



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Matthew J. Strickler
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Memorandum

To: Members of the State Water Control Board

From: Melanie D. Davenport, Director
Water Permitting Division *Melanie D. Davenport*

Date: October 19, 2018

Subject: 401 Water Quality Certification No. 17-002 - Atlantic Coast Pipeline, LLC
Report to the Board on the Supplemental Karst Evaluation Plan, Annual
Standards and Specifications, and Erosion and Sediment Control and Stormwater
Management Plans

Background

On December 12, 2017, the State Water Control Board (Board) approved issuance of a Section 401 water quality certification (Certification) for upland activities for the Atlantic Coast Pipeline (ACP). The Certification was issued to ACP on December 20, 2017 (Attachment A). By its terms, the Board's Certification becomes effective only following "submission, review, and final approval as required by law of the Karst Mitigation Plan [Supplemental Karst Evaluation Plan], Annual Standards and Specifications, and Erosion and Sediment Control Plans and Stormwater Management Plans, and a report to the Board and the public by DEQ on the adequacy of these materials."

In order to ensure the protection of Virginia's environmental resources, the Department of Environmental Quality's (DEQ) review of the ACP has been one of the most rigorous for any pipeline previously constructed in Virginia. DEQ has developed this report to meet the Board's Certification requirements and to provide additional information to the Board and the public on the adequacy of ACP's Supplemental Karst Evaluation Plan, Annual Standards and

Specifications, and Erosion and Sediment Control and Stormwater Management Plans. Each of these documents has been subject to a thorough and comprehensive review process prior to receiving final approval from DEQ.

Supplemental Karst Evaluation Plan

In Virginia, the Department of Conservation and Recreation (DCR) administers the Virginia Cave Protection Act (Virginia Code § 10.1-1000 *et seq.*). This act created the Virginia Cave Board, whose statutory authority is to advise individuals, organizations, and public agencies on cave and karst related matters; provide cave management expertise; prepare and present educational material; identify significant caves; and recommend conservation and preservation measures for cave resources within Virginia. DEQ has worked closely with DCR's staff to the Cave Board to carefully evaluate challenges associated with constructing a pipeline in karst terrain.

With over 2,000 miles of existing gas pipelines currently constructed within the karst terrain of Virginia, Tennessee, Kentucky, and West Virginia, it has been demonstrated that pipeline construction can be safely accomplished in karst terrain. In its October 13, 2017 order granting ACP a Certificate of Public Convenience and Necessity, the Federal Energy Regulatory Commission (FERC) required ACP to implement a number of activities before, during, and after construction that are designed to greatly reduce the potential for impacts to related water resources in karst areas. These activities include utilization of subsurface analysis, existing dye tracing studies and remote sensing light detection and ranging (LiDAR) data, field identification and confirmation of sensitive features (springs, sinkholes, sinking streams, outcroppings), implementation of best work practices, deployment of onsite karst specialists, and in-field inspections and monitoring during construction. ACP has also made several major and numerous minor route adjustments to avoid karst features and sensitive water resources that were identified in its *Karst Hazard Assessment*.

FERC also required ACP to develop and implement a *Karst Mitigation Plan*, which calls for minor adjustments within the approved right-of-way to avoid karst features encountered during construction if and when necessary. ACP will implement multiple avoidance and protective measures during construction to prevent impacts to karst and water resources. Best

management practices required by Virginia's erosion and sediment control program and FERC's requirements in ACP's *Spill Prevention, Control, and Countermeasure (SPCC) Plan* and the *Karst Mitigation Plan* are designed to prevent uncontrolled releases to surface waters and karst features in order to protect underlying aquifers. ACP will deploy karst experts as on-site inspectors during all phases of construction in karst terrain to monitor karst resources, identify potential connectivity to the subterranean environment, prevent accidental surface water releases, prevent impacts to karst features, and ensure that prescribed measures are in-place to protect karst features, surface water, and groundwater resources.

Certification No. 17-002 issued to ACP requires submission and approval of a Supplemental Karst Evaluation Plan prior to initiating land disturbing activities in karst terrain. Specifically, Condition 3.c. requires: *"To further evaluate flow paths for karst features in the vicinity of the project, the Owner shall develop a Supplemental Karst Evaluation Plan to be submitted to the Department for review and concurrence prior to initiation of land disturbing activities in karst terrain. The Department, with assistance from the Virginia Department of Conservation and Recreation (DCR) identified areas of concern in Attachment B of the Department's June 15, 2017 request letter. The Owner will conduct contingency planning in accordance with the findings and conclusions of the Supplemental Plan, as appropriate, in order to monitor and mitigate a potential accidental release or spill during construction in Virginia's karst terrain."*

In response to a request for information (RFI) issued by the FERC, ACP¹ staff contracted with GeoConcepts in June 2017 to conduct a fracture trace and existing dye trace review along the proposed route. Additionally, DEQ and DCR staff met with ACP's consultants at a karst work session on June 8, 2017 to discuss various karst related issues. DEQ included these items in the June 15, 2017 letter requesting additional information related to karst protections and as a result, the scope of GeoConcept's work was extended to conduct new dye traces on specific areas along the proposed route alignment in Virginia.

Geologists from DEQ, DCR, and GeoConcepts identified ten areas where sinkholes,

¹ Many of the documents that are referenced in this report and that have been approved by DEQ refer to Dominion Transmission Inc. (DTI). ACP has contracted with DTI, a subsidiary of Dominion Resources, Inc. to construct and operate the ACP.

caves, or stream swallets located along the ACP route alignment could possibly affect the karst aquifer and could be tested for hydrologic connectivity to the surrounding springs. The group further agreed that six of the ten sites had either been previously dye traced or did not have sinkholes amenable to the injection of the dye so they were eliminated from consideration. The results of the additional dye tracing were submitted to DEQ and DCR in the June 15, 2018 report titled “Fracture Analysis and Dye Trace Report – Dominion Atlantic Coast Pipeline (Revision 1).” DEQ and DCR reviewed the report, and DEQ concurred in a letter dated October 15, 2018 that the dye tracing described in the report evaluated the flow paths for karst features identified in Attachment B of DEQ’s June 15, 2107 RFI, as required by Condition 3.c of Section 401 Water Quality Certification No. 17-002.

It is important to note one of the results of this study revealed that there was potentially a significant impact to the Deerfield public water supply, which is operated by the August County Service Authority (ACSA), if contaminants resulting from the pipeline construction impact Hamilton Branch or its tributaries. The data also established unequivocally that the Deerfield water supply well and spring are under significant influence of surface water. Based on this information, ACP eliminated the two proposed laydown yards and associated bulk fuel storage near Hamilton Branch. As a result, the risk of hydrocarbon impact to the system has decreased significantly since DEQ reviewed the project.

Further, DEQ has facilitated discussions between ACP and ACSA regarding additional monitoring recommendations suggested by DEQ even though this monitoring goes beyond the requirements of the 401 Certification. ACSA and ACP are working to finalize an agreement to implement additional mitigation measures including the proactive installation of a granulated activated carbon (GAC) pretreatment system to the Deerfield pump house and establishment of emergency water hauling contracts (including infrastructure modifications if necessary) in the event that the Deerfield well and spring are impacted for an extended period of time.

In response to the findings of the Fracture Trace and Dye Trace Study, DEQ and DCR consulted with ACP and requested that GeoConcepts provide a Karst Area Contingency Guidance Plan (KACGP) for delineated watersheds. The KACGP, dated June 15, 2018 (Attachment B) was developed to ensure compliance with Condition 3.c of Certification No. 17-

002. The purpose of this document is to be used in contingency planning to identify specific karst locations that will require monitoring during construction and, in the event of an accidental spill in karst terrain during construction, mitigation. This field manual identifies all milepost sections of the ACP limit of disturbance that overlie or are connected to karst terrain. It provides designation by route segment as defined by construction mileposts of karst waters (springs or cave streams) potentially at risk for impacts from construction activities. Pre-designation and association of these corridor segments will be used in contingency planning to identify specific karst locations that require monitoring and any potential mitigation in the event of an accidental spill during construction in karst terrains.

The field manual will also assist ACP in identifying surface water locations in other areas of karst terrain outside the identified mileposts shown in the manual. This will be an additional resource to utilize along with other studies and plans such as the Karst Hazards Assessment, Karst Mitigation Plan, Erosion and Sediment Control Plan, and SPCC for deployment of recovery and mitigation measures in the event of an accidental release during construction activities. Each of these documents have been subject to a thorough and comprehensive review to ensure the protection of karst resources.

Annual Standards and Specifications

State law requires natural gas pipeline utilities conducting land disturbing activities meet the requirements for the Virginia Erosion and Sediment Control Program (VESCP) and the Virginia Stormwater Management Program (VSMP) under a DEQ-approved Annual Standards and Specifications (AS&S) Program. The Virginia Stormwater Management Program law and regulations establish that land disturbance associated with pipeline construction activities must satisfy the requirements of the stormwater and erosion and sediment control laws and regulations.

Virginia Code § 62.1-44.15:52 provides that Virginia's erosion and sediment control program and regulations shall be designed to prevent unreasonable degradation of properties, stream channels, waters, and other natural resources by providing for effective control of soil erosion, sediment deposition, and nonagricultural runoff from regulated land-disturbing activities. The VESCP is authorized by the Virginia Erosion and Sediment Control Law and

implemented through the Virginia Erosion and Sediment Control Regulations. These regulations specify the "minimum standards" that must be followed on all regulated activities including erosion and sediment control design criteria, techniques, practices, and policies.

Virginia Code § 62.1-44.15:25 provides that the VSMP shall be designed to ensure the general health, safety, and welfare of the citizens of the Commonwealth and to protect the quality and quantity of state waters from the potential harm of unmanaged stormwater. The VSMP is authorized by the Virginia Stormwater Management Act and implemented through the Virginia Stormwater Management Program Regulations. The VSMP addresses stormwater management at three critical phases: (1) before construction starts through the review and approval of plans to ensure that local and state regulatory design criteria have been satisfied to protect state waters from unmanaged stormwater; (2) during construction through the inspection of erosion and sediment control practices, pollution prevention measures, and the installation of stormwater best management practices that are used to prevent or reduce the pollution of state waters after construction is complete; (3) and after construction through the inspection of best management practices (BMPs) to ensure proper maintenance is being performed by the owner.

In describing the requirement for the development of an annual standards and specification program, Virginia Code § 62.1-44.15:31 states:

State entities, including the Department of Transportation, and for linear projects [including construction, installation, or maintenance of electric transmission, natural gas, and telephone utility lines and pipelines, and water and sewer lines], electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies, and railroad companies shall ... annually submit a single set of standards and specifications for Department approval that describes how land-disturbing activities shall be conducted. Such standards and specifications shall be consistent with the requirements of this article and associated regulations, including the regulations governing the General Virginia Stormwater Management Program (VSMP) Permit for Discharges of Stormwater from Construction Activities and the Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.) and associated regulations. ... The standards and specifications shall include:

- 1. Technical criteria to meet the requirements of this article and regulations developed under this article;*
- 2. Provisions for the long-term responsibility and maintenance of stormwater management control devices and other techniques specified to manage the*

quantity and quality of runoff;

3. Provisions for erosion and sediment control and stormwater management program administration, plan design, review and approval, and construction inspection and enforcement;

4. Provisions for ensuring that responsible personnel and contractors obtain certifications or qualifications for erosion and sediment control and stormwater management comparable to those required for local government;

5. Implementation of a project tracking and notification system to the Department of all land-disturbing activities covered under this article; and

6. Requirements for documenting onsite changes as they occur to ensure compliance with the requirements of the article.

Virginia law, in § 62.1-44.15:31, affirmatively gives authority that would normally be delegated to a locality for the review, approval and enforcement of erosion control and stormwater management plans to the utility, with limited oversight by DEQ through review and approval of annual standards and specifications.

ACP worked for approximately twelve months to develop, revise and refine AS&S in order to meet Virginia's legal and technical requirements. The AS&S, which incorporates both erosion and sediment control and stormwater management, were approved by DEQ on July 5, 2017 and revised AS&S were approved on October 18, 2018 (Attachment C). The AS&S identify the means and methods for the control of erosion and runoff resulting from land disturbing activities during construction and management of post-construction stormwater during the operation and maintenance phase of project, establishes calculation methodologies, and provides and explains calculation assumptions. The AS&S also establish procedures for internal review and approval of the erosion and sediment and stormwater management plans and development of a self-inspection program.

Atlantic Coast Pipeline Project Specific Erosion and Sediment Control and Stormwater Management Plans

DEQ required ACP to submit project specific erosion and sediment control (ESC) and stormwater management (SWM) plans for DEQ review and approval. This process provides additional protections as these plans are typically not required when approved annual standards

and specifications (AS&S) are followed. Virginia Code § 62.1-44.15:55.D states that “[i]ndividual approval of separate projects within subdivisions 1 and 2 is not necessary when approved specifications are followed.” Subdivision 1 applies to construction, installation, or maintenance of electric transmission, natural gas, and telephone utility lines and pipelines. DEQ retains compliance and enforcement authority over any project-specific erosion and sediment control and stormwater plan. Requiring the submittal of ESC and SWM plans for review provides an additional measure to ensure protection of state waters. These project-specific plans covered every foot of land disturbance proposed by ACP related to pipeline construction, including the path of the proposed pipeline right-of-way (ROW), temporary access roads, construction lay-down areas, and construction activities that will occur in streams and wetlands. Even though state law does not provide for public participation in the ESC and SWM programs, DEQ required ACP to post the initial draft plans to its website so that the public could review and provide input to DEQ on technical and engineering requirements.

DEQ also contracted with an outside engineering consulting firm to assist in reviewing the ESC and SWM plans. This third-party review provided additional assistance to ensure that the plans met the design requirements contained in Virginia’s regulations, including post-construction stormwater water quality and quantity requirements. As part of the review process, DEQ and the contractors verified the boundaries of the proposed land disturbing activities where the ROW intersects privately owned property as well as locations supporting the construction activity, such as the contractor yards and staging areas. The narrative descriptions of the work to be completed were compared across all project documents to make sure components such as project scheduling, construction sequencing, temporary ESC measure installation, and the extent of land disturbance were consistent. DEQ confirmed that crossings identified on the plans were consistent with wetland and stream crossings in documentation submitted by ACP to the U.S. Army Corps of Engineers and Virginia Marine Resource Commission for review.

A significant portion of the review effort focused on determining the curve number for the length of the project. The curve number is used to predict the amount of direct runoff from a site and is based on soil characteristics, land use, and hydrologic function. As a component of the curve number, accurate soil delineation is necessary because soil characteristics such as texture, organic content, structure, and permeability are part of determining the infiltration

capabilities or stormwater runoff potential. Although DEQ worked closely with the consulting engineers and ACP throughout the review process, DEQ remained the approving authority.

Project specific ESC and SWM plans reviewed by DEQ cover approximately 307 miles of pipeline construction ROW, and the plans have been in development since July 2017. DEQ and its contractors reviewed every sheet of the ESC and SWM plans over the course of this fifteen-month review period, and required ACP to submit hundreds of modifications and revisions to the submissions. This intensive review, comment, and revision process resulted in project plans that meet the technical standards and criteria set out in the ESC and SWM regulations.

A large amount of physical, topographic, geographic, and engineering information was needed to develop thorough and accurate ESC and SWM plans. In order to approve ACP's project-specific plans, DEQ has reviewed and checked all of this information, which involved thousands of plan sheets. Attachment D provides a summary list of the numerous review considerations involved in plan review and approval. The review included elements such as confirming the physical characteristics of the site were accurately depicted, validating site-specific calculations were performed correctly, and verifying control specifications were designed in a manner to achieve maximum control of stormwater runoff.

DEQ approved ACP's project-specific ESC and SWM plans by letter dated October 19, 2018 (Attachment E). Further information regarding the criteria for and review of the ESC and SWM plans is described in more detail below.

Erosion and Sediment Control Plans

Virginia's Erosion and Sediment Control Regulation requires the development of a plan that demonstrates compliance with the criteria described in nineteen (19) Minimum Standards (9VAC25-840-40). The Virginia Erosion and Sediment Control Handbook (Handbook) establishes the minimum design, techniques, methods, and implementation standards for practices that are utilized to achieve the Minimum Standards. The Handbook is intended to serve as a technical guide, but innovative modifications to the control measures or design procedures are acceptable and encouraged, particularly to improve mitigation of sediment loss. Any proposed deviations from the Handbook are reviewed for conformance to meet the ESC Minimum Standards. Inherent in the development and approval of an erosion and sediment

control plan is the application of best professional judgment and definition of underlying assumptions. In approving these project specific plans, DEQ has deliberately required application of a number of conservative assumptions to the design requirements.

In addition to the broad scope review items detailed above, additional elements were reviewed for the construction phase of the project as is typical when performing ESC and SWM plan reviews. These items include verification that the time of concentration calculations were accurate based on the appropriate curve numbers, validation of the local annual precipitation statistics, assurance that the plans include field identification methods for sensitive features such as wetlands, historical resources, and conserved areas, assurance that runoff from drainage areas does not cause exceedances of sump and level spreader capacity, and verification of temporary and permanent water bar spacing. Inspection and maintenance requirements of controls were reviewed to ensure the measures will perform as designed and intended for the duration of the project.

Items reviewed for post-construction included ensuring any temporary measures during construction proposed for conversion to permanent measures are identified and included on post-construction plan sheets, proposed stabilization methodologies for all types of terrain and at waterbody crossings, and confirmation that the site's post-construction grade and land cover are returned to the pre-construction condition. For areas where the site is not returned to the pre-construction condition, the calculations required by the Virginia Runoff Reduction Method were reviewed to determine load reduction requirements.

DEQ also required ACP to utilize a number of erosion and sediment control practices during construction. The most frequent practices are clean water diversions (CWDs), enhanced inspection frequency, installation of temporary water bars, dry ditching of stream crossings (unless directional drilling is utilized), perimeter structural controls such as silt fencing, temporary seeding/mulching of all disturbed areas within seven days of inactivity, top soil segregation and reuse, soil decompaction specifications, and native seed mix for permanent stabilization and revegetation. These structural and vegetative practices were selected based on the physical characteristics of the site. DEQ verified site topography depicted on the plans from LIDAR (remote sensing using Light Detection and Ranging) imagery collected by aircraft. Using

the LIDAR imagery provided actual site conditions such as land cover, elevation, slopes, waterbodies, etc.

DEQ's review of erosion and sediment control and stormwater management plans encompassed a thorough and extensive verification of the project components depicted on over a thousand plan sheets. The review included multiple elements such as confirming the physical characteristics of the site are accurately depicted, site-specific calculations are performed correctly, and control specifications are designed in a manner to achieve the maximum runoff control. Accuracy of existing site characteristics such as land cover, slopes, soils, waterbodies, and other sensitive features were verified using reference material or in-the-field verification.

The approved ESC plans require ACP to install approximately 3,100 individual clean water diversions during right-of-way construction. CWDs prevent clean water from running onto the construction ROW, picking up sediment, and subsequently transporting sediment off site. CWDs also reduce the volume of water that has come in contact with disturbed land and allow for installed erosion control features to operate more effectively. ACP will also install temporary water bars, which are a ridge or channel constructed diagonally across the right-of-way to convey water off the construction site. Also known as slope breakers, they break the flow into smaller volumes to control the velocity of the water coming off the site. All temporary water bars will have compost filter sock outlet protection and an excavated sump for additional capacity to filter runoff. ACP will utilize a variety of perimeter controls during the construction process, including silt fence, super silt fence, compost filter sock, and belted silt retention fence on all downslope edges based on contributing slope lengths. These perimeter controls protect water bodies from sediment-laden runoff.

The ESC plans include a stream crossing restoration detail, which depicts the restoration sequence and mitigates erosion of streambanks during the operational life of the pipeline. Permanent water bars will be installed within 25 feet of all water body banks.

The specifications for both soil decompaction and top soil segregation are designed to improve plant growth and vitality and reduce runoff after stabilization. The specification for the permanent seed mix includes use of a native seed mix, which was developed to return the limits of disturbance to native habitat and provide suitable habitat for wildlife in the permanent ROW.

The submitted ESC plans included a request for a variance to Minimum Standard 16, which states in part that during construction of underground utility lines no more than 500 linear feet of trench may be opened at one time. The Erosion and Sediment Control Regulation, 9VAC25-840-50, provides that a variance may be granted when any technical requirement is inappropriate or too restrictive for site conditions. The regulation requires that a project applicant explain the reasons for the requested variance in writing, and any allowed variances must be documented in the ESC plan. The regulation also provides that in considering the request, DEQ is to consider the need of the applicant to maximize cost effectiveness and the need to protect off-site properties and resources from damage.

DEQ has evaluated a number of factors in reviewing this variance request, including the construction techniques that will be utilized, the equipment required for construction, the length of the project, the diameter of the pipe involved, and the need to create safe working conditions for all employees involved in the project. The variance approved with the ESC plans allows (i) in low slope areas (less than 10 percent slope), the maximum continuous length cannot exceed 7,000 feet; (ii) in areas where slopes range from ten (10) percent to 33 percent, the trench must be interrupted every 5,000 feet; and, (iii) in steep slope areas (where the slope exceeds thirty three (33) percent), the open trench must be interrupted every 2,500 feet. Regardless of these limitations established based on slope, no more than 16,000 feet of trench total per spread may be open at any one time.

DEQ has reviewed the land disturbing activities submitted on the ESC plans for the ACP using the principles and methodologies described above. The ESC plans were determined to be consistent with state law and regulations established to provide effective control of soil erosion, sediment deposition, and runoff from the construction activities, and therefore, the plans have been approved.

Post-Construction Stormwater Management Plans

Similar to the erosion and sediment control plans, DEQ also required ACP to submit detailed, project-specific post-construction stormwater calculations and plans for the project. These post-construction stormwater management plans must comply with Virginia's stormwater regulations, which are designed to protect water quality after construction by meeting both the

water quality and quantity requirements (including channel, flood, and sheet flow requirements) in accordance with the Virginia Stormwater Management Program Regulation, 9VAC25-870.

In order to meet the post-construction water quality and quantity requirements of Virginia's Stormwater Management Program Regulation, DEQ required ACP to install approximately 4,000 permanent water bars across the stabilized ROW. A water bar is a small ditch or ridge of material that is constructed diagonally across the right-of-way to divert stormwater runoff. These permanent features will provide treatment at the end of each water bar. This treatment is designed to ensure stormwater runoff from the ROW will be converted to sheet flow and will not occur at erosive velocities.

In order to minimize stormwater impacts, ACP will also utilize a construction method called Horizontal Directional Drilling (HDD) in a number of locations along the alignment. HDD is a trenchless method that is used to minimize the impacts of pipe installation from one point to another by drilling under existing ground, large bodies of water, and other sensitive or critical areas that are in between two points. ACP will utilize HDD for this project to traverse the Blue Ridge Parkway and to cross the James River, the Nottoway River, the Blackwater River, the Western Branch Reservoir, Lake Prince, the Western Branch of the Nansemond River, the Nansemond River, and the South Branch of the Elizabeth River. A number of erosion and sediment control practices are required during HDD operations, including installation of perimeter ESC measures at the drill entry and exit locations to minimize sedimentation off site, dewatering structures, temporary stabilization of cuttings, and recycling of makeup water.

Upon review, DEQ has determined that the SWM plans submitted by ACP adequately address the items above, and the post-construction stormwater requirements are consistent with the statutory and regulatory requirements of the Virginia Stormwater Management Program. Therefore, the SWM plans for the ACP have been approved.

Conclusion

As shown in this report, DEQ's oversight process for ACP has been rigorous and extensive. DEQ has carefully reviewed ACP's Supplemental Karst Evaluation Plan, Annual Standards and Specifications, and Erosion and Sediment Control and Stormwater Management Plans and has determined that each of these documents complies with applicable laws and

regulations. The control measures approved in ESC and SWM plans and the karst mitigation plans go above and Virginia's minimum statutory and regulatory requirements.

Attachment A



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward
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December 20, 2017

Certified Mail

Richard B. Gangle
Manager, ACP Environmental Support
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Re: Issuance 401 Water Quality Certification
No. 17-002

Dear Mr. Gangle:

Enclosed is Section 401 Water Quality Certification No. 17-002 issued to Atlantic Coast Pipeline, LLC (ACP) on December 20, 2017. It should be noted that the decision of the State Water Control Board (Board) on December 12, 2017 to issue 401 Water Quality Certification No. 17-002 included a delayed effective date based on submission and approval of certain information.

Specifically, Section III SCOPE OF CERTIFICATION includes, "This certification shall be effective only following submission, review and final approval as required by law of the Karst Mitigation Plan, Annual Standards and Specifications, and Erosion and Sediment Control Plans and Stormwater Management Plans, and a report to the Board and the public by DEQ [Department of Environmental Quality] on the adequacy of these materials."

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Alternatively, any owner aggrieved by any action of the State Water Control Board taken without a formal hearing, or by inaction of the Board, may petition in writing for a formal hearing of such owner's grievance, provided a petition requesting such hearing is filed with the Board. Said petition must meet the requirements set forth in 9VAC25-230-130 (Procedural Rule No. 1 – Petition for formal hearing). In cases involving actions of the Board, such petition must be filed within thirty days after notice of such action is mailed to such owner by certified mail.

If you have any questions about this Certification, please contact Melanie Davenport at (804) 698-4038 or Melanie.Davenport@deq.virginia.gov.

Sincerely,



James J. Golden
Director of Operations

Enclosure 401 Certification No, 17-002



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CERTIFICATION No. 17-002

401 Water Quality Certification Issued To

Atlantic Coast Pipeline, LLC
5000 Dominion Boulevard
Glen Allen, VA 23060

Pursuant to Guidance Memo No. GM17-2003
Interstate Natural Gas Infrastructure Projects -
Procedures for Evaluating and Developing Additional Conditions for Section 401 Water Quality
Certification Pursuant to 33 USC § 1341 ("401" Certification)

I. CERTIFICATION

The State Water Control Board finds that, subject to the additional conditions set out in Section V below, there is reasonable assurance that the Atlantic Coast Pipeline, LLC activities covered by this Certification will be conducted in a manner that will not violate applicable Water Quality Standards in 9 VAC 25-260-5, *et seq.*, and will comply with the applicable provisions of 33 U.S.C. §§ 1311, 1312, 1313, 1316, and 1317.

II. DEFINITIONS

The following terms as used in this Certification shall have the following meaning:

"Annual Standards and Specifications" means the program for linear utility projects implementing the requirements of the Stormwater Management Act (Va. Code § 62.1-44.15:24, *et seq.*) and Erosion and Sediment Control Law (Va. Code § 62.1-44.15:51, *et seq.*).

"Board" means State Water Control Board.

"Certification" means Clean Water Act Section 401 Water Quality Certification developed in accordance with Guidance Memo No. GM17-2003, Interstate Natural Gas Infrastructure Projects

– Procedures for Evaluating and Developing Additional Conditions for Section 401 Water Quality Certification Pursuant to 33 USC § 1341 (“401” Certification).

“Construction material or waste material” means solid waste as defined in the Solid Waste Management Regulations (9 VAC 20-81-95).

“Corps” means U.S. Army Corps of Engineers.

“Department” means the Virginia Department of Environmental Quality.

“Environmental Impact Statement” or “EIS” means the Final Environmental Impact Statement (FEIS) issued by FERC on July 21, 2017.

“FERC” means the Federal Energy Regulatory Commission.

“Guidance” means Guidance Memo No. GM17-2003, Interstate Natural Gas Infrastructure Projects - Procedures for Evaluating and Developing Additional Conditions for Section 401 Water Quality Certification Pursuant to 33 USC § 1341 (“401” Certification) dated May 19, 2017.

“Karst feature” means any sinkhole, sinkhole lineament, cave, cavern, swallet, spring, or similar feature found in an area identified as an area of karst geology characterized by the presence of soluble bedrock such as limestone, dolomite, marble or gypsum. Karst features shall include all such features identified in Appendix L of the EIS and any subsequently identified features in areas of karst geology.

“Owner” means Atlantic Coast Pipeline, LLC (Atlantic) a company formed by four major U.S. energy companies including Dominion Resources, Inc. (Dominion); Duke Energy Corporation; Piedmont Natural Gas Co., Inc.; and Southern Company Gas, Inc. Dominion Energy Transmission, Inc. has been contracted by Atlantic to construct and operate the project.

“Project” means an interstate natural gas transmission pipeline approximately 605 miles in length to transport up to 1.5 MMDth/d of natural gas from supply areas in the Appalachian region of West Virginia to demand areas in Virginia and North Carolina. In Virginia, the 42-inch pipeline will cross Highland, Bath, Augusta, Nelson, Buckingham, Cumberland, Prince Edward, Nottoway, Dinwiddie, Brunswick, and Greensville Counties, and include a compressor station and interconnection with existing pipelines in Buckingham County. A 20-inch lateral will run from a compressor station in Northampton County, North Carolina through Greensville and Southampton Counties and the Cities of Suffolk and Chesapeake, Virginia. Two short 16-inch laterals will serve electric generating facilities in Brunswick and Greensville Counties. Approximately 307 miles of pipeline traverse the Commonwealth of Virginia.

“Riparian buffer” means a vegetated area near a stream, usually forested, which helps shade and partially protect a stream from the impact of adjacent land uses.

III. SCOPE OF CERTIFICATION

This Certification addresses Project activities in upland areas outside of the Corps jurisdictional areas under 33 U.S.C. § 1344 and water withdrawal activities that are exempt from coverage under the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10, *et seq.*). In the manner and to the extent described herein, this includes all proposed upland activities associated with the construction, operation, maintenance, and repair of the pipeline, any components thereof or appurtenances thereto, and related access roads and rights-of-way as well as certain project-related surface water withdrawals. This Certification covers all relevant upland Project activities within the route identified in the Environmental Impact Statement.

As this Certification and the conditions contained in Section V are intended to address Project activities that are outside the jurisdictional scope of the Virginia Water Protection Permit Program Regulation, this Certification shall not be interpreted as limiting or otherwise relieving the Owner of any conditions for any portion of the Project that are imposed pursuant to the Virginia Water Protection Permit Program Regulation, to any permit issued by the Corps or Virginia Marine Resources Commission in response to the September 16, 2015 joint permit application, or to any other separate state or federal permit, license, or approval required for the Project.

This certification shall be effective only following submission, review and final approval as required by law of the Karst Mitigation Plan, Annual Standards and Specifications, and Erosion and Sediment Control Plans and Stormwater Management Plans, and a report to the Board and the public by DEQ on the adequacy of these materials. The Board may consider further actions on the Certification following the review of the DEQ report.

Pursuant to 33 U.S.C. § 1341 (a)(3), the Board reserves the right to impose further conditions if any existing plans and/or mitigation measures are amended by the Owner and/or FERC that may materially reduce the water quality protection provided thereunder.

IV. INFORMATION EXAMINED

In developing this Certification and the additional conditions imposed herein, the Board and Department have considered the record relevant to water quality considerations associated with the Project, including but not limited to:

1. All applicable FERC documents, including Draft and Final Environmental Impact Statements issued by FERC and the associated docket materials including all Appendices, and the FERC order granting a Certificate of Public Convenience and Necessity (Certificate) on October 13, 2017;
2. The Department's initial Request for Information (RFI) dated May 19, 2017 in accordance with the Guidance, the Department's subsequent June 15, 2017 RFI and the Owner's June 1, 2017, June 23, 2017 and June 27, 2017 responses including but not limited to requested supplemental responses dated November 1, 2017 and November 6, 2017;

3. Proceedings of the multi-agency technical work session held June 6-7, 2017 (Lexington, Virginia);
4. Documents submitted for approval by the Department pursuant to requirements of the Stormwater Management Act (Va. Code § 62.1-44.15:24, *et seq.*) and Erosion and Sediment Control Law (Va. Code § 62.1-44.15:51, *et seq.*);
5. Corps Nationwide Permit 12 and Norfolk District Regional Conditions;
6. Guidance Memo No. GM17-2003, Interstate Natural Gas Infrastructure Projects-Procedures for Evaluating and Developing Additional Conditions for Section 401 Water Quality Certification Pursuant to 33 USC § 1341 (“401” Certification); and,
7. Public comments submitted during the public comment period, including both written (electronic or paper copy) and oral comments provided during the August 7, 10 and 14, 2017 public hearings.

V. CONDITIONS

In consideration of the recommendations of the Department, the Board finds that there are additional reasonable and prudent conditions that will provide the Commonwealth with an increased degree of assurance that upland Project activities which may result in a discharge to surface waters will be conducted in a manner that will not violate applicable water quality standards. This Certification is only valid provided the Owner complies with the following conditions, limitations, and/or requirements:

1. The Owner shall follow the measures detailed in its June 1, 2017, June 23, 2017 and June 27, 2017 responses to the Department’s May 19, 2017 and June 15, 2017 Requests for Information including but not limited to requested supplemental responses dated November 1, 2017 and November 6, 2017.
2. Riparian Buffer Requirements
 - a. Removal of riparian buffers not directly associated with the Project’s construction activities is prohibited. Disturbance and removal of riparian buffers from Project-related upland land disturbing activities that would occur within 50 feet of any perennial, intermittent, or ephemeral surface waters shall be avoided where possible, and minimized to the maximum extent practicable if 50 feet is not possible. The Owner shall notify the Department of any and all instances in which it believes 50 feet is not possible and shall proceed only where the Department concurs with the Owner’s use of less than 50 feet of buffer. Removal of riparian buffers not associated with crossings shall not be allowed where stream bank stability under normal flow conditions would be compromised.
 - b. The construction limit of disturbance (LOD) in upland areas approaching waterbody and wetland crossings shall be reduced from 125 feet to 75 feet wide and shall apply 50 feet from each side of the stream or wetland crossing to minimize the extent of riparian buffer disturbance. For any upland area approaching a waterbody or wetland

crossing where this reduced LOD is not possible, a written justification shall be provided to the Department for review and approval prior to initiating land disturbing activity in that area.

- c. No refueling, hazardous materials storage, equipment maintenance, or equipment parking will take place within 100-feet of the waterbody or wetland crossing, except as allowed by the approved Annual Standards and Specifications.

3. Karst Terrain Requirements

- a. An addendum to the Karst Survey Report (February 21, 2017), and any subsequent revisions or addenda to the same approved by FERC, will be provided to the Department upon completion of field survey activities and final pipeline alignments, and prior to land disturbing activities, that address those properties in Virginia where the Owner could not previously conduct karst surveys due to land access restrictions.
- b. The Owner shall follow the measures as detailed in the Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan (January 20, 2017), and any subsequent revisions or addenda to the same approved by FERC.
- c. To further evaluate flow paths for karst features in the vicinity of the project, the Owner shall develop a Supplemental Karst Evaluation Plan to be submitted to the Department for review and concurrence prior to initiation of land disturbing activities in karst terrain. The Department, with assistance from the Virginia Department of Conservation and Recreation (DCR) identified areas of concern in Attachment B of the Department's June 15, 2017 request letter. The Owner will conduct contingency planning in accordance with the findings and conclusions of the Supplemental Plan, as appropriate, in order to monitor and mitigate a potential accidental release or spill during construction in Virginia's karst terrain.
- d. The Owner shall: (1) conduct a survey to identify wells, cisterns, springs, and other surface waters within 1,000 feet of the project centerline in areas known to have karst topography; and, (2) conduct one water quality sampling event to evaluate wells and springs used for human consumption and located between 500 feet to 1000 feet from the project centerline. The sampling shall include the parameters identified in Resource Report 2, Section 2.1.6, and any subsequent revisions or addenda to the same approved by FERC. The survey and/or water quality sampling event shall be conducted by the Owner at the request of a property owner and only if the property owner provides permission for access. This survey and/or water quality sampling event shall be conducted before the pipeline is placed into operation. The Owner must complete any survey and water quality evaluation requests received at least 30 days prior to placing the project in service.
- e. The Owner shall provide a financial responsibility demonstration to the Department in the amount of five million dollars (\$5,000,000), to support the Complaint Resolution Process contained in Resource Report 2, Section 2.1.6 in the event of

private water supply used for human consumption is impacted from project construction activities.

This demonstration requirement may be satisfied by any of the financial assurance mechanisms that are set forth in 9 VAC 25-650-90 through 9 VAC 25-650-130. The mechanism or combination of mechanisms shall not be accessible by third parties and shall be used by the Department to implement the Complaint Resolution Process contained in Resource Report 2, Section 2.1.6 when necessary due to the Owner's failure to do the same.

The mechanism or combination of mechanisms shall be submitted to the Department for review and approval and must contain such wording and terms as specified by the Department to satisfy this condition.

The demonstration, having been approved by the Department, shall be made available prior to initiation of land disturbing activities in karst terrain and shall be maintained until 180 days after all land disturbing activity associated with the construction of the pipeline, and related access roads and rights-of-way have achieved final stabilization as required by the Erosion and Sediment Control Law (Va. Code § 62.1-44.15:51, *et seq.*). The Department will notify the Owner when the conditions to release the financial demonstration have been met.

4. Surface Water Withdrawals

- a. Any surface water withdrawals for the purposes of hydrostatic testing shall not violate applicable Water Quality Standards and shall be managed so that no more than 10% of the instantaneous flow rate from the channel is removed; the intake screens shall be designed so that screen openings are not larger than 1 millimeter and the screen face intake velocities are not greater than 0.25 feet per second.
- b. Any surface water withdrawals for the purposes of horizontal directional drilling or dust control that do not exceed 10,000 gallons per day from non-tidal waters or two million gallons per day from tidal waters shall not violate applicable Water Quality Standards and shall be managed so that no more than 10% of the instantaneous flow rate from the channel is removed and the intake screens shall be designed so that screen openings are not larger than 1 millimeter and the screen face intake velocities are not greater than 0.25 feet per second.
- c. Daily withdrawals from horizontal directional drilling or dust control activities that exceed 10,000 gallons per day from non-tidal waters and two million gallons per day from tidal waters must comply with the requirements of the Virginia Water Protection Permit Program Regulation. The Owner shall record and track the daily volumes of water withdrawn for horizontal directional drilling or dust control activities and make such records available during inspection or upon request by the Department.

- d. Hydrostatic test water shall be released to upland areas through energy dissipating dewatering devices. The energy dissipating dewatering devices must be sized to accommodate the rate and volume of release and be monitored and regulated to prevent erosion and over pumping of the energy dissipating dewatering devices. There shall be no direct point source discharge or intentional indirect discharge of hydrostatic test water to surface waters. The upland discharge of hydrostatic test waters shall be monitored in accordance with the General Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation and Hydrostatic Tests (9 VAC 25-120-10, *et seq.*) (“VPDES General Permit”). The Owner shall record and track the daily volumes of water withdrawn for hydrostatic testing activities and make such records available during inspection or upon request by the Department. In the event of an inadvertent indirect discharge to surface waters, the Owner shall be responsible for ensuring that such discharge complies with all requirements of the VPDES General Permit, including the requirement to notify the Department within 14 days.
5. The Owner shall implement water quality monitoring in accordance with the Virginia Water Quality Monitoring Plan (June 2017 and additional information submitted June 23, 2017 and June 27, 2017).
6. The Owner shall implement the measures identified in the Spill Prevention, Control, and Countermeasure (SPCC) Plan Rev 2 (June 21, 2017), and any subsequent revisions or addenda to the same approved by FERC.
7. All construction and installation associated with the Project, except as permitted by the Corps, shall be accomplished in such a manner that construction material or waste material shall not be placed into any perennial, intermittent, or ephemeral surface waters or karst features.
8. The Owner shall implement the measures intended to minimize the potential for discharges of soil or rock as detailed in the Blasting Plan Rev 3 (November 1, 2016) and the Best in Class Steep Slope Management Program (June 23, 2017 and June 27, 2017), and any subsequent revisions or addenda to the same approved by FERC. The Owner shall notify the Department immediately, but no later than 24 hours after discovery, if blasting or landslide activity results in unpermitted discharges of soil or rock to any perennial, intermittent, or ephemeral surface waters. Any potential impacts to karst features will be addressed in accordance with the Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan (January 20, 2017).
9. The Owner shall follow the measures intended to minimize the potential for impacts as detailed in the Plan to Protect Water Quality from Acid Forming Materials (June 23, 2017 and June 27, 2017), and any subsequent revisions or addenda to the same approved by FERC.

10. The Temporary Construction Site (CY GWNF-6 Spr 04-A) located near the Town of Deerfield above the losing portion of Hamilton Branch shall maintain a vegetative buffer of 400 feet from Rt. 629 and follow the procedures for a Restricted Refueling Area as detailed in the SPCC Plan Section 5.0.
11. The Project, including all relevant records, is subject to inspection at reasonable hours and intervals by the Department or any authorized representative of the Department to determine compliance with this Certification.
12. The Owner shall provide the Department with written or electronic notification at least 10 business days prior to any planned Construction Spread pre-construction conferences.
13. The Owner shall immediately notify the Department of any modification of this Project and shall demonstrate in a written statement that said modifications will not violate any conditions listed in this Certification. If such demonstration cannot be made, the Owner shall apply for a modification of this Certification.
14. The Owner shall comply with the requirements of the Stormwater Management Act (Va. Code § 62.1-44.15:24, *et seq.*) and Erosion and Sediment Control Law (Va. Code § 62.1-44.15:51, *et seq.*) and the Virginia Water Protection Permit Program Regulations (9 VAC 25-210-10, *et seq.*). The enforceability under this Certification is in addition to the independent enforcement authority of each individual program and/or permit.
15. This Certification is subject to revocation for failure to comply with the above conditions after a proper hearing. Any unpermitted or unauthorized direct or indirect discharge to State waters shall be subject to enforcement under the State Water Control Law.
16. The terms and conditions of this Certificate shall remain in effect until 180 days after all land disturbing activity associated with the construction, operation, maintenance, and repair of the pipeline, and related access roads and rights-of-way have achieved final stabilization as required by the Erosion and Sediment Control Law (Va. Code § 62.1-44.15:51, *et seq.*).
17. This Certification is binding on the Owner and any successors in interest, designees and assigns, jointly and severally.

VI. CONCLUSION

The additional conditions contained in Section V of this Certification along with the requirements imposed by the VWP regulation, the Corps Section 404 permitting requirements, and prior regulatory actions associated with the approval and requirements of the July 2017 Annual Standards and Specifications, and the April 7, 2017 Section 401 Water Quality Certification of the Corps Nationwide Permit 12 provide reasonable assurance that water quality standards will not be violated. The conditions included in this Certification for upland areas are

in addition to any other federal or state permit or regulatory requirements with which the Project must comply, including federal resource agency requirements embodied in the FERC certificate.

This Certification constitutes the Commonwealth's final decision on the upland activities associated with the construction, operation, maintenance, and repair of the Project under the requirement of Clean Water Act § 401. The provisions of this Certification are severable and should any provision(s) of this Certification be declared invalid or unenforceable, the remainder of the Certification, including without limitation any additional conditions imposed hereunder, shall continue in full force and effect. The Commonwealth reserves its right to review this certification decision and take any appropriate action in accordance with 33 U.S.C. § 1341(a)(3). This Certification applies solely to upland activities authorized by FERC and shall not waive or otherwise impair or affect the authority of the Board to require additional certification under state or federal law.

By: Melanie O'Donoghue

Date: December 20, 2017

Attachment B



Memorandum

Date: June 15, 2018

To: Mr. Robert Hare, Atlantic Coast Pipeline Construction

From: Mr. Ted Lewis, PE *Ted Lewis*
Mr. Robert Denton, CPG, LPSS *Robert Denton*
Mr. Josh Valentino, PhD, GIT *Josh Valentino*

Subject: Karst Area Contingency Guidance Plan (Our JD115002D)

GeoConcepts Engineering, Inc. (GeoConcepts) has prepared this memorandum comprised of the Karst Area Contingency Guidance Plan to supplement the Atlantic Coast Pipeline (ACP) Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan (Rev 5, March 2018) to be utilized during karst inspection of land disturbing construction activities conducted by the ACP staff and its contractors within karst terrain of the State of Virginia. The Karst Area Contingency Guidance Plan incorporates information from a series of publicly-available pre-existing dye trace studies, and the dye trace studies that were conducted recently by GeoConcepts that will assist in defining karst watershed boundaries within the project area.

The intent of this Response Plan is to be used as part of contingency planning to identify specific karst locations that will require monitoring during construction and potentially mitigation in the event of an accidental spill during construction and operation in karst terrain. This Response Plan contains the following information:

1.0	Overview of Karst Watersheds	2
1.1	Regional Karst Watersheds that are Defined by Dye Tracing Studies	2
1.2	Regional Karst Watersheds that are Inferred	3
1.3	Other Karst Areas in The Vicinity of The Route.....	3
2.0	Monitoring and Mitigation.....	3
3.0	Public Water Supply.....	4
3.1	Deerfield Well	4
3.2	Gardner Spring.....	4
3.3	Agency Notification.....	5
4.0	References	5

Appendix A: Karst Watershed Areas in Vicinity of ACP Route in Virginia
Appendix B: Table 1 – Karst Watershed Area Action and Response Matrix

The karst terrain in Virginia begins at approximately Mile Post (MP) 104 in Highland County, Virginia and ends at approximately MP 184 in Augusta County, Virginia along a corridor within which the ACP alignment is proposed for construction (**Appendix A**). The Appalachian Plateau and Valley and Ridge geologic provinces are characterized by Mississippian to Cambrian aged sedimentary bedrock, with folding and ancient thrust faulting resulting in a complicated distribution of rock types through this region. Siliciclastic sedimentary bedrock that does not form karst terrain is interbedded, or otherwise in contact with karst-forming carbonate bedrock sub sections.

1.0 Overview of Karst Watersheds

For the purposes of this Karst Area Contingency Guidance Plan, there are three types of karst areas in the vicinity of the route:

1. Regional karst watersheds that are defined by dye tracing studies;
2. Regional karst watersheds that are inferred; and
3. Other karst areas with unknown watershed boundaries.

Refer to **Appendix A** for an illustration of the approximate karst watershed boundaries (labeled A through M) defined above. The watersheds **A** through **M** are also cross-referenced in **Table 1** as described below.

In the event of an accidental release of petroleum hydrocarbons, herbicides, pesticides or any other organic compounds capable of transport and migration by water within the referenced mile posts in **Table 1** that reaches, or potentially may reach, a known or suspected karst feature (e.g., sinkhole, swallet), the Karst Geologist will immediately notify the ACP Spill Coordinator and Environmental Inspector (EI); ACP SPCC section 4.0. The Environmental Inspector will refer to **Table 1** and **Appendix A** of this Response Plan to identify the karst watershed designation that is affected, and implement contingency plans (i.e., monitoring and mitigation if necessary) at the identified downstream areas. Accessing the locations noted in **Table 1** will require coordination with Doyle Land Agents to access properties that have not been party to negotiations and access agreements with Dominion.

1.1 Regional Karst Watersheds That Are Defined by Dye Tracing Studies

Watersheds **D, E, H, I, and M** (**Appendix A; Table 1**) comprise watershed boundaries that are defined by the results of dye trace studies (see discussion below for references).

The Virginia Department of Conservation and Recreation, Natural Heritage Program (VDCR-NHP), Karst Program and GeoConcepts performed dye tracing studies to delineate several karst watersheds in the vicinity of the route. Other studies used to delineate karst watersheds are the spring database of the Virginia Department of Environmental Quality; existing dye trace data provided by the Virginia Division of Conservation & Recreation – Natural Heritage Program, Karst Program; and proprietary dye trace data provided by the Virginia Speleological Survey (VSS).

The dye trace results identified specific spring locations based on established hydrologic connections and travel times that would be monitored, and mitigated if needed, in the event of an accidental release during construction and operation of the pipeline within the range of mileposts listed in **Table 1** that correspond to the above-referenced watersheds.

1.2 Regional Karst Watersheds that are Inferred

Watershed **A, B, C, F, K and L** are inferred from local geology and surface topography, and results of the Karst Survey Report (dated March 30, 2018). The recharge area for springs within these watersheds have been determined solely by analysis of surface topography and fractures; however, it is difficult to determine with any certainty the specific exact recharge area for a karst spring as the conduits and fractures which supply them often do not follow the obvious topographic trends. Therefore, it is

impossible to determine with any certainty the exact watershed for these springs. Nevertheless, there are no surveyed karst features within the work spaces or which receive drainage from the workspaces in these watersheds that would allow the unimpeded flow of surface water into the subsurface.

1.3 Other Karst Areas in the Vicinity of the Route

Finally, watersheds **G and J** have not been delineated by dye tracing studies. These watersheds do not have known springs that would be considered resurgence points for subsurface drainages. Contingency planning efforts for these watersheds culminate in the Karst Terrain Assessment Construction, Monitoring and Mitigation Plan, which will be available to the Karst Geologist conducting inspections, and based upon the experience of the Karst Specialist Team.

2.0 Monitoring and Mitigation

The Karst Survey Report identifies specific karst features that require implementation of the Karst Terrain Assessment Construction, Monitoring and Mitigation Plan to protect the features and local drainages and watersheds leading to the feature.

ACP's Spill Prevention, Control, and Countermeasure (SPCC) Plan and Karst Terrain Assessment Construction, Monitoring and Mitigation Plan in Virginia provides Contingency Plans and Emergency Procedures follow the SPCC Plan requirements for notifications and emergency procedures, specifically Section 8 Subsection C (Karst) which includes detailed measures to support ACP construction in karst terrain.

In the unlikely event of an accidental release of hydrocarbons or other environmentally hazardous substances into a sinkhole, cave, swallet, or any other insurgence where surface water can enter the subsurface in an unrestricted manner, the response actions should include monitoring of the specific target contaminants which were released to protect the water quality of all wells and springs within 500 feet of the release and notifying all domestic and/or agricultural users of those water sources. Monitoring should be performed bi-weekly, and continue for at least 1 month after the release. The Virginia Department of Environmental Quality (VDEQ) should be contacted every time there is a release. In the case of releases in karst watersheds D and E, the City of Staunton Public Works, and the Augusta County Service Authority (ACSA) should be notified immediately for each area, respectively.

The Karst Terrain Assessment Construction, Monitoring and Mitigation Plan includes measures to avoid impacts to the karst aquifer and environment (Karst Mitigation and Conservation Procedures Section, pp 17-21). These measures include compliance with the requirements of the Erosion and Sediment Control permit issued by VDEQ and, and the SPCC Plan, with emphasis on measures outlined in section 5.0A. Sections 3e and 5 in the Karst Mitigation and Conservation Procedures chapter of the Karst Terrain Assessment Construction, Monitoring and Mitigation Plan specifically emphasizes the preemptive protection and prevention of karst features to releases. The sections are quoted and shown below:

3e "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-ft buffer.

5 "Any open-throat sinkholes and cave entrances within 300 feet of the workspace, located downgradient from the centerline which receives drainage from the workspace will be carefully protected using silt fences, diversion trenches, constructed temporary berms around the parapet, or water breaks. If the feature receives flow via a discreet drainage channel, the channel will be equipped with absorptive boom and a double row of silt fences."

3.0 Public Water Supply

In watersheds **D and E**, municipal water supplies have been shown through dye tracing to receive input from karst features that are located within the work space or receive drainage from the limit of disturbance along the pipeline alignment.

3.1 Deerfield Well

The most rapid transport time from an insurgence that could possibly be impacted by pipeline construction activities to a public water supply was documented in the dye trace investigation associated with the Deerfield Water Supply Well, in the Town of Deerfield, Augusta County, Virginia. Two swallets in the bed of the Hamilton Branch were traced to the well and adjacent springs, with transport times less than 48 hours from the insurgences to the well and springs.

Approximately 4.9-miles of the ACP pipeline will cross the Hamilton Branch Watershed (Karst Area E, Figure 2 – Appendix A). There is a stream crossing of the Hamilton Branch approximately 1.47 miles west of Deerfield, approximately 0.5 miles northeast of ACP Milepost 108. The alignment crosses several perennial and ephemeral tributaries of the Hamilton Branch as well.

A monitoring plan for the Hamilton Branch is being discussed and developed by Dominion, VDEQ, VDCR, GeoConcepts, and the ACSA. The plan includes continued monitoring of petroleum products and turbidity prior, during, and post construction activities within the Hamilton Branch catchment. Construction and post monitoring activities will entail two possible methods, which each will sufficiently protect the municipal water supply in Deerfield. The default technique is continued monitoring and sampling for hydrocarbons in the Hamilton Branch, daily manual recordings of turbidity, and continued turbidity monitoring with loggers. The alternative method is the installation of a carbon filtration unit at the Deerfield treatment plant, which would eliminate the need for continued hydrocarbon monitoring. Both approaches are still under discussion, but either method will result in the protection of the municipal water supply. One option will be chosen thru ongoing discussion with ACSA, but either approach will provide appropriate protections. In the unlikely event of a contaminant release, the project SPCC will be followed. In addition, the ACSA and VDEQ will be contacted immediately upon the detection or report of a release.

3.2 Gardner Spring

Gardner Spring is a relatively large (>10,000 gpm) karst spring that supplies nearly half of the water for the City of Staunton, Virginia. The spring's watershed is shown on Figure 1, Karst Area D - Appendix A. Approximately 18-miles of the ACP alignment is planned on crossing the watershed, however the number of features which could act as unrestricted entry points for any contaminants into the subsurface along this section of the alignment is limited to three open throat sinkholes. No cave entrances, losing streams, or swallets were identified along the 18 miles of the alignment passing through the watershed.

Dye was traced from an open throat sinkhole to the spring, a straight-line distance of 4.1 miles, and to a second spring (Bruce Campbell Spring) approximately 2.2 miles away. The dye arrived at Gardner Spring at <12 days, and at Bruce Gardner Spring at <21 days. The dye detection at Gardner Spring was relatively dilute, suggesting that the spring is collecting its water from a relatively large area.

The water from Gardner Spring is subjected to rigorous treatment prior to being sent to customers in Staunton, including chemical, microbial, and sediment removal. Due to the travel time, and relative dilution of the dye which was seen in the trace, it is unlikely that a release would present a threat to the public water supply unless it directly impacted an open-throat feature that would allow the unimpeded and unfiltered entry of surface water into the epikarst. Therefore, karst features with known or suspected hydrologic connection to Gardner Spring should be carefully monitored during construction. Based on the data obtained and reviewed, no specific monitoring plan is necessary for the Gardner Spring watershed; however, any release should be immediately reported to the City of Staunton Water Department.

3.3 Agency Notification

In the event of a release in either of the public water supply watersheds, the following agencies should be immediately notified by the ACP EI if the release is within the specific watershed as follows:

3.3.1 Town of Deerfield Public Water Supply – Karst Area E

Contact: Pat Conroy
Augusta County Service Authority
18 Government Center Lane
Verona, VA 24482-2639
(540) 487-7163 Mobile
(540) 245-5366 Office
pconroy@co.augusta.va.us

3.3.2 Gardner Spring – Karst Area D

Contact: Dave Irvin – Utilities Superintendent
City of Staunton Public Works Department
1911 Craigmont Road
Staunton, VA 24402-0058
(540) 490-1113 Mobile
(540) 332-3892 Office
irvindh@ci.staunton.va.us

3.3.3 Virginia Department of Environmental Quality (VDEQ)

This agency shall be notified in the event of a release within any of the designated karst areas.

Contact: Joel Maynard
VDEQ -Valley and Ridge District
4411 Early Road
P.O. Box 3000
Harrisonburg, VA 22801
(540) 574-7864 Mobile
(540) 574-7864 Office
Joel.Maynard@deq.virginia.gov

3.3.4 Virginia Department of Conservation and Recreation (VDCR)

This agency shall be notified in the event of a release within any of the designated karst areas.

Contact: Will Orndorff
Virginia Department of Conservation and Recreation
8 Radford Street, Suite 102A
Christiansburg, VA 24073
(540) 230-5960 Mobile
(540) 394-2585 Office
wil.orndorff@dcr.virginia.gov

4.0 References

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- Davis, N., 2015, Hydrogeology of Burnsville Cove, in The Caves of Burnsville Cove, Virginia – Fifty Years of Exploration and Science, Springer Publishing, pp 335 - 352.
- Hinkle, K.R., and Sterrett, R.M., 1978, Augusta County groundwater, present conditions and prospects: Virginia State Water Control Board Planning Bulletin 310, 119 p.
- Jones, W.K., 1987, Overview of groundwater resources of Clarke County, Virginia, with emphasis on the carbonate aquifers west of the Shenandoah River, in Clarke County Groundwater Protection Plan, Lord Fairfax Planning District Commission, p. 7.1–7.22.

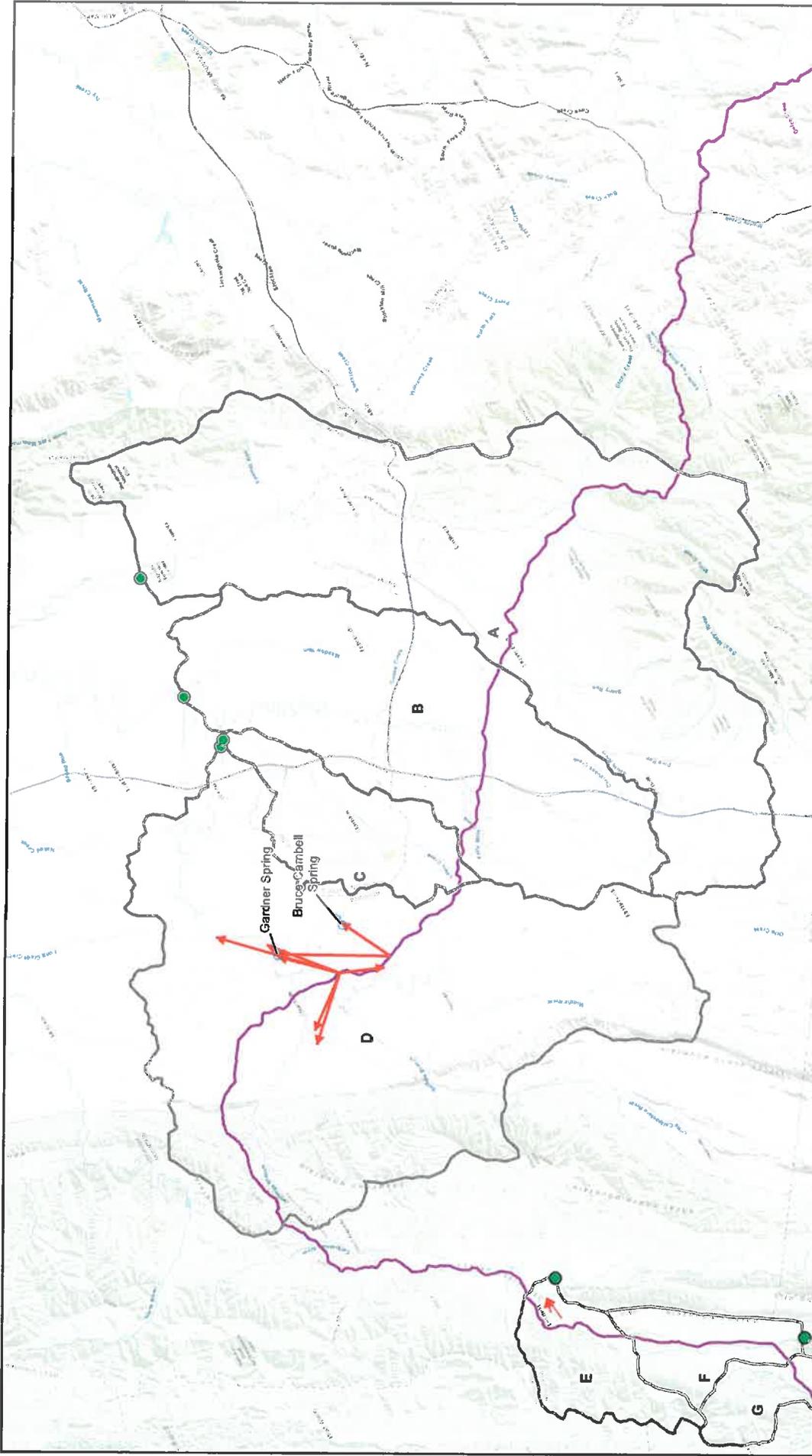
Rader, Eugene K., and Thomas M. Gathright, 2001, Geologic Map of the Augusta, Page, and Rockingham Counties Portion of the Charlottesville 30 x 60 Minute Quadrangle: Publication 159, Virginia Department Mines, Minerals, and Energy - Division Mineral Resources.

Rader, Eugene K. and G. P. Wilkes, 2001, Geologic Map of the Virginia Portion of the Staunton 30 x 60 Minute Quadrangle, VDMME-DMR, Charlottesville, VA, Pub. 163.

Swezey, C.S., Haynes, J.T., Lambert, R.A., White, W.B., Lucas, P.C. and Garrity, C.P., 2015. The Geology of Burnsville Cove, Bath and Highland Counties, Virginia. In *The Caves of Burnsville Cove, Virginia* (pp. 299-334). Springer International Publishing.

Appendix A

Karst Watershed Areas in Vicinity of ACP Route in Virginia



This information is for informational purposes only.

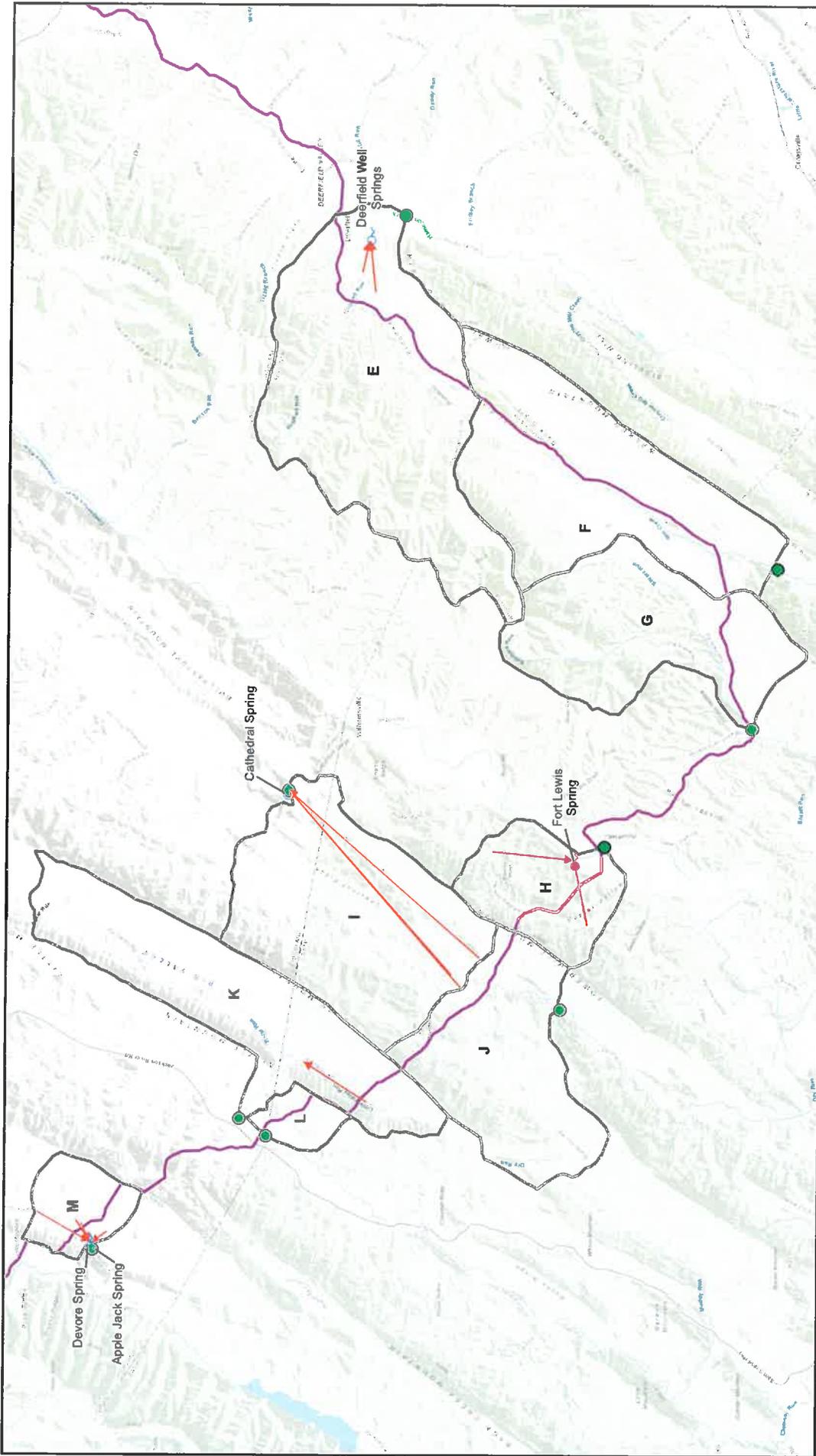


FIGURE 1- KARST WATERSHEDS
DOMINION ACP
JD155200C



- Dye Traces
- Watershed Mouth
- Watershed
- Centerline





 Dye Traces
  Watershed Mouth
  Watershed
  Centerline

N
 W E S
 0 1 2
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FIGURE 2- KARST WATERSHEDS
 DOMINION ACP
 JD155200C


GeoConcepts Engineering, Inc.
 A TERRACON COMPANY

This information is for informational purposes only.
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Appendix B

Table 1 – Karst Watershed Areas

Table 1. Karst Watershed Areas in Vicinity of Route (Refer to Appendix A for illustration of karst areas)					
Regional Karst Watersheds Defined by dye tracing studies in vicinity of route					
Karst Area	Spring Name	Mile Post Range*	County	Headwaters Area	
D	Gardner Spring, Bruce Cambell Spring	MP-149.1 to MP-167.9	Augusta	Middle River, Jennings Branch	
E	Deerfield Well Springs	MP-133.2 to MP-138.1	Augusta	Hamilton Branch	
H	Fort Lewis Spring	MP-117.5 to MP-120.0	Bath	Campbell Run	
I	Cathedral Spring	MP-114.0 to MP-117.5	Bath	Sinking Creek	
M	Devore Spring, Apple Jack Spring	MP-104.8 to MP-107.4	Highland	N/A	
Regional Karst Watersheds Inferred in Vicinity of Route					
Karst Area	Spring Name	Mile Post Range*	County	Headwaters Area	
A	N/A	MP-176.7 to MP-189.3	Augusta	South River, Mill Creek	
B	N/A	MP-169.1 to MP-176.7	Augusta	Folly Mills Creek, Christians Creek	
C	N/A	MP-167.9 to MP-169.1	Augusta	Lewis Creek	
F	N/A	MP-127.0 to MP-133.2	Bath	Mill Creek	
K	N/A	MP-112.0 to MP-114.0	Bath, Highland	Little Valley Run	
L	N/A	MP-110.6 to MP-112.0	Bath, Highland	N/A	
Other Karst Areas in Vicinity of Route					
Karst Area	Spring Name	Mile Post Range*	County	Headwaters Area	
J	N/A	MP-114.0 to MP-117.5	Bath	Dry Run	
G	N/A	MP-124.0 to 127.0	Bath	Bolshers Run, Buck Lick Run	

*The milposts are derived from rev 2.0.

Attachment C



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

July 5, 2017

Ms. Amanda B. Tornabene
Director Environmental Services
Dominion Energy Services Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060

Subject: Dominion Energy Transmission, Inc: Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management

Dear Ms. Tornabene:

The Virginia Department of Environmental Quality (DEQ) hereby approves the Annual Standards and Specifications for Erosion & Sediment Control (ESC) and Stormwater Management (SWM) for Dominion Energy Transmission, Inc. (DETI) as revised June 2017.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Projects with land disturbing activities $\geq 10,000$ ft² or $\geq 2,500$ ft² in Chesapeake Bay Preservation Areas require a DETI review and approval of an ESC plan;
2. Projects with land disturbing activities ≥ 1 acre or $\geq 2,500$ ft² in Chesapeake Bay Preservation Areas require a DETI review and approval of a SWM plan;
3. ESC variance requests must be submitted to DEQ and will be reviewed in accordance with ESC (9VAC25-840-50) requirements;
4. SWM exception requests must be submitted to DEQ and will be reviewed in accordance SWM (9VAC25-870-57) requirements;
5. Requests for use of Guidance Memorandum No:15-2003 - Postdevelopment Stormwater Management Implementation Guidance for Linear Utility Projects must be submitted to DEQ for approval;
6. The following information must be submitted to DEQ at least two weeks in advance of the commencement of land-disturbing activities for each project. Notifications shall be sent by email to: linearprojects@deq.virginia.gov.
 - i: Project name;
 - ii: Project location (including nearest intersection, latitude and longitude, access point, traversed localities);

- iii: On-site project manager name and contact info;
- iv: Responsible Land Disturber (RLD) name and contact info;
- v: DEQ-Certified ESC and SWM Inspector name and contact info;
- vi: Project description;
- vii: Acreage of disturbance for project; and
- viii: Project start and finish date.

Also please note that Appendix G of your approved Annual Standards and Specifications includes ACP Project requirements. Requirements that are specific to the Atlantic Coast Pipeline (ACP) project include the following:

1. Notification information identified in item 6 above is required for each separate land disturbance construction area spread;
2. In addition to DETT's internal review process, the site specific ESC (9VAC25-840-40) and SWM (9VAC25-870-55) plan is required to be submitted to DEQ for review and approval;
3. The initial draft and final site specific ESC and SWM plan, and supporting documents must be posted on ACP's website for public view;
4. Inspection reports conducted by ACP as well as complaint logs and complaint responses must be submitted to DEQ in accordance with the Annual Standards and Specifications requirements for the ACP project.

Attachment B of your submittal also includes deviations from the Virginia Erosion and Sediment Control Handbook (VESCH) for the ACP Project. These alternative ESC practices and procedures are not considered ESC variances as long as the alternate measures proposed meet the regulatory requirement of the minimum standards (9VAC25-840-40). DEQ uses the VESCH as guidance on the acceptable methods to meet the required minimum standards. DEQ believes that these alternative methods in Attachment B may be used for the ACP project to meet the regulatory requirements of the minimum standards contingent on DEQ review and approval of the site specific ESC plan. If in the field these alternatives are found to be deficient, other ESC measures will be necessary to ensure compliance with the regulatory requirements.

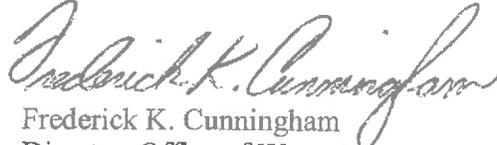
To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Section 62.1-44.15:55.E of the Virginia Erosion and Sediment Control law and Section 62.1-44.15:31.D of the Virginia Stormwater Management Act authorizes the state to charge fees for costs incurred in implementing the standards and specifications program. Please see the enclosed invoice for Annual Standards and Specifications services.

Please contact Hannah Zegler (804-698-4206) or Larry Gavan (804-698-4040) should you have any questions concerning your Annual Standard and Specifications requirements.

July 5, 2017
Page 3 of 3

Sincerely,


Frederick K. Cunningham
Director, Office of Water Permits

Cc: Karl Kratzer
Robert Hare
Melanie Davenport, DEQ-CO
Ben Leach, DEQ-CO
Larry Gavan, DEQ-CO
Hannah Zegler, DEQ-CO

Case Decision Information:

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.



COMMONWEALTH of VIRGINIA

Matthew J. Strickler
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Mailing address: P.O. Box 1105, Richmond, Virginia 23218
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David K. Paylor
Director
(804) 698-4000
1-800-592-5482

October 18, 2018

Mr. Richard Gangle
Director, Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, Virginia 23260

Transmitted electronically: Richard.b.gangle@dominionenergy.com

Subject: Dominion Energy Transmission, Inc.– Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management

Dear Mr. Gangle:

The Virginia Department of Environmental Quality (DEQ) hereby approves the Annual Standards and Specifications for Erosion & Sediment Control (ESC) and Stormwater Management (SWM) for Dominion Energy Transmission, Inc. (DETI) dated June 2017 with revisions to Appendix G dated October 18, 2018. This coverage is effective from October 18, 2018 to October 19, 2019.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that the approved Annual Standards and Specifications include the following requirements:

1. Projects with land disturbance thresholds $\geq 10,000$ ft², or $\geq 2,500$ ft² in Chesapeake Bay Preservation Areas, require DETI review and approval of an ESC plan by a DEQ-Certified ESC plan reviewer;
2. Projects with land disturbance thresholds ≥ 1 acre, or $\geq 2,500$ ft² in Chesapeake Bay Preservation Areas, require DETI review and approval of a SWM plan by DEQ-Certified SWM plan reviewer;
3. ESC variance requests must be submitted to DEQ and will be reviewed in accordance with ESC (9VAC25-840-50) requirements;
4. SWM exception requests must be submitted to DEQ and will be reviewed in accordance with SWM (9VAC25-870-57) requirements;
5. Requests for use of Guidance Memorandum No: 15-2003 – Post development Stormwater Management Implementation Guidance for Linear Utility Projects must be submitted to DEQ for review and approval;

6. The following information must be submitted to DEQ at least two weeks in advance of the commencement of land-disturbing activities for each project. Notifications shall be sent by email to: linearprojects@deq.virginia.gov
 - a. Project number;
 - b. Project location (including nearest intersection, latitude and longitude, access point, traversed localities);
 - c. On-site project manager name and contact information;
 - d. Responsible Land Disturber (RLD) name and contact information;
 - e. DEQ-Certified ESC and SWM Inspector name and contact information;
 - f. Project description;
 - g. Acreage of disturbance for spread; and
 - h. Project start and finish date.
7. Requirements specific to the Atlantic Coast Pipeline (ACP) are as follows:
 - a. Information identified in item 6 above is required for each separate land disturbance construction area spread; and
 - b. The final site-specific ESC and SWM plans, and supporting documents must be posted on ACP's website for public view.

Please contact Ben Leach (804-698-4037) should you have any questions concerning your Annual Standard and Specifications requirements.

Sincerely,



Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Karl R. Kratzer, karl.r.kratzer@dominionenergy.com
Neil Robinson, neil.robinson@dominionenergy.com
Spencer Trichell, spencer.trichell@dominionenergy.com
James Golden, DEQ-CO
Melanie Davenport, DEQ-CO
Ben Leach, DEQ-CO
Larry Gavan, DEQ-CO
Hannah Zegler, DEQ-CO

Case Decision Information:

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Attachment D

Attachment D: Plan Review Components

The review of the ACP erosion and sediment control and stormwater management plans encompassed a thorough and extensive verification of the project's site components. The review included elements such as confirming the physical characteristics of the site are accurately depicted, validating site-specific calculations were performed correctly, and verifying control specifications were designed in a manner to achieve maximum control of stormwater runoff.

The following describes the plan review process:

- Verification of the proposed location of the construction activity, including the affected properties where the rights-of-way intersect privately owned property, as well as contractor yards and staging areas.
- Comparison of the narrative descriptions on the plans across all existing documents, including the annual standards and specifications, to ensure components of the proposed land disturbance, project schedule, construction sequencing, and maintenance of measures to be installed were consistent with one another.
- Verification that proposed controls conform to design specification as listed in the Virginia Erosion and Sediment Control Handbook (VESCH), and if a deviation from the VESCH is proposed review that the deviation will meet ESC Minimum Standard(s).
- Confirmation that proposed streams and wetland crossings were consistent with plans provided for approval from attending regulatory agencies such as US Army Corps of Engineers and Virginia Marine Resource Commission permits.
- Review the sequence of construction to ensure installation and placement of ESC measures are proposed in an order appropriate to minimize erosion and sedimentation.
- Verification that topography depicted on the plans matches LIDAR (remote sensing using Light Detection and Ranging) imagery collected by aircraft. Using the LIDAR imagery provides actual site conditions such as land cover, elevation, slopes, and waterbodies.
- Verify soil delineations on plans are consistent with the Natural Resource Conservation Service (NRSC) Web Soil Survey. Accurate soil delineation is necessary because soil characteristics such as texture, organic content, structure, and permeability are important in determining the infiltration or stormwater runoff potential.

Attachment D: Plan Review Components

- Confirm runoff curve numbers, necessary to calculate peak flow, are accurate for each distinct topography using the appropriate hydrologic soil group and land cover classification.
- Verify time of concentration (T_c) calculations are accurate and any assumptions are appropriate. T_c is the time it takes for water to flow through a watershed.
- Confirm the source of rainfall data is appropriate and based on the location of the proposed construction activity.
- Review inspection and maintenance requirements of ESC control measures to ensure the measures will perform as designed and intended for the duration of the project.
- Review the proposed stabilization methodology for terrain and at waterbody crossings.
- Ensure the plans include field identification methods for sensitive features such as wetlands, historical resources, conserved areas, etc.
- Ensure any temporary measures during construction proposed for conversion to permanent post-construction measures are identified and included on post-construction plans.
- Ensure drainage areas do not exceed sump and level spreader volume capacities.
- Verify temporary and permanent water bar spacing.
- Confirm the site's post-construction grade and land cover are returned to the pre-construction condition. For areas where the site is not returned to the pre-construction condition, review Virginia Runoff Reduction Method calculations to determine load reduction requirements.

Attachment E



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

October 19, 2018

Mr. Richard Gangle
Director, Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, Virginia 23260

Transmitted electronically to: Richard.b.gangle@dominionenergy.com

Re: Atlantic Coast Pipeline, LLC
Project Location: AP1 Mile Post 83.93 through 300.07, AP3 Mile Post 12.21 through 82.68, AP4 Mile Post 0 through 0.41, AP5 Mile Post 0 through 0.93 and Supportive Ancillary Areas
DEQ SWM #: ACP-17-01
Erosion and Sediment Control (ESC) and Stormwater Management (SWM) Plans

Dear Mr. Gangle:

The Department of Environmental Quality (DEQ) received combined Stormwater Management and Erosion & Sediment Control Plans for the project on July 6, 2017. DEQ has reviewed approximately 90 revised plan sets over the past fifteen months. The plans received and dated October 18, 2018 are found to be in accordance with the *Virginia Stormwater Management Act and Regulations* and the *Virginia Erosion and Sediment Control Law and Regulations* and are approved. This approval authorizes ACP to begin land disturbing activities consistent with these plans. No modifications, updates or additions may be made to the approved Plans without obtaining prior approval from DEQ.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date you received this decision within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Virginia Department of Environmental Quality.

It is the responsibility of the owner and/or operator to ensure that the project is constructed in accordance with the approved Plans and accompanying specifications. Upon completion of the

Re: DEQ SWM #: ACP-17-01

October 19, 2018

Page 2

project, the owner and/or operator will be required to submit construction record drawings for all permanent stormwater management facilities (i.e., post-development best management practices) constructed in accordance with the approved Plans.

Any future land disturbing activity not included in the plans approved October 19, 2018 shall be conducted in accordance with the requirements of Virginia Code § 62.1-44.15:31 and § 62.1-44.15:55.

Please contact Mr. Benjamin Leach at 804-698-4037 or Benjamin.leach@deq.virginia.gov if you have any questions about this letter.

Sincerely,



Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Benjamin Leach, DEQ-CO
Jerome Brooks, Water Compliance Manager

Enclosure