supervisor's Office
5162 Valleypointe Parkway
Roanoke, VA 24019

**RE: Atlantic Coast Pipeline, LLC, Atlantic Coast Pipeline
George Washington National Forest
Application for Amendment to Special Use Authorization for Survey Activities**

Dear Mr. Timm:

Atlantic Coast Pipeline, LLC (Atlantic) - a joint venture comprised of subsidiaries of Dominion Resources, Duke Energy, Piedmont Natural Gas, and Southern Company Gas - is proposing to construct and operate approximately 600 miles of natural gas transmission pipeline and associated laterals in West Virginia, Virginia, and North Carolina. This project, referred to as the Atlantic Coast Pipeline (ACP), will deliver natural gas from supply areas, including West Virginia, to demand areas in Virginia and North Carolina. Atlantic has contracted with Dominion Transmission, Inc. (from this point on DTI will be referred to as Atlantic) to permit and oversee the construction of the ACP and subsequently to operate and maintain Atlantic's facilities.

Atlantic filed an application with the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act. The ACP is subject to review by FERC under the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), as well as other environmental and natural resource laws. Atlantic is currently conducting field routing, environmental, cultural resources, and civil surveys along the planned pipeline route to collect information needed by FERC and other regulatory agencies to review and permit the ACP.

Approximately 15.9 miles of the proposed ACP route crosses lands under the jurisdiction of the U.S. Forest Service within the George Washington National Forest (GWNF) (Warm Springs, North River, and Glenwood & Pedlar Ranger Districts)¹. Atlantic has applied for and received a permit (Permit No. GWP433202T) under the U.S. Forest Service's (USFS's) Special Use Authorization regulations (36 CFR Part 251, Subpart B) for the purpose of conducting feasibility studies (i.e., use codes 411 and 412) within a corridor along this segment of the route². We are requesting an amendment to the permit to extend the applicable time period to, where necessary, conduct and complete the stated activities under this permit. Atlantic has prepared the attached Standard Form 299 *Application for Transportation and Utility Systems and Facilities on Federal Lands*. The Form 299 identifies Atlantic's proposed studies, and provides detailed route maps depicting the study corridor across the GWNF. Atlantic has previously submitted a digital shape file of the study corridor associated with this request.

¹ The proposed ACP route also crosses the Monongahela National Forest for approximately 5.2 miles.

² Atlantic is today also submitting an application to amend its feasibility study permit on the Monongahela National Forest. Also, on October 20, 2016 Atlantic submitted an SF-299 application to conduct subsurface geotechnical investigations on the GWNF, and on November 12, 2015 submitted an Application for Transportation and Utility Systems and Facilities on Federal Lands for authorization to construct and operate its proposed Atlantic Coast Pipeline on National Forest Service lands. The latter application was amended on July 29, 2016 to incorporate various route changes.

Atlantic is requesting to amend its existing special use permit to complete activities such as environmental, cultural resources, and civil surveys along a 300-foot-wide survey corridor within the proposed study areas. Additionally, depending on the results of the environmental survey and consultation with USFS and U.S. Fish and Wildlife Service (FWS) biologists, presence/absence surveys for certain species may be required. These surveys are necessary to collect the environmental and cultural resources data needed to support permitting of the ACP, and to record the proposed centerline and other features using global positioning satellite (GPS) receivers.

Atlantic understands that a separate permit under the Archaeological Resources Protection Act (ARPA), in addition to the special use permit, will be required for the cultural resources survey on USFS lands. Atlantic's archaeological consultant (GAI) applied for and received an ARPA permit for the study area and will apply for an amendment to their ARPA permit under separate cover as necessary.

The proposed methodology for each survey is described below.

Planning Permit Activities

Environmental Survey

Atlantic's consultant will complete as needed wetland and waterbody delineation surveys to identify and record the jurisdictional boundaries of "waters of the United States" and to assess the values and functions of those waters. Fieldwork will be completed by up to three crews consisting of 2 to 3 biologists each performing pedestrian reconnaissance within the 300-foot-wide survey corridor. The biologists will navigate the survey corridor by following stakes or flags placed by routing or civil survey crews.

To delineate and map wetlands, biologists will document visual observations of vegetation composition, hydrology, and soils at selected sample locations, and take pictures of notable observations, including but not limited to, biological characteristics of wetlands, adjacent waterbodies, and adjacent uplands. To observe soil conditions, the biologists will use a 3-inch Dutch auger or tile spade to dig a soil pit to a depth of approximately 16 to 20 inches and a width of 3 to 10 inches sufficient to identify the presence or absence of hydric soil indicators and/or soil saturation. Soil pits will be dug in locations with apparent wetland characteristics (i.e., saturation, inundation, or hydrophytic vegetation), in areas adjacent to identified wetlands to confirm upland characteristics, and along the wetland boundary to verify accurate delineation of the wetland boundary in accordance with the U.S. Army Corps of Engineers' wetland delineation protocols (i.e., the 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region). Spoil excavated from the soil pits will be replaced and packed by foot with vegetation replaced prior to leaving each sample location.

Once the wetland boundary has been established, biologists will record the boundary location using map-grade GPS capable of obtaining sub-meter accurate readings, and hang biodegradable survey ribbon around the perimeter of the wetland within the survey corridor. Ribbon will be tied to available vegetation, where present. No ribbon will be placed where vegetation is not available.

To document and map waterbodies, biologists will record observations and take representative photographs of the physical and biological characteristics of ephemeral, intermittent, and perennial waterbodies. One flag will be tied on each bank of the crossing along the pipeline centerline. The ordinary high water mark of waterbodies within the survey corridor will be located using map-grade GPS receivers capable of obtaining sub-meter accurate readings.

In addition to the demarcation of surface waters, biologists will assess the values and functions of wetlands and waterbodies by documenting visual observations of the physical, chemical, and biological

integrity of each feature on data forms. The biologists will rely on non-invasive inspections in the field (e.g., use of field guides and dichotomous keys) and will not collect specimens of the flora or fauna for identification.

In conjunction with the wetland and waterbody delineation surveys, the biologists will document habitat composition within and directly adjacent to the survey corridor. This survey will identify potentially suitable habitat for sensitive species, including federally listed threatened and endangered species known to occur in the vicinity of the survey corridor. Locations of potentially suitable habitat will be recorded using map-grade GPS receivers capable of sub-meter accurate readings. No flora or fauna will be collected while conducting this survey.

Data from the habitat survey will be used in conjunction with consultations with USFS and FWS biologists to determine if presence/absence surveys (e.g., mist net surveys for federally listed bats) are required for any individual species and to focus those surveys in areas with a likelihood of occurrence. Atlantic will coordinate with USFS and FWS biologists to determine the appropriate methodology for conducting presence/absence surveys prior to completing these investigations.

As part of the assessment of habitat composition, biologists will document any populations of invasive weed species that occur within the survey corridor. Locations of noxious weed species will be recorded using map-grade GPS receivers capable of sub-meter accurate readings. Data from this survey will be used to identify appropriate methods for preventing the spread of noxious weeds during construction.

Cultural Resources Survey

Atlantic's consultant will conduct cultural resources surveys as needed to document archaeological sites and other historic resources. Fieldwork will be conducted by up to three crews of 3 to 5 archaeologists each performing pedestrian reconnaissance and shovel testing within the 300-foot-wide survey corridor. The field methodology, data recording, and documentation efforts will meet all state and federal guidelines for Section 106 compliance, including those in accordance with GWNF approved protocols.

The entire length of the survey corridor will be subjected to visual inspection via pedestrian reconnaissance. Subsurface testing methods will vary according to the probability that archaeological resources are present in any given area. Detailed methodologies will be provided in the GAI ARPA permit application.

In some cases, additional (Phase II) testing may be necessary to determine the NRHP eligibility of sites. The methodology for site testing (e.g., unit excavation) will depend on the size and extent of cultural deposits at each site. Atlantic will coordinate with USFS archaeologists and the Virginia Department of Historic Resources (VDHR) to determine appropriate methods at each site prior to completing additional testing.

Survey/testing results will be documented in Technical Reports for review by the USFS, FERC, and VDHR. Any artifacts recovered from survey or site testing within the GWNF will be curated as directed by the USFS.

Civil Survey

Atlantic's consultant will conduct a civil survey to document the centerline, property boundaries, and other features along the route. Fieldwork will be conducted by up to three crews consisting of 3 or 4 land surveyors each. The crews will utilize sub-meter accurate GPS units, survey grade GPS or conventional survey equipment to collect data points along a 200-foot-wide survey corridor centered on the centerline.

As the survey crews traverse the pipeline route, minor amounts of vegetation will be brushed using hand tools to provide line of site and a travel path for survey equipment. Brush cutting will be limited to saplings or limbs less than 2 inches in diameter. The survey crews will traverse the brushed centerline collecting data points for the centerline and major crossing features such as fences, streams, utilities, roads, access roads, occupation lines, property lines, and land use lines. Data also will be collected on physical features such as elevation break points, buildings, delineated wetland points, wells, land features, and any miscellaneous obstructions within the survey corridor.

PK nails with paint markings will be placed on the edges and centerlines of roadways to identify the pipeline crossing location. PIs along the planned pipeline centerline will be recorded and marked with a spike nail and whiskers or biodegradable surveyor flagging. Flagging or plastic pin flags will be left along the proposed pipeline centerline at line of sight intervals to mark the centerline for future viewing by other groups such as permitting agencies. Flagging may be placed near any identified property corners within 200 feet of the centerline.

Access to the Survey Corridor

Atlantic and its consultants will access the survey corridor along the route in the GWNF from public roads and approximately 11.9 miles of USFS roads. The USFS roads are listed in the table below.

USFS Access Roads		
USFS Road No.	Road Name(s)	Length (miles)
281	Tower Mountain Road	2.8
348.1	Unnamed	0.4
449, 449A, 449B	Unnamed	4.6
466, 466A	Unnamed	1.6
1755	Unnamed	2.5
Total		11.9

Survey crews will park vehicles along the sides of roads near the work area or as directed by the USFS. In general, vehicles will be parked near the beginning and planned ending point for survey each day. All vehicles will have a placard on the dashboard identifying the vehicle as part of the ACP and providing a contact phone number. All crewmembers will carry a photo identification to identify them as part of the ACP.

Schedule

Atlantic expects that a majority of the field surveys will be completed in the spring of 2017, though some follow-up survey (e.g., presence/absence surveys for certain species) may be required in the summer or fall of 2017.

Cost Recovery

Atlantic has established a cost recovery account with the USFS for the ACP. Costs incurred by the GWNF for the processing of this application should be charged to the cost recovery account.

Atlantic looks forward to continuing to work with you on this project. Please contact Mr. Richard Gangle at (804) 273-2814, if there are questions regarding this application. Please direct written responses to:

Richard Gangle
Energy Infrastructure Environmental Services
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

Attachments:

- Standard Form 299, *Application for Transportation and Utility Systems and Facilities on Federal Lands*
- Topographic Map depicting the Proposed Study Corridor on USFS lands within the George Washington National Forest (with Management Prescription Units) – Color

cc: Alex Faught, Lands Program Manager, George Washington National Forest
Jennifer Adams, Project Coordinator, U.S. Forest Service
Richard Gangle, Dominion Resources Services, Inc.

APPLICATION FOR TRANSPORTATION AND
 UTILITY SYSTEMS AND FACILITIES
 ON FEDERAL LANDS

FORM APPROVED
 OMB Control Number: 0596-0082
 Expiration Date: 10/31/2012

FOR AGENCY USE ONLY

Application Number

Date Filed

3. Telephone (area code)

Applicant
 804-771-4468

Authorized Agent
 804-273-2814

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

1. Name and address of applicant (include zip code)

Atlantic Coast Pipeline, LLC
 c/o Leslie Hartz
 707 East Main Street
 Richmond, Virginia 23219

2. Name, title, and address of authorized agent if different from item 1 (include zip code)

Dominion Transmission, Inc.
 c/o Richard Gangle
 5000 Dominion Boulevard
 Glen Allen, VA 23060

4. As applicant are you? (check one)

- a. Individual
- b. Corporation*
- c. Partnership/Association*
- d. State Government/State Agency
- e. Local Government
- f. Federal Agency

* If checked, complete supplemental page

5. Specify what application is for: (check one)

- a. New authorization
- b. Renewing existing authorization No.
- c. Amend existing authorization No.
- d. Assign existing authorization No.
- e. Existing use for which no authorization has been received *
- f. Other*

* If checked, provide details under item 7

6. If an individual, or partnership are you a citizen(s) of the United States? Yes No

7. Project description (describe in detail): (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (Length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (Attach additional sheets, if additional space is needed.)

Atlantic Coast Pipeline, LLC - a company formed by four major U.S. energy companies - Dominion Resources, Inc., Duke Energy Corporation, Piedmont Natural Gas Co., Inc., and Southern Company Gas - is proposing to construct and operate approximately 600 miles of natural gas transmission pipeline and associated laterals in West Virginia, Virginia, and North Carolina. This project, referred to as the Atlantic Coast Pipeline (ACP), will deliver natural gas from supply areas in the Appalachian region, including West Virginia, to demand areas in Virginia and North Carolina. Dominion Transmission, Inc. (DTI) will build and operate the ACP on behalf of Atlantic. Atlantic is seeking renewal of Permit No. MAR205001 to continue routing, environmental, cultural resources and civil surveys where the planned pipeline route crosses the MNF.

Approximately 5.4 miles of the proposed route will cross lands under the jurisdiction of the U.S. Forest Service within the Monongahela National Forest (Marlinton Ranger District). Additional information about the proposed survey activities is included in the cover letter to this application.

8. Attach a map covering area and show location of project proposal

9. State or Local government approval: Attached Applied for Not Required

10. Nonreturnable application fee: Attached Not required

11. Does project cross international boundary or affect international waterways? Yes No (if "yes," indicate on map)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

DTI maintains 7,800 miles of natural gas pipeline in six states — Ohio, West Virginia, Pennsylvania, New York, Maryland and Virginia, and stores and transports large quantities of natural gas for large customers, such as major utilities and power plants. The company has significant experience in the design, construction, ownership, and operation of large, long-term pipeline projects requiring significant capital investment. DTI also operates one of the largest underground natural gas storage systems in the United States with links to other major pipelines and to markets in the Midwest, Mid-Atlantic and Northeast regions of the United States.

13a. Describe other reasonable alternative routes and modes considered.

Atlantic has included analyses of other reasonable alternatives to the crossing of National Forest lands in its application to the FERC for a Certificate of Public Convenience and Necessity for the proposed ACP (Exhibit F-1, Resource Report 10), filed on September 18, 2015, and in a subsequent data response to the FERC filed on February 16, 2016.

b. Why were these alternatives not selected?

See response provided in Atlantic's application and data response to the FERC as referenced in 13a above.

c. Give explanation as to why it is necessary to cross Federal Lands.

Federal lands extend continuously along the Appalachian Range in VA and WV and are oriented perpendicular to any reasonable path between the proposed pipeline's receipt and delivery points (Harrison County WV, to southeastern VA and NC). Consequently, avoidance of Federal lands is not feasible.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

Atlantic filed an application to the FERC for a Certificate of Public Convenience and Necessity for the proposed ACP on September 18, 2015.

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

The ACP will provide natural gas from supply areas in the Appalachian region to demand areas in Virginia and North Carolina. This application is for survey activities only. Information on the ACP's economic feasibility is provided in its Application for a Certificate of Public Convenience and Necessity, filed with the FERC on September 18, 2015.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

No effects are anticipated. This application is for survey activities only.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

No effects are anticipated. This application is for survey activities only.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

No effects are anticipated. This application is for survey activities only.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities.

"Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

No hazardous materials as defined herein will be utilized, produced, transported or stored on USFS lands during the proposed survey activities.

20. Name all the Department(s)/Agency(ies) where this application is being filed.

Monongahela National Forest.

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date

2/2/17

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved right-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture
Regional Forester, Forest Service (USFS)
Federal Office Building,
P.O. Box 21628
Juneau, Alaska 99802-1628
Telephone: (907) 586-7847 (or a local Forest Service Office)

Department of the Interior
Bureau of Indian Affairs (BIA)
Juneau Area Office
Federal Building Annex
9109 Mendenhall Mall Road, Suite 5
Juneau, Alaska 99802
Telephone: (907) 586-7177

Department of the Interior
Bureau of Land Management
222 West 7th Avenue
P.O. Box 13
Anchorage, Alaska 99513-7599
Telephone: (907) 271-5477 (or a local BLM Office)

U.S. Fish & Wildlife Service (FWS)
Office of the Regional Director
1011 East Tudor Road
Anchorage, Alaska 99503
Telephone: (907) 786-3440

National Park Service (NPA)
Alaska Regional Office, 2225
Gambell St., Rm. 107
Anchorage, Alaska 99502-2892
Telephone: (907) 786-3440

Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Office, P.O. Box 120, 1675 C Street, Anchorage, Alaska 9513.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7587
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS
(Items not listed are self-explanatory)

- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9, 10, and 12 The responsible agency will provide additional instructions.
- 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certification for the use of Federal lands. The Federal agencies use this information to evaluate the applicant's proposal. The public is obligated to submit this form if they wish to obtain permission to use Federal lands.

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
	ATTACHED	FILED*
I - PRIVATE CORPORATIONS		
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input type="checkbox"/>	<input type="checkbox"/>

*If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

NOTICES

Note: This applies to the Department of Agriculture/Forest Service (FS)

This information is needed by the Forest Service to evaluate the requests to use National Forest System lands and manage those lands to protect natural resources, administer the use, and ensure public health and safety. This information is required to obtain or retain a benefit. The authority for that requirement is provided by the Organic Act of 1897 and the Federal Land Policy and Management Act of 1976, which authorize the secretary of Agriculture to promulgate rules and regulations for authorizing and managing National Forest System lands. These statutes, along with the Term Permit Act, National Forest Ski Area Permit Act, Granger-Thye Act, Mineral Leasing Act, Alaska Term Permit Act, Act of September 3, 1954, Wilderness Act, National Forest Roads and Trails Act, Act of November 16, 1973, Archeological Resources Protection Act, and Alaska National Interest Lands Conservation Act, authorize the Secretary of Agriculture to issue authorizations or the use and occupancy of National Forest System lands. The Secretary of Agriculture's regulations at 36 CFR Part 251, Subpart B, establish procedures for issuing those authorizations.

BURDEN AND NONDISCRIMINATION STATEMENTS

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average 8 hours hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.






The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720- 2600 (voice and TDD).

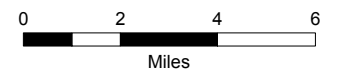
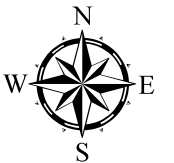
To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

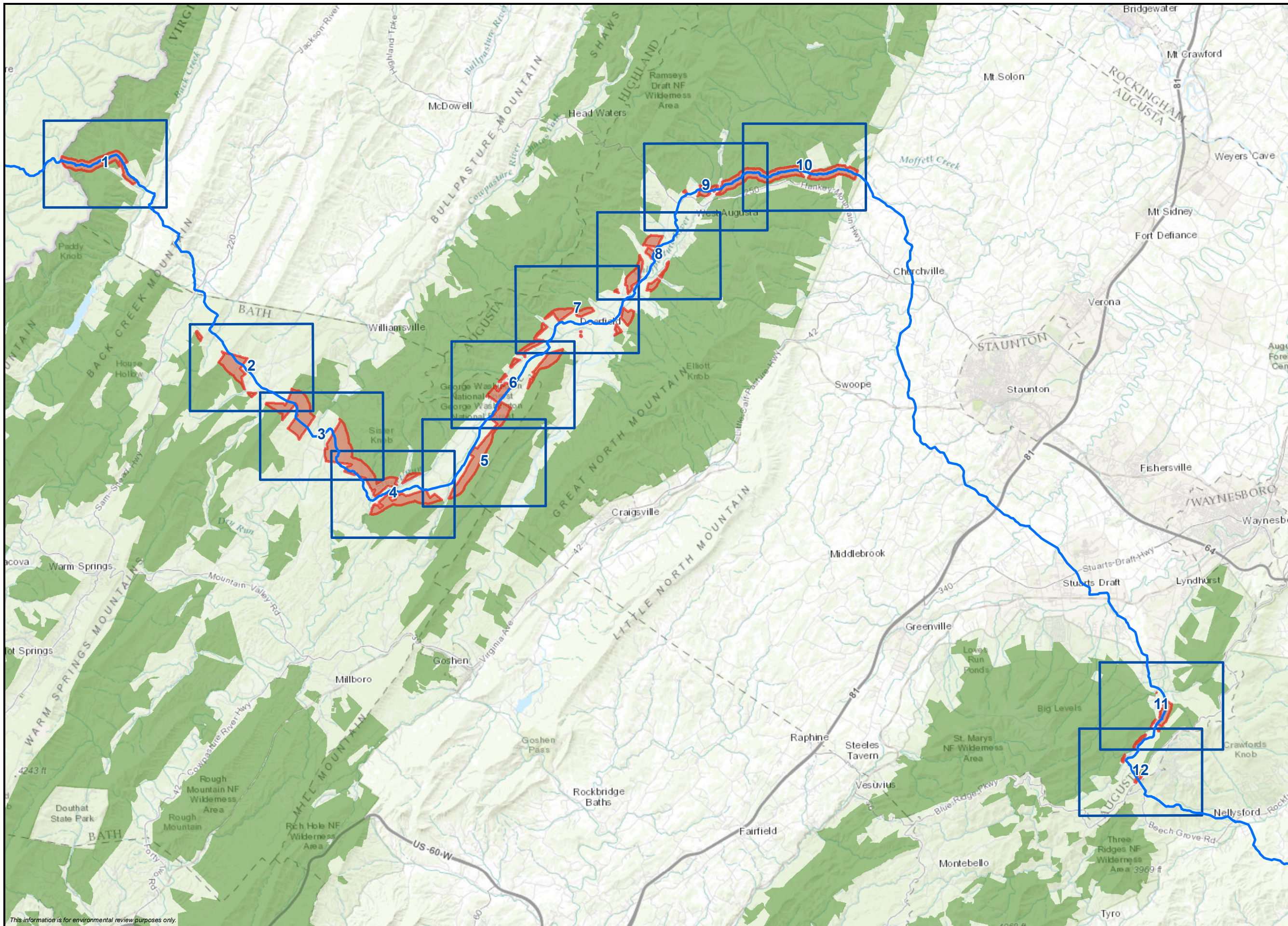
George Washington National Forest

Pipeline Route

-  Main Line
-  Lateral
-  Study Corridor
-  George Washington National Forest
-  Study Area



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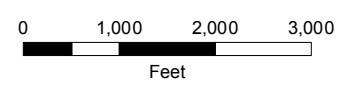
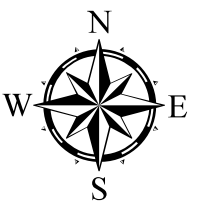


This information is for environmental review purposes only.

George Washington National Forest

Sheet 1 of 12

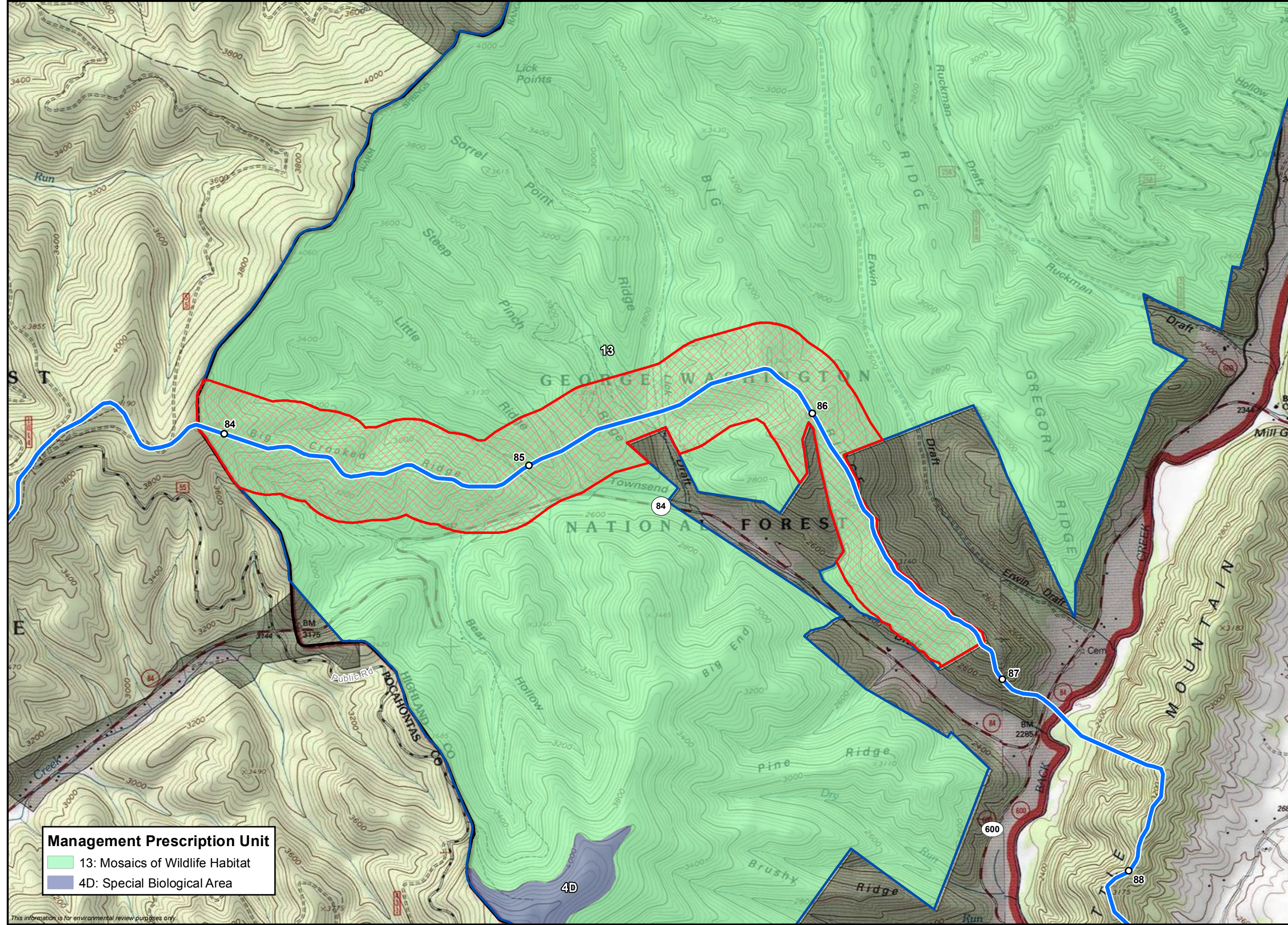
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- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
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- ▭ County Boundary



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- Management Prescription Unit**
- 13: Mosaics of Wildlife Habitat
 - 4D: Special Biological Area

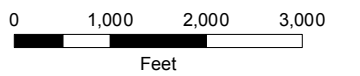
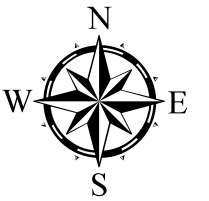


This information is for environmental review purposes only.

George Washington National Forest

Sheet 2 of 12

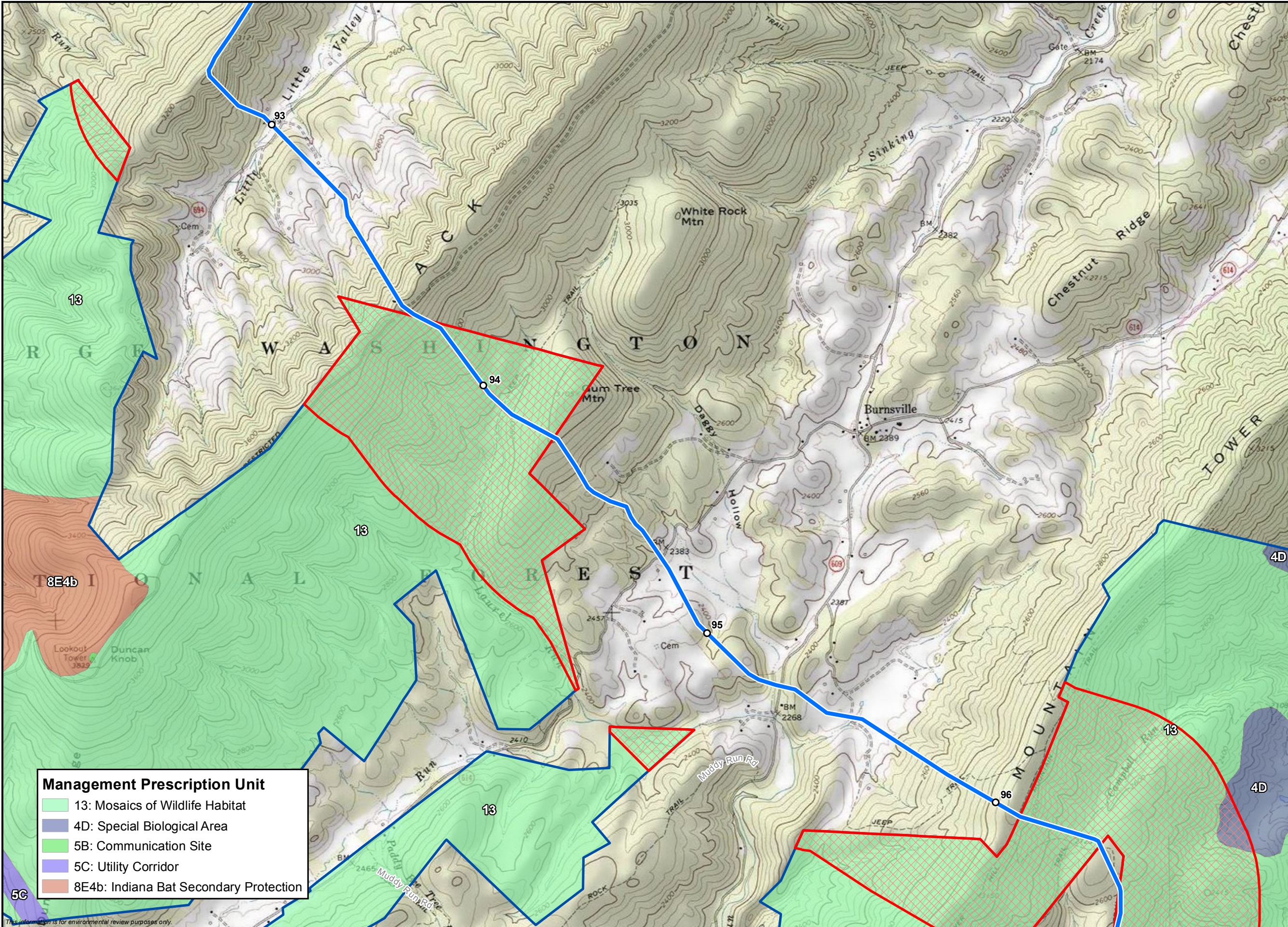
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- ▭ 6,000 Ft. Study Corridor
- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary



1:24,000



- Management Prescription Unit**
- 13: Mosaics of Wildlife Habitat
 - 4D: Special Biological Area
 - 5B: Communication Site
 - 5C: Utility Corridor
 - 8E4b: Indiana Bat Secondary Protection

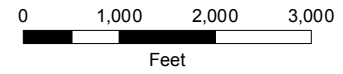
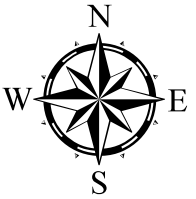


This information is for environmental review purposes only.

George Washington National Forest

Sheet 3 of 12

- Milepost
- ▬ Pipeline
- ▭ 6,000 Ft. Study Corridor
- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary



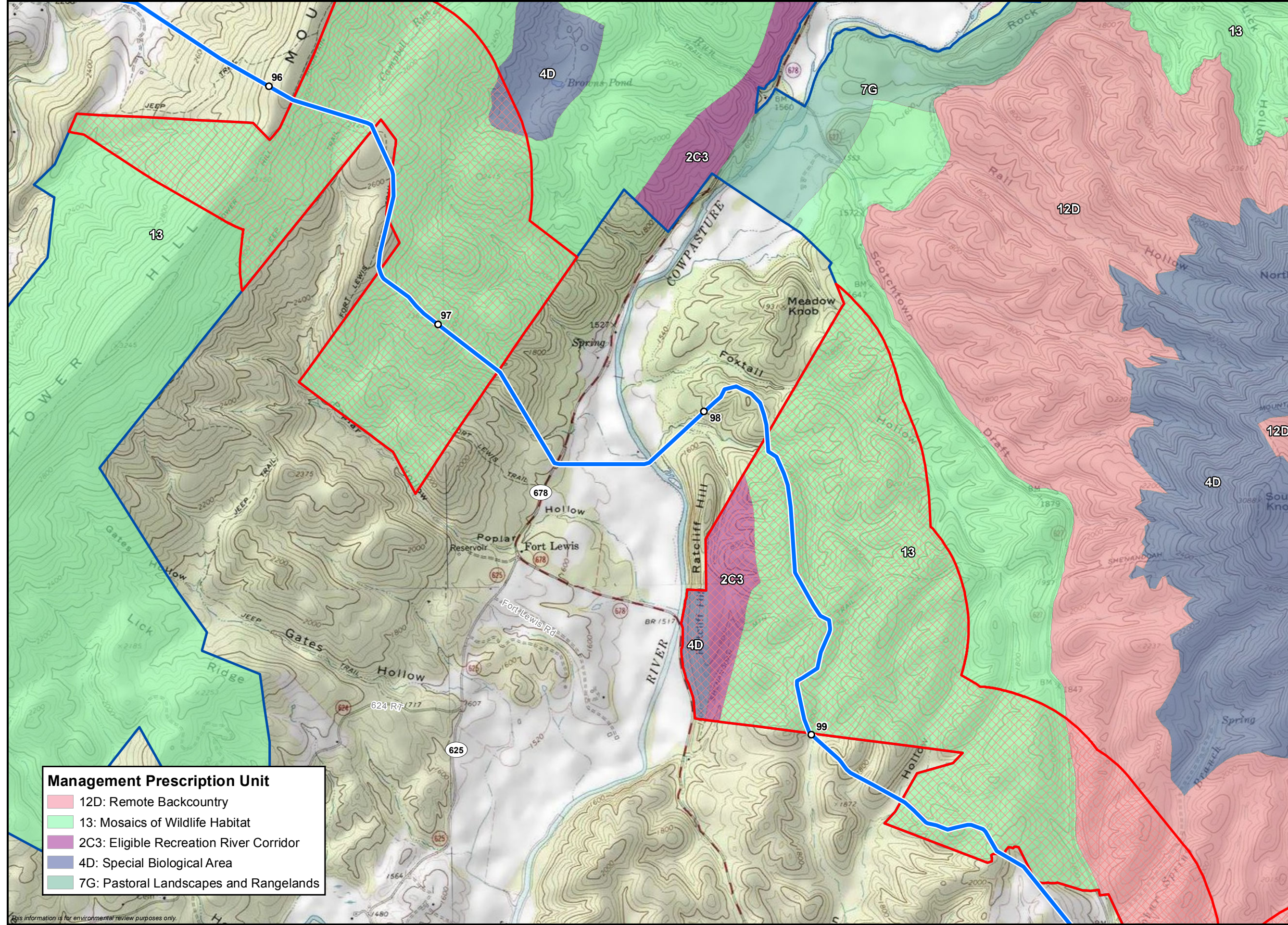
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an ERM Group company



- Management Prescription Unit**
- 12D: Remote Backcountry
 - 13: Mosaics of Wildlife Habitat
 - 2C3: Eligible Recreation River Corridor
 - 4D: Special Biological Area
 - 7G: Pastoral Landscapes and Rangelands

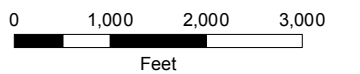
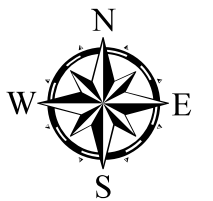


This information is for environmental review purposes only.

**George
Washington
National Forest**

Sheet 4 of 12

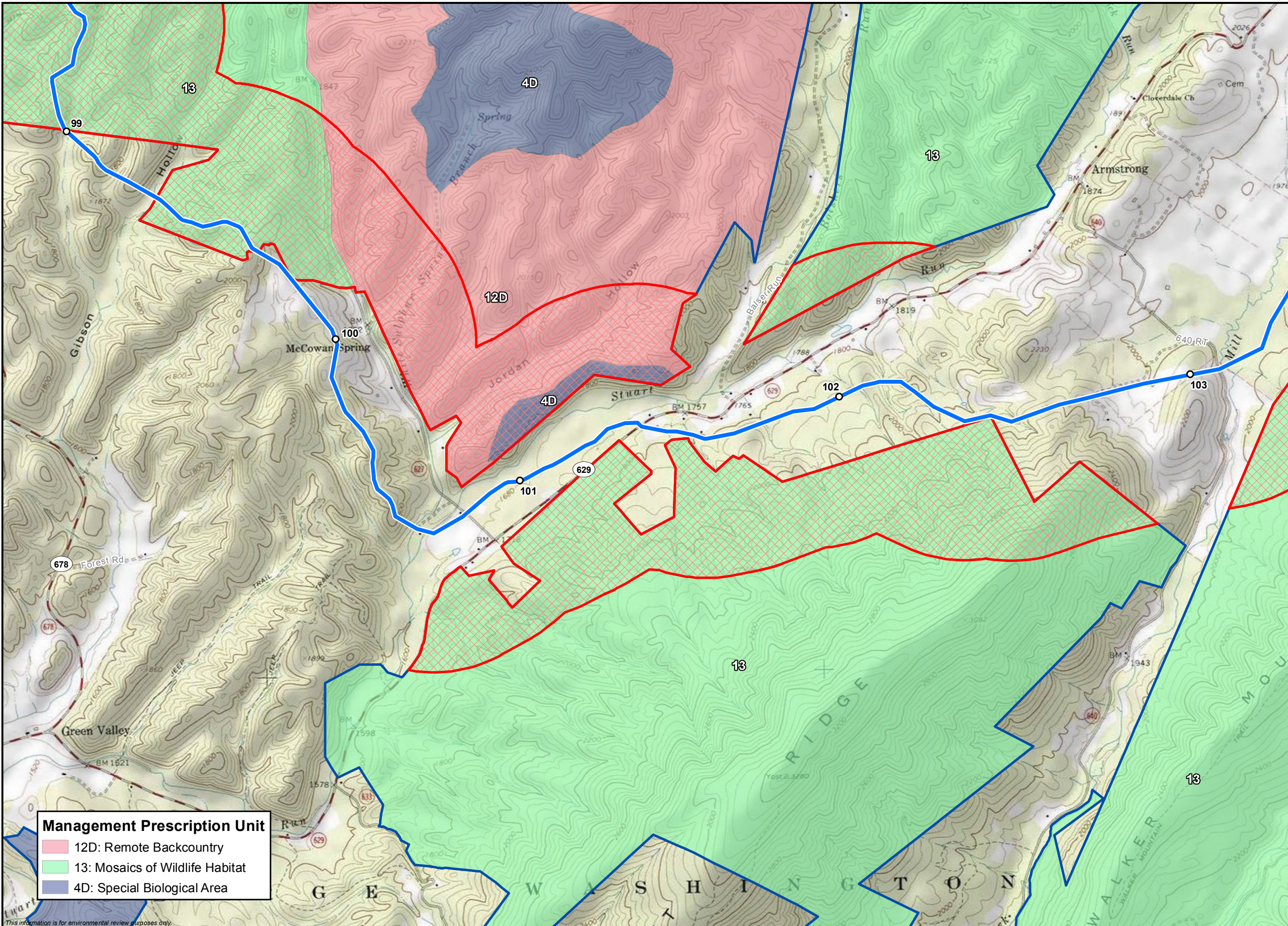
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an ERM Group company



Management Prescription Unit

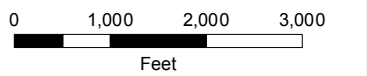
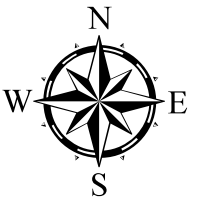
- 12D: Remote Backcountry
- 13: Mosaics of Wildlife Habitat
- 4D: Special Biological Area

This information is for environmental review purposes only.

George Washington National Forest

Sheet 5 of 12

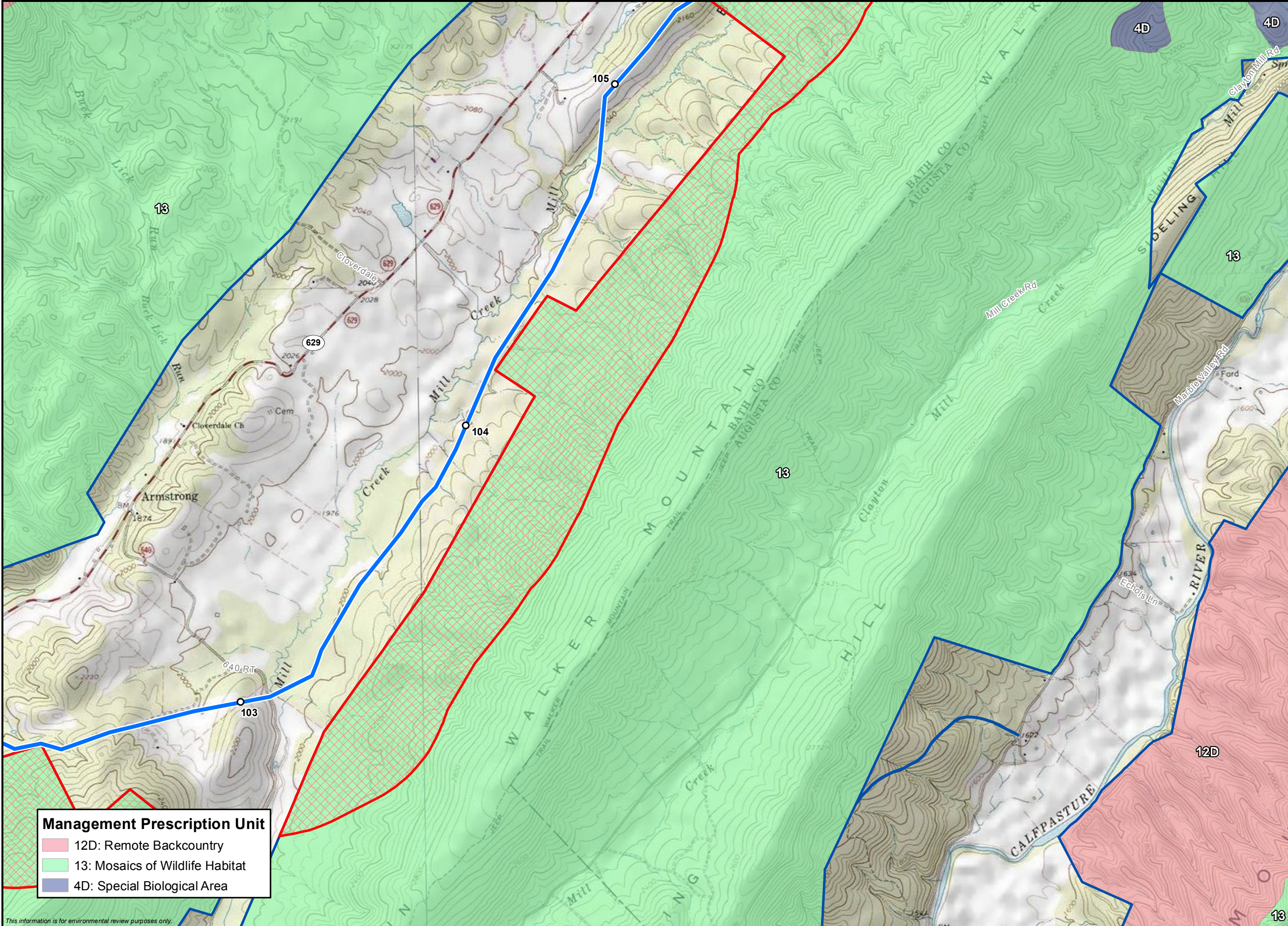
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- ▬ Public Access Road
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- ▭ State Boundary
- ▭ County Boundary



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- Management Prescription Unit**
- ▨ 12D: Remote Backcountry
 - ▨ 13: Mosaics of Wildlife Habitat
 - ▨ 4D: Special Biological Area

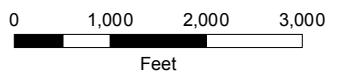
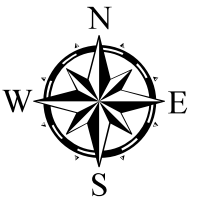


This information is for environmental review purposes only.

**George
Washington
National Forest**

Sheet 6 of 12

- Milepost
- ▬ Pipeline
- ▨ 6,000 Ft. Study Corridor
- ▨ Public Access Road
- ▨ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary



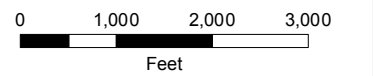
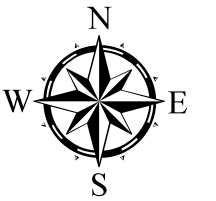
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Management Prescription Unit

- ▭ 12D: Remote Backcountry
- ▭ 13: Mosaics of Wildlife Habitat
- ▭ 4D: Special Biological Area

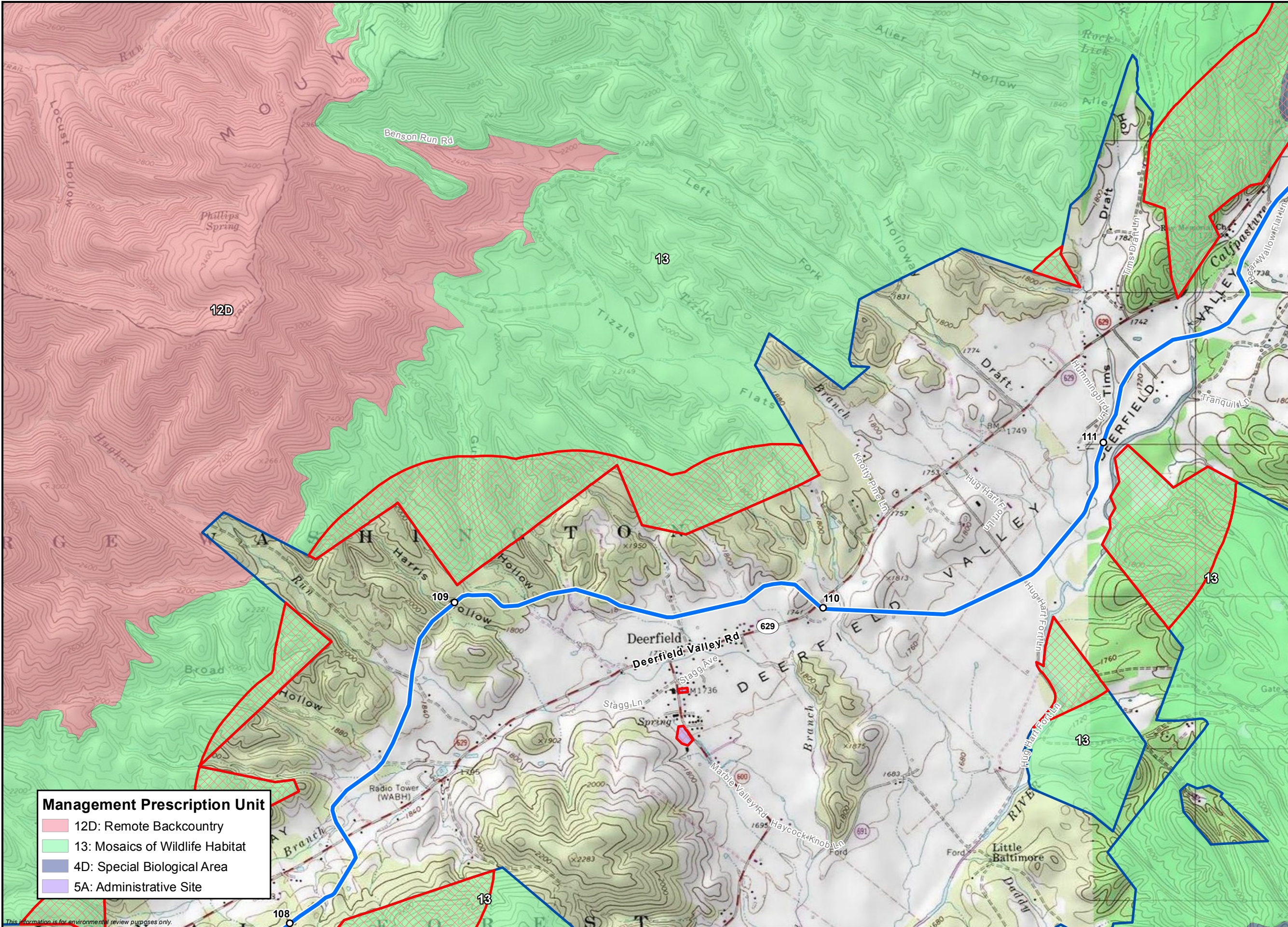
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- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary



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- Management Prescription Unit**
- 12D: Remote Backcountry
 - 13: Mosaics of Wildlife Habitat
 - 4D: Special Biological Area
 - 5A: Administrative Site

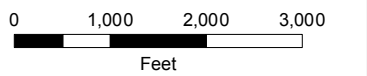
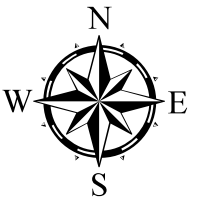


This information is for environmental review purposes only.

George Washington National Forest

Sheet 8 of 12

- Milepost
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- ▭ 6,000 Ft. Study Corridor
- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary

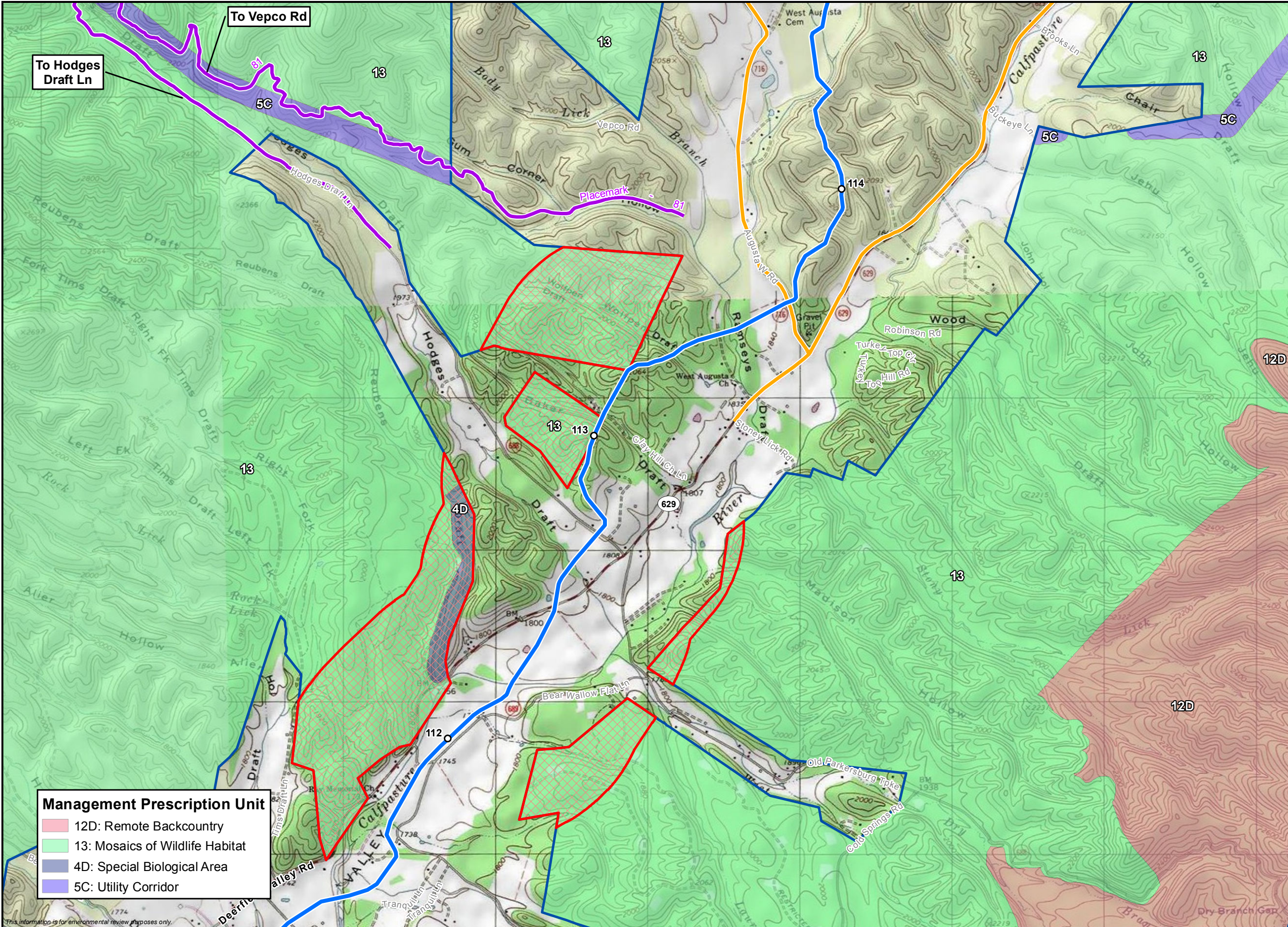


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Management Prescription Unit

- 12D: Remote Backcountry
- 13: Mosaics of Wildlife Habitat
- 4D: Special Biological Area
- 5C: Utility Corridor

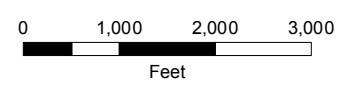
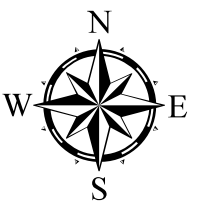


This information is for environmental review purposes only.

George Washington National Forest

Sheet 9 of 12

- Milepost
- ▬ Pipeline
- ▭ 2,000 Ft. Study Corridor
- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary

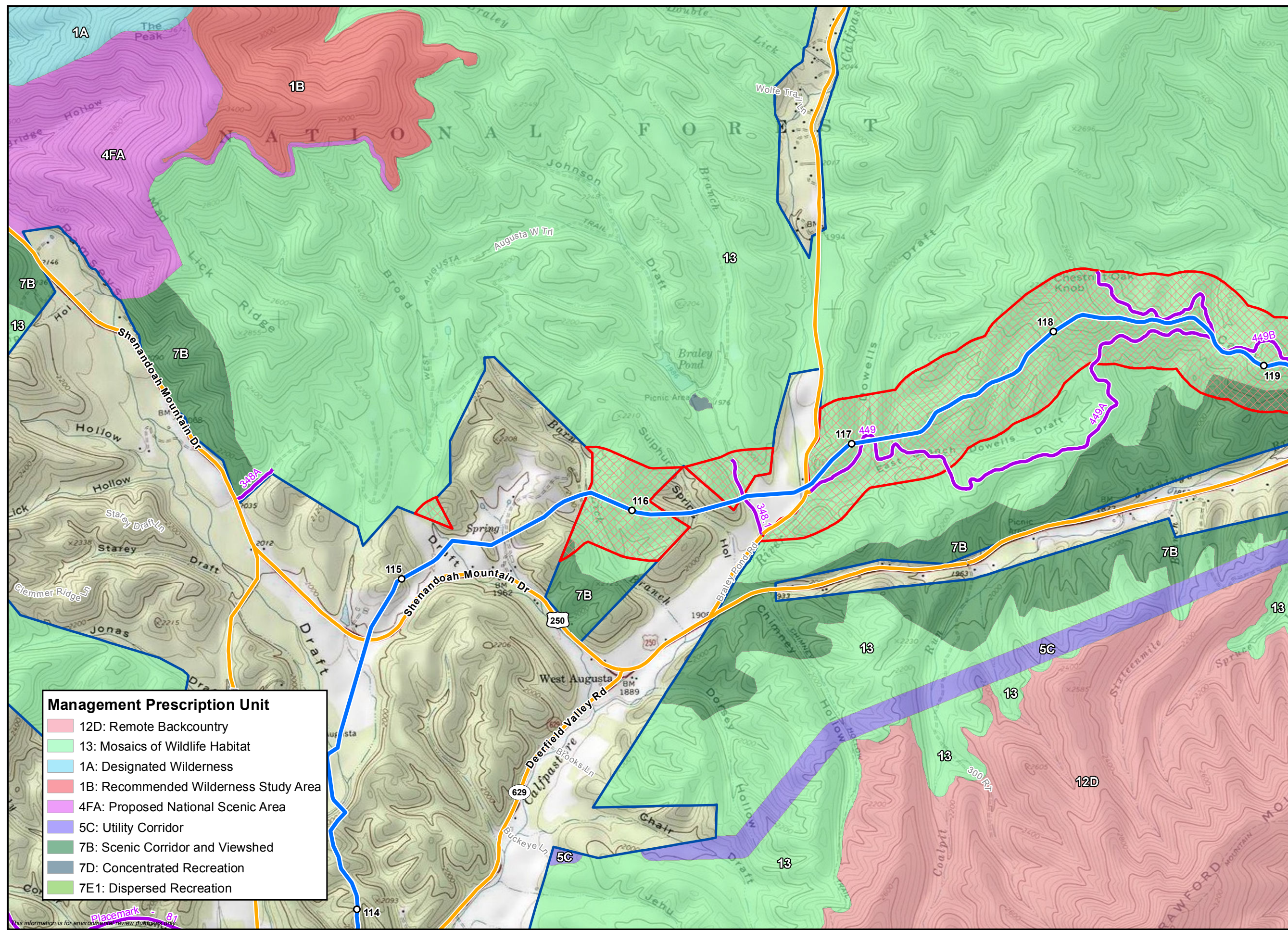


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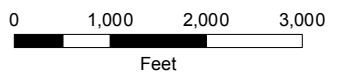
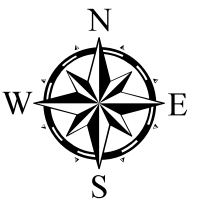
Management Prescription Unit

- 12D: Remote Backcountry
- 13: Mosaics of Wildlife Habitat
- 1A: Designated Wilderness
- 1B: Recommended Wilderness Study Area
- 4FA: Proposed National Scenic Area
- 5C: Utility Corridor
- 7B: Scenic Corridor and Viewshed
- 7D: Concentrated Recreation
- 7E1: Dispersed Recreation

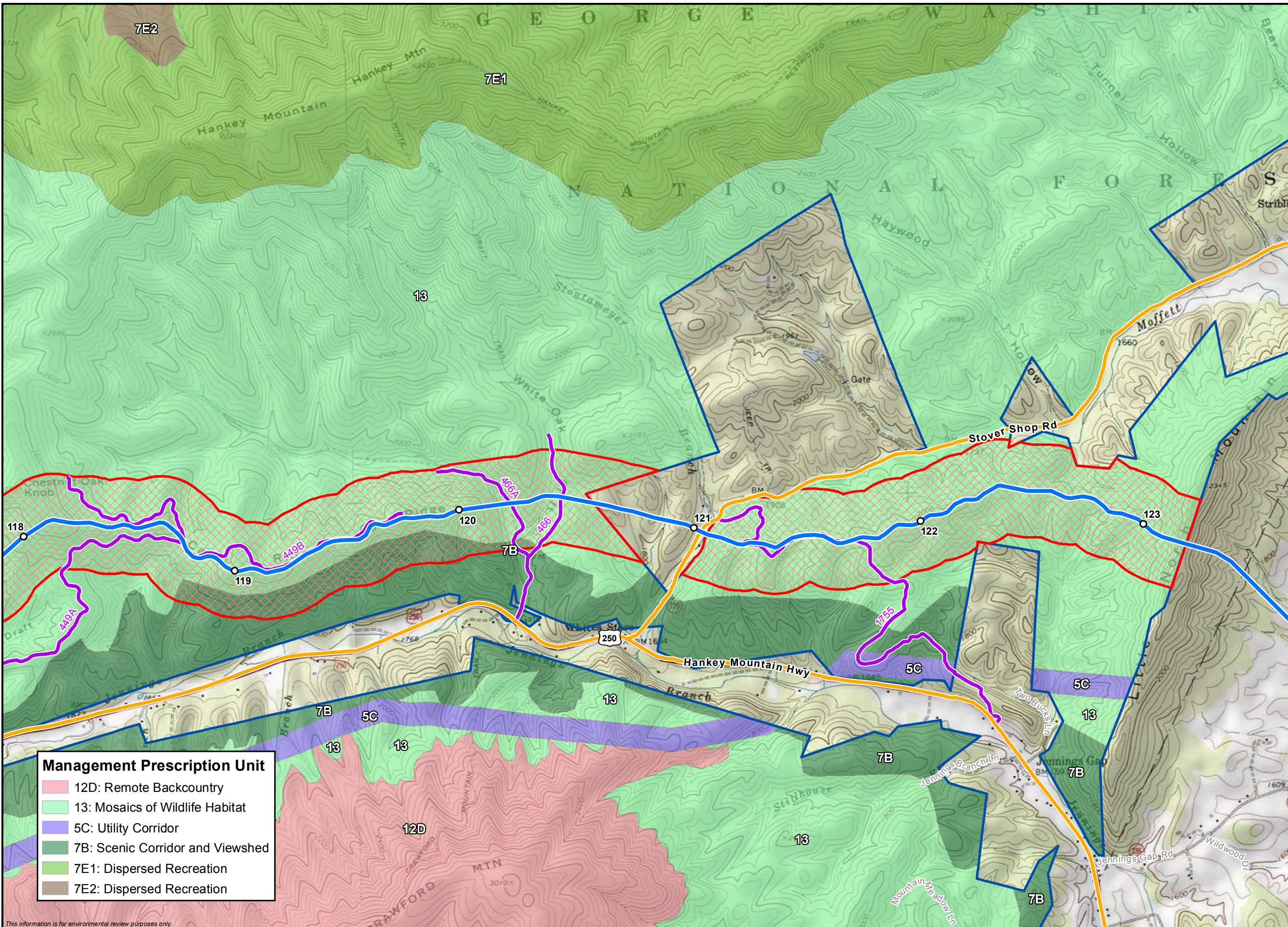


This information is for environmental review purposes only.

- Milepost
- ▬ Pipeline
- ▨ 2,000 Ft. Study Corridor
- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary



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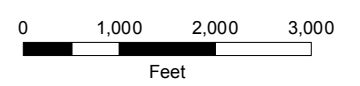
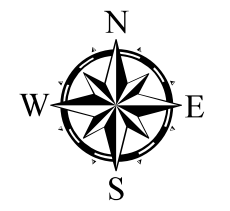
- Management Prescription Unit**
- 12D: Remote Backcountry
 - 13: Mosaics of Wildlife Habitat
 - 5C: Utility Corridor
 - 7B: Scenic Corridor and Viewshed
 - 7E1: Dispersed Recreation
 - 7E2: Dispersed Recreation

This information is for environmental review purposes only.

George Washington National Forest

Sheet 11 of 12

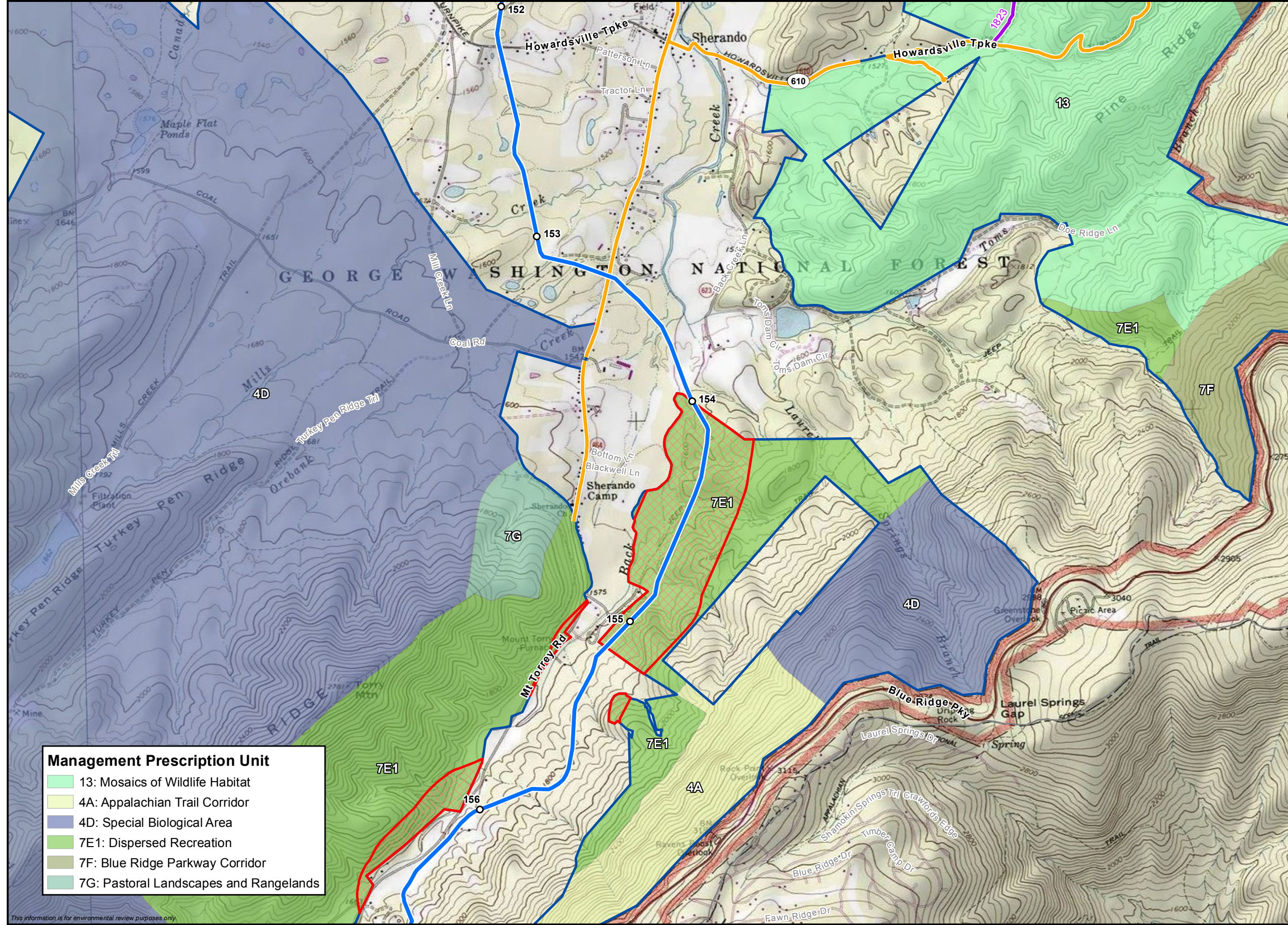
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- ▬ Public Access Road
- ▬ Forest Access Road
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1:24,000



Management Prescription Unit	
13: Mosaics of Wildlife Habitat	(Light Green)
4A: Appalachian Trail Corridor	(Light Yellow)
4D: Special Biological Area	(Blue)
7E1: Dispersed Recreation	(Light Green)
7F: Blue Ridge Parkway Corridor	(Dark Green)
7G: Pastoral Landscapes and Rangelands	(Light Green)

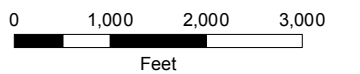
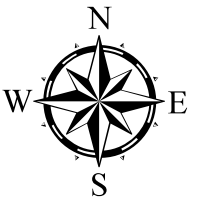


This information is for environmental review purposes only.

George Washington National Forest

Sheet 12 of 12

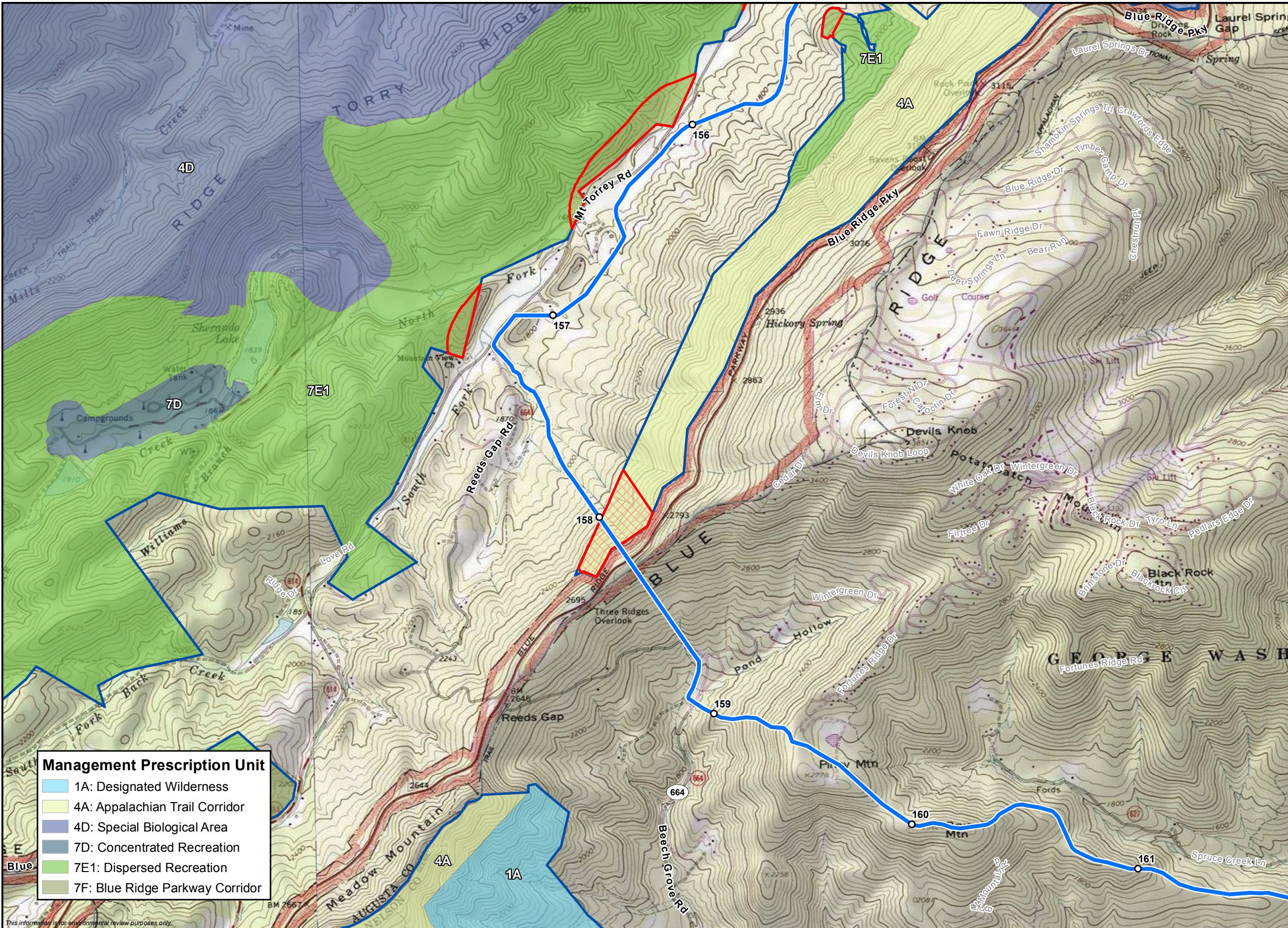
- Milepost
- ▬ Pipeline
- ▭ 2,000 Ft. Study Corridor
- ▬ Public Access Road
- ▬ Forest Access Road
- ▭ George Washington National Forest
- ▭ State Boundary
- ▭ County Boundary



1:24,000



- Management Prescription Unit**
- 1A: Designated Wilderness
 - 4A: Appalachian Trail Corridor
 - 4D: Special Biological Area
 - 7D: Concentrated Recreation
 - 7E1: Dispersed Recreation
 - 7F: Blue Ridge Parkway Corridor



This information is for environmental review purposes only.

February 10, 2017

Clyde Thompson, Forest Supervisor
U.S. Forest Service
Monongahela National Forest
Forest Supervisor's Office
200 Sycamore Street
Elkins, WV 26241

**RE: Atlantic Coast Pipeline, LLC, Atlantic Coast Pipeline Project
George Washington National Forest Geotechnical Investigation**

Dear Mr. Thompson:

On October 20, 2016 Atlantic Coast Pipeline, LLC (Atlantic) submitted an Application for Transportation and Utility Systems and Facilities on Federal Lands (Standard Form 299) to conduct subsurface geotechnical investigations. The geotechnical investigations will allow Atlantic to determine slope stability conditions and design mitigation as necessary to ensure the integrity of the proposed pipeline and the National Forest Service (NFS) lands that the pipeline would cross.

As stated in that application, cultural and biological resource surveys had been completed for all work areas associated with the proposed geotechnical investigations, with the exception of a portion of one of the proposed access roads at the MP 120.3 location. The surveys of that road have now been completed, and this letter summarizes their results.

Figure 1 shows the proposed geotechnical work areas at the MP 120.3 location. It also shows the original survey corridor, which encompasses most of the work areas, and the portion of an old graveled logging road proposed for access to one of the drill sites, which lies outside of the original survey corridor and is the subject of this letter.

A cultural resources survey for the area in and immediately adjacent to this road was conducted in December, 2016. A survey report is being sent separately to the USFS. No cultural resources were identified during the survey.

A wetland/waterbody and biological resource survey was conducted along the road in December, 2016. No sensitive species or wetlands were identified. The road crosses an intermittent waterbody that was dry at the time of the survey. A low-water crossing already exists at this location, with no culvert or bridge present. Tires are embedded within the channel at the downstream edge of the existing road to help maintain cobble in the low water crossing. The attached photographs and data sheets document the waterbody survey.

This submittal should complete the information necessary for the GWNF to issue a permit for the proposed work. Atlantic proposes to complete the geotechnical investigation prior to the end of March, which will avoid the bat spring emergence period and migratory bird nesting season. Atlantic has designed the footprint of the drill sites to minimize ground disturbance, which would be minor and temporary in nature. As noted in the SF-299 application, erosion controls would be installed at each drill

site. Immediately following completion of drilling at the boring sites, restoration activities will be performed as described in the SF-299 application. Therefore, Atlantic believes no sensitive species will be affected by the geotechnical investigations.

Atlantic looks forward to continuing to work with you on the ACP. Please contact Richard B. Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com if there are questions regarding this report. Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

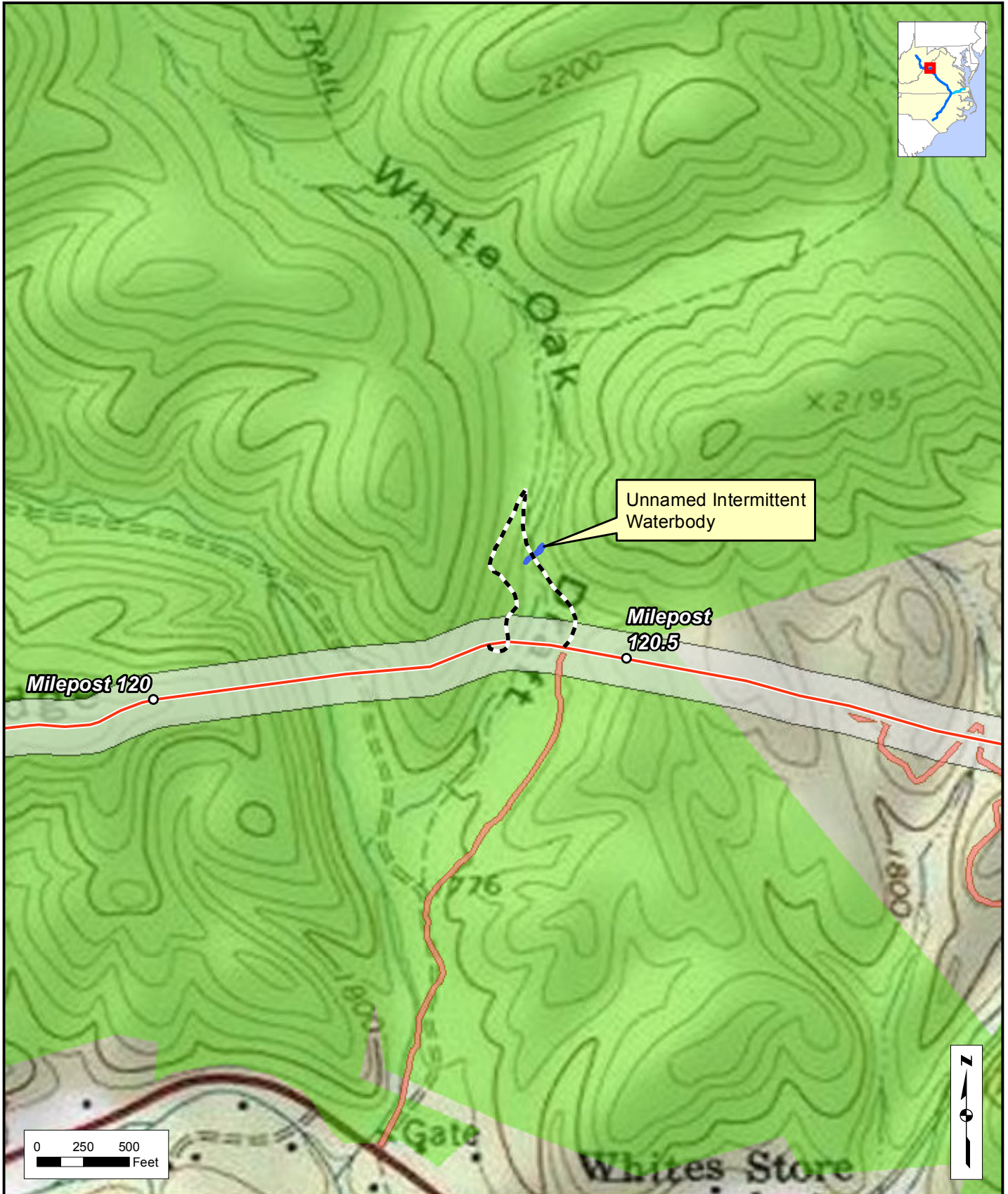
Sincerely,



Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

Attachments

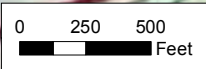
Cc: Jennifer Adams, Special Projects Coordinator, U.S. Forest Service
Richard B. Gangle, Dominion Resources Services, Inc.








Unnamed Intermittent Waterbody

Milepost 120

Milepost 120.5



Atlantic Coast Pipeline SM

-  Proposed ACP Route
-  Borehole Access Road (Newly Surveyed)
-  Access Road (Previously Surveyed)
-  Original Survey Corridor
-  GWNF Ownership

Atlantic Coast Pipeline
Figure 1
 Borehole Access Road
 Biological/Waterbody Survey Area





Atlantic Coast Pipeline
Daily Progress Report
 Wetland and Waterbody Surveys



DRAFT

EMAIL NIGHTLY TO: Joe Holler at joe.holler@erm.com
 Mike Buckless at michael.buckless@nrg-llc.com
 Luke Knapp at lnapp21@yahoo.com
 Greg Park at gregory.s.park@dom.com
 Jeff Arrington at jarrington94@gmail.com
 Rick Hollenkamp at rehollenkamp@gmail.com
 Mike Cozad at MJCozad@doyleland.com
 Justin Wolford at Justin.R.Wolford@dom.com
 Clark Cooney at ccooney@doyleland.com
 Steve Breshears at srbr62@att.net
 Aaron Estes at aarondestes@live.com
 Collin Constantin at cpconstantin@doyleland.com
 Dan Post at dapostconsulting@gmail.com
 Rob Hollenkamp at rdh710@aol.com

Date	Total Miles Completed (nearest tenth)	State	County
12/20/2016	0.40 miles access road - GWNF	Virginia	Augusta
Survey Corridor Version (date)	Total Person Hours Worked (field & office combined)	Crew Letter and Member Initials	Total Miles Driven
12/04/2016	8.5	Team A – GB, AS	White Barco = 80 miles

Survey Progress			
<i>List all tracts within 300-foot-wide survey corridor along survey segment(s) (between survey begin and end GPS points)</i>			
Tract Number	Survey Complete (Y/N)	Survey Type (walk over, remote only, skipped)	Comments (e.g., no survey permission but visually cleared, no survey permission and apparent water features, locked gate, partially complete at end of field day):
07-001.AR1 – GWNF extension to proposed access road 07-001.AR1-AR9	Y	walk over	We received a request to survey a proposed extension to this previously delineated access road on the GWNF for “Heavy Equipment Access”; the entirety of the proposed extension was surveyed today. The extension begins as a maintained, gravel Forest Road heading due north from centerline where it crosses stream saua439 (no culvert or bridge present). However, where the proposed extension makes an abrupt hairpin turn to the south the road is a very narrow and long ago decommissioned dirt two track logging road for ~ 300 feet. After this point the proposed extension leaves the decommissioned logging road and stays on the side slope until reaching centerline next to stream saua428. The old logging road continues to the ridge top where the proposed extension deviates.
07-001.AR1	N/A	see comments	We navigated to a discreet point on the GWNF to visit an aerially delineated raptor stick nest – see survey results below.



Atlantic Coast Pipeline
Daily Progress Report
 Wetland and Waterbody Surveys



10-058 – Wiley 10-058.AR – Wiley 10-059 – Wiley	12/22/16	218.2 – 218.4	Field check of an aerially identified raptor nest and survey of proposed access road 10-059.AR-AR1 pending communication between land and property owner
-------------------------------------------------------	----------	---------------	----------------------------------------------------------------------------------------------------------------------------------------------------------

Tailgate Safety Meeting		
Time	Topic	Attendees (full names):
0630	traversing steep slopes	Gavin Blosser, Adrianna Stolarski
Embedded Ticks	GB – 0 AS – 0	

Morning Daily Vehicle Inspection		
Time	Defects	Inspector name
0630	White Barco truck – no defects	Gavin Blosser

Comments (e.g., landowner encounters, civil survey or Right-of-Way coordination, centerline staking visibility and agreement with digital line, impediments to survey progress):

We attended the morning meeting in Waynesboro, VA. We visited one aerially surveyed raptor nest on the GWNF off of Mt. Torrey Road in Augusta County to field check. We surveyed a proposed extension to a previously delineated access road on the GWNF off of US250 in the White Oak Draft area in Augusta County. We recorded one intermittent stream.

Daily Timeline:

- 0630 – 0700: truck inspection, safety meeting
- 0700 – 0830: morning meeting in Waynesboro, VA
- 0830 – 0900: drive to field site; may involve additional time to stage vehicles, find parking, etc.
- 0900 – 1300: conduct field work; includes any travel between sites
- 1300 – 1330: return to hotel in Waynesboro, VA
- 1330 – 1530: data management, reports, communications, planning, logistics, equipment maintenance

Spread 1 – West Virginia

Mike Cozad – Spread Supervisor

MJCozad@doyleland.com

(724) 584-3378 - Cell

Dan Post – Survey Coordinator

dapostconsulting@gmail.com

(304) 532-5482 - Cell

Spread 2 - Northern VA

Rick Hollenkamp – Survey Coordinator

rehollenkamp@gmail.com

(817) 915-7159 - Cell



Atlantic Coast Pipeline
Daily Progress Report
Wetland and Waterbody Surveys



Rob Hollenkamp – Spread Supervisor

rdh710@aol.com

(817) 915-7159 - Cell

Spread 3 - Southern VA

Collin Constantin

cpconstantin@doyleland.com

Cell: (504) 914-0162

Spread 4 - North Carolina

Clark Cooney

CCOONEY@DOYLELAND.COM

(919) 205-1950 - Office

(712) 254-0723 – Cell

Gregory S. Dean - Survey Coordinator

gregdeangunner@ymail.com

(517) 712-4927 – Cell



saua439 facing northeast upstream



saua439 facing southwest downstream



saua439 facing northwest across

Linear Waterbody Data Sheet

Survey Description

Project Name: Atlantic Coast Pipeline		Waterbody Name: UNT to Buckhorn Creek		Waterbody ID: sau439		Date: 12/20/2016	
State: Virginia		County: Augusta		Company: ERM/NRG		Crew Member Initials: GB, AS	
Tract Number(s): 07-001.AR1; proposed access road 07-001.AR1-AR9		Nearest Milepost: 120.4		Associated Wetland ID(s): none			
Survey Type: (check one) <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Other:							

Physical Attributes

Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial							
Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other:							
OHWM Width: _13.0_ ft.		OHWM Indicator: (check all that apply)		<input checked="" type="checkbox"/> Clear line on bank		<input type="checkbox"/> Shelving	
Height: _1.5_ ft.		<input type="checkbox"/> Bent, matted, or missing vegetation		<input type="checkbox"/> Wrack line		<input checked="" type="checkbox"/> Litter and debris	
N/A <input type="checkbox"/>		<input type="checkbox"/> Wrested vegetation		<input checked="" type="checkbox"/> Scouring		<input type="checkbox"/> Water staining	
		<input type="checkbox"/> Abrupt plant community change		<input type="checkbox"/> Soil characteristic change			

Width of Waterbody - Top of Bank to Top of Bank: _20.0_ ft.		Width of Waterbody - Toe of Slope to Toe of Slope: _10.0_ ft.		Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/>		Depth of Water: (Approx.) _____ ft.	
Sinuosity: (check one) <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering		Water velocity: (Approx.) _____ fps		Bank height		Bank slope	
		N/A <input checked="" type="checkbox"/>		Right: _3.5_ ft.		Right: _65_ degrees	
				Left: _5.0_ ft.		Left: _60_ degrees	

Analysis of Bank Stability (i.e. root structure, vegetation, substrate characteristics):
Some areas of loose cobble and soil – considered normal for stream of this gradient

Qualitative Attributes

Water Appearance: (check one) <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other:							
Substrate: (check all that apply) <input checked="" type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other:							
% of Substrate: 5% 65% 25% 5% _____% _____% _____% _____%							
Width of Riparian Zone: _85_ ft.		Vegetative Layers: (check all that apply) <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs					
N/A <input type="checkbox"/>		Avg. DBH of Dominants: (approx.) <u>13.0</u> in. <u>1.5</u> in. -					

Dominant Bank Vegetation (list):

White oak, northern red oak, chestnut oak, sweet birch, sycamore, hemlock, white pine, yellow poplar, ironwood, witch hazel, greenbrier, blackberry, tree of heaven, Japanese stilt grass, Christmas fern, deer tongue grass, wood aster

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Coarse woody debris, leaf packs

Aquatic Organisms Observed (list):

none

Waterbody ID:

saua439

^a **High Quality:** Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

Notes:

Stream continues out of access road corridor in both directions; vehicles are driven through the stream – there is no culvert nor bridge present for existing road crossing; tires have been buried at downstream edge of existing road to keep cobble in place on existing road bed. Area is mature second growth mixed hardwood forest with hemlock and white pine as canopy element.

T&E Species Observed (list):

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

No culvert or bridge present at vehicle crossing

Tributary is:

(check one)

Natural

Artificial, man-made

Manipulated

Stream Quality ^a:

(check one)

High

Moderate

Low

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 17, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Troy Morris
U.S. Forest Service
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, Virginia 24019

**Re: Dominion Transmission, Inc., Atlantic Coast Pipeline:
Submittal of Atlantic Coast Pipeline Revised Locally Rare Species Report –
George Washington National Forest**

Dear Mr. Morris,

Atlantic Coast Pipeline, LLC (Atlantic) is a company formed by four major U.S. energy companies – Dominion, Duke Energy, Piedmont Natural Gas, and Southern Company Gas. The company was created to develop, own, and operate the proposed Atlantic Coast Pipeline (ACP), an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with Dominion Transmission, Inc. (DTI), a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

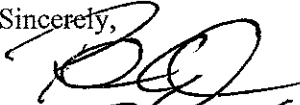
A portion of the ACP crosses U.S. Forest Service (USFS) lands within the George Washington National Forest (GWNF) in Virginia. Atlantic has prepared a report describing the potential impacts of the ACP on Locally Rare species designated in the GWNF. The Draft Locally Rare Report was provided to the GWNF on August 12, 2016. The GWNF submitted comments on this report to the Federal Energy Regulatory Commission on September 1, 2016. Atlantic submitted a letter describing the responses to the USFS comments on October 13, 2016. The USFS comments, as well as the recommendations from the Draft Environmental Impact Statement (DEIS), have been incorporated into an updated Locally Rare Report, which is enclosed for your consideration.

Mr. Troy Morris
February 17, 2017
Page 2 of 2

We would appreciate your review of the enclosed updated report and look forward to continuing to work with you on the ACP. Please contact Richard B. Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this report. Please direct written responses to:

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



FOR RICHARD GANGLE
Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

cc: Jennifer Adams, U.S. Forest Service
Richard B. Gangle, Dominion

Attachments: Atlantic Coast Pipeline Updated Locally Rare Species Report
George Washington National Forest

Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060



February 24, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Troy Morris
U.S. Forest Service
George Washington National Forest
5162 Valleypointe Parkway
Roanoke, Virginia 24019

Re: Dominion Transmission, Inc., Atlantic Coast Pipeline: Submittal of the Summary Report of Field Surveys for Forest Sensitive Species (Class Diplopoda and Gastropoda) on Federal Lands within the George Washington National Forest for the Atlantic Coast Pipeline Project in Virginia

Dear Mr. Morris,

Atlantic Coast Pipeline, LLC (Atlantic) is a company formed by four major U.S. energy companies – Dominion, Duke Energy, Piedmont Natural Gas, and Southern Gas Company. The company was created to develop, own, and operate the proposed Atlantic Coast Pipeline (ACP), an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with Dominion Transmission, Inc. (DTI), a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

Atlantic has been conducting field routing, environmental/ biological, cultural resources, and civil surveys along the proposed pipeline route to collect information needed by the Federal Energy Regulatory Commission (FERC) and other regulatory and land managing agencies to review and permit the ACP. The myriapod (centipede/millipede) and gastropod (snail) species outlined in the attached revised report were identified for survey within George Washington National Forest through consultation and coordination with the USFS and the Virginia Department of Conservation and Recreation.

The surveys within the George Washington National Forest were conducted between June 13 and 21, 2016. Although a large diversity of myriapods and gastropods were observed during these surveys, none of the target sensitive species were observed or collected. This revised report incorporates comments received by the USFS on December 19, 2016, and Appendix A reflects snail specimen QA/QC provided by independent expert Ken Hotopp. Atlantic requests concurrence that the survey efforts described in the attached report are sufficient to address these species on National Forest Service property.

We would appreciate your review and concurrence and look forward to continuing to work with you on the ACP. Please contact Richard B. Gangle at (804) 273-2814 or Richard.B.Gangle@dom.com, if there are questions regarding this report. Please direct written responses to:

Mr. Morris
February 24, 2017
Page 2 of 3

Richard B. Gangle
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,



FOR RICHARD GANGLE

Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

cc: Troy Morris, George Washington National Forest
Jennifer Adams, U.S. Forest Service
Richard B. Gangle, Dominion

Attachments: Revised Field Surveys for Forest Sensitive Species (class Diplopoda and Gastropoda) on
Federal Lands within the George Washington National Forest for the Atlantic Coast
Pipeline in Virginia