Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Director
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VWP Individual Permit Number 21-0416
Effective Date: December 20, 2021
Expiration Date: December 19, 2031

VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT

In compliance with § 401 of the Clean Water Act, as amended (33 USC § 1341) and the State Water Control Law and regulations adopted pursuant thereto, the board has determined that there is a reasonable assurance that this VWP permit, if complied with, will protect instream beneficial uses, will not violate applicable water quality standards, and will not cause or contribute to a significant impairment of state waters or fish and wildlife resources. In issuing this VWP permit, the board has not taken into consideration the structural stability of any proposed activities.

Permittee: Mountain Valley Pipeline, LLC

Address: 2200 Energy Drive, Canonsburg, PA 15317

Project Name: Mountain Valley Pipeline Project

Project Location: In Virginia, the project consists of approximately 107 miles of pipeline and 51 miles of access roads in Giles, Craig, Montgomery, Roanoke, Franklin, and Pittsylvania Counties.

Project Description: The permittee is constructing a 42-inch diameter natural gas pipeline approximately 304 miles in length, running from Wetzel County, West Virginia to Transco Village in Pittsylvania County, Virginia. The portion of the project located within Virginia consists of approximately 107 miles of pipeline and 51 miles of access roads in Giles, Craig, Montgomery, Roanoke, Franklin, and Pittsylvania Counties. Permitted activities shall be conducted as described in the Joint Permit Application dated February 19, 2021, received on March 1, 2021, and supplemental materials, revisions and clarifications received through August 17, 2021.

Authorized Surface Water Impacts:

This permit authorizes the surface water impacts identified in **Table 1 Stream Impacts**, and **Table 2 Wetland Impacts**, attached to this permit in Appendix 1. In summary, this permit authorizes a total of 9.41 acres of impacts to surface waters consisting of 5.90 acres of wetlands and 3.51 acres (17,128 linear feet) of streams.

Impact Type	Surface Water Type	Impact Authorized	
		Square Feet	Linear Feet
Permanent	Palustrine Emergent Wetland (PEM)	1,707	N/A
	Stream Channel	441	63
	Subtotal	*2,148*	*63*
Conversion	PFO to PEM	51,826	N/A
	PSS to PEM	32,948	N/A
	Subtotal	*84,774*	N/A
Temporary	Palustrine Emergent Wetland (PEM)	170,409	N/A
	Stream Channel	152,684	17,065
	Subtotal	*323,093*	*17,065*
	TOTAL	**410,015 (9.41 Acres)**	**17,128**

Authorized surface water impacts shall be as depicted on the materials provided in the application as Attachment H-3, entitled Virginia Plan and Profile Crossing Drawings, and Attachment B, entitled Table B-1 Virginia Stream Impacts, and Table B-2 Virginia Wetland Impacts, dated February 22, 2021, with latest revision date of May 14, 2021, received May 14, 2021.

Approved Compensation:

The Joint Permit Application provides documentation of compensatory mitigation for wetland and stream crossings. The applicant has provided compensation for the proposed permanent and conversion wetland impacts through the purchase of 7.1 wetland credits from Banister Bend Farm, LLC Wetland Mitigation Bank in Pittsylvania County, Virginia, purchase agreement dated November 30, 2017. The permittee has provided compensation for the proposed permanent stream impacts through the purchase of 298 stream credits from Graham and David Mitigation Bank, LLC in Montgomery County, Virginia, purchase agreement dated November 30, 2017. The applicant has provided documentation of a reserved purchase of 0.014 wetland credits from Thompson Place Stream and Wetland Mitigation Bank in Blacksburg, VA, credit availability letter dated August 17, 2021. The Applicant has provided the Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework (*Mitigation Framework*) that addresses restoration of temporarily impacted areas.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, Part II - General Conditions, Appendix 1-Impact Tables, Appendix 2-TOYR, *Mitigation Framework*, and Final Fact Sheet with Attachment 1-Impact Locations.

David L. Davis, CPWD, PWS
Director, Office of Wetlands and Stream Protection

12/20/2021
Date

Part I – Special Conditions

A. Authorized Activities

1. DEQ authorizes the acreage and linear feet of surface water impacts identified in **Table 1 Stream Impacts**, and **Table 2 Wetland Impacts**, attached to this permit in Appendix 1.

2. The permittee shall conduct authorized activities as described in the Joint Permit Application dated February 19, 2021, and received March 1, 2021, and supplemental materials, revisions and clarifications received through August 17, 2021. Any changes to the authorized activities or impacts map that affect permitted areas shall be submitted to DEQ immediately upon determination that changes are necessary, and DEQ approval shall be required prior to implementing the changes.

3. The permit authorizes the temporary use of mechanical equipment in surface waters in accordance with all applicable permit conditions.

4. The permittee shall notify DEQ of any changes in authorized impacts to surface waters or any changes to the design or type of construction activities in surface waters authorized by this permit. DEQ approval shall be required prior to implementing the changes. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit.

B. Permit Term

1. This permit is valid for **ten (10) years** from the date of issuance. An extension of this permit term or a new permit may be necessary for the continuance of the authorized activities or any permit requirement that has not been completed, including compensation provisions. The permit term, including any granted extensions, shall not exceed 15 years.

2. The permittee shall notify DEQ in writing at least 180 calendar days prior to the expiration of this permit if reissuance will be requested.

C. Standard Project Conditions

1. The activities authorized by this permit shall be executed in such a manner that any impacts to beneficial uses are minimized. As defined in § 62.1-44.3 of the Code, "beneficial use" means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. The preservation of instream flows for purposes of the protection of navigation, maintenance of waste assimilation capacity, the protection of fish and wildlife resources and habitat, recreation, cultural and aesthetic values is an instream beneficial use of Virginia's waters. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural uses, electric power generation, commercial, and industrial uses.

2. No activity shall substantially disrupt the movement of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the primary purpose of the activity is to impound water.

3. Flows downstream of the project area shall be maintained to protect all uses.

4. No activity shall cause more than minimal adverse effect on navigation.

5. The activity shall not impede the passage of normal or expected high flows, and any associated structure shall withstand expected high flows.

6. Except for temporary impacts authorized by this permit, continuous flow of perennial springs shall be maintained by the installation of spring boxes, French drains, or other similar structures as approved in the stream and wetland restoration plan (*Mitigation Framework*).

7. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity. Any dredge material dewatering area shall be of adequate size to contain the dredge material and to allow for adequate dewatering and settling out of sediment prior to discharge back into state waters. Runoff from precipitation shall be diverted around the dewatering area.

8. All in-stream activities shall be conducted during low-flow conditions whenever practicable.

9. Erosion and sedimentation controls shall be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls shall be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls shall remain in place until the area is stabilized and removal of such controls is authorized by permittee's Annual Standards and Specifications.

10. All construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by this permit. Wet, excess, or waste concrete shall be prohibited from entering surface waters.

11. All fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.

12. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.

13. Stream channel restoration activities shall be conducted in the dry or during low flow conditions. When site conditions prohibit access from the streambank or upon prior authorization from the Department of Environmental Quality, heavy equipment may be authorized for use within the stream channel. The equipment shall be stationed on cobble bars.

14. Machinery or heavy equipment in temporarily impacted wetlands shall be placed on mats or geotextile fabric, or other suitable means shall be implemented, to minimize soil disturbance to the maximum extent practical. Mats, fabrics, or other measures shall be removed as soon as the work is complete in the temporarily impacted wetland.

15. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.

16. All non-impacted surface waters and any required buffers associated with compensation areas that are within the project or right-of-way limits, and that are within fifty feet of any project activities, shall be clearly flagged or demarcated for the life of the construction activity within that area. The permittee shall notify all contractors and subcontractors that *no activities are to occur in these marked areas*.

17. All required notifications and submittals shall include project name and permit number and be submitted electronically to steven.hardwick@deq.virginia.gov or mailed to the DEQ office stated below, to the attention of the VWP project manager, unless directed in writing by DEQ subsequent to the issuance of this permit: Department of Environmental Quality, Central Office, P.O. Box 1105, Richmond, Virginia 23218

18. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if *both* criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.

    a. The authorization is made in writing by the permittee.

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

19. All submittals shall contain the following signed certification statement:

    "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

20. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at 540-562-6700. If DEQ cannot be reached, the spill or fish kill shall be reported to the Virginia Department of Emergency Management (VDEM) at 1-800-468-8892 or the National Response

Center (NRC) at 1-800-424-8802. Any spill of oil as defined in § 62.1-44.34:14 of the Code of Virginia that is less than 25 gallons and that reaches, or that is expected to reach, land only is not reportable, if recorded per § 62.1-44.34:19.2 of the Code of Virginia and if properly cleaned up.

21. DEQ shall be notified in writing within 24 hours or as soon as possible on the next business day when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the obstruction, material, or toxic substance or to change the location of any structure are prohibited until approved by DEQ.

D. Installation of Utilities and Temporary Impacts

1. This pipelines project is subject to § 62.1-44.15:21 J 2 and shall be constructed in a manner that minimizes temporary and permanent impacts to state waters and protects water quality to the maximum extent practicable, including by the use of applicable best management practices that the Board determines to be necessary to protect water quality.

2. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area. Temporarily disturbed surface waters shall be restored in accordance with this Permit, Virginia Water Protection Permit regulations, and the approved stream and wetland restoration plan (*Mitigation Framework*), unless otherwise authorized by this permit.

3. Material resulting from trench excavation may be temporarily sidecast into wetlands not to exceed a total of 90 calendar days, provided the material is not placed in a manner such that it is dispersed by currents or other forces.

4. The trench for a utility line cannot be constructed in a manner that drains wetlands (e.g., backfilling with extensive gravel layers creating a French drain effect).

5. Temporary disturbances to wetlands, stream channels, and/or stream banks during project construction activities shall be avoided and minimized to the maximum extent practicable.

6. All materials (including fill, construction debris and materials, excavated materials, and woody materials, that are temporarily placed in wetlands, in stream channels, or on stream banks) shall be placed on mats or geotextile fabric, shall be immediately stabilized to prevent the material or leachate from entering surface waters, and shall be entirely removed within 90 calendar days following completion of that construction activity. After removal, disturbed areas shall be returned to original contours, shall be stabilized, and shall be restored to the original vegetated state in accordance with the a stream and wetland restoration plan (*Mitigation Framework*) to be approved by the Department.

7. Temporary in-stream construction features such as cofferdams shall be made of non-erodible materials.

8. All temporarily disturbed wetland areas shall be restored to their original elevations and contours. The restoration work shall be completed as approved by DEQ in the stream and wetland restoration plan (*Mitigation Framework*).

9. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours. All temporarily impacted wetlands shall be restored to their pre-construction conditions. The restoration, as defined in 9VAC25-210-10, shall be completed as approved by DEQ in the stream and wetland restoration plan (*Mitigation Framework*). The *Mitigation Framework* shall be approved by DEQ in writing prior to initiating impacts authorized by this Permit. Any revisions to the *Mitigation Framework* shall be submitted for DEQ review and approval prior to implementing the revision(s). The *Mitigation Framework* shall include:

   a. A pre-construction wetland and stream assessment, including contours, elevations, stream geomorphology, vegetation survey and other information sufficient to establish baseline conditions at each temporary impact area;

   b. Temporary impact area restoration methods;

   c. Re-vegetation plan;

   d. Criteria for successful restoration;

   e. A monitoring schedule and report format to document attainment of success criteria;

   f. A corrective action strategy for areas not meeting the success criteria; and,

   g. A supplemental compensatory mitigation strategy addressing temporal loss of stream and wetland functions.

E. Wildlife Resources

The permittee shall implement the time of year restrictions (TOYR) on in-stream construction that have been recommended and approved by the Virginia Department of Wildlife Resources (VDWR), and conditions recommended and approved by the Virginia Department of Conservation and Recreation (VDCR) as specified in and attached to this permit as Appendix 2. The permittee shall notify the Department within three business days of any subsequent revisions or addenda that are approved or required by VDWR and/or VDCR and shall post the most current information on their website at https://www.mountainvalleypipeline.info/news-info/. TOYR and coordination are not necessary if construction is conducted via boring, unless an instream impact is associated with the boring.

F. Stream Modifications, Including Intake/Outfall Structures

1. Redistribution of existing stream substrate for erosion control purposes is prohibited.

2. Material removed from the stream bottom shall not be deposited into surface waters unless otherwise authorized in this permit.

3. Riprap apron for all outfalls shall be designed in accordance with Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.

4. For streambank protection activities, structures and backfill shall be placed as close to the streambank as practical, while still avoiding and minimizing impacts to surface waters to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.

5. Asphalt and materials containing asphalt or other toxic substances shall not be used in the construction of submerged sills, breakwaters, dams, or weirs.

G. Road Crossings

1. Access roads authorized by this permit shall be constructed to minimize the adverse effects on surface waters to the maximum extent practicable and to follow as near as possible pre-construction contours and elevations.

2. Installation of pipes and road crossings shall occur in the dry via the implementation of cofferdams, sheetpiling, stream diversions or other similar structures.

3. All surface waters temporarily affected by a road crossing shall be restored to their original elevations immediately following the removal of that particular temporary crossing. Temporary access roads shall be removed entirely following activity completion.

4. At crossings of streams S-H42 (VWP No. S-314) and S-IJ16a (VWP No. S-60), pipes and culverts must be installed to maintain low flow conditions and shall be countersunk at both inlet and outlet ends of the pipe or culvert, unless otherwise specifically approved by the Department of Environmental Quality on a case-by-case basis, and as follows: The requirement to countersink does not apply to extensions or maintenance of existing pipes and culverts that are not countersunk, floodplain pipes and culverts being placed above ordinary high water, pipes and culverts being placed on bedrock, or pipes and culverts required to be placed on slopes 5.0% or greater. Bedrock encountered during construction must be identified and approved in advance of a design change where the countersunk condition cannot be met. Pipes and culverts 24 inches or less in diameter shall be countersunk three inches below the natural stream bed elevations, and pipes and culverts greater than 24 inches shall be countersunk at least six inches below the natural stream bed elevations. Hydraulic capacity shall be determined based on the reduced capacity due to the countersunk position. In all stream crossings appropriate measures shall be implemented to minimize any disruption of aquatic life movement.

5. When countersinking culverts in streams, the permittee shall install the structure and any riprap or ancillary features in a manner to ensure reestablishment of the stream channel within 15 days post

construction. When installing culverts in any surface water, the permittee shall install the culvert and ancillary features in a manner that will maintain the pre-construction hydrologic regime. Surface water depth within the impact area shall be consistent with depths upstream and downstream of the impact area.

6. Stream bottom elevations at road crossings shall be measured at the inlet and outlet of the proposed structure and recorded prior to construction and within one week after the completion of construction to ensure that the design elevations were met. This information shall be recorded on the *Monthly VWP Permit Inspection Checklist (Attachment 2)* completed after the crossing is installed.

H. Stormwater Management Structures

1. The outfall and overflow structure shall be constructed and maintained to prevent downstream sediment deposition, erosion, or scour that may be associated with normal flow and any expected storm flows. Construction shall include the use of an appropriate outlet protection approved by the Virginia Stormwater Management Program Authority.

2. Maintenance excavation of best management practices shall follow the stormwater management facilities maintenance agreement approved by the Virginia Stormwater Management Program Authority, and, for best management practices constructed in surface waters, shall not exceed the original contours or designated maintenance areas of the facility.

3. Draining of a stormwater management facility shall be performed by a method that prevents downstream sediment deposition, erosion, or scour.

I. Project Construction Monitoring and Submittals (Impact Sites)

1. The permittee shall submit written notification at least **thirty (30) calendar days** prior to the initiation of land disturbance or construction activities in permitted areas. The notification shall include preconstruction photographs, projected schedule for initiating and completing work at each permitted impact area.

   a. Preconstruction photographs shall be taken at each impact area prior to initiation of activities within impact areas.
   b. Photographs shall depict the impact area and the nonimpacted surface waters immediately adjacent to and downgradient of each impact area.
   c. Each photograph shall be labeled to include the following information: permit number, impact area number, date and time of the photograph, name of the person taking the photograph, photograph orientation, and photograph subject description.

2. Site inspections shall be conducted **once every calendar month** and recorded on the *Monthly VWP Permit Inspection Checklist* (*Attachment 2)* by the permittee or the permittee's qualified designee during active construction within authorized surface water impact areas. Monthly inspections shall be conducted by the permittee's environmental inspectors in the following areas within the approved

limits-of-disturbance: all authorized permanent and temporary impact areas; all avoided surface waters, including wetlands, stream channels, and open water; surface water areas within 50 feet of any land disturbing activity; and all on-site areas designated for permanent preservation. The *Monthly VWP Permit Inspection Checklist* (*Attachment 2)* shall be completed in its entirety for each monthly inspection and shall be kept on-site and made available for review by DEQ staff upon request during normal business hours.

3. The *VWP Permit Construction Status Update Form* (*Attachment 1)* enclosed with this permit shall be completed in June and December of every year for the duration of this permit. The *VWP Permit Construction Status Update Form* (*Attachment 1)* shall include reference to the VWP permit authorization number and one of the following statements for each authorized surface water impact location:

   a. Construction activities not yet started;

   b. Construction activities started;

   c. Construction activities started but are currently inactive, or;

   d. Construction activities complete.

4. The *VWP Permit Construction Status Update Form* (*Attachment 1)* shall be submitted and must be received by DEQ no later than January 10 and July 10 of every year.

5. The permittee shall notify DEQ within 24 hours of discovering impacts to surface waters including wetlands, stream channels, and open water that are not authorized by this permit. The notification shall include photographs, estimated acreage and/or linear footage of impacts, and a description of the impacts.

6. The permittee shall submit written notification of completion within 30 calendar days after the completion of all activities in all permitted impact areas authorized under this permit.

J. Compensatory Mitigation

1. The Joint Permit Application provides documentation of compensatory mitigation for wetland and stream crossings. The applicant has provided compensation for the proposed permanent and conversion wetland impacts through the purchase of 7.1 wetland credits from Banister Bend Farm, LLC Wetland Mitigation Bank in Pittsylvania County, Virginia, purchase agreement dated November 30, 2017. The permittee has provided compensation for the proposed permanent stream impacts through the purchase of 298 stream credits from Graham and David Mitigation Bank, LLC in Montgomery County, Virginia, purchase agreement dated November 30, 2017. The applicant has provided documentation of a reserved purchase of 0.014 wetland credits from Thompson Place Stream and Wetland Mitigation Bank in Blacksburg, VA, credit availability letter dated August 17, 2021.

2. To fulfill any additional mitigation requirements of this permit in accordance with 9VAC25-210 et seq. and § 62.1-44.15:23 of the Code of Virginia, the permittee shall first purchase available mitigation bank released credits. The permittee shall then fulfill its remaining credit obligation through the purchase of released mitigation credits from an ILF program. The permittee shall then fulfill its remaining credit obligation through the purchase of advance mitigation credits from an ILF program.

   If the permittee proposes to purchase credits from an ILF program, no more than 45 days prior to initiating work within impact areas authorized by the permit, the permittee shall determine the availability of any mitigation bank released credits with a service area that covers the project and submit its proposed mitigation credit sources to DEQ for approval. Within 15 calendar days of receipt, DEQ shall review and provide any objections to the proposal, or the proposal shall be deemed approved.

   Documentation of the purchase of any required mitigation credits shall be submitted to and received by DEQ prior to initiating work in the impact areas authorized by this permit.

   For the period ending December 31 of each calendar year, the permittee shall submit to DEQ by January 15th a summary of the amount of surface water impacts initiated; the amount of compensation completed and compensation requirement remaining; the status of initiating any remaining surface water impacts; and the status of completing any remaining compensation requirement.

K. Other Regulatory Actions

1. This permit incorporates by reference the conditions set forth in Section IV(b)(2) and Section IV(c) of the Consent Decree between Mountain Valley Pipeline, LLC and DEQ, dated December 11, 2019, requiring:

   a. An Environmental Auditor approved by DEQ to monitor stream and wetland crossing activities;

   b. An independent report submitted to DEQ by the Auditor within fourteen days after the completion of each wetland or waterbody crossing describing instream biological conditions;

   c. Posting of the report to the permittee's webpage;

   d. Forty-eight hour advance notice to DEQ before any stream or wetland crossing activity.

2. This permit incorporates by reference all conditions of any DEQ approved revision of the Annual Standards and Specifications pertaining to work within and around wetlands and streams.

3. This permit incorporates by reference all conditions of any DEQ approved revisions to the Erosion and Sediment Control General Details, Erosion and Sediment Control Narrative, and Erosion and Sediment Control Plan drawings that pertain to work within and around wetlands and stream crossings.

Part II – General Conditions

A. Duty to Comply

The permittee shall comply with all conditions and limitations of the VWP permit. Nothing in this chapter shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations, toxic standards, and prohibitions. Any VWP permit violation or noncompliance is a violation of the Clean Water Act and State Water Control Law and is grounds for enforcement action, VWP permit termination, VWP permit revocation, VWP permit modification, or denial of an application for a VWP permit extension or reissuance.

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

B. Duty to Cease or Confine Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

C. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the VWP permit that may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Actions

A VWP permit may be modified in whole or in part, revoked and reissued, extended, transferred, or terminated in accordance with 9VAC25-210-180 of the Virginia Administrative Code.

1. During the drafting and authorization of a permit modification, only those conditions to be modified shall be addressed with preparing a draft modified permit. VWP permit terms and conditions of the existing permit shall remain in full force and effect during the modification of the permit.

2. This VWP permit may be modified upon the request of the permittee or upon board initiative when any of the following developments occur:

    a. When new information becomes available about the project or activity covered by the VWP permit, including project additions or alterations, that was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;

    b. When a change is made in the promulgated standards or regulations on which the VWP permit was based;

c. When changes occur that are subject to "reopener clauses" in the VWP permit; or

d. When developments applicable to surface water withdrawals occur as specified in 9VAC25-210-380 of the Virginia Administrative Code.

3. When this VWP permit authorizes surface water withdrawals, it may be modified when any of the following developments occur:

   a. When the board determines that minimum instream flow levels resulting directly from the permittee's withdrawal of surface water are detrimental to the instream beneficial use, existing at the time of permit issuance, and the withdrawal of surface water should be subject to further net limitations or when an area is declared a surface water management area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

   b. Significant changes to the location of the surface water withdrawal system are proposed such that the Department of Environmental Quality determines a new review is warranted due to the potential effect of the surface water withdrawal to existing beneficial uses of the new location.

   c. Changes to the permitted project or the surface water withdrawal, including increasing the storage capacity for the surface water withdrawal, that propose an increase in the maximum permitted withdrawal volumes or rate of withdrawal or that cause more than a minimal change to the instream flow requirements with potential to result in a detrimental effect to existing beneficial uses.

   d. A revision to the purpose of the surface water withdrawal that proposes to include a new use or uses that were not identified in the permit application or a modification of the existing authorized use or uses such that the use description in the permit application and permit is no longer applicable. Examples of uses include, but are not limited to agricultural irrigation, golf course irrigation, public water supply, manufacturing, and electricity generation.

4. When the permittee has submitted a timely and complete application for reissuance of an existing VWP individual permit, but through no fault of the permittee, the board does not reissue or reissue with conditions a VWP individual permit or the board does not provide notice of its tentative decision to deny the application before an existing VWP individual permit expires, the conditions of the expiring VWP individual permit shall be administratively continued in full force and effect until the effective date of a reissued permit or the date on which the board denies the application. Timely application shall be a minimum of 180 days for an individual permit or a minimum of 270 days for an individual permit for a surface water withdrawal, unless otherwise specified in the existing permit.

5. Any permittee desiring to continue a previously permitted activity after the expiration date of this VWP permit shall apply for and obtain a new permit or, if applicable, shall request an extension in accordance with 9VAC25-210-180 of the Virginia Administrative Code. Any permittee with an effective VWP permit for an activity that is expected to continue after the expiration date of the

VWP permit, without any change in the activity authorized by the VWP permit other than as may be allowed under 9VAC25-210-180, shall submit written notification requesting an extension. The permittee must file the request 90 days prior to the expiration date of the VWP permit. VWP permit modifications shall not be used to extend the term of a VWP permit beyond 15 years from the date of original issuance. When a permit term, other than that of an Emergency Virginia Water Protection Permit, is less than 15 years, an extension of the permit terms and conditions may be granted in accordance with 9VAC25-210-180. Emergency Virginia Water Protection Permits shall not exceed a duration of one year or shall expire upon the issuance of a regular Virginia Water Protection Permit, whichever comes first.

6. This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if the current permittee: a) Notifies the board of the proposed transfer of the permit and provides a written agreement between the current and proposed permittees containing the date of transfer of VWP permit responsibility, authorization, and liability to the new permittee; and b) the board does not within 15 days notify the existing permittee of its intent to modify the VWP permit.

7. After notice and opportunity for a formal hearing pursuant to § 62.1-44.15:02 of the Code of Virginia, a VWP permit can be terminated for cause. Reasons for termination for cause are as follows:

   a. Noncompliance by the permittee with any condition of the VWP permit;

   b. The permittee's failure in the application or during the VWP permit process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;

   c. The permittee's violation of a special or judicial order;

   d. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;

   e. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and

   f. A determination that the permitted activity has ceased and that the compensation for unavoidable adverse impacts has been successfully completed.

8. The board may terminate this permit without cause when the permittee is no longer a legal entity due to death, dissolution, or when a company is no longer authorized to conduct business in the Commonwealth. The termination shall be effective 30 days after notice of the proposed termination is sent to the last known address of the permittee or registered agent, unless the permittee objects within that time. If the permittee does object during that period, the board shall follow the applicable

procedures for termination under § 62.1-44.15:25 of the Code of Virginia and 9VAC25-230 of the Virginia Administrative Code.

9. This VWP permit may be terminated by consent, as initiated by the permittee. The permittee shall submit a request for termination by consent within 30 days of completing or canceling all permitted activities and all required compensatory mitigation requirements. When submitted for project completion, the request for termination by consent shall constitute a notice of project completion. The director may accept this termination on behalf of the board. The permittee shall submit the following information:

   a. Name, mailing address, and telephone number;

   b. Name and location of the activity;

   c. The VWP permit number; and

   d. One of the following certifications:

      i. For project completion: "I certify under penalty of law that all activities and any required compensatory mitigation authorized by a VWP permit have been completed. I understand that by submitting this notice of termination that I am no longer authorized to perform activities in surface waters in accordance with the VWP permit, and that performing activities in surface waters is unlawful where the activity is not authorized by a VWP permit, unless otherwise excluded from obtaining a permit. I also understand that the submittal of this notice does not release me from liability for any violations of this VWP permit."

      ii. For project cancellation: "I certify under penalty of law that the activities and any required compensatory mitigation authorized by this VWP permit will not occur. I understand that by submitting this notice of termination that I am no longer authorized to perform activities in surface waters in accordance with the VWP permit, and that performing activities in surface waters is unlawful where the activity is not authorized by a VWP permit, unless otherwise excluded from obtaining a permit. I also understand that the submittal of this notice does not release me from liability for any violations of this VWP permit, nor does it allow me to resume the permitted activities without reapplication and issuance of another permit."

      iii. For events beyond permittee control, the permittee shall provide a detailed explanation of the events, to be approved by DEQ, and the following certification statement: "I certify under penalty of law that the activities or the required compensatory mitigation authorized by this VWP permit have changed as the result of events beyond my control (see attached). I understand that by submitting this notice of termination that I am no longer authorized to perform activities in surface waters in accordance with the VWP permit, and that performing activities in surface waters is unlawful where the activity is not authorized by a VWP permit, unless otherwise excluded from obtaining a permit. I also understand that the submittal of this notice does not release me from liability for any violations of this VWP permit, nor does

it allow me to resume the permitted activities without reapplication and issuance of another permit.

E. Inspection and Entry

Upon presentation of credentials, the permittee shall allow the board or any duly authorized agent of the board, at reasonable times and under reasonable circumstances, to conduct the actions listed in this section. For the purpose of this section, the time for inspection shall be deemed reasonable during regular business hours. Nothing contained herein shall make an inspection time unreasonable during an emergency.

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;

2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and

3. Sample or monitor any substance, parameter, or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

F. Duty to Provide Information

The board may request (i) such plans, specifications, and other pertinent information as may be necessary to determine the effect of an applicant's discharge on the quality of state waters or (ii) such other information as may be necessary to accomplish the purposes of this chapter. Any owner, permittee, or person applying for a VWP permit or general permit coverage shall provide the information requested by the board.

G. Monitoring and Records Requirements

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2017), Guidelines Establishing Test Procedures for the Analysis of Pollutants.

2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of permit expiration. This period may be extended by request of the board at any time.

4. Records of monitoring information shall include:

a. The date, exact place and time of sampling or measurements;

b. The name of the individuals who performed the sampling or measurements;

c. The date and time the analyses were performed;

d. The name of the individuals who performed the analyses;

e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;

f. The results of such analyses; and

g. Chain of custody documentation.

H. Property rights

The issuance of a VWP permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local laws or regulations.

I. Reopener

This VWP permit may be reopened for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

J. Compliance with State and Federal Law

As to the permitted activity, compliance with a VWP permit constitutes compliance with the VWP permit requirements of the Law and regulations.

K. Severability

The provisions of this VWP permit are severable.

L. Oil and Hazardous Substance Liability

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

M. Unauthorized Discharge of Pollutants

Except in compliance with a VWP permit, unless the activity is otherwise exempted or excluded, no person shall dredge, fill, or discharge any pollutant into, or adjacent to surface waters; withdraw surface water; otherwise alter the physical, chemical, or biological properties of state waters regulated under this chapter and make them detrimental to the public health, to animal or aquatic life, or to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses; excavate in wetlands; or on or after October 1, 2001, conduct the following activities in a wetland:

1. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;

2. Filling or dumping;

3. Permanent flooding or impounding; or

4. New activities that cause significant alteration or degradation of existing wetland acreage or functions.

ATTACHMENT 1

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Attachment 1: VWP PERMIT CONSTRUCTION STATUS UPDATE FORM

Attached to VWP INDIVIDUAL PERMIT NUMBER 21-0416

[DATE]

[PERMIT ACTION]

Date (check one):

☐ June____, _____

☐ December _____, _____

VWP Individual Permit Number: _____

Project Name and Location: _____

_____

Status within each authorized surface water impact location, as identified on MAP NAME, dated MM-DD-YYYY, , and received MM-DD-YYYY: (check one of the following status options for each impact number/location. Attach additional sheet(s) if needed.)

Authorized impact number	Construction activities not started	Construction activities started	Construction activities started but currently not active	Does this impact involve culvert(s)[1]?	Construction activities complete[2]

[1] Provide spot elevations of the stream bottom within the thalweg at the beginning and end of the pipe or culvert, extending to a minimum of 10 feet beyond the limits of the impact, with completion of all culvert installations.

[2] If all construction activities and compensatory mitigation requirements are complete, the permittee completes and signs the Termination Agreement section below within 30 days of last authorized activity and/or compensation completion. A completed and signed Agreement serves as Notice of Project Completion (9VAC25-210-130 F).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Authorized Signature: _____

Print Name: _____

Title: _____ Phone: _____

Date: _____ Email: _____

TERMINATION AGREEMENT BY CONSENT – PROJECT COMPLETION

Permittee Name: _____

Permittee Mailing Address: _____

Permittee Phone: _____

I hereby consent to the termination of coverage for VWP Individual Permit Number 21-0416.

"I certify under penalty of law that all activities and any required compensatory mitigation authorized by a VWP permit have been completed. I understand that by submitting this notice of termination that I am no longer authorized to perform activities in surface waters in accordance with the VWP permit, and that performing activities in surface waters is unlawful where the activity is not authorized by a VWP permit, unless otherwise excluded from obtaining a permit. I also understand that the submittal of this notice does not release me from liability for any violations of this VWP permit."

Permittee Signature: _____

Impact Construction Status Table Continued (if needed)

Additional Page [#] of [#]					
Authorized impact number	**Construction activities not started**	**Construction activities started**	**Construction activities started but currently not active**	**Does this impact involve culvert(s)[1]?**	**Construction activities complete[2]**

ATTACHMENT 2

Attachment 2: MONTHLY VWP PERMIT INSPECTION CHECKLIST

An inspection of all permitted impact areas, avoided waters and wetlands, and permanently preserved waters, wetlands and upland areas must be conducted at least once every month during active construction activities. Maintain this record on-site and available for inspection by DEQ staff.

Project Name	**VWP Permit #**	**Inspection Date**
Mountain Valley Pipeline Project	21-0416	
Inspector Name & Affiliation	**Phone # & Email Address**	

I certify that the information contained in this report is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Inspector _____ Date _____

	In Compliance?				
PERMIT REQUIREMENT	**Yes**	**No**	**Not Applicable**	**Location, Description, Notes & Corrective Action Taken (use additional note space below if needed)**	**Date Completed**
Surface water impacts are limited to the size and locations specified by the permit. No sedimentation impacts and no impacts to upland preservation areas have occurred[1].	☐	☐	☐		
Within 50 feet of authorized activities, all remaining surface waters and mitigation (preservation) areas that are inside the project area are clearly flagged or marked to prevent unpermitted impacts.	☐	☐	☐		
Authorized temporary impact areas have been restored to original contours, stabilized, and planted or seeded in accordance with the DEQ-approved restoration plan within 30 days of completing work in each area.	☐	☐	☒		
E&S controls consistent with the Virginia ESC Handbook are present and maintained in good working order.	☐	☐	☐		
Exposed slopes/stream banks have been stabilized immediately upon completion of work in each impact area, in accordance with the Virginia ESC Handbook.	☐	☐	☐		
Heavy equipment is placed on mats/ geotextile fabric when working in temporary wetland impact areas. Equipment and materials removed immediately upon completion of work.	☐	☐	☐		
Construction activities are not substantially disrupting the movement of aquatic life.[2]	☐	☐	☐		
New instream pipes and culverts on <5% slope have been installed to maintain low flow conditions and are countersunk at both ends as follows: ≤ 24" diameter: countersunk 3" > 24" diameter: countersunk 6" or more. Any variations were approved in advance by DEQ.	☐	☐	☐		
Time-of-year restrictions are being adhered to.	☐	☐	☐		

[1] If unauthorized impacts have occurred, you **must** email or fax a copy of this report to DEQ within 24 hours of discovery. Email: steven.hardwick@deq.virginia.gov Fax: (804) 698-4032

[2] Substantial disruption means no more than a minimal and/or temporary disruption.

	In Compliance?				
PERMIT REQUIREMENT	**Yes**	**No**	**Not Applicable**	**Location, Description, Notes & Corrective Action Taken (use additional note space below if needed)**	**Date Completed**
For stream channelization or relocation, work in surface waters is being performed in the dry, with all flows diverted until the new channel is stabilized.	☐	☐	☐		
Water quality monitoring is being conducted during permanent stream relocations.	☐	☐	☐		
Streams and wetlands are free from any sheen or discoloration that may indicate a spill of oil, lubricants, concrete or other pollutants.[3]	☐	☐	☐		

Inspection Notes

[3] Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at 540-562-6700. If DEQ cannot be reached, the spill or fish kill shall be reported to the Virginia Department of Emergency Management (VDEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802. Any spill of oil as defined in § 62.1-44.34:14 of the Code of Virginia that is less than 25 gallons and that reaches, or that is expected to reach, land only is not reportable, if recorded per § 62.1-44.34:19.2 of the Code of Virginia and if properly cleaned up.

APPENDIX 1

Table 1 - Stream Impacts														
Assigned VWP Number	Stream ID	NHD Stream Name	County	Latitude	Longitude	Flow Regime	HUC 8	Impact Type	Temporary Impacts (linear ft)	Permanent Fill Impacts (linear ft)	Temporary Impact Area (square feet)	Permanent Impact Area (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number (MVP)
1	S-Q12	UNT to Kimballton Branch	Giles	37.375311	-80.680878	Ephemeral	05050002	Pipeline ROW	86	-	344	-	4-531	G-001
2	S-Q13	Kimballton Branch	Giles	37.374377	-80.682038	Perennial	05050002	Pipeline ROW	90	-	1350	-	4-532	G-002
3	S-P6	UNT to Stony Creek	Giles	37.362202	-80.688092	Ephemeral	05050002	Pipeline ROW	78	-	466	-	4-535	G-003
4	S-S5-Braid-2	Stony Creek	Giles	37.360325	-80.684214	Ephemeral	05050002	Timber Mat Crossing	20	-	122	-	4-536	G-004
5	S-S5-Braid-1	Stony Creek	Giles	37.360276	-80.684193	Ephemeral	05050002	Timber Mat Crossing	20	-	139	-	4-536	G-004
6	S-S5	Stony Creek	Giles	37.360071	-80.68396	Perennial	05050002	Timber Mat Crossing	40	-	802	-	4-536	G-004
7	S-G29	UNT to Dry Branch	Giles	37.35043	-80.658259	Ephemeral	05050002	Pipeline ROW	30	-	122	-	4-541	G-005
8	S-G30	UNT to Dry Branch	Giles	37.350373	-80.65823	Ephemeral	05050002	Pipeline ROW	85	-	680	-	4-541	G-005
9	S-G32	Dry Branch	Giles	37.349095	-80.65204	Intermittent	05050002	Pipeline ROW	110	-	662	-	4-542	G-006
10	S-G33	UNT to Dry Branch	Giles	37.348641	-80.647225	Perennial	05050002	Pipeline ROW	99	-	793	-	4-542	G-007
11	S-G35	UNT to Little Stony Creek	Giles	37.344876	-80.633426	Perennial	05050002	Timber Mat Crossing	25	-	501	-	4-544	G-009
12	S-SS4	UNT to Little Stony Creek	Giles	37.344859	-80.631295	Ephemeral	05050002	Timber Mat Crossing	20	-	61	-	4-544	G-010
13	S-G35	UNT to Little Stony Creek	Giles	37.344779	-80.633379	Perennial	05050002	Timber Mat Crossing	25	-	501	-	4-544	G-009
14	S-Z7	UNT to Little Stony Creek	Giles	37.344278	-80.626185	Intermittent	05050002	Timber Mat Crossing	20	-	61	-	4-545	G-012
15	S-Z7-Braid-1	UNT to Little Stony Creek	Giles	37.344277	-80.626113	Ephemeral	05050002	Timber Mat Crossing	20	-	61	-	4-545	G-012
16	S-Z9	UNT to Little Stony Creek	Giles	37.344163	-80.6284	Perennial	05050002	Timber Mat Crossing	20	-	78	-	4-544	G-011
17	S-Z10	UNT to Little Stony Creek	Giles	37.342351	-80.620823	Intermittent	05050002	Timber Mat Crossing	20	-	240	-	4-545	G-013
18	S-Z11	UNT to Little Stony Creek	Giles	37.342236	-80.620542	Perennial	05050002	Timber Mat Crossing	20	-	100	-	4-545	G-013
19	S-Z12-EPH	UNT to Little Stony Creek	Giles	37.342214	-80.620312	Ephemeral	05050002	Timber Mat Crossing	20	-	122	-	4-545	G-013
20	S-Z13	Little Stony Creek	Giles	37.342172	-80.62009	Perennial	05050002	Timber Mat Crossing	25	-	501	-	4-545	G-013
21	S-Z14	UNT to Little Stony Creek	Giles	37.340977	-80.618031	Intermittent	05050002	Timber Mat Crossing	20	-	78	-	4-545	G-014
22	S-YZ1	Doe Creek	Giles	37.338952	-80.614618	Intermittent	05050002	Temporary Access Road	102	-	1019	-	4-546	S-YZ1
23	S-A34	UNT to Doe Creek	Giles	37.337763	-80.606008	Ephemeral	05050002	Pipeline ROW	86	-	601	-	4-548	G-015A
24	S-A33	UNT to Doe Creek	Giles	37.337639	-80.605571	Ephemeral	05050002	Pipeline ROW	111	-	775	-	4-548	G-015B
25	S-A32	UNT to Doe Creek	Giles	37.335094	-80.596868	Perennial	05050002	Pipeline ROW	78	-	1250	-	4-549	G-016
26	S-QQ2	Sinking Creek	Craig	37.333152	-80.429438	Perennial	05050002	Temporary Access Road	40	-	1398	-	4-581	S-QQ2
27	S-MN11-Upstream	UNT to Sinking Creek	Giles	37.332869	-80.559168	Ephemeral	05050002	Temporary Access Road	15	-	61	-	4-554	S-MN11-Upstream
28	S-MN11-Upstream	UNT to Sinking Creek	Giles	37.332191	-80.559979	Ephemeral	05050002	Temporary Access Road	30	-	122	-	4-554	S-MN11-Upstream
29	S-MN11-Downstream	UNT to Sinking Creek	Giles	37.332146	-80.560079	Ephemeral	05050002	Temporary Access Road	37	-	183	-	4-554	S-MN11-Downstream
30	S-Y3	UNT to Doe Creek	Giles	37.331748	-80.583355	Ephemeral	05050002	Timber Mat Crossing	20	-	200	-	4-551	G-017
31	S-Y2	Doe Creek	Giles	37.331332	-80.583047	Perennial	05050002	Timber Mat Crossing	25	-	501	-	4-551	G-017
32	S-PP4	UNT to Sinking Creek	Craig	37.328329	-80.42281	Intermittent	05050002	Pipeline ROW	84	-	170	-	4-579	G-033
33	S-PP3	UNT to Sinking Creek	Craig	37.326705	-80.425803	Perennial	05050002	Pipeline ROW	82	-	244	-	4-579	G-032
34	S-RR4	UNT to Sinking Creek	Giles	37.326015	-80.556831	Perennial	05050002	Temporary Access Road	85	-	257	-	4-556	S-RR4
35	S-E24	UNT to Sinking Creek	Giles	37.325728	-80.565082	Perennial	05050002	Pipeline ROW	81	-	1620	-	4-553	G-019A
36	S-E25-Downstream	UNT to Sinking Creek	Giles	37.325638	-80.56468	Perennial	05050002	Timber Mat Crossing	20	-	161	-	4-553	G-019B
37	S-E25-Upstream	UNT to Sinking Creek	Giles	37.325607	-80.564373	Perennial	05050002	Pipeline ROW	15	-	148	-	4-553	G-019A
38	S-E25-Downstream	UNT to Sinking Creek	Giles	37.325566	-80.564634	Perennial	05050002	Timber Mat Crossing	20	-	161	-	4-553	G-019B
39	S-PP1	UNT to Sinking Creek	Craig	37.324781	-80.431446	Intermittent	05050002	Pipeline ROW	86	-	257	-	4-578	G-031
40	S-RR5	UNT to Sinking Creek	Giles	37.323702	-80.555627	Perennial	05050002	Pipeline ROW	83	-	832	-	4-555	G-020
41	S-PA07	UNT to Sinking Creek	Giles	37.323533	-80.555257	Intermittent	05050002	Pipeline ROW	115	-	231	-	4-555	G-020
42	S-IJ18-EPH	UNT to Sinking Creek	Giles	37.322737	-80.552396	Ephemeral	05050002	Pipeline ROW	74	-	444	-	4-555	G-020A
43	S-IJ19	UNT to Sinking Creek	Giles	37.322194	-80.553058	Ephemeral	05050002	Temporary Access Road	43	-	170	-	4-555	S-IJ19
44	S-IJ19	UNT to Sinking Creek	Giles	37.321823	-80.55311	Ephemeral	05050002	Temporary Access Road	9	-	35	-	4-555	S-IJ19
45	S-IJ18-INT	UNT to Sinking Creek	Giles	37.321756	-80.553011	Intermittent	05050002	Temporary Access Road	44	-	174	-	4-555	S-IJ18-INT
46	S-PP22	UNT to Craig Creek	Montgomery	37.32109	-80.412831	Intermittent	02080201	Timber Mat Crossing	44	-	174	-	4-584	G-034
47	S-OO12	UNT to Sinking Creek	Giles	37.318956	-80.440648	Ephemeral	05050002	Pipeline ROW	25	-	48	-	4-577	G-030
48	S-OO13	UNT to Sinking Creek	Giles	37.31893	-80.44093	Perennial	05050002	Pipeline ROW	77	-	1542	-	4-577	G-030
49	S-OO14	UNT to Sinking Creek	Giles	37.318647	-80.441619	Perennial	05050002	Pipeline ROW	86	-	344	-	4-577	G-029
50	S-IJ17	UNT to Sinking Creek	Giles	37.318324	-80.54772	Ephemeral	05050002	Pipeline ROW	31	-	248	-	4-558	G-022
51	S-IJ16-b	UNT to Sinking Creek	Giles	37.318246	-80.547711	Ephemeral	05050002	Pipeline ROW	78	-	780	-	4-558	G-022
52	S-PP21	UNT to Craig Creek	Montgomery	37.317187	-80.409235	Perennial	02080201	Timber Mat Crossing	20	-	78	-	4-584	G-035
53	S-PP20	UNT to Craig Creek	Montgomery	37.316523	-80.408646	Perennial	02080201	Timber Mat Crossing	20	-	122	-	4-584	G-036
54	S-RR13	Craig Creek	Montgomery	37.314504	-80.402613	Perennial	02080201	Temporary Access Road	41	-	1433	-	4-585	S-RR13
55	S-HH18	UNT to Craig Creek	Montgomery	37.31391	-80.398683	Perennial	02080201	Timber Mat Crossing	20	-	122	-	4-586	G-039
56	S-RR14	UNT to Craig Creek	Montgomery	37.313615	-80.402521	Ephemeral	02080201	Timber Mat Crossing	20	-	139	-	4-585	G-038
57	S-OO6	Craig Creek	Montgomery	37.313511	-80.404606	Perennial	02080201	Timber Mat Crossing	35	-	701	-	4-585	G-037
58	S-QQ3	UNT to Sinking Creek	Giles	37.311735	-80.532304	Ephemeral	05050002	Temporary Access Road	15	-	30	-	4-560	S-QQ3
59	S-IJ16-a	UNT to Sinking Creek	Giles	37.31173	-80.544091	Ephemeral	05050002	Permanent Access Road	20	-	140	-	4-559	S-IJ16-a
60	S-IJ16-a	UNT to Sinking Creek	Giles	37.31173	-80.544091	Ephemeral	05050002	Permanent Access Road	-	31	-	217	4-559	S-IJ16-a
61	S-NN17	Sinking Creek	Giles	37.311616	-80.515786	Perennial	05050002	Timber Mat Crossing	55	-	1102	-	4-564	G-023
62	S-KL43	UNT to Sinking Creek	Giles	37.307524	-80.466665	Perennial	05050002	Pipeline ROW	75	-	749	-	4-573	G-028
63	S-NN11	UNT to Sinking Creek	Giles	37.305508	-80.467231	Intermittent	05050002	Pipeline ROW	84	-	418	-	4-573	G-027
64	S-NN12	UNT to Sinking Creek	Giles	37.300454	-80.472911	Ephemeral	05050002	Pipeline ROW	88	-	174	-	4-571	G-026
65	S-MN21	UNT to Mill Creek	Montgomery	37.299397	-80.391243	Perennial	03010101	Pipeline ROW	80	-	562	-	4-588	G-040

Table 1 - Stream Impacts														
Assigned VWP Number	Stream ID	NHD Stream Name	County	Latitude	Longitude	Flow Regime	HUC 8	Impact Type	Temporary Impacts (linear ft)	Permanent Fill Impacts (linear ft)	Temporary Impact Area (square feet)	Permanent Impact Area (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number (MVP)
66	S-MM17	UNT to Sinking Creek	Giles	37.298226	-80.480624	Perennial	05050002	Temporary Access Road	49	-	96	-	4-569	S-MM17
67	S-MN22	UNT to Mill Creek	Montgomery	37.297166	-80.386612	Ephemeral	03010101	Pipeline ROW	96	-	192	-	4-589	G-041
68	S-RR2	Greenbriar Branch	Giles	37.296666	-80.494174	Perennial	05050002	Timber Mat Crossing	20	-	161	-	4-567	G-024
69	S-YZ6	UNT to Greenbriar Branch	Giles	37.296612	-80.494165	Intermittent	05050002	Timber Mat Crossing	20	-	122	-	4-567	G-024
70	S-EF62	UNT to Mill Creek	Montgomery	37.296356	-80.375118	Perennial	03010101	Pipeline ROW	76	-	836	-	4-590	G-043
71	S-MM18	UNT to Sinking Creek	Giles	37.296226	-80.481455	Ephemeral	05050002	Pipeline ROW	88	-	440	-	4-569	G-025
72	S-IJ52	UNT to Mill Creek	Montgomery	37.296153	-80.36751	Perennial	03010101	Pipeline ROW	84	-	1346	-	4-591	G-044
73	S-EF65	Mill Creek	Montgomery	37.295743	-80.375921	Intermittent	03010101	Pipeline ROW	152	-	910	-	4-590	G-042
74	S-G36	North Fork Roanoke River	Montgomery	37.268586	-80.313161	Perennial	03010101	Temporary Access Road	26	-	518	-	4-602	S-G36
75	S-G38	UNT to North Fork RoanokeRiver	Montgomery	37.267002	-80.312898	Ephemeral	03010101	Timber Mat Crossing	20	-	61	-	4-603	Crossing complete (NWP-12)
76	S-G40	UNT to North Fork RoanokeRiver	Montgomery	37.264882	-80.307302	Perennial	03010101	Timber Mat Crossing	20	-	61	-	4-603	Crossing complete (NWP-12)
77	S-PP23	UNT to North Fork RoanokeRiver	Montgomery	37.264858	-80.307151	Ephemeral	03010101	Timber Mat Crossing	20	-	48	-	4-604	Crossing complete (NWP-12)
78	S-G39	UNT to North Fork RoanokeRiver	Montgomery	37.264817	-80.308486	Intermittent	03010101	Pipeline ROW	82	-	492	-	4-604	H-001
79	S-MM14	UNT to Flatwoods Branch	Montgomery	37.258717	-80.29321	Ephemeral	03010101	Pipeline ROW	105	-	736	-	4-608	H-003
80	S-MM15	UNT to Flatwoods Branch	Montgomery	37.258673	-80.296446	Intermittent	03010101	Pipeline ROW	82	-	492	-	4-608	H-002
81	S-MM11	UNT to Flatwoods Branch	Montgomery	37.258403	-80.288186	Ephemeral	03010101	Pipeline ROW	80	-	640	-	4-609	H-005
82	S-F15	UNT to Flatwoods Branch	Montgomery	37.258198	-80.286029	Intermittent	03010101	Pipeline ROW	129	-	775	-	4-609	H-006
83	S-MM13	UNT to Flatwoods Branch	Montgomery	37.258176	-80.289222	Ephemeral	03010101	Pipeline ROW	85	-	427	-	4-608	H-004
84	S-F16a/F16b	UNT to Flatwoods Branch	Montgomery	37.257998	-80.284735	Ephemeral	03010101	Pipeline ROW	81	-	244	-	4-609	H-007
85	S-C36	UNT to Flatwoods Branch	Montgomery	37.25726	-80.281611	Intermittent	3010101	Pipeline ROW	96	-	287	-	4-609	H-008
86	S-C36	UNT to Flatwoods Branch	Montgomery	37.257133	-80.281475	Intermittent	3010101	Pipeline ROW	36	-	109	-	4-609	H-008
87	S-MM31	UNT to Flatwoods Branch	Montgomery	37.256959	-80.280329	Ephemeral	03010101	Timber Mat Crossing	20	-	78	-	4-609	H-009
88	S-C29	Flatwoods Branch	Montgomery	37.256387	-80.278021	Ephemeral	03010101	Pipeline ROW	46	-	57	-	4-610	H-010
89	S-C25	UNT to Bradshaw Creek	Montgomery	37.254342	-80.267895	Intermittent	03010101	Pipeline ROW	115	-	344	-	4-611	H-013
90	S-C24	UNT to Bradshaw Creek	Montgomery	37.254135	-80.266743	Intermittent	03010101	Pipeline ROW	108	-	322	-	4-611	H-014
91	S-C21	Bradshaw Creek	Montgomery	37.251791	-80.25899	Perennial	03010101	Timber Mat Crossing	25	-	501	-	4-613	H-015
92	S-NN19	UNT to Roanoke River	Montgomery	37.244319	-80.206995	Intermittent	03010101	Pipeline ROW	76	-	266	-	4-627	H-018
93	S-AB16	UNT to Roanoke River	Montgomery	37.231693	-80.198778	Intermittent	03010101	Timber Mat Crossing	20	-	100	-	4-631	H-020
94	S-I1	UNT to Roanoke River	Montgomery	37.231179	-80.19846	Intermittent	03010101	Timber Mat Crossing	20	-	279	-	4-631	H-020
95	S-CD12b	UNT to South Fork Roanoke River	Montgomery	37.229764	-80.201144	Perennial	03010101	Timber Mat Crossing	20	-	122	-	4-631	H-021
96	S-EF19	UNT to Indian Run	Montgomery	37.216102	-80.19739	Ephemeral	03010101	Pipeline ROW	79	-	396	-	4-634	H-023
97	S-EF20a	UNT to Roanoke River	Montgomery	37.210922	-80.193318	Perennial	03010101	Pipeline ROW	80	-	479	-	4-635	H-024
98	S-MM22	UNT to Roanoke River	Montgomery	37.205284	-80.187282	Perennial	03010101	Pipeline ROW	175	-	2627	-	4-637	H-025
99	S-IJ50	UNT to Roanoke River	Roanoke	37.194064	-80.167933	Perennial	03010101	Pipeline ROW	77	-	1925	-	4-641	H-026
100	S-Y13	UNT to Bottom Creek	Roanoke	37.187687	-80.151146	Intermittent	03010101	Pipeline ROW	85	-	680	-	4-644	H-027
101	S-Y14	UNT to Bottom Creek	Roanoke	37.187568	-80.151049	Perennial	03010101	Pipeline ROW	77	-	1076	-	4-644	H-027
102	S-EF57	UNT to Bottom Creek	Roanoke	37.181736	-80.148948	Intermittent	03010101	Temporary Access Road	42	-	335	-	4-645	S-EF57
103	S-EF55	UNT to Bottom Creek	Roanoke	37.181506	-80.149497	Intermittent	03010101	Pipeline ROW	33	-	266	-	4-645	H-028
104	S-EF34b	UNT to Bottom Creek	Roanoke	37.181385	-80.14914	Perennial	03010101	Pipeline ROW	81	-	810	-	4-645	H-028
105	S-EF33	UNT to Bottom Creek	Roanoke	37.179186	-80.141	Intermittent	03010101	Pipeline ROW	148	-	1333	-	4-647	H-029
106	S-IJ82	UNT to Bottom Creek	Roanoke	37.170458	-80.138216	Intermittent	03010101	Timber Mat Crossing	20	-	301	-	4-648	H-030
107	S-IJ85	UNT to Bottom Creek	Roanoke	37.169474	-80.130356	Perennial	03010101	Temporary Access Road	50	-	401	-	4-650	S-IJ85
108	S-IJ83	UNT to Bottom Creek	Roanoke	37.169211	-80.138258	Intermittent	03010101	Timber Mat Crossing	148	-	741	-	4-649	H-031
109	S-IJ88	Bottom Creek	Roanoke	37.168395	-80.138295	Perennial	03010101	Timber Mat Crossing	30	-	1960	-	4-649	H-031
110	S-IJ84	UNT to Bottom Creek	Roanoke	37.168361	-80.138381	Perennial	03010101	Timber Mat Crossing	35	-	527	-	4-649	H-031
111	S-IJ89	UNT to Bottom Creek	Roanoke	37.165862	-80.139317	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-649	H-032
112	S-IJ90	UNT to Bottom Creek	Roanoke	37.165685	-80.139378	Intermittent	03010101	Timber Mat Crossing	20	-	100	-	4-649	H-032
113	S-KL25	UNT to Mill Creek	Roanoke	37.160173	-80.134799	Intermittent	03010101	Pipeline ROW	82	-	409	-	4-651	H-033
114	S-ST9b	UNT to Mill Creek	Roanoke	37.154424	-80.129179	Perennial	03010101	Timber Mat Crossing	20	-	301	-	4-652	H-040
115	S-KL55	UNT to Mill Creek	Roanoke	37.150009	-80.13246	Perennial	03010101	Timber Mat Crossing	20	-	301	-	4-653	H-042
116	S-IJ12	UNT to Mill Creek	Roanoke	37.148333	-80.133919	Perennial	03010101	Timber Mat Crossing	20	-	261	-	4-653	H-043
117	S-EF44	UNT to Bottom Creek	Roanoke	37.143003	-80.138399	Intermittent	03010101	Timber Mat Crossing	20	-	139	-	4-654	H-044
118	S-IJ43	Mill Creek	Roanoke	37.138636	-80.139715	Perennial	03010101	Timber Mat Crossing	20	-	362	-	4-655	H-045
119	S-Y9	UNT to Mill Creek	Roanoke	37.134576	-80.137649	Intermittent	03010101	Timber Mat Crossing	44	-	174	-	4-656	H-046
120	S-Y7	UNT to Mill Creek	Roanoke	37.134481	-80.137622	Intermittent	03010101	Timber Mat Crossing	32	-	126	-	4-656	H-046
121	S-Y8	UNT to Mill Creek	Roanoke	37.134176	-80.137484	Perennial	03010101	Timber Mat Crossing	20	-	78	-	4-656	H-046
122	S-B22	UNT to Mill Creek	Roanoke	37.128922	-80.133769	Perennial	03010101	Timber Mat Crossing	20	-	78	-	4-659	H-047A
123	S-B23	UNT to Mill Creek	Roanoke	37.128853	-80.13391	Intermittent	03010101	Timber Mat Crossing	14	-	26	-	4-659	H-047A
124	S-B25	UNT to Mill Creek	Roanoke	37.12849	-80.132601	Intermittent	03010101	Timber Mat Crossing	76	-	379	-	4-659	H-48A
125	S-B21	UNT to Mill Creek	Roanoke	37.128484	-80.130943	Perennial	03010101	Pipeline ROW	92	-	366	-	4-659	H-048B
126	S-H1	Green Creek	Franklin	37.127733	-80.116787	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-661	Crossing complete (NWP-12)
127	S-G26	UNT to Green Creek	Franklin	37.127077	-80.111387	Intermittent	03010101	Timber Mat Crossing	20	-	139	-	4-662	Crossing complete (NWP-12)
128	S-G27	UNT to Green Creek	Franklin	37.126962	-80.111052	Perennial	03010101	Timber Mat Crossing	20	-	139	-	4-662	Crossing complete (NWP-12)
129	S-G24	UNT to Green Creek	Franklin	37.126412	-80.121398	Intermittent	03010101	Pipeline ROW	75	-	449	-	4-661	H-051
130	S-G25	UNT to Green Creek	Franklin	37.125398	-80.121401	Intermittent	03010101	Pipeline ROW	42	-	292	-	4-661	H-051

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Assigned VWP Number	Stream ID	NHD Stream Name	County	Latitude	Longitude	Flow Regime	HUC 8	Impact Type	Temporary Impacts (linear ft)	Permanent Fill Impacts (linear ft)	Temporary Impact Area (square feet)	Permanent Impact Area (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number (MVP)
131	S-RR18	UNT to Green Creek	Franklin	37.125055	-80.113578	Intermittent	03010101	Permanent Access Road	8	-	17	-	4-662	S-RR18
132	S-D11	UNT to North Fork BlackwaterRiver	Franklin	37.124137	-80.086182	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-666	H-054
133	S-D8	North Fork Blackwater River	Franklin	37.123098	-80.074673	Perennial	03010101	Pipeline ROW	78	-	941	-	4-667	H-055
134	S-D12	UNT to North Fork BlackwaterRiver	Franklin	37.121558	-80.085642	Intermittent	03010101	Pipeline ROW	54	-	322	-	4-666	H-053
135	S-D13	UNT to North Fork BlackwaterRiver	Franklin	37.121513	-80.08568	Intermittent	03010101	Pipeline ROW	117	-	466	-	4-666	H-053
136	S-D14	UNT to North Fork Blackwater River	Franklin	37.121473	-80.088457	Intermittent	03010101	Pipeline ROW	234	-	701	-	4-666	H-052
137	S-II4	UNT to North Fork BlackwaterRiver	Franklin	37.115679	-80.0603	Perennial	03010101	Timber Mat Crossing	20	-	301	-	4-670	Crossing complete (NWP-12)
138	S-GH7	UNT to North Fork BlackwaterRiver	Franklin	37.106614	-80.054219	Perennial	03010101	Timber Mat Crossing	20	-	179	-	4-672	Crossing complete (NWP-12)
139	S-GH15	UNT to North Fork BlackwaterRiver	Franklin	37.106177	-80.050105	Intermittent	03010101	Pipeline ROW	75	-	301	-	4-674	H-057
140	S-GH14	UNT to North Fork BlackwaterRiver	Franklin	37.105883	-80.048861	Perennial	03010101	Pipeline ROW	76	-	305	-	4-674	H-056
141	S-GH11	UNT to North Fork BlackwaterRiver	Franklin	37.104707	-80.04622	Intermittent	03010101	Pipeline ROW	77	-	231	-	4-674	H-058
142	S-GH9	UNT to North Fork BlackwaterRiver	Franklin	37.104329	-80.045343	Perennial	03010101	Pipeline ROW	78	-	314	-	4-674	H-059
143	S-RR08	UNT to North Fork BlackwaterRiver	Franklin	37.10329	-80.041868	Ephemeral	03010101	Timber Mat Crossing	20	-	139	-	4-674	H-060
144	S-RR09	UNT to North Fork BlackwaterRiver	Franklin	37.102491	-80.041046	Ephemeral	03010101	Pipeline ROW	77	-	693	-	4-675	H-061
145	S-RR11	UNT to North Fork BlackwaterRiver	Franklin	37.101127	-80.039653	Ephemeral	03010101	Pipeline ROW	77	-	540	-	4-675	H-062
146	S-IJ1	UNT to North Fork BlackwaterRiver	Franklin	37.093062	-80.027724	Perennial	03010101	Pipeline ROW	107	-	1285	-	4-677	H-063
147	S-IJ2	UNT to North Fork BlackwaterRiver	Franklin	37.092891	-80.027593	Intermittent	03010101	Pipeline ROW	40	-	100	-	4-677	H-063
	S-IJ3	UNT to North Fork BlackwaterRiver	Franklin	37.092555	-80.027314	Intermittent	03010101	Timber Mat Crossing	21	-	105	-	4-677	Crossing complete (NWP-12)
148	S-II6	UNT to Little Creek	Franklin	37.092697	-79.978402	Intermittent	03010101	Timber Mat Crossing	20	-	61	-	4-685	Crossing complete (NWP-12)
150	S-GH6	UNT to Little Creek	Franklin	37.092397	-79.983227	Perennial	03010101	Timber Mat Crossing	20	-	61	-	4-684	Crossing complete (NWP-12)
151	S-II12	UNT to Little Creek	Franklin	37.091608	-79.987839	Intermittent	03010101	Timber Mat Crossing	20	-	39	-	4-684	Crossing complete (NWP-12)
152	S-II11	UNT to Little Creek	Franklin	37.091564	-79.988051	Perennial	03010101	Timber Mat Crossing	20	-	78	-	4-684	Crossing complete (NWP-12)
153	S-II8	UNT to Little Creek	Franklin	37.091413	-79.993944	Intermittent	03010101	Timber Mat Crossing	20	-	39	-	4-683	Crossing complete (NWP-12)
154	S-II9	UNT to Little Creek	Franklin	37.091382	-79.99062	Perennial	03010101	Timber Mat Crossing	20	-	401	-	4-683	Crossing complete (NWP-12)
155	S-II7	UNT to Little Creek	Franklin	37.091354	-79.992013	Intermittent	03010101	Timber Mat Crossing	20	-	78	-	4-683	Crossing complete (NWP-12)
156	S-IJ4	UNT to North Fork BlackwaterRiver	Franklin	37.091189	-80.024366	Perennial	03010101	Timber Mat Crossing	20	-	78	-	4-677	Crossing complete (NWP-12)
157	S-KL2	UNT to Little Creek	Franklin	37.090361	-79.996354	Perennial	03010101	Timber Mat Crossing	20	-	74	-	4-682	Crossing complete (NWP-12)
158	S-GH2	UNT to Teels Creek	Franklin	37.090153	-79.953936	Intermittent	03010101	Timber Mat Crossing	20	-	39	-	4-689	Crossing complete (NWP-12)
159	S-GH4	UNT to Teels Creek	Franklin	37.089812	-79.956077	Perennial	03010101	Timber Mat Crossing	20	-	100	-	4-688	I-001A
160	S-GH3	UNT to Teels Creek	Franklin	37.089745	-79.956042	Perennial	03010101	Timber Mat Crossing	20	-	122	-	4-688	I-001A
161	S-IJ10	Little Creek	Franklin	37.089179	-80.005026	Perennial	03010101	Timber Mat Crossing	20	-	61	-	4-681	Crossing complete (NWP-12)
162	S-E29	UNT to Teels Creek	Franklin	37.089178	-79.95011	Perennial	03010101	Pipeline ROW	80	-	640	-	4-689	I-002
163	S-E28	Teels Creek	Franklin	37.089047	-79.9613	Perennial	03010101	Pipeline ROW	82	-	984	-	4-687	I-005B
164	S-E28	Teels Creek	Franklin	37.085247	-79.948057	Perennial	03010101	Pipeline ROW	76	-	910	-	4-690	I-005B
165	S-E28	Teels Creek	Franklin	37.082875	-79.945556	Perennial	03010101	Pipeline ROW	101	-	1211	-	4-690	I-005B
166	S-EF4	UNT to Teels Creek	Franklin	37.078963	-79.941911	Perennial	03010101	Pipeline ROW	80	-	880	-	4-691	I-006
167	S-EF7	UNT to Teels Creek	Franklin	37.074664	-79.941123	Ephemeral	03010101	Timber Mat Crossing	20	-	39	-	4-692	Crossing complete (NWP-12)
168	S-EF7	UNT to Teels Creek	Franklin	37.074636	-79.941336	Ephemeral	03010101	ATWS	22	-	44	-	4-692	Crossing complete (NWP-12)
169	S-EF12	Teels Creek	Franklin	37.073367	-79.939865	Perennial	03010101	Pipeline ROW	79	-	1581	-	4-692	I-007
170	S-MM42	UNT to Teels Creek	Franklin	37.070703	-79.937069	Ephemeral	03010101	Pipeline ROW	81	-	161	-	4-693	I-008
171	S-D23	Teels Creek	Franklin	37.070322	-79.931039	Perennial	03010101	Pipeline ROW	92	-	2087	-	4-694	I-010
172	S-D22	UNT to Teels Creek	Franklin	37.070101	-79.929732	Intermittent	03010101	Pipeline ROW	83	-	662	-	4-694	I-011
173	S-D18	UNT to Teels Creek	Franklin	37.069560	-79.926213	Ephemeral	03010101	Pipeline ROW	30	-	61	-	4-694	I-012
174	S-RR15	UNT to Teels Creek	Franklin	37.069542	-79.933892	Perennial	03010101	Timber Mat Crossing	20	-	26	-	4-694	I-009
175	S-D20	UNT to Teels Creek	Franklin	37.069485	-79.92623	Intermittent	03010101	Pipeline ROW	76	-	610	-	4-694	I-012
176	S-EF48	UNT to Blackwater River	Franklin	37.064748	-79.87442	Intermittent	03010101	Pipeline ROW	86	-	170	-	4-705	I-026
177	S-YZ4	UNT to Blackwater River	Franklin	37.064723	-79.87819	Ephemeral	03010101	Pipeline ROW	84	-	253	-	4-704	I-025
178	S-C14	Teels Creek	Franklin	37.063956	-79.921985	Perennial	03010101	Pipeline ROW	90	-	3655	-	4-696	I-013
179	S-YZ5	UNT to Blackwater River	Franklin	37.063464	-79.878281	Ephemeral	03010101	Pipeline ROW	86	-	344	-	4-704	I-024
180	S-KL41	UNT to Blackwater River	Franklin	37.062262	-79.862639	Perennial	03010101	Pipeline ROW	75	-	902	-	4-706	I-027
181	S-KL39	UNT to Blackwater River	Franklin	37.061193	-79.880018	Perennial	03010101	Pipeline ROW	121	-	788	-	4-704	I-023
182	S-C16	UNT to Teels Creek	Franklin	37.060610	-79.921179	Perennial	03010101	Timber Mat Crossing	20	-	301	-	4-696	Crossing complete (NWP-12)
183	S-KL54	UNT to Maggodee Creek	Franklin	37.059535	-79.840624	Perennial	03010101	Pipeline ROW	76	-	758	-	4-710	I-031
184	S-C8	UNT to Blackwater River	Franklin	37.059098	-79.853595	Intermittent	03010101	Pipeline ROW	86	-	431	-	4-708	I-028
185	S-F4	UNT to Blackwater River	Franklin	37.059060	-79.853379	Ephemeral	03010101	Pipeline ROW	82	-	819	-	4-708	I-028
186	S-C17	Teels Creek	Franklin	37.058390	-79.918015	Perennial	03010101	Timber Mat Crossing	30	-	601	-	4-696	I-014
187	S-KL52	UNT to Maggodee Creek	Franklin	37.058165	-79.844877	Ephemeral	03010101	Pipeline ROW	105	-	105	-	4-709	I-030
188	S-S11	UNT to Maggodee Creek	Franklin	37.057776	-79.838583	Perennial	03010101	Temporary Access Road	41	-	453	-	4-710	S-S11
189	S-F8	UNT to Maggodee Creek	Franklin	37.057724	-79.836406	Perennial	03010101	Pipeline ROW	83	-	2492	-	4-710	I-032
190	S-CD6	Little Creek	Franklin	37.057584	-79.913921	Perennial	03010101	Pipeline ROW	77	-	4426	-	4-698	I-015
191	S-HH4	UNT to Maggodee Creek	Franklin	37.056594	-79.835785	Intermittent	03010101	Pipeline ROW	97	-	871	-	4-711	I-033
192	S-KL51	UNT to Blackwater River	Franklin	37.056084	-79.850384	Perennial	03010101	Pipeline ROW	67	-	370	-	4-708	I-029
193	S-KL38	UNT to Blackwater River	Franklin	37.055912	-79.883177	Perennial	03010101	Pipeline ROW	78	-	545	-	4-702	I-022
194	S-C20	UNT to Maggodee Creek	Franklin	37.055193	-79.833881	Ephemeral	03010101	Timber Mat Crossing	20	-	78	-	4-711	I-034
195	S-C19	Maggodee Creek	Franklin	37.055147	-79.830098	Perennial	03010101	Pipeline ROW	75	-	3006	-	4-711	I-035

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196	S-KL36	UNT to Blackwater River	Franklin	37.053336	-79.884604	Perennial	03010101	Timber Mat Crossing	20	-	148	-	4-702	I-021
197	S-F11	Blackwater River	Franklin	37.052843	-79.825711	Perennial	03010101	Pipeline ROW	91	-	6765	-	4-712	I-036
198	S-KL35	UNT to Blackwater River	Franklin	37.052125	-79.886182	Perennial	03010101	Timber Mat Crossing	35	-	87	-	4-702	I-020
199	S-F9b	UNT to Blackwater River	Franklin	37.049238	-79.817223	Perennial	03010101	Pipeline ROW	76	-	1141	-	4-713	I-037
200	S-II2	Little Creek	Franklin	37.049219	-79.908513	Perennial	03010101	Pipeline ROW	76	-	3245	-	4-699	I-018
201	S-F10	UNT to Blackwater River	Franklin	37.048037	-79.813934	Ephemeral	03010101	Timber Mat Crossing	20	-	179	-	4-713	I-038
202	S-CD1	UNT to Blackwater River	Franklin	37.047765	-79.897636	Perennial	03010101	Pipeline ROW	104	-	366	-	4-701	I-019
203	S-F9a	UNT to Blackwater River	Franklin	37.047172	-79.813	Intermittent	03010101	Timber Mat Crossing	20	-	301	-	4-713	I-039
204	S-MM29	UNT to Maple Branch	Franklin	37.043871	-79.822898	Perennial	03010101	Temporary Access Road	42	-	632	-	4-714	S-MM29
205	S-MM23	Maple Branch	Franklin	37.043854	-79.822974	Perennial	03010101	Temporary Access Road	78	-	1559	-	4-714	S-MM23
206	S-GG4	UNT to Blackwater River	Franklin	37.042742	-79.809015	Ephemeral	03010101	Timber Mat Crossing	20	-	200	-	4-716	I-040
207	S-A36	UNT to Foul Ground Creek	Franklin	37.037916	-79.804237	Ephemeral	03010101	Pipeline ROW	77	-	309	-	4-717	I-041
208	S-A38	UNT to Foul Ground Creek	Franklin	37.036271	-79.799442	Intermittent	03010101	Timber Mat Crossing	30	-	270	-	4-718	I-042
209	S-A40	UNT to Foul Ground Creek	Franklin	37.036173	-79.79924	Intermittent	03010101	Timber Mat Crossing	13	-	74	-	4-718	I-042
210	S-A41	Foul Ground Creek	Franklin	37.031714	-79.788213	Perennial	03010101	Pipeline ROW	76	-	910	-	4-720	I-043A
211	S-GH36	UNT to Foul Ground Creek	Franklin	37.031063	-79.778588	Intermittent	03010101	Timber Mat Crossing	20	-	61	-	4-721	I-044A
212	S-KL17	UNT to Foul Ground Creek	Franklin	37.031011	-79.778435	Intermittent	03010101	Timber Mat Crossing	20	-	100	-	4-721	I-044A
213	S-GH37	UNT to Foul Ground Creek	Franklin	37.030974	-79.77819	Intermittent	03010101	Pipeline ROW	46	-	139	-	4-721	I-044A
214	S-GH38	UNT to Foul Ground Creek	Franklin	37.030972	-79.778083	Intermittent	03010101	Pipeline ROW	7	-	22	-	4-721	I-044A
215	S-GH39	UNT to Foul Ground Creek	Franklin	37.030861	-79.778069	Intermittent	03010101	Pipeline ROW	103	-	414	-	4-721	I-044B
216	S-GH40	UNT to Foul Ground Creek	Franklin	37.028893	-79.774785	Ephemeral	03010101	Pipeline ROW	89	-	266	-	4-721	I-045
217	S-GH44	UNT to Foul Ground Creek	Franklin	37.028392	-79.773359	Perennial	03010101	Timber Mat Crossing	103	-	619	-	4-721	I-046
218	S-G22	UNT to Poplar Camp Creek	Franklin	37.019612	-79.761958	Perennial	03010101	Pipeline ROW	80	-	958	-	4-723	I-047
219	S-G23	UNT to Poplar Camp Creek	Franklin	37.019526	-79.762002	Intermittent	03010101	Pipeline ROW	42	-	126	-	4-723	I-047
220	S-G21	UNT to Poplar Camp Creek	Franklin	37.019359	-79.761643	Intermittent	03010101	Pipeline ROW	54	-	161	-	4-723	I-047
221	S-G20	Poplar Camp Creek	Franklin	37.017364	-79.76	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-724	I-048
222	S-G18	UNT to Blackwater River	Franklin	37.009236	-79.754238	Intermittent	03010101	Pipeline ROW	81	-	161	-	4-725	I-049
223	S-G17	UNT to Blackwater River	Franklin	37.005496	-79.752655	Ephemeral	03010101	Timber Mat Crossing	20	-	100	-	4-726	Crossing complete (NWP-12)
224	S-E18	UNT to Blackwater River	Franklin	37.001271	-79.747749	Perennial	03010101	Pipeline ROW	94	-	658	-	4-727	I-050
225	S-E17	UNT to Blackwater River	Franklin	37.000529	-79.74276	Perennial	03010101	Pipeline ROW	95	-	758	-	4-727	I-051
226	S-E14	UNT to Blackwater River	Franklin	36.995814	-79.735144	Perennial	03010101	Pipeline ROW	82	-	1638	-	4-728	I-052
227	S-H38	UNT to Jacks Creek	Franklin	36.989430	-79.722366	Perennial	03010101	Timber Mat Crossing	20	-	240	-	4-730	I-053
228	S-H32	UNT to Jacks Creek	Franklin	36.988273	-79.708199	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-732	I-057
229	S-H37	UNT to Jacks Creek	Franklin	36.988031	-79.71745	Ephemeral	03010101	Pipeline ROW	82	-	492	-	4-731	I-054
230	S-H34	UNT to Jacks Creek	Franklin	36.988009	-79.711881	Perennial	03010101	Timber Mat Crossing	20	-	61	-	4-732	I-056
231	S-H36	UNT to Jacks Creek	Franklin	36.988008	-79.714922	Perennial	03010101	Timber Mat Crossing	20	-	61	-	4-731	I-055
232	S-H30	UNT to Jacks Creek	Franklin	36.987961	-79.702711	Intermittent	03010101	Pipeline ROW	4	-	4	-	4-734	W-H11
233	S-A18	UNT to Jacks Creek	Franklin	36.987818	-79.700634	Intermittent	03010101	Pipeline ROW	87	-	227	-	4-734	I-059
234	S-A19/H26	UNT to Jacks Creek	Franklin	36.987719	-79.698901	Intermittent	03010101	Pipeline ROW	212	-	1485	-	4-734	I-060A
235	S-A20	UNT to Jacks Creek	Franklin	36.987715	-79.698555	Perennial	03010101	Timber Mat Crossing	20	-	139	-	4-734	I-060B
236	S-H28	UNT to Jacks Creek	Franklin	36.985174	-79.692272	Ephemeral	03010101	Pipeline ROW	16	-	96	-	4-735	I-061B
237	S-H27	UNT to Jacks Creek	Franklin	36.985124	-79.692272	Ephemeral	03010101	Pipeline ROW	36	-	362	-	4-735	I-061B
238	S-A22	UNT to Jacks Creek	Franklin	36.984846	-79.69187	Intermittent	03010101	Timber Mat Crossing	20	-	161	-	4-735	I-061A
239	S-MM44	UNT to Little Jacks Creek	Franklin	36.982507	-79.687818	Perennial	03010101	Timber Mat Crossing	20	-	78	-	4-735	I-062
240	S-MM46	UNT to Little Jacks Creek	Franklin	36.982240	-79.6875	Intermittent	03010101	Timber Mat Crossing	9	-	26	-	4-735	S-MM46
241	S-MM45	UNT to Little Jacks Creek	Franklin	36.981971	-79.686901	Ephemeral	03010101	Timber Mat Crossing	33	-	131	-	4-735	S-MM45
242	S-MM48	UNT to Little Jacks Creek	Franklin	36.979223	-79.684192	Perennial	03010101	Timber Mat Crossing	25	-	174	-	4-736	I-063
243	S-H25	Little Jacks Creek	Franklin	36.978529	-79.682186	Perennial	03010101	Timber Mat Crossing	20	-	139	-	4-736	I-064
244	S-H24	UNT to Little Jacks Creek	Franklin	36.978025	-79.680682	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-736	I-065
245	S-H23	UNT to Turkey Creek	Franklin	36.976421	-79.677525	Ephemeral	03010101	Pipeline ROW	92	-	462	-	4-738	I-066
246	S-HH1	UNT to Turkey Creek	Franklin	36.974647	-79.674453	Ephemeral	03010101	Pipeline ROW	18	-	91	-	4-738	S-HH1
247	S-A13	Turkey Creek	Franklin	36.973282	-79.673075	Perennial	03010101	Timber Mat Crossing	20	-	161	-	4-738	I-067
248	S-A11	UNT to Turkey Creek	Franklin	36.973237	-79.669898	Ephemeral	03010101	Pipeline ROW	55	-	166	-	4-740	S-A11
249	S-H17	Dinner Creek	Franklin	36.972125	-79.662987	Intermittent	03010101	Pipeline ROW	101	-	806	-	4-741	I-069B
250	S-A7	UNT to Dinner Creek	Franklin	36.972032	-79.662504	Perennial	03010101	Timber Mat Crossing	20	-	122	-	4-741	I-069A
251	S-SS8	Polecat Creek	Franklin	36.970904	-79.65737	Perennial	03010101	Timber Mat Crossing	20	-	161	-	4-741	I-070
252	S-CD8	UNT to Owens Creek	Franklin	36.970522	-79.653726	Intermittent	03010101	Pipeline ROW	78	-	353	-	4-742	I-071
253	S-AB8	UNT to Owens Creek	Franklin	36.970133	-79.651328	Intermittent	03010101	Pipeline ROW	84	-	335	-	4-742	I-078
254	S-DD3	Owens Creek	Franklin	36.969118	-79.645042	Intermittent	03010101	Timber Mat Crossing	20	-	301	-	4-743	I-073
255	S-G16	Strawfield Creek	Franklin	36.968640	-79.642174	Perennial	03010101	Timber Mat Crossing	30	-	601	-	4-743	I-074
256	S-G15	UNT to Parrot Branch	Franklin	36.967711	-79.63659	Intermittent	03010101	Pipeline ROW	88	-	793	-	4-744	I-075
257	S-G13	Parrot Branch	Franklin	36.967025	-79.630747	Perennial	03010101	Timber Mat Crossing	20	-	161	-	4-744	I-076
258	S-D3	UNT to Jonnikin Creek	Pittsylvania	36.965631	-79.605542	Perennial	03010101	Timber Mat Crossing	20	-	200	-	4-747	I-078
259	S-D4	UNT to Jonnikin Creek	Pittsylvania	36.965600	-79.604894	Intermittent	03010101	Pipeline ROW	105	-	632	-	4-747	I-079
260	S-D2	Jonnikin Creek	Pittsylvania	36.965405	-79.59913	Perennial	03010101	Timber Mat Crossing	20	-	362	-	4-748	I-080

Table 1 - Stream Impacts														
Assigned VWP Number	Stream ID	NHD Stream Name	County	Latitude	Longitude	Flow Regime	HUC 8	Impact Type	Temporary Impacts (linear ft)	Permanent Fill Impacts (linear ft)	Temporary Impact Area (square feet)	Permanent Impact Area (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number (MVP)
261	S-D7	UNT to Jonnikin Creek	Franklin	36.964763	-79.617043	Intermittent	03010101	Pipeline ROW	80	-	640	-	4-746	I-077
262	S-D1-EPH	UNT to Jonnikin Creek	Pittsylvania	36.964430	-79.595691	Ephemeral	03010101	Pipeline ROW	61	-	610	-	4-748	I-081
263	S-D1-INT	UNT to Jonnikin Creek	Pittsylvania	36.964407	-79.595841	Intermittent	03010101	Pipeline ROW	29	-	292	-	4-748	I-081
264	S-G11	UNT to Jonnikin Creek	Pittsylvania	36.962420	-79.5905	Intermittent	03010101	Pipeline ROW	77	-	462	-	4-749	I-082
265	S-G9	UNT to Jonnikin Creek	Pittsylvania	36.959361	-79.586437	Intermittent	03010101	Pipeline ROW	79	-	318	-	4-751	I-083
266	S-G8	UNT to Jonnikin Creek	Pittsylvania	36.957805	-79.583545	Intermittent	03010101	Pipeline ROW	90	-	362	-	4-751	I-084A
267	S-Q15	UNT to Jonnikin Creek	Pittsylvania	36.957580	-79.583492	Ephemeral	03010101	Pipeline ROW	103	-	514	-	4-751	I-084B
268	S-A6	UNT to Rocky Creek	Pittsylvania	36.952275	-79.58046	Perennial	03010101	Timber Mat Crossing	20	-	100	-	4-750	I-085
269	S-H11-Braid	UNT to Rocky Creek	Pittsylvania	36.949615	-79.579553	Ephemeral	03010101	Pipeline ROW	85	-	170	-	4-750	S-H11-Braid
270	S-F2	UNT to Rocky Creek	Pittsylvania	36.944049	-79.571442	Ephemeral	03010101	Timber Mat Crossing	20	-	139	-	4-753	I-086
271	S-C7	UNT to Rocky Creek	Pittsylvania	36.944016	-79.571517	Perennial	03010101	Timber Mat Crossing	20	-	401	-	4-753	I-086
272	S-C3	Harpen Creek	Pittsylvania	36.929762	-79.526109	Perennial	03010101	Timber Mat Crossing	20	-	362	-	4-758	I-087
273	S-C4	UNT to Harpen Creek	Pittsylvania	36.929745	-79.52629	Perennial	03010101	Timber Mat Crossing	58	-	231	-	4-758	I-087
274	S-H13	Harpen Creek	Pittsylvania	36.925105	-79.51735	Perennial	03010101	Pipeline ROW	77	-	1542	-	4-759	I-088
275	S-G6	UNT to Harpen Creek	Pittsylvania	36.920737	-79.505898	Intermittent	03010101	Pipeline ROW	80	-	479	-	4-761	I-089
276	S-G5	UNT to Harpen Creek	Pittsylvania	36.917694	-79.496604	Ephemeral	03010101	Pipeline ROW	77	-	462	-	4-762	I-090
277	S-G4	Harpen Creek	Pittsylvania	36.916463	-79.492669	Perennial	03010101	Timber Mat Crossing	30	-	601	-	4-762	I-091
278	S-G3	UNT to Harpen Creek	Pittsylvania	36.915658	-79.490029	Perennial	03010101	Timber Mat Crossing	20	-	179	-	4-762	I-092
279	S-CC16	UNT to Harpen Creek	Pittsylvania	36.913003	-79.487838	Perennial	03010101	Timber Mat Crossing	20	-	222	-	4-763	I-093
280	S-CC14	UNT to Cherrystone Creek	Pittsylvania	36.905329	-79.471492	Intermittent	03010105	Timber Mat Crossing	20	-	161	-	4-765	I-094
281	S-CC13	UNT to Cherrystone Creek	Pittsylvania	36.905307	-79.471574	Intermittent	03010105	Timber Mat Crossing	20	-	139	-	4-765	I-094
282	S-MM8	UNT to Cherrystone Creek	Pittsylvania	36.902991	-79.46822	Perennial	03010105	Timber Mat Crossing	20	-	122	-	4-766	I-095
283	S-CC15	UNT to Cherrystone Creek	Pittsylvania	36.901941	-79.466535	Perennial	03010105	Timber Mat Crossing	20	-	122	-	4-766	I-096
284	S-CC8	UNT to Cherrystone Creek	Pittsylvania	36.899437	-79.462685	Intermittent	03010105	Timber Mat Crossing	20	-	161	-	4-766	I-097
285	S-CC5	UNT to Cherrystone Creek	Pittsylvania	36.899411	-79.462483	Perennial	03010105	Timber Mat Crossing	20	-	240	-	4-766	I-097
286	S-CC5	UNT to Cherrystone Creek	Pittsylvania	36.899248	-79.462396	Perennial	03010105	Timber Mat Crossing	54	-	649	-	4-766	I-097
287	S-CC9	UNT to Cherrystone Creek	Pittsylvania	36.897740	-79.458046	Ephemeral	03010105	Pipeline ROW	81	-	444	-	4-767	I-098
288	S-CC10	UNT to Cherrystone Creek	Pittsylvania	36.897315	-79.456119	Intermittent	03010105	Pipeline ROW	78	-	701	-	4-767	I-099
289	S-MM10	UNT to Cherrystone Creek	Pittsylvania	36.895915	-79.45296	Intermittent	03010105	Pipeline ROW	9	-	61	-	4-768	I-100
290	S-CC11	UNT to Cherrystone Creek	Pittsylvania	36.895808	-79.45292	Perennial	03010105	Pipeline ROW	87	-	697	-	4-768	I-100
291	S-CC1	Cherrystone Creek	Pittsylvania	36.894043	-79.445744	Perennial	03010105	Pipeline ROW	82	-	1228	-	4-769	I-101B
292	S-CC3	UNT to Cherrystone Creek	Pittsylvania	36.893727	-79.444763	Ephemeral	03010105	Pipeline ROW	91	-	727	-	4-769	I-102
293	S-P5	UNT to Cherrystone Creek	Pittsylvania	36.892751	-79.440053	Ephemeral	03010105	Timber Mat Crossing	20	-	100	-	4-769	I-103
294	S-IJ35-EPH	UNT to Pole Bridge Branch	Pittsylvania	36.891451	-79.433781	Ephemeral	03010105	Pipeline ROW	171	-	684	-	4-770	I-104
295	S-Q4	UNT to Pole Bridge Branch	Pittsylvania	36.886114	-79.430914	Perennial	03010105	Timber Mat Crossing	20	-	100	-	4-771	I-105
296	S-Q3	Pole Bridge Branch	Pittsylvania	36.884444	-79.42822	Perennial	03010105	Pipeline ROW	75	-	1873	-	4-771	I-106B
297	S-Q2	UNT to Pole Bridge Branch	Pittsylvania	36.884284	-79.427914	Perennial	03010105	Timber Mat Crossing	20	-	139	-	4-771	I-106A
298	S-B6	UNT to Pole Bridge Branch	Pittsylvania	36.879063	-79.420189	Ephemeral	03010105	Pipeline ROW	84	-	841	-	4-772	I-108
299	S-B8	UNT to Pole Bridge Branch	Pittsylvania	36.877937	-79.417992	Intermittent	03010105	Pipeline ROW	82	-	327	-	4-773	I-109
300	S-B9	UNT to Pole Bridge Branch	Pittsylvania	36.877416	-79.416255	Perennial	03010105	Pipeline ROW	78	-	545	-	4-773	I-110
301	S-DD4-Braid-1	UNT to Mill Creek	Pittsylvania	36.871651	-79.404061	Intermittent	03010105	Pipeline ROW	67	-	401	-	4-775	I-111
302	S-DD4	UNT to Mill Creek	Pittsylvania	36.871478	-79.403907	Intermittent	03010105	Pipeline ROW	147	-	880	-	4-775	I-111
303	S-KL27	UNT to Mill Creek	Pittsylvania	36.866534	-79.400511	Ephemeral	03010105	Pipeline ROW	84	-	83	-	4-776	I-112
304	S-C1	Mill Creek	Pittsylvania	36.863513	-79.397914	Intermittent	03010105	Pipeline ROW	92	-	553	-	4-777	I-113
305	S-G2	Little Cherrystone Creek	Pittsylvania	36.851931	-79.386051	Perennial	03010105	Timber Mat Crossing	20	-	139	-	4-779	I-114
306	S-B2	UNT to Little Cherrystone Creek	Pittsylvania	36.849394	-79.37778	Ephemeral	03010105	Timber Mat Crossing	20	-	100	-	4-780	I-115
307	S-H55	UNT to Little Cherrystone Creek	Pittsylvania	36.843486	-79.369222	Ephemeral	03010105	Timber Mat Crossing	20	-	61	-	4-781	I-116
308	S-H54	UNT to Little Cherrystone Creek	Pittsylvania	36.841112	-79.366848	Perennial	03010105	Timber Mat Crossing	20	-	240	-	4-781	I-117
309	S-GG11	UNT to Little Cherrystone Creek	Pittsylvania	36.841093	-79.366942	Perennial	03010105	Timber Mat Crossing	46	-	366	-	4-781	I-117
310	S-H3	UNT to Little Cherrystone Creek	Pittsylvania	36.834501	-79.360244	Intermittent	03010105	Pipeline ROW	18	-	109	-	4-783	I-118
311	S-H5	UNT to Little Cherrystone Creek	Pittsylvania	36.833412	-79.359823	Perennial	03010105	Pipeline ROW	83	-	662	-	4-783	I-118
312	S-OO1	UNT to Little Cherrystone Creek	Pittsylvania	36.830285	-79.356618	Intermittent	03010105	Pipeline ROW	84	-	418	-	4-783	I-119
313	S-H44	UNT to Little Cherrystone Creek	Pittsylvania	36.829823	-79.346016	Perennial	03010105	Timber Mat Crossing	33	-	266	-	4-785	I-122
314	S-H42	UNT to Little Cherrystone Creek	Pittsylvania	36.828993	-79.344442	Perennial	03010105	Permanent Access Road	-	32	-	224	4-785	S-H42
315	S-H42	UNT to Little Cherrystone Creek	Pittsylvania	36.828958	-79.344315	Perennial	03010105	Timber Mat Crossing	20	-	139	-	4-785	I-123
316	S-OO2	UNT to Little Cherrystone Creek	Pittsylvania	36.828831	-79.353849	Intermittent	03010105	Pipeline ROW	78	-	392	-	4-784	I-120
317	S-EF26	Little Cherrystone Creek	Pittsylvania	36.828207	-79.349814	Perennial	03010105	Timber Mat Crossing	20	-	401	-	4-784	I-121

Note: Grayscale rows indicate timber mat crossings, and one additional temporary workspace (ATWS) completed under NWP-12

Table 2 - Wetland Impacts												
Assigned VWP Number	Wetland ID	County	Latitude	Longitude	Cowardin Class	HUC 8	Impact Type	Temporary Impacts (square feet)	Permanent Conversion Impacts (square feet)	Permanent Fill Impacts (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number
318	W-Z11	Giles	37.346591	-80.64171	PEM	05050002	Pipeline ROW	1141	-	-	4-543	G-008
319	W-Z3	Giles	37.342244	-80.62061	PSS	05050002	Timber Mat Crossing	-	592	-	4-545	G-013
320	W-CD12	Giles	37.318644	-80.44172	PEM	05050002	Pipeline ROW	906	-	-	4-577	G-029
321	W-MM10	Giles	37.298219	-80.48062	PEM	05050002	Temporary Access Road	1106	-	-	4-569	S-MM17 - W-MM10
322	W-RR1b	Giles	37.29667	-80.49404	PEM	05050002	Timber Mat Crossing	244	-	-	4-567	G-024
323	W-IJ46-	Montgomery	37.296153	-80.36751	PEM	03010101	Pipeline ROW	1281	-	-	4-591	G-044
324	W-AD4	Montgomery	37.286984	-80.33012	PEM	03010101	Temporary Access Road	301	-	-	4-596	W-AD4-A
325	W-NN6	Montgomery	37.268174	-80.31647	PEM	03010101	Timber Mat Crossing	362	-	-	4-603	Crossing completed (NWP-12)
326	W-F9-PFO	Montgomery	37.258109	-80.28589	PFO	03010101	Pipeline ROW	-	736	-	4-609	H-006
327	W-C12-	Montgomery	37.257265	-80.28167	PEM	03010101	Pipeline ROW	8999	-	-	4-609	H-008
328	W-C12	Montgomery	37.257192	-80.28165	PFO	03010101	Pipeline ROW	-	2278	-	4-609	H-008
329	W-C11	Montgomery	37.257107	-80.28135	PSS	03010101	Pipeline ROW	-	2008	-	4-609	H-008
330	W-C6	Montgomery	37.25586	-80.27572	PEM	03010101	Timber Mat Crossing	605	-	-	4-610	W-C6
331	W-C5	Montgomery	37.255606	-80.27424	PEM	03010101	Pipeline ROW	1978	-	-	4-610	H-012
332	W-AB7	Montgomery	37.231426	-80.19862	PEM	03010101	Timber Mat Crossing	174	-	-	4-631	H-020
333	W-KL58	Montgomery	37.229183	-80.20311	PEM	03010101	Permanent Access Road	-	-	1707	4-631	H-022
334	W-EF5-	Montgomery	37.210948	-80.19336	PFO	03010101	Pipeline ROW	-	3711	-	4-635	H-024
335	W-EF18	Roanoke	37.179449	-80.14067	PSS	03010101	Temporary Access Road	-	227	-	4-647	W-EF18 - W-EF17A
336	W-EF17	Roanoke	37.179402	-80.1406	PFO	03010101	Temporary Access Road	-	976	-	4-647	W-EF18 - W-EF17A
337	W-IJ94-	Roanoke	37.170092	-80.13829	PEM	03010101	Timber Mat Crossing	880	-	-	4-649	H-031
338	W-IJ96-	Roanoke	37.169461	-80.13038	PEM	03010101	Temporary Access Road	701	-	-	4-650	S-IJ85 - W-IJ96-PEM - W-IJ97-A
339	W-IJ95-	Roanoke	37.169068	-80.13828	PSS	03010101	Timber Mat Crossing	-	1106	-	4-649	H-031
340	W-IJ102	Roanoke	37.168289	-80.13838	PFO	03010101	Timber Mat Crossing	-	436	-	4-649	H-031
341	W-KL17	Roanoke	37.160152	-80.13477	PSS	03010101	Pipeline ROW	-	1895	-	4-651	H-033-W-KL17-S-KL25
344	W-EF42	Roanoke	37.157611	-80.13372	PEM	03010101	Pipeline ROW	362	-	-	4-652	H-036
345	W-HS02	Roanoke	37.157427	-80.13341	PEM	03010101	Pipeline ROW	12602	-	-	4-652	H-036
346	W-AB6-	Roanoke	37.156825	-80.132	PEM	03010101	Pipeline ROW	14248	-	-	4-652	H-036
347	W-AB6-	Roanoke	37.156713	-80.13168	PFO	03010101	Pipeline ROW	-	2692	-	4-652	H-036
348	W-AB6-	Roanoke	37.15617	-80.13079	PEM	03010101	Pipeline ROW	2818	-	-	4-652	H-036
349	W-AB6-	Roanoke	37.156034	-80.1306	PSS	03010101	Pipeline ROW	-	266	-	4-652	H-036
350	W-AB5	Roanoke	37.15584	-80.13023	PFO	03010101	Pipeline ROW	-	183	-	4-652	H-036
351	W-AB3-	Roanoke	37.155664	-80.12957	PEM	03010101	Pipeline ROW	6739	-	-	4-652	H-036
352	W-EF46	Roanoke	37.154575	-80.12912	PSS	03010101	Timber Mat Crossing	-	2971	-	4-652	H-40
353	W-KL48-	Roanoke	37.152292	-80.13002	PSS	03010101	Pipeline ROW	-	1978	-	4-653	H-41
354	W-KL48-	Roanoke	37.151965	-80.13005	PEM	03010101	Pipeline ROW	274	-	-	4-653	W-KL48-PEM
355	W-KL48-	Roanoke	37.150926	-80.13127	PSS	03010101	Pipeline ROW	-	1150	-	4-653	W-KL48-PSS-2, W-KL50
356	W-KL50	Roanoke	37.150728	-80.13154	PEM	03010101	Pipeline ROW	1777	-	-	4-653	W-KL48-PSS-2, W-KL50
357	W-KL49	Roanoke	37.150297	-80.13219	PEM	03010101	Timber Mat Crossing	662	-	-	4-653	H-042
358	W-KL51-	Roanoke	37.150006	-80.1324	PEM	03010101	Timber Mat Crossing	274	-	-	4-653	H-042
359	W-KL51-	Roanoke	37.149975	-80.13248	PSS	03010101	Timber Mat Crossing	-	348	-	4-653	H-042
360	W-MN7-	Roanoke	37.148328	-80.1339	PEM	03010101	Timber Mat Crossing	505	-	-	4-653	H-043
361	W-EF44	Roanoke	37.142977	-80.13832	PEM	03010101	Timber Mat Crossing	370	-	-	4-654	H-044
362	W-IJ36	Roanoke	37.138922	-80.13985	PSS	03010101	Timber Mat Crossing	-	5388	-	4-655	H-045
363	W-Z7	Roanoke	37.136601	-80.12822	PSS	03010101	Temporary Access Road	-	13	-	4-657	W-Z7 - W-Z6-A
364	W-Z6	Roanoke	37.136466	-80.12824	PFO	03010101	Temporary Access Road	-	122	-	4-657	W-Z7 - W-Z6-A
365	W-IJ62	Roanoke	37.135529	-80.13404	PEM	03010101	Temporary Access Road	4	-	-	4-656	W-IJ62
366	W-Y2	Roanoke	37.134284	-80.13745	PEM	03010101	Timber Mat Crossing	823	-	-	4-656	H-046
367	W-IJ10	Roanoke	37.132561	-80.13174	PEM	03010101	Permanent Access Road	87	-	-	4-656	W-IJ10 - W-Q11 - W-KL1-A

Table 2 - Wetland Impacts												
Assigned VWP Number	Wetland ID	County	Latitude	Longitude	Cowardin Class	HUC 8	Impact Type	Temporary Impacts (square feet)	Permanent Conversion Impacts (square feet)	Permanent Fill Impacts (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number
368	W-Q11	Roanoke	37.13247	-80.13164	PEM	03010101	Permanent Access Road	566	-	-	4-656	W-IJ10 - W-Q11 - W-KL1-A
369	W-KL1	Roanoke	37.132456	-80.13146	PEM	03010101	Permanent Access Road	78	-	-	4-656	W-IJ10 - W-Q11 - W-KL1-A
370	W-B25-	Roanoke	37.128942	-80.13377	PEM	03010101	Timber Mat Crossing	405	-	-	4-659	H-047A
371	W-B25-	Roanoke	37.128645	-80.13328	PEM	03010101	Pipeline ROW	8425	-	-	4-659	H-047B-W-B25-PEM-1-W-B25-PEM-1A
372	W-B24-	Roanoke	37.12854	-80.13079	PSS	03010101	Pipeline ROW	-	7131	-	4-659	H-048B
373	W-B24-	Roanoke	37.12853	-80.13106	PEM	03010101	Pipeline ROW	4491	-	-	4-659	H-048B
374	W-B25-	Roanoke	37.128527	-80.13234	PSS	03010101	Timber Mat Crossing	-	3615	-	4-659	H-048
375	W-B25-	Roanoke	37.128449	-80.1328	PEM	03010101	Timber Mat Crossing	610	-	-	4-659	H-048
376	W-B25-	Roanoke	37.128436	-80.13265	PEM	03010101	Timber Mat Crossing	209	-	-	4-659	H-048
377	W-ST2-	Franklin	37.125329	-80.12146	PEM	03010101	Pipeline ROW	4975	-	-	4-661	H-051
378	W-RR4	Franklin	37.125117	-80.11353	PEM	03010101	Permanent Access Road	941	-	-	4-662	W-RR4 - S-RR18 - W-RR3 - W-KL41-A1
379	W-RR3	Franklin	37.124214	-80.11475	PEM	03010101	Permanent Access Road	83	-	-	4-662	W-RR4 - S-RR18 - W-RR3 - W-KL41-A1
380	W-KL41	Franklin	37.123851	-80.1158	PEM	03010101	Permanent Access Road	998	-	-	4-661	W-RR4 - S-RR18 - W-RR3 - W-KL41-A1
381	W-D7-	Franklin	37.121559	-80.08575	PEM	03010101	Pipeline ROW	693	-	-	4-666	H-053
382	W-EF3	Franklin	37.117734	-80.09599	PEM	03010101	Permanent Access Road	1154	-	-	4-665	W-EF3
383	W-IJ1	Franklin	37.092927	-80.02757	PEM	03010101	Pipeline ROW	1812	-	-	4-677	H-063
386	W-GH2	Franklin	37.092404	-79.98318	PSS	03010101	Timber Mat Crossing	-	566	-	4-684	Crossing completed (NWP-12)
387	W-II8	Franklin	37.091357	-79.99201	PEM	03010101	Timber Mat Crossing	383	-	-	4-683	Crossing completed (NWP-12)
388	W-IJ6	Franklin	37.089156	-80.00504	PEM	03010101	Timber Mat Crossing	200	-	-	4-681	Crossing completed (NWP-12)
389	W-E7	Franklin	37.084557	-79.9476	PEM	03010101	Pipeline ROW	9249	-	-	4-690	I-004
390	W-E8	Franklin	37.082843	-79.9461	PEM	03010101	Pipeline ROW	3010	-	-	4-690	I-005
391	W-EF51	Franklin	37.064781	-79.87446	PEM	03010101	Pipeline ROW	579	-	-	4-705	I-026
392	W-KL43b	Franklin	37.059608	-79.84071	PEM	03010101	Pipeline ROW	17	-	-	4-710	I-031
393	W-CD6	Franklin	37.057586	-79.91523	PEM	03010101	Timber Mat Crossing	4069	-	-	4-698	I-016
394	W-CD5	Franklin	37.055438	-79.91062	PFO	03010101	Pipeline ROW	-	4948	-	4-698	I-017
395	W-EF48	Franklin	37.052142	-79.8862	PEM	03010101	Timber Mat Crossing	348	-	-	4-702	I-020
396	W-CD1	Franklin	37.047767	-79.89757	PFO	03010101	Pipeline ROW	-	4818	-	4-701	I-019
397	W-DD1	Franklin	37.031961	-79.78859	PEM	03010101	Pipeline ROW	3541	-	-	4-720	I-043B
398	W-A12-	Franklin	37.031754	-79.7881	PFO	03010101	Pipeline ROW	-	174	-	4-720	I-043A
399	W-A12-	Franklin	37.031643	-79.78811	PEM	03010101	Pipeline ROW	2836	-	-	4-720	I-043A
400	W-GH16	Franklin	37.028394	-79.77324	PFO	03010101	Timber Mat Crossing	-	2862	-	4-722	I-046
401	W-H17	Franklin	36.98939	-79.72209	PFO	03010101	Timber Mat Crossing	-	1607	-	4-730	I-053
402	W-H11	Franklin	36.988077	-79.7028	PEM	03010101	Pipeline ROW	2039	-	-	4-734	I-058
403	W-H16	Franklin	36.988073	-79.71497	PEM	03010101	Timber Mat Crossing	1011	-	-	4-731	I-055
404	W-H14	Franklin	36.988069	-79.71184	PEM	03010101	Timber Mat Crossing	266	-	-	4-732	I-056
405	W-A8	Franklin	36.987947	-79.70084	PEM	03010101	Pipeline ROW	671	-	-	4-734	I-059
406	W-H15	Franklin	36.987938	-79.71483	PSS	03010101	Timber Mat Crossing	-	309	-	4-731	I-055
407	W-H9	Franklin	36.978536	-79.68206	PEM	03010101	Timber Mat Crossing	370	-	-	4-736	I-064
408	W-H6	Franklin	36.972189	-79.66304	PEM	03010101	Pipeline ROW	248	-	-	4-741	I-069B
409	W-D3	Pittsylvania	36.965318	-79.59876	PFO	03010101	Timber Mat Crossing	-	1241	-	4-748	I-080
410	W-MM17	Franklin	36.964731	-79.61707	PEM	03010101	Pipeline ROW	296	-	-	4-746	I-077
411	W-B5	Pittsylvania	36.959293	-79.5862	PEM	03010101	Pipeline ROW	209	-	-	4-751	I-083
412	W-B4-PSS	Pittsylvania	36.957884	-79.58367	PSS	03010101	Pipeline ROW	-	205	-	4-751	I-084A
413	W-C1	Pittsylvania	36.929954	-79.52683	PEM	03010101	Timber Mat Crossing	793	-	-	4-758	W-C1
414	W-H5	Pittsylvania	36.924983	-79.51716	PEM	03010101	Pipeline ROW	9004	-	-	4-759	I-088
415	W-B3	Pittsylvania	36.916508	-79.49236	PEM	03010101	Timber Mat Crossing	57	-	-	4-762	S-G4
416	W-CC2-	Pittsylvania	36.905418	-79.47157	PEM	03010105	Timber Mat Crossing	1185	-	-	4-765	I-094
417	W-MM5	Pittsylvania	36.903012	-79.46819	PSS	03010105	Timber Mat Crossing	-	1699	-	4-766	I-095

Table 2 - Wetland Impacts												
Assigned VWP Number	Wetland ID	County	Latitude	Longitude	Cowardin Class	HUC 8	Impact Type	Temporary Impacts (square feet)	Permanent Conversion Impacts (square feet)	Permanent Fill Impacts (square feet)	Application Figure Number (MVP)	Plan & Profile Drawing Number
418	W-MM9	Pittsylvania	36.894087	-79.44611	PEM	03010105	Timber Mat Crossing	470	-	-	4-769	I-101A
419	W-MM8-	Pittsylvania	36.894034	-79.44549	PEM	03010105	Pipeline ROW	2409	-	-	4-769	I-101B
420	W-MM8-	Pittsylvania	36.89393	-79.44546	PFO	03010105	Pipeline ROW	-	1834	-	4-769	I-101B
421	W-Q2	Pittsylvania	36.884674	-79.42861	PFO	03010105	Pipeline ROW	-	16422	-	4-771	I-106B
422	W-Q1	Pittsylvania	36.883985	-79.42731	PEM	03010105	Pipeline ROW	636	-	-	4-771	I-107
423	W-G2	Pittsylvania	36.851816	-79.38593	PEM	03010105	Timber Mat Crossing	1507	-	-	4-779	I-114
424	W-H1	Pittsylvania	36.836097	-79.3609	PEM	03010105	Pipeline ROW	479	-	-	4-782	I-118-S-H5-W-H3
425	W-EF6	Pittsylvania	36.835004	-79.33913	PFO	03010105	Pipeline ROW	-	2905	-	4-786	I-124
426	W-H2	Pittsylvania	36.834817	-79.36048	PEM	03010105	Pipeline ROW	34791	-	-	4-782	W-H2
427	W-IJ21	Pittsylvania	36.834623	-79.33853	PFO	03010105	Timber Mat Crossing	-	462	-	4-786	W-IJ21
428	W-H3	Pittsylvania	36.833741	-79.36008	PEM	03010105	Pipeline ROW	2217	-	-	4-783	I-118
429	W-MM3	Pittsylvania	36.830361	-79.35663	PSS	03010105	Pipeline ROW	-	1481	-	4-783	I-119
430	W-IJ22-PEI	Pittsylvania	36.82778	-79.35026	PEM	03010105	Timber Mat Crossing	1699	-	-	4-784	I-121
431	W-IJ22-PFC	Pittsylvania	36.827748	-79.3503	PFO	03010105	Timber Mat Crossing	-	3419	-	4-784	I-121
Note: Grayscale rows indicate timber mat crossings completed under NWP-12												

APPENDIX 2

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
1	**S-Q12**	UNT to Kimballton Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.375311	-80.680878	G-001	4-531
2	**S-Q13**	Kimballton Branch	Perennial	Dry-Ditch Open-Cut	none, but upstream of wild trout water (Brook Trout, Brown Trout) and TE Water - Stony Creek (Candy Darter)	Brook and Brown Trout: October 1 through March 31; Candy Darter: March 15 through June 30	MVP requested a modification at this site. Without additional information or a change in crossing type, we continue to recommend adherence to the instream work TOYR.		Giles	37.374377	-80.682038	G-002	4-532
3	**S-P6**	UNT to Stony Creek	Ephemeral	Dry-Ditch Open-Cut	none, but upstream of TE Water - Stony Creek (Candy Darter)	Candy Darter (Stony Creek): March 15 through June 30			Giles	37.362202	-80.688092	G-003	4-535
4	**S-S5-Braid-2**	Stony Creek	Ephemeral, Ephemeral, Perennial	Conventional Bore	TE Water (Candy Darter)	Candy Darter: March 15 through June 30			Giles	37.360325	-80.684214	G-004	4-536
5	**S-S5-Braid-1**	Stony Creek	Ephemeral, Ephemeral, Perennial	Conventional Bore	TE Water (Candy Darter)	Candy Darter: March 15 through June 30			Giles	37.360276	-80.684193	G-004	4-536
6	**S-S5**	Stony Creek	Ephemeral, Ephemeral, Perennial	Conventional Bore	TE Water for Candy Darter	Candy Darter (Stony Creek): March 15 through June 30			Giles	37.360071	-80.68396	G-004	4-536
7	**S-G29**	UNT to Dry Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.35043	-80.658259	G-005	4-541
8	**S-G30**	UNT to Dry Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.350373	-80.65823	G-005	4-541
9	**S-G32**	Dry Branch	Intermittent	Dry-Ditch Open-Cut	none	none			Giles	37.349095	-80.65204	G-006	4-542
10	**S-G33**	UNT to Dry Branch	Perennial	Dry-Ditch Open-Cut	none	none			Giles	37.348641	-80.647225	G-007	4-542
11	**S-G35**	UNT to Little Stony Creek	Perennial	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15	MVP requested a TOYR modification - no TOYR necessary if constructed via bore, so, their request is approved.		Giles	37.344876	-80.633426	G-009	4-544
12	**S-SS4**	UNT to Little Stony Creek	Ephemeral	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15	MVP requested a TOYR modification - no TOYR necessary if constructed via bore, so, their request is approved.		Giles	37.344859	-80.631295	G-010	4-544
13	**S-G35**	UNT to Little Stony Creek	Perennial	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15			Giles	37.344779	-80.633379	G-009	4-544
14	**S-Z7**	UNT to Little Stony Creek	Intermittent, Ephemeral	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15	MVP requested a TOYR modification - no TOYR necessary if constructed via bore, so, their request is approved.		Giles	37.344278	-80.626185	G-012	4-545
15	**S-Z7-Braid-1**	UNT to Little Stony Creek	Intermittent, Ephemeral	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15	MVP requested a TOYR modification - no TOYR necessary if constructed via bore, so, their request is approved.		Giles	37.344277	-80.626113	G-012	4-545
16	**S-Z9**	UNT to Little Stony Creek	Perennial	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15			Giles	37.344163	-80.6284	G-011	4-544
17	**S-Z10**	UNT to Little Stony Creek	Intermittent, Perennial, Ephemeral, Wetland	Guided Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15	MVP requested a TOYR modification - no TOYR necessary if constructed via bore, so, their request is approved.		Giles	37.342351	-80.620823	G-013	4-545
18	**S-Z11**	UNT to Little Stony Creek	Intermittent, Perennial, Ephemeral, Wetland	Guided Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15			Giles	37.342236	-80.620542	G-013	4-545
19	**S-Z12-EPH**	UNT to Little Stony Creek	Intermittent, Perennial, Ephemeral, Wetland	Guided Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15			Giles	37.342214	-80.620312	G-013	4-545
20	**S-Z13**	Little Stony Creek	Intermittent, Perennial, Ephemeral, Wetland	Guided Conventional Bore	wild trout water (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15			Giles	37.342172	-80.62009	G-013	4-545

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
21	S-Z14	UNT to Little Stony Creek	Intermittent	Conventional Bore	none, but trib to wild trout water Little Stony Creek (Brook and Rainbow Trout)	**IF ANY INSTREAM WORK, TOYR not necessary if constructed via bore** - Brook and Rainbow Trout: October 1 through May 15	MVP requested a TOYR modification - no TOYR necessary if constructed via bore, so, their request is approved.		Giles	37.340977	-80.618031	G-014	4-545
22	S-YZ1	Doe Creek	Intermittent	Temporary Access Road	none	none			Giles	37.338952	-80.614618	S-YZ1	4-546
23	S-A34	UNT to Doe Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.337763	-80.606008	G-015A	4-548
24	S-A33	UNT to Doe Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.337639	-80.605571	G-015B	4-548
25	S-A32	UNT to Doe Creek	Perennial	Dry-Ditch Open-Cut	none	none			Giles	37.335094	-80.596868	G-016	4-549
26	S-QQ2	Sinking Creek	Perennial	Temporary Access Road	stockable trout water	To ensure avoidance of stocking and/or angling activities, we recommend coordination with our Regional Aquatic Resources Manager, Jeff Williams			Craig	37.333152	-80.429438	S-QQ2	4-581
27	S-MN11-Upstream	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.332869	-80.559168	S-MN11-Upstrea	4-554
28	S-MN11-Upstream	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.332191	-80.559979	S-MN11-Upstrea	4-554
29	S-MN11-Downstream	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.332146	-80.560079	S-MN11-Downst	4-554
30	S-Y3	UNT to Doe Creek	Ephemeral, Perennial	Conventional Bore	none	none			Giles	37.331748	-80.583355	G-017	4-551
31	S-Y2	Doe Creek	Ephemeral, Perennial	Conventional Bore	none	none			Giles	37.331332	-80.583047	G-017	4-551
32	S-PP4	UNT to Sinking Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Craig	37.328329	-80.42281	G-033	4-579
33	S-PP3	UNT to Sinking Creek	Perennial	Dry-Ditch Open-Cut	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved.		Craig	37.326705	-80.425803	G-032	4-579
34	S-RR4	UNT to Sinking Creek	Perennial	Temporary Access Road	none	none			Giles	37.326015	-80.556831	S-RR4	4-556
35	S-E24	UNT to Sinking Creek	Perennial	Dry-Ditch Open-Cut	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved.		Giles	37.325728	-80.565082	G-019A	4-553
36	S-E25-Downstream	UNT to Sinking Creek	Perennial	Conventional Bore	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved.		Giles	37.325638	-80.56468	G-019B	4-553
37	S-E25-Upstream	UNT to Sinking Creek	Perennial	Pipeline ROW	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved.		Giles	37.325607	-80.564373	G-019A	4-553
38	S-E25-Downstream	UNT to Sinking Creek	Perennial	Conventional Bore	none	none			Giles	37.325566	-80.564634	G-019B	4-553
39	S-PP1	UNT to Sinking Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Craig	37.324781	-80.431446	G-031	4-578
40	S-RR5	UNT to Sinking Creek	Perennial	Dry-Ditch Open-Cut	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved.		Giles	37.323702	-80.555627	G-020	4-555
41	S-PA07	UNT to Sinking Creek	Intermittent	Pipeline ROW	none	none			Giles	37.323533	-80.555257	G-020	4-555
42	S-IJ18-EPH	UNT to Sinking Creek	Ephemeral, Intermittent	Dry-Ditch Open-Cut	none	none			Giles	37.322737	-80.552396	G-020A	4-555
43	S-IJ19	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.322194	-80.553058	S-J119	4-555
44	S-IJ19	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.321823	-80.55311	S-J119	4-555
45	S-IJ18-INT	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.321756	-80.553011	S-IJ18-INT	4-555
46	S-PP22	UNT to Craig Creek	Intermittent	Conventional Bore	none, but upstream of TE Water Craig Creek (James Spinymussels). Upstream of stockable trout water.	**If instream work, TOYR not necessary if consructed via bore** James Spinymussels: May 15 through July 31		According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.32109	-80.412831	G-034	4-584
47	S-OO12	UNT to Sinking Creek	Ephemeral, Perennial	Dry-Ditch Open-Cut	none	none			Giles	37.318956	-80.440648	G-030	4-577

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
48	S-OO13	UNT to Sinking Creek	Ephemeral, Perennial	Dry-Ditch Open-Cut	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved		Giles	37.31893	-80.44093	G-030	4-577
49	S-OO14	UNT to Sinking Creek	Wetland, Perennial	Dry-Ditch Open-Cut	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved		Giles	37.318647	-80.441619	G-029	4-577
50	S-IJ17	UNT to Sinking Creek	Ephemeral	Pipeline ROW	none	none			Giles	37.318324	-80.54772	G-022	4-558
51	S-IJ16-b	UNT to Sinking Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.318246	-80.547711	G-022	4-558
52	S-PP21	UNT to Craig Creek	Perennial	Conventional Bore	none, but upstream of TE Water Craig Creek (James Spinymussels). Upstream of stockable trout water.	**IF instream work, TOYR and mussel survey not necessary if constructed via bore.** Mussel survey and potential relocation necessary prior to any instream work. TOYR for James Spinymussels: May 15 through July 31		According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.317187	-80.409235	G-035	4-584
53	S-PP20	UNT to Craig Creek	Perennial	Conventional Bore	none, but upstream of TE Water Craig Creek (James Spinymussels). Upstream of stockable trout water.	**IF instream work, TOYR and mussel survey not necessary if constructed via bore.** Mussel survey and potential relocation necessary prior to any instream work. TOYR for James Spinymussels: May 15 through July 31		According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.316523	-80.408646	G-036	4-584
54	S-RR13	Craig Creek	Perennial	Temporary Access Road	TE Water (James spinymussels)	**IF instream work, TOYR and mussel survey not necessary if constructed via bore.** Mussel survey and potential relocation necessary prior to any instream work. TOYR for James Spinymussels: May 15 through July 31		According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.314504	-80.402613	S-RR13	4-585

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
55	S-HH18	UNT to Craig Creek	Perennial	Conventional Bore	none, but upstream of TE Water Craig Creek (James Spinymussels). Upstream of stockable trout water.	**IF instream work, TOYR and mussel survey not necessary if constructed via bore.** Mussel survey and potential relocation necessary prior to any instream work. TOYR for James Spinymussels: May 15 through July 31	MVP requested TOYR modification. MVP requested to work March 1 - May 14. This is not within the recommended TOYR, so that request is approved.	According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.31391	-80.398683	G-039	4-586
56	S-RR14	UNT to Craig Creek	Ephemeral	Conventional Bore	none, but upstream of TE Water Craig Creek (James Spinymussels). Upstream of stockable trout water.	**IF instream work, TOYR and mussel survey not necessary if constructed via bore.** Mussel survey and potential relocation necessary prior to any instream work. TOYR for James Spinymussels: May 15 through July 31		According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.313615	-80.402521	G-038	4-585
57	S-OO6	Craig Creek	Perennial	Conventional Bore	TE Water (James spinymussels)	**IF instream work, TOYR and mussel survey not necessary if constructed via bore.** Mussel survey and potential relocation necessary prior to any instream work. TOYR for James Spinymussels: May 15 through July 31		According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation.	Montgomery	37.313511	-80.404606	G-037	4-585
58	S-QQ3	UNT to Sinking Creek	Ephemeral	Temporary Access Road	none	none			Giles	37.311735	-80.532304	S-QQ3	4-560
59	S-IJ16-a	UNT to Sinking Creek	Ephemeral	Permanent Access Road	none	none			Giles	37.31173	-80.544091	S-IJ16-a	4-559
60	S-IJ16-a	UNT to Sinking Creek	Ephemeral	Permanent Access Road	none	none			Giles	37.31173	-80.544091	S-IJ16-a	4-559
61	S-NN17	Sinking Creek	Perennial	Conventional Bore	none	none			Giles	37.311616	-80.515786	G-023	4-564
62	S-KL43	UNT to Sinking Creek	Perennial	Dry-Ditch Open-Cut	none	none	MVP asked for TOYR mod, but no TOYR are necessary here anyway, so their request is approved.		Giles	37.307524	-80.466665	G-028	4-573
63	S-NN11	UNT to Sinking Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Giles	37.305508	-80.467231	G-027	4-573
64	S-NN12	UNT to Sinking Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.300454	-80.472911	G-026	4-571
65	S-MN21	UNT to Mill Creek	Perennial	Dry-Ditch Open-Cut	wild trout (Brown Trout)	Brown Trout: October 1 through March 31			Montgomery	37.299397	-80.391243	G-040	4-588
66	S-MM17	UNT to Sinking Creek	Perennial	Temporary Access Road	none	none			Giles	37.298226	-80.480624	S-MM17	4-569
67	S-MN22	UNT to Mill Creek	Ephemeral	Dry-Ditch Open-Cut	none, but upstream of wild trout water (Brown Trout)	Brown Trout: October 1 through March 31			Montgomery	37.297166	-80.386612	G-041	4-589
68	S-RR2	Greenbriar Branch	Perennial, Intermittent, Wetland	Conventional Bore	none	none			Giles	37.296666	-80.494174	G-024	4-567
69	S-YZ6	UNT to Greenbriar Branch	Perennial, Intermittent, Wetland	Conventional Bore	none	none			Giles	37.296612	-80.494165	G-024	4-567
70	S-EF62	UNT to Mill Creek	Perennial	Dry-Ditch Open-Cut	none, but upstream of wild trout water	Brown Trout: October 1 through March 31			Montgomery	37.296356	-80.375118	G-043	4-590
71	S-MM18	UNT to Sinking Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Giles	37.296226	-80.481455	G-025	4-569

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
72	S-IJ52	UNT to Mill Creek	Perennial, Wetland	Dry-Ditch Open-Cut	none, but upstream of wild trout water	Brown Trout: October 1 through March 31			Montgomery	37.296153	-80.36751	G-044	4-591
73	S-EF65	Mill Creek	**Intermittent**	Dry-Ditch Open-Cut	wild trout water (Brown Trout)	Brown Trout: October 1 through March 31	MVP requested TOYR modification, but without additional information or a change in crossing method, we continue to recommend adherence to the TOYR		Montgomery	37.295743	-80.375921	G-042	4-590
74	S-G36	North Fork Roanoke River	Perennial	Temporary Access Road	TE Water (Roanoke Logperch)	Roanoke Logperch: March 15 through June 30	MVP requested TOYR modification but without additional information or a change in crossing method, we continue to recommend adherence to the TOYR		Montgomery	37.268586	-80.313161	S-G36	4-602
78	S-G39	UNT to North Fork Roanoke River	Intermittent	Dry-Ditch Open-Cut	none, but upstream of TE Water (Roanoke Logperch)	Roanoke Logperch: March 15 through June 30			Montgomery	37.264817	-80.308486	H-001	4-604
79	S-MM14	UNT to Flatwoods Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Montgomery	37.258717	-80.29321	H-003	4-608
80	S-MM15	UNT to Flatwoods Branch	Intermittent	Dry-Ditch Open-Cut	none	none			Montgomery	37.258673	-80.296446	H-002	4-608
81	S-MM11	UNT to Flatwoods Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Montgomery	37.258403	-80.288186	H-005	4-609
82	S-F15	UNT to Flatwoods Branch	Wetland, Perennial (Intermittent?)	Dry-Ditch Open-Cut	none	none			Montgomery	37.258198	-80.286029	H-006	4-609
83	S-MM13	UNT to Flatwoods Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Montgomery	37.258176	-80.289222	H-004	4-608
84	S-F16a/F16b	UNT to Flatwoods Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Montgomery	37.257998	-80.284735	H-007	4-609
85	S-C36	UNT to Flatwoods Branch	Intermittent, Wetland	Dry-Ditch Open-Cut	none	none			Montgomery	37.25726	-80.281611	H-008	4-609
86	S-C36	UNT to Flatwoods Branch	Intermittent, Wetland	Dry-Ditch Open-Cut	none	none			Montgomery	37.257133	-80.281475	H-008	4-609
87	S-MM31	UNT to Flatwoods Branch	Ephemeral	Conventional Bore	none	none			Montgomery	37.256959	-80.280329	H-009	4-609
88	S-C29	Flatwoods Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Montgomery	37.256387	-80.278021	H-010	4-610
89	S-C25	UNT to Bradshaw Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Montgomery	37.254342	-80.267895	H-013	4-611
90	S-C24	UNT to Bradshaw Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Montgomery	37.254135	-80.266743	H-014	4-611
91	S-C21	Bradshaw Creek	Perennial	Conventional Bore	none	none	MVP requested modification, no TOYR is necessary, so their request is approved		Montgomery	37.251791	-80.25899	H-015	4-613
92	S-NN19	UNT to Roanoke River	Intermittent	Dry-Ditch Open-Cut	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Montgomery	37.244319	-80.206995	H-018	4-627
93	S-AB16	UNT to Roanoke River	Intermittent, Intermittent, Wetland	Conventional Bore	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	**IF instream work, TOYR not necessary if constructed via bore** Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Montgomery	37.231693	-80.198778	H-020	4-631

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
94	S-I1	UNT to Roanoke River	Intermittent, Intermittent, Wetland	Conventional Bore	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	**IF instream work, TOYR not necessary if constructed via bore** - Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Montgomery	37.231179	-80.19846	H-020	4-631
95	S-CD12b	UNT to South Fork Roanoke River	Perennial	Conventional Bore	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	**IF instream work, TOYR not necessary if constructed via bore** - Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Montgomery	37.229764	-80.201144	H-021	4-631
96	S-EF19	UNT to Indian Run	Ephemeral	Dry-Ditch Open-Cut	none	none			Montgomery	37.216102	-80.19739	H-023	4-634
97	S-EF20a	UNT to Roanoke River	Wetland, Perennial	Dry-Ditch Open-Cut	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Montgomery	37.210922	-80.193318	H-024	4-635
98	S-MM22	UNT to Roanoke River	Perennial	Dry-Ditch Open-Cut	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Montgomery	37.205284	-80.187282	H-025	4-637
99	S-IJ50	UNT to Roanoke River	Perennial	Dry-Ditch Open-Cut	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	Roanoke Logperch, Orangefin Madtom: March 15 through June 30			Roanoke	37.194064	-80.167933	H-026	4-641
100	S-Y13	UNT to Bottom Creek	Intermittent, Perennial	Dry-Ditch Open-Cut	none but upstream of trout water (Brook Trout)	Brook trout: October 1 through March 31	MVP requested TOYR modification but without additional information or a change in crossing menthod, we continue to recommend adherence to the TOYR	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100 foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.187687	-80.151146	H-027	4-644
101	S-Y14	UNT to Bottom Creek	Intermittent, Perennial	Dry-Ditch Open-Cut	none but upstream of trout water (Brook Trout)	Brook trout: October 1 through March 31	MVP requested TOYR modification but without additional information or a change in crossing menthod, we continue to recommend adherence to the TOYR	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100 foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.187568	-80.151049	H-027	4-644
102	S-EF57	UNT to Bottom Creek	Intermittent	Temporary Access Road	none but upstream of trout water (Brook Trout)	Brook trout: October 1 through March 31		In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100 foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.181736	-80.148948	S-EF57	4-645

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Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
103	**S-EF55**	UNT to Bottom Creek	Intermittent	Pipeline ROW	none but upstream of trout water (Brook Trout)	Brook trout: October 1 through March 31	MVP requested TOYR modification but without additional information or a change in crossing menthod, we continue to recommend adherence to the TOYR	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.181506	-80.149497	H-028	4-645
104	**S-EF34b**	UNT to Bottom Creek	Perennial, Intermittent	Dry-Ditch Open-Cut	none but upstream of trout water (Brook Trout)	Brook trout: October 1 through March 31	MVP requested TOYR modification but without additional information or a change in crossing menthod, we continue to recommend adherence to the TOYR	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.181385	-80.14914	H-028	4-645
105	**S-EF33**	UNT to Bottom Creek	Intermittent	Dry-Ditch Open-Cut	upstream of trout water Bottom Creek	Brook trout: October 1 through March 31	MVP requested TOYR modification but without additional information or a change in crossing menthod, we continue to recommend adherence to the TOYR	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.179186	-80.141	H-029	4-647
106	**S-IJ82**	UNT to Bottom Creek	Intermittent	Conventional Bore	none but upstream of trout water (Brook Trout)	**If instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31	MVP requested TOYR modification. TOYR not necessary if constructed via bore, so their request is approved	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.170458	-80.138216	H-030	4-648

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Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
107	**S-IJ16a**	UNT to Bottom Creek	Ephemeral	Permanent Access Road	none but upstream of trout water (Brook Trout)	Brook trout: October 1 through March 31		In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.169474	-80.130356	S-IJ85	4-650
108	**S-IJ83**	UNT to Bottom Creek	Wetlands; Intermittent; Perennials; Wetland	Conventional Bore	none but upstream of trout water (Brook Trout)	**IF instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31	MVP requested TOYR modification. TOYR not necessary if constructed via bore, so their request is approved	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.169211	-80.138258	H-031	4-649
109	**S-IJ88**	Bottom Creek	Wetlands; Intermittent; Perennials; Wetland	Conventional Bore	wild trout water (Brook Trout)	**IF instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31		In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.168395	-80.138295	H-031	4-649
110	**S-IJ84**	UNT to Bottom Creek	Wetlands; Intermittent; Perennials; Wetland	Conventional Bore	none but upstream of trout water (Brook Trout)	**IF instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31	MVP requested TOYR modification. TOYR not necessary if constructed via bore, so their request is approved	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.168361	-80.138381	H-031	4-649

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
111	**S-IJ89**	UNT to Bottom Creek	Perennial, Intermittent	Conventional Bore	none but upstream of trout water (Brook Trout)	**IF instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31	MVP requested TOYR modification. TOYR not necessary if constructed via bore, so their request is approved	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.165862	-80.139317	H-032	4-649
112	**S-IJ90**	UNT to Bottom Creek	Perennial, Intermittent	Conventional Bore	none but upstream of trout water (Brook Trout)	**IF instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31	MVP requested TOYR modification. TOYR not necessary if constructed via bore, so their request is approved	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.165685	-80.139378	H-032	4-649
113	**S-KL25**	UNT to Mill Creek	Wetland; Intermittent	Dry-Ditch Open-Cut	none	none	MVP requested TOYR modification. TOYR not necessary here, so their request is approved		Roanoke	37.160173	-80.134799	H-033	4-651
114	**S-ST9b**	UNT to Mill Creek	Wetland; Perennial	Conventional Bore	none	none	MVP requested TOYR modification. TOYR not necessary here, so their request is approved		Roanoke	37.154424	-80.129179	H-040	4-652
115	**S-KL55**	UNT to Mill Creek	Intermittent	Timber Mat Crossing	none	none	MVP requested TOYR modification. TOYR not necessary here, so their request is approved		Roanoke	37.150009	-80.13246	H-042	4-653
116	**S-IJ12**	UNT to Mill Creek	Wetland; Perennial	Conventional Bore	none	none	MVP requested TOYR modification. TOYR not necessary here, so their request is approved		Roanoke	37.148333	-80.133919	H-043	4-653
117	**S-EF44**	UNT to Bottom Creek	Inermittent; Wetland	Conventional Bore	none but upstream of trout water (Brook Trout)	**IF instream work, TOYR not necessary if constructed via bore** - Brook trout: October 1 through March 31	MVP requested TOYR modification. TOYR not necessary if constructed via bore, so their request is approved	In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).	Roanoke	37.143003	-80.138399	H-044	4-654

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
118	S-IJ43	Mill Creek	Wetland; Perennial	Conventional Bore	Stockable trout water; TE Water for Orangefin Madtom	**If any instream work, TOYR and coordination not necessary if constructed via bore** - Orangefin Madtom: March 15 through June 30; To ensure avoidance of stocking and angling activities, we recommend coordination with our Regional Aquatic Resources Manager, Scott Smith	MVP requested modification of TOYR. TOYR not necessary if constructed via bore, so their request is approved.		Roanoke	37.138636	-80.139715	H-045	4-655
119	S-Y9	UNT to Mill Creek	Intermittent	Timber Mat Crossing	none, but upstream of TE Water (Orangefin Madtom)	Orangefin Madtom: March 15 through June 30	MVP requested modification of TOYR. TOYR not necessary here, so their request is approved.		Roanoke	37.134576	-80.137649	H-046	4-656
120	S-Y7	UNT to Mill Creek	Intermittent; Wetland; Perennial	Conventional Bore	none, but upstream of TE Water (Orangefin Madtom)	**If any instream work, TOYR not necessary if constructed via bore** - Orangefin Madtom: March 15 through June 30	MVP requested modification of TOYR. TOYR not necessary if constructed via bore, so their request is approved.		Roanoke	37.134481	-80.137622	H-046	4-656
121	S-Y8	UNT to Mill Creek	Intermittent; Wetland; Perennial	Conventional Bore	none, but upstream of TE Water (Orangefin Madtom)	**If any instream work, TOYR not necessary if constructed via bore** - Orangefin Madtom: March 15 through June 30	MVP requested modification of TOYR. TOYR not necessary if constructed via bore, so their request is approved.		Roanoke	37.134176	-80.137484	H-046	4-656
122	S-B22	UNT to Mill Creek	Perennial	Conventional Bore	none, but upstream of TE Water (Orangefin Madtom)	**If any instream work, TOYR not necessary if constructed via bore** - Orangefin Madtom: March 15 through June 30	MVP requested modification of TOYR. TOYR not necessary if constructed via bore, so their request is approved.		Roanoke	37.128922	-80.133769	H-047A	4-659
123	S-B23	UNT to Mill Creek	Intermittent	Timber Mat Crossing	none, but upstream of TE Water (Orangefin Madtom)	Orangefin Madtom: March 15 through June 30	MVP requested TOYR modification. Without additional information or a changed in crossing method, we continue to recommend adherence to the TOYR		Roanoke	37.128853	-80.13391	H-046	4-659
124	S-B25	UNT to Mill Creek	Wetland; Intermittent	Conventional Bore	none, but upstream of TE Water (Orangefin Madtom)	**If any instream work, TOYR not necessary if constructed via bore** - Orangefin Madtom: March 15 through June 30	MVP requested modification of TOYR. TOYR not necessary if constructed via bore, so their request is approved.		Roanoke	37.12849	-80.132601	H-048A	4-659
125	S-B21	UNT to Mill Creek	Wetlands; Perennial	Dry-Ditch Open-Cut	none, but upstream of TE Water (Orangefin Madtom)	Orangefin Madtom: March 15 through June 30	MVP requested TOYR modification. Without additional information or a changed in crossing method, we continue to recommend adherence to the TOYR		Roanoke	37.128484	-80.130943	H-048B	4-659
129	S-G24	UNT to Green Creek	Wetland; Intermittents	Dry-Ditch Open-Cut	none, but upstream of trout water (Brown Trout)	Brown Trout: October 1 through March 31			Franklin	37.126412	-80.121398	H-051	4-661
130	S-G25	UNT to Green Creek	Wetland; Intermittents	Dry-Ditch Open-Cut	none, but upstream of trout water (Brown Trout)	Brown Trout: October 1 through March 31			Franklin	37.125398	-80.121401	H-051	4-661
131	S-RR18	UNT to Green Creek	Intermittent	Permanent Access Road	none, but upstream of trout water (Brown Trout)	Brown Trout: October 1 through March 31			Franklin	37.125055	-80.113578	S-RR18	4-662
132	S-D11	UNT to North Fork Blackwater River	Perennial	Conventional Bore	none	none			Franklin	37.124137	-80.086182	H-054	4-666
133	S-D8	North Fork Blackwater River	Perennial	Dry-Ditch Open-Cut	stockable trout water	To ensure avoidance of stocking and/or angling activities, we recommend coordination with Scott Smith			Franklin	37.123098	-80.074673	H-055	4-667
134	S-D12	UNT to North Fork Blackwater River	Wetland; Intermittents	Dry-Ditch Open-Cut	none	none			Franklin	37.121558	-80.085642	H-053	4-666
135	S-D13	UNT to North Fork Blackwater River	Wetland; Intermittents	Dry-Ditch Open-Cut	none	none			Franklin	37.121513	-80.08568	H-053	4-666
136	S-D14	UNT to North Fork Blackwater River	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.121473	-80.088457	H-052	4-666
139	S-GH15	UNT to North Fork Blackwater River	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.106177	-80.050105	H-056	4-674
140	S-GH14	UNT to North Fork Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.105883	-80.048861	H-057	4-674
141	S-GH11	UNT to North Fork Blackwater River	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.104707	-80.04622	H-058	4-674

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
142	S-GH9	UNT to North Fork Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.104329	-80.045343	H-059	4-674
143	S-RR08	UNT to North Fork Blackwater River	Ephemeral	Conventional Bore	none	none			Franklin	37.10329	-80.041868	H-060	4-674
144	S-RR09	UNT to North Fork Blackwater River	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.102491	-80.041046	H-061	4-675
145	S-RR11	UNT to North Fork Blackwater River	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.101127	-80.039653	H-062	4-675
146	S-IJ1	UNT to North Fork Blackwater River	Perennial; Wetland; Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.093062	-80.027724	H-063	4-677
147	S-IJ2	UNT to North Fork Blackwater River	Perennial; Wetland; Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.092891	-80.027593	H-063	4-677
159	S-GH4	UNT to Teels Creek	Perennial	Timber Mat Crossing	none	none			Franklin	37.089812	-79.956077	I-001A	4-688
160	S-GH3	UNT to Teels Creek	Perennial	Conventional Bore	none	none			Franklin	37.089745	-79.956042	I-001A	4-688
162	S-E29	UNT to Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.089178	-79.95011	I-002	4-689
163	S-E28	Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.089047	-79.9613	I-001	4-687
164	S-E28	Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.085247	-79.948057	I-003	4-687
165	S-E28	Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.082875	-79.945556	I-005B	4-687
166	S-EF4	UNT to Teels Creek	IPA, TABLE B-1 says Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.078963	-79.941911	I-006	4-691
169	S-EF12	Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.073367	-79.939865	I-007	4-692
170	S-MM42	UNT to Teels Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.070703	-79.937069	I-008	4-693
171	S-D23	Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.070322	-79.931039	I-010	4-694
172	S-D22	UNT to Teels Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.070101	-79.929732	I-011	4-694
173	S-D18	UNT to Teels Creek	Ephemeral	Pipeline ROW	none	none			Franklin	37.06956	-79.926213	I-012	4-694
174	S-RR15	UNT to Teels Creek	Perennial	Conventional Bore	none	none			Franklin	37.069542	-79.933892	I-009	4-694
175	S-D20	UNT to Teels Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.069485	-79.92623	I-012	4-694
176	S-EF48	UNT to Blackwater River	Intermittent; Wetland	Dry-Ditch Open-Cut	none	none			Franklin	37.064748	-79.87442	I-026	4-705
177	S-YZ4	UNT to Blackwater River	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.064723	-79.87819	I-025	4-704
178	S-C14	Teels Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.063956	-79.921985	I-013	4-696
179	S-YZ5	UNT to Blackwater River	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.063464	-79.878281	I-024	4-704
180	S-KL41	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.062262	-79.862639	I-027	4-706
181	S-KL39	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.061193	-79.880018	I-023	4-704
183	S-KL54	UNT to Maggodee Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.059535	-79.840624	I-031	4-710
184	S-C8	UNT to Blackwater River	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.059098	-79.853595	I-028	4-708
185	S-F4	UNT to Blackwater River	Ephemeral	Pipeline ROW	none	none			Franklin	37.05906	-79.853379	I-031	4-708
186	S-C17	Teels Creek	Perennial	Conventional Bore	none	none			Franklin	37.05839	-79.918015	I-014	4-696
187	S-KL52	UNT to Maggodee Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.058165	-79.844877	I-030	4-709
188	S-S11	UNT to Maggodee Creek	Perennial	Temporary Access Road	none	none			Franklin	37.057776	-79.838583	S-S11	4-710
189	S-F8	UNT to Maggodee Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.057724	-79.836406	I-032	4-710
190	S-CD6	Little Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.057584	-79.913921	I-015	4-698
191	S-HH4	UNT to Maggodee Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.056594	-79.835785	I-033	4-711
192	S-KL51	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.056084	-79.850384	I-029	4-708
193	S-KL38	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.055912	-79.883177	I-022	4-702
194	S-C20	UNT to Maggodee Creek	Ephemeral	Conventional Bore	none	none			Franklin	37.055193	-79.833881	I-034	4-711
195	S-C19	Maggodee Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.055147	-79.830098	I-035	4-711
196	S-KL36	UNT to Blackwater River	Perennial	Conventional Bore	none	none			Franklin	37.053336	-79.884604	I-021	4-702
197	S-F11	Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.052843	-79.825711	I-036	4-712
198	S-KL35	UNT to Blackwater River	Perennial; Wetland	Conventional Bore	none	none			Franklin	37.052125	-79.886182	I-020	4-702

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

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199	S-F9b	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.049238	-79.817223	I-037	4-713
200	S-II2	Little Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.049219	-79.908513	I-018	4-699
201	S-F10	UNT to Blackwater River	Ephemeral	Conventional Bore	none	none			Franklin	37.048037	-79.813934	I-038	4-713
202	S-CD1	UNT to Blackwater River	Perennial; Wetland	Dry-Ditch Open-Cut	none	none			Franklin	37.047765	-79.897636	I-019	4-701
203	S-F9a	UNT to Blackwater River	Intermittent	Conventional Bore	none	none			Franklin	37.047172	-79.813	I-039	4-713
204	S-MM29	UNT to Maple Branch	Perennial	Temporary Access Road	none	none			Franklin	37.043871	-79.822898	S-MM29	4-714
205	S-MM23	Maple Branch	Perennial	Temporary Access Road	none	none			Franklin	37.043854	-79.822974	S-MM23	4-714
206	S-GG4	UNT to Blackwater River	Ephemeral	Conventional Bore	none	none			Franklin	37.042742	-79.809015	I-040	4-716
207	S-A36	UNT to Foul Ground Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.037916	-79.804237	I-041	4-717
208	S-A38	UNT to Foul Ground Creek	Intermittent	Conventional Bore	none	none			Franklin	37.036271	-79.799442	I-042	4-718
209	S-A40	UNT to Foul Ground Creek	Intermittent	Timber Mat Crossing	none	none			Franklin	37.036173	-79.79924	I-042	4-718
210	S-A41	Foul Ground Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.031714	-79.788213	I-043A	4-720
211	S-GH36	UNT to Foul Ground Creek	Intermittents	Conventional Bore	none	none			Franklin	37.031063	-79.778588	I-044A	4-721
212	S-KL17	UNT to Foul Ground Creek	Intermittents	Conventional Bore	none	none			Franklin	37.031011	-79.778435	I-044A	4-721
213	S-GH37	UNT to Foul Ground Creek	Intermittent	Pipeline ROW	none	none			Franklin	37.030974	-79.77819	I-44A	4-721
214	S-GH38	UNT to Foul Ground Creek	Streams, Wetland	Conventional Bore	none	none			Franklin	37.030972	-79.778083	I-046	4-721
215	S-GH39	UNT to Foul Ground Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.030861	-79.778069	I-044B	4-721
216	S-GH40	UNT to Foul Ground Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Franklin	37.028893	-79.774785	I-045	4-721
217	S-GH44	UNT to Foul Ground Creek	Streams, Wetland	Conventional Bore	none	none			Franklin	37.028392	-79.773359	I-046	4-721
218	S-G22	UNT to Poplar Camp Creek	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.019612	-79.761958	I-047	4-723
219	S-G23	UNT to Poplar Camp Creek	Perennial	Conventional Bore	none	none			Franklin	37.019526	-79.762002	I-092	4-723
220	S-G21	UNT to Poplar Camp Creek	Intermittent	Pipeline ROW	none	none			Franklin	37.019359	-79.761643	I-047	4-723
221	S-G20	Poplar Camp Creek	Perennial	Conventional Bore	none	none			Franklin	37.017364	-79.76	I-048	4-724
222	S-G18	UNT to Blackwater River	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	37.009236	-79.754238	I-049	4-725
224	S-E18	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.001271	-79.747749	I-050	4-727
225	S-E17	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	37.000529	-79.74276	I-051	4-727
226	S-E14	UNT to Blackwater River	Perennial	Dry-Ditch Open-Cut	none	none			Franklin	36.995814	-79.735144	I-052	4-728
227	S-H38	UNT to Jacks Creek	Perennial, Wetland	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community	Franklin	36.98943	-79.722366	I-053	4-730

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Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
228	**S-H32**	UNT to Jacks Creek	Perennnial	Conventional Bore	none	none	MVP requested TOYR mod, but none is necessary here anyway, so their request is granted	DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.988273	-79.708199	I-057	4-732
229	**S-H37**	UNT to Jacks Creek	Ephemeral	Dry-Ditch Open-Cut	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.988031	-79.71745	I-054	4-731
230	**S-H34**	UNT to Jacks Creek	Perennial	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.988009	-79.711881	I-056	4-732
231	**S-H36**	UNT to Jacks Creek	Perennial, Wetland	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.988008	-79.714922	I-055	4-731
232	**S-H30**	UNT to Jacks Creek	Intermittent	Pipeline ROW	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.987961	-79.702711	W-H11	4-734

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
233	S-A18	UNT to Jacks Creek	Intermittent	Dry-Ditch Open-Cut	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.987818	-79.700634	I-059	4-734
234	S-A19/H26	UNT to Jacks Creek	Intermittent	Dry-Ditch Open-Cut	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.987719	-79.698901	I-060A	4-734
235	S-A20	UNT to Jacks Creek	Perennial	Conventional Bore	none	none	MVP requested TOYR mod, but none is necessary here anyway, so their request is granted	DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.987715	-79.698555	I-060B	4-734
236	S-H28	UNT to Jacks Creek	Ephemeral	Pipeline ROW	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.985174	-79.692272	I-061B	4-735
237	S-H27	UNT to Jacks Creek	Ephemeral	Dry-Ditch Open-Cut	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.985124	-79.692272	I-061B	4-735

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
238	S-A22	UNT to Jacks Creek	Intermittent	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.984846	-79.69187	I-061A	4-735
239	S-MM44	UNT to Little Jacks Creek	Perennial	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.982507	-79.687818	I-062	4-735
240	S-MM46	UNT to Little Jacks Creek	Intermittent	Timber Mat Crossing	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community	Franklin	36.98224	-79.6875	S-MM46	4-735
241	S-MM45	UNT to Little Jacks Creek	Ephemeral	Timber Mat Crossing	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.981971	-79.686901	S-MM45	4-735
242	S-MM48	UNT to Little Jacks Creek	Perennial	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.979223	-79.684192	I-063	4-736

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243	S-H25	Little Jacks Creek	Perennial; Wetland	Conventional Bore	none, but upstream of TE Water(Roanoke Logperch)	**IF instream work, TOYR not necessary if constructed via bore** - Roanoke Logperch : March 15 through June 31		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.978529	-79.682186	I-064	4-736
244	S-H24	UNT to Little Jacks Creek	Perennial	Conventional Bore	none	none		DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources (Not Listed). The natural heritage resources of concern at this site are: Piedmont fameflower, Weak bluegrass, Prairie dropseed, and the Southern Piedmont Ultramafic Barren Significant Community.	Franklin	36.978025	-79.680682	I-065	4-736
245	S-H23	UNT to Turkey Creek	Ephemeral	Dry-Ditch Open-Cut	none				Franklin	36.976421	-79.677525	I-066	4-738
246	S-HH1	UNT to Turkey Creek	Ephemeral	Pipeline ROW	none				Franklin	36.974647	-79.674453	S-HH1	4-738
247	S-A13	Turkey Creek	Perennial	Conventional Bore	none, but upstream of TE Water(Roanoke Logperch)	**IF instream work, TOYR not necessary if constructed via bore** - Roanoke Logperch : March 15 through June 31	MVP requested a TOYR - no TOYR necessary if the crossing is constructed via bore. So, their request is approved.		Franklin	36.973282	-79.673075	I-067	4-738
248	S-A11	UNT to Turkey Creek	Ephemeral	Pipeline ROW	none	none			Franklin	36.973237	-79.669898	S-A11	4-740
249	S-H17	Dinner Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	36.972125	-79.662987	I-069B	4-741
250	S-A7	UNT to Dinner Creek	Perennial	Conventional Bore	none	none			Franklin	36.972032	-79.662504	I-069A	4-741
251	S-SS8	Polecat Creek	Perennial	Conventional Bore	none	none			Franklin	36.970904	-79.65737	I-070	4-741
252	S-CD8	UNT to Owens Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	36.970522	-79.653726	I-071	4-742
253	S-AB8	UNT to Owens Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	36.970133	-79.651328	I-072	4-742
254	S-DD3	Owens Creek	Intermittent	Conventional Bore	none, but upstream of TE Water(Roanoke Logperch)	**IF instream work, TOYR not necessary if constructed via bore** - Roanoke Logperch : March 15 through June 31	MVP requested a TOYR - no TOYR necessary if the crossing is constructed via bore. So, their request is approved.		Franklin	36.969118	-79.645042	I-073	4-743
255	S-G16	Strawfield Creek	Perennial	Conventional Bore	none	none	MVP requested a TOYR modification - no TOYR necessary so, their request is approved.		Franklin	36.96864	-79.642174	I-074	4-743
256	S-G15	UNT to Parrot Branch	Intermittent	Dry-Ditch Open-Cut	none	none			Franklin	36.967711	-79.63659	I-075	4-744
257	S-G13	Parrot Branch	Perennial	Conventional Bore	none, but upstream of TE Water (Roanoke Logperch and Orangefin Madtom)	**IF instream work, TOYR not necessary if constructed via bore** - Roanoke Logperch and Orangefin Madtom : March 15 through June 31	MVP requested TOYR modification, no TOYR if crossing is constructed as a bore. So, their request is approved.		Franklin	36.967025	-79.630747	I-076	4-744
258	S-D3	UNT to Jonnikin Creek	Perennial	Conventional Bore	none	none	MVP requested TOYR modification, no TOYR recommended here so their request is approved.		Pittsylvania	36.965631	-79.605542	I-078	4-747
259	S-D4	UNT to Jonnikin Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.9656	-79.604894	I-079	4-747
260	S-D2	Jonnikin Creek	Perennial; Wetland	Conventional Bore	none	none			Pittsylvania	36.965405	-79.59913	I-080	4-748
261	S-D7	UNT to Jonnikin Creek	Intermittent; Wetland	Dry-Ditch Open-Cut	none	none			Franklin	36.964763	-79.617043	I-077	4-746
262	S-D1-EPH	UNT to Jonnikin Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.96443	-79.595691	I-081	4-748
263	S-D1-INT	UNT to Jonnikin Creek	Intermittent	Pipeline ROW	none				Pittsylvania	36.964407	-79.595841	I-081	4-748
264	S-G11	UNT to Jonnikin Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.96242	-79.5905	I-082	4-749
265	S-G9	UNT to Jonnikin Creek	Intermittent; Wetland	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.959361	-79.586437	I-083	4-751
266	S-G8	UNT to Jonnikin Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.957805	-79.583545	I-084A	4-751
267	S-Q15	UNT to Jonnikin Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.95758	-79.583492	I-084B	4-751
268	S-A6	UNT to Rocky Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.952275	-79.58046	I-085	4-750
269	S-H11-Braid	UNT to Rocky Creek	Ephemeral	Pipeline ROW	none	none			Pittsylvania	36.949615	-79.579553	I-084B	4-750
270	S-F2	UNT to Rocky Creek	Ephemeral	Timber Mat Crossing	none	none			Pittsylvania	36.944049	-79.571442	I-086	4-753

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

Assigned VWP Number	Stream ID	National Hydrogeological Database Stream Name (DEQ)	Flow Regime (MVP)	Proposed Crossing Method (MVP)	DWR Stream Designation	Instream work TOYR recommended by DWR	Sept 2020 TOYR mod request DWR response	VA Dept. of Conservation and Recreation Recommendation(s)	County (DEQ)	Latitude (DEQ)	Longitude (DEQ)	Profile & Plan Drawing Number (MVP)	Application Figure Number (MVP)
271	S-C7	UNT to Rocky Creek	Perennial	Conventional Bore	none	none	MVP requested TOYR modification here, but no TOYR recommend so their request is approved.		Pittsylvania	36.944016	-79.571517	I-086	4-753
272	S-C3	Harpen Creek	Perennial; Perennial	Conventional Bore	none	none			Pittsylvania	36.929762	-79.526109	I-087	4-758
273	S-C4	UNT to Harpen Creek	Perennial; Perennial	Conventional Bore	none	none			Pittsylvania	36.929745	-79.52629	I-087	4-758
274	S-H13	Harpen Creek	Perennial; Wetland	Dry-Ditch Open-Cut	none	none	MVP requested TOYR modification, but no TOYR recommended, so their request is approved.		Pittsylvania	36.925105	-79.51735	I-088	4-759
275	S-G6	UNT to Harpen Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.920737	-79.505898	I-089	4-761
276	S-G5	UNT to Harpen Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.917694	-79.496604	I-090	4-762
277	S-G4	Harpen Creek	Perennial	Conventional Bore	none	none	MVP requested TOYR modification, but no TOYR recommended, so their request is approved.		Pittsylvania	36.916463	-79.492669	I-091	4-762
278	S-G3	UNT to Harpen Creek	Perennial	Timber Mat Crossing	none	none			Pittsylvania	36.915658	-79.490029	I-092	4-762
279	S-CC16	UNT to Harpen Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.913003	-79.487838	I-093	4-763
280	S-CC14	UNT to Cherrystone Creek	Intermittent; Intermittent	Conventional Bore	none	none			Pittsylvania	36.905329	-79.471492	I-094	4-765
281	S-CC13	UNT to Cherrystone Creek	Intermittent; Intermittent	Conventional Bore	none	none			Pittsylvania	36.905307	-79.471574	I-094	4-765
282	S-MM8	UNT to Cherrystone Creek	Perennial; Wetland	Conventional Bore	none	none			Pittsylvania	36.902991	-79.46822	I-095	4-766
283	S-CC15	UNT to Cherrystone Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.901941	-79.466535	I-096	4-766
284	S-CC8	UNT to Cherrystone Creek	Intermittent; Perennial	Conventional Bore	none	none			Pittsylvania	36.899437	-79.462685	I-097	4-766
285	S-CC5	UNT to Cherrystone Creek	Intermittent; Perennial	Conventional Bore	none	none			Pittsylvania	36.899411	-79.462483	I-097	4-766
286	S-CC5	UNT to Cherrystone Creek	Intermittent; Perennial	Conventional Bore	none	none			Pittsylvania	36.899248	-79.462396	I-097	4-766
287	S-CC9	UNT to Cherrystone Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.89774	-79.458046	I-098	4-767
288	S-CC10	UNT to Cherrystone Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.897315	-79.456119	I-099	4-767
289	S-MM10	UNT to Cherrystone Creek	Intermittent	Pipeline ROW	none	none			Pittsylvania	36.895915	-79.45296	I-098	4-768
290	S-CC11	UNT to Cherrystone Creek	Perennial	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.895808	-79.45292	I-100	4-768
291	S-CC1	Cherrystone Creek	Wetlands; Perennial	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.894043	-79.445744	I-101B	4-769
292	S-CC3	UNT to Cherrystone Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.893727	-79.444763	I-102	4-769
293	S-P5	UNT to Cherrystone Creek	Ephemeral	Conventional Bore	none	none			Pittsylvania	36.892751	-79.440053	I-103	4-769
294	S-IJ35-EPH	UNT to Pole Bridge Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.891451	-79.433781	I-104	4-770
295	S-Q4	UNT to Pole Bridge Branch	Perennial	Conventional Bore	none	none			Pittsylvania	36.886114	-79.430914	I-105	4-771
296	S-Q3	Pole Bridge Branch	Wetland; Perennial	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.884444	-79.42822	I-106B	4-771
297	S-Q2	UNT to Pole Bridge Branch	Perennial	Conventional Bore	none	none			Pittsylvania	36.884284	-79.427914	I-106A	4-771
298	S-B6	UNT to Pole Bridge Branch	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.879063	-79.420189	I-108	4-772
299	S-B8	UNT to Pole Bridge Branch	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.877937	-79.417992	I-109	4-773
300	S-B9	UNT to Pole Bridge Branch	Perennial	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.877416	-79.416255	I-110	4-773
301	S-DD4-Braid-1	UNT to Mill Creek	Intermittent	Conventional Bore	none	none			Pittsylvania	36.871651	-79.404061	I-111A	4-775
302	S-DD4	UNT to Mill Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.871478	-79.403907	I-111	4-775
303	S-KL27	UNT to Mill Creek	Ephemeral	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.866534	-79.400511	I-112	4-776
304	S-C1	Mill Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.863513	-79.397914	I-113	4-777
305	S-G2	Little Cherrystone Creek	Perennial; Wetland	Conventional Bore	none	none			Pittsylvania	36.851931	-79.386051	I-114	4-779
306	S-B2	UNT to Little Cherrystone Creek	Ephemeral	Conventional Bore	none	none			Pittsylvania	36.849394	-79.37778	I-115	4-780
307	S-H55	UNT to Little Cherrystone Creek	Ephemeral	Conventional Bore	none	none			Pittsylvania	36.843486	-79.369222	I-116	4-781
308	S-H54	UNT to Little Cherrystone Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.841112	-79.366848	I-117	4-781
309	S-GG11	UNT to Little Cherrystone Creek	Perennial	Timber Mat Crossing	none	none			Pittsylvania	36.841093	-79.366942	I-116	4-781
310	S-H3	UNT to Little Cherrystone Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.834501	-79.360244	I-118	4-783

Table 3 - DWR Time of Year Restrictions/DCR Recommendations

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311	**S-H5**	UNT to Little Cherrystone Creek	Perennial; Wetlands; Intermittent; Wetland	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.833412	-79.359823	I-118	4-783
312	**S-OO1**	UNT to Little Cherrystone Creek	Intermittent, Wetland	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.830285	-79.356618	I-119	4-783
313	**S-H44**	UNT to Little Cherrystone Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.829823	-79.346016	I-122	4-785
314	**S-H42**	UNT to Little Cherrystone Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.828993	-79.344442	I-123	4-785
315	**S-H42**	UNT to Little Cherrystone Creek	Perennial	Conventional Bore	none	none			Pittsylvania	36.828958	-79.344315	I-123	4-785
316	**S-OO2**	UNT to Little Cherrystone Creek	Intermittent	Dry-Ditch Open-Cut	none	none			Pittsylvania	36.828831	-79.353849	I-120	4-784
317	**S-EF26**	Little Cherrystone Creek	Perennial; Wetlands	Conventional Bore	none	none			Pittsylvania	36.828207	-79.349814	I-121	4-784

FRESHWATER MUSSEL GUIDELINES FOR VIRGINIA

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Last Updated: November 16, 2018

DRAFT

LIST OF ENCLOSURES

1 - Federal and State Project Review Process in Virginia
2 - Federally and State Listed Species in Virginia
3 - Mussel Survey and Relocation Guidelines in Virginia
4 - Surveyor List for Atlantic Slope Mussels in Virginia
5 - Surveyor List for Upper Tennessee River Basin Mussels in Virginia
6 - Time of Year Restrictions (See Freshwater Mollusks)
7 - Map of Federally Designated Critical Habitat for Mussels in Virginia

INTRODUCTION

These guidelines are for project applicants and consultants planning certain activities that will impact rivers, streams, creeks, or other waterways in Virginia. The guidelines provide recommendations for conducting freshwater mussel surveys and relocations for small construction projects of short duration involving non-point pollution sources and affecting no more than 100 linear feet of waterway. Larger projects that impact waters containing State or federally listed mussels may require additional coordination or permits from the Virginia Department of Game and Inland Fisheries (VDGIF) and/or the U.S. Fish and Wildlife Service (FWS). Coordination with these agencies should always be initiated to ensure compliance with Federal and State laws. Enclosure 1 provides the web links to the project review process in Virginia for FWS and VDGIF.

FWS is responsible for the conservation and management of *federally* listed freshwater mussel species. VDGIF is responsible for the conservation and management of *all* freshwater mussel species throughout Virginia. If it is known that federally listed species or critical habitat (Enclosure 7) are not present within a two-mile radius of a given site, coordination with VDGIF, but not FWS, is still necessary.

GENERAL LIFE HISTORY

Freshwater mussels are often prominent in benthic stream communities where, for the most part, they are sedentary filter-feeders consuming a major portion of the suspended particulate matter. Therefore, mussel beds act as biological filters by removing inorganic and organic material from the water column while improving water quality downstream. Individuals are typically long-lived, with particular species living for more than 50 years, while some individuals may live for more than 130 years. Because these mussels are long-lived, sedentary filter-feeders, they are prominent indicators of water quality. Freshwater mussels also serve as an important dietary component to a variety of animals, including muskrats, otters, raccoons, and some fishes.

During spawning, male mussels release sperm into the water column that females take in through their gills. The resulting larvae (known as glochidia) may be released by the female into the water column or packaged to attract fish. These larvae must attach to a fish host to survive. While attached to the gills of the fish host, development of the glochidia begins. Once metamorphosis is complete, the juvenile mussel drops off the fish host and continues to develop on the stream bottom.

Freshwater mussels are generally divided into two reproductive categories known as short-term (tachytictic) or long-term brooders (bradytictic). Short-term brooders usually spawn and release glochidia during May through July in Virginia. Long-term brooders usually spawn from August through September and release glochidia the following April through June.

SURVEYS AND RELOCATIONS

Enclosure 2 provides the web links to lists of federally endangered, threatened, and candidate mussels and State endangered and threatened mussels. If a project occurs in an area that may contain suitable habitat for one of these species, FWS and/or VDGIF may recommend a survey. To determine which waterways may contain suitable habitat for State or federally listed species, contact VDGIF for guidance (804-367-2211 or 2733). Applicants should contact FWS and VDGIF early in the planning process to determine whether federally or State-listed species or critical habitat may be impacted by the project. Enclosure 1 provides the web links to the project review process in Virginia for FWS and VDGIF to assist with the planning process. The effects of a project may include direct impacts from construction activities as well as downstream impacts from sedimentation and effluent discharges. If mussels were found during any previous survey/s, however old, coordination with VDGIF and FWS (where applicable) will be required. Surveys where mussels are not found (negative surveys) are typically valid for two years, after which another survey should be performed. Guidelines for freshwater mussel surveys and relocations are found in Enclosure 3. Web links to surveyor lists are included in Enclosures 4 and 5. If listed mussels are found in or downstream of a project area, VDGIF and/or FWS are likely to recommend time of year restrictions on when activities may occur or other restrictions to reduce impact to the mussels. A web link to time of year restrictions is provided in Enclosure 6. If the project "may affect" a federally listed species or critical habitat, consultation with FWS will be required.

LAWS AND REGULATIONS PROTECTING MUSSELS

Federal Endangered Species Act (ESA) (87 Stat. 884; 16 U.S.C. 1531 et seq.; 50 CFR Part 17) Section 7(a)(2) requires Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any federally listed threatened or endangered species, or result in the destruction or adverse modification of critical habitat. The regulations implementing this Act (50 CFR 402) require the Federal agency to review its actions at the earliest possible time to determine whether its actions may affect listed species or critical habitat. If a Federal agency determines that its action "may affect" a listed threatened or endangered species or critical habitat, the agency is required to consult with FWS regarding the degree of impact and measures available to avoid or minimize the adverse effects.

Section 9 of the ESA makes it illegal for any person subject to the jurisdiction of the United States to "take" any federally listed endangered or threatened species of fish or wildlife without a special exemption. "Person" is defined under the ESA to include individuals, corporations, partnerships, trusts, associations, or any other private entity; local, State, and Federal agencies; or any other entity subject to the jurisdiction of the United States. Under the ESA, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.

Section 10 establishes an incidental take permit provision for private entities that includes the development of habitat conservation plans. This provision authorizes FWS, under some circumstances, to permit the taking of federally listed fish and wildlife if such taking is "incidental to, and not the purpose of carrying out otherwise lawful activities." This process is also intended to be used to reduce conflicts between listed species and private development and to provide a framework that would encourage "creative partnerships" between the private sector and local, state, and Federal agencies in the interest of endangered and threatened species and habitat conservation. When approved by FWS, this regulatory procedure results in the issuance of a permit authorizing incidental take, provided such take is mitigated by appropriate conservation measures for habitat maintenance, enhancement, and protection, coincident with development.

Virginia Endangered Species Act (29.1-563 - 29.1-570) - This law provides that VDGIF is the state regulatory authority over federally or state listed endangered or threatened fish and wildlife in the Commonwealth, defining *fish or wildlife* as "*. . . any member of the animal kingdom, vertebrate or invertebrate, except for the class Insecta, and includes any part, products, egg, or the dead body or parts thereof.*" It prohibits the taking, transportation, processing, sale, or offer for sale within the Commonwealth of any fish or wildlife listed as a federally endangered or threatened species, except as permitted by the Board of Game and Inland Fisheries for

zoological, educational, scientific, or captive propagation for preservation purposes. State-listed species are provided the same protection per VDGIF Regulation 4 VAC 15-20-130.

The law further authorizes the Board of the Virginia Department of Game and Inland Fisheries to adopt the Federal list of endangered and threatened species, to declare by regulation that species not listed by the Federal government are endangered or threatened in Virginia, and to prohibit by regulation the taking, transportation, processing, sale, or offer for sale of those species. Implementing regulations pursuant to this authority (4 VAC 15-20-130 through 140) further define "take" and other terms similarly to the Federal ESA.

Federal Endangered Species Act Cooperative Agreement - Federally listed species are also protected under VDGIF jurisdiction via a cooperative agreement signed in 1976 with FWS pursuant to Section 6 of the ESA. This Cooperative Agreement recognizes VDGIF as the Virginia agency with regulatory and management authority in Virginia over federally listed or threatened animals, excluding insects, and provides for Federal/State cooperation regarding the protection and management of those species.

Enclosure 1: Federal and State Project Review Process in Virginia

U.S. Fish and Wildlife Service: Online Project Review Process
(https://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html)

Virginia Department of Game and Inland Fisheries: Project and Permit Review Process
(https://www.dgif.virginia.gov/environmental-programs/environmental-services-section/)

Enclosure 2: Federal and State Listed Mussel Species in Virginia

U.S. Fish and Wildlife Service: Environmental Conservation Online System (ECOS)
(http://ecos.fws.gov/ecp/)

Virginia Department of Game and Inland Fisheries: Special Legal Status Faunal Species in Virginia
(https://www.dgif.virginia.gov/wp-content/uploads/virginia-threatened-endangered-species.pdf)

Enclosure 3: Mussel Survey and Relocation Guidelines in Virginia

There are four general assessment/survey types including:

A. **Land-based review** - land-based site visit used to determine whether a water-based survey (site assessment, abbreviated, or full survey) is warranted. During a land-based review, the surveyor should look for obvious signs that would negate the need for additional, water-based surveys. For example, if it can be determined that the water body is non-perennial and/or contains no potential mussel habitat, it is unlikely that additional surveys would be needed or recommended by VDGIF or FWS. If it is determined that suitable habitat is present, the appropriate survey will be recommended. Photographs of the project site clearly showing instream habitat conditions, as well as a thorough site description, should be sent to VDGIF and FWS for review in lieu of the site assessment. If it is determined that suitable habitat is present, the appropriate survey will be recommended.

B. **Site assessment** - 20 m upstream / 80 m downstream. A site assessment is recommended to determine if suitable habitat is present at a project location and may be recommended if the presence of a listed species is questionable. If suitable habitat is present, the appropriate survey will be recommended even in the absence of mussels, since the site assessment does not serve as a substitute for a mussel survey; however, the presence of freshwater mussels should be documented during the assessment.

C. **Abbreviated survey** - 100 m upstream / 400 m downstream of project footprint.

D. **Full survey** - 200 m upstream / 800 m downstream of project footprint.

The assessment/survey type is based on the scope of the project, potential impacts, and known species distributions. Survey lengths are measured from the project footprint. *Survey distances have primarily been developed for projects where physical alteration/disturbance of the stream is the primary impact (e.g., bridge repair/replacement, utility line crossings, etc.). Potential impacts from projects involving activities such as point and non-point source discharges, water intakes, and mining may require greater survey lengths and different methods.*

Project applicants should contract with a qualified mussel surveyor. Enclosures 4 and 5 provide web links to lists of pre-approved mussel surveyors. If a pre-approved surveyor is not selected, please provide the proposed surveyor's qualifications and proposed survey design to FWS and VDGIF a minimum of 30 days prior to survey initiation. Individuals who take federally listed threatened and endangered animals must obtain a permit from VDGIF, prior to surveying. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Contact information follows:

Ms. Shirl Dressler
Virginia Department of Game and Inland Fisheries
P.O. Box 90778
Henrico, VA 23228-0778
Phone: (804) 367-6913
CollectionPermits@dgif.virginia.gov

A plan for mussel relocations, including initial surveys, must be presented to VDGIF and FWS (where applicable) for comment and approval prior to initiation of construction. Failure to provide a mussel relocation and/or survey plan may affect review and permitting of the project by VDGIF and FWS.

The recommended time of year to conduct mussel surveys and relocations is April 1 through October 31. Surveying during the cooler months is discouraged because mussels tend to be located deeper in the substrate and a greater percentage of the population is subsurface, therefore making them more difficult to find, particularly rare species. A more specific time frame may be recommended depending on the target species. A survey conducted outside this time frame requires VDGIF and FWS (where applicable) approval.

Guidelines if federally listed mussels are not present

During the initial survey, mussel species within the direct project footprint or within imminent danger from project impacts may be relocated to suitable habitat unless otherwise directed by VDGIF. Suitable habitat typically includes an area upstream of project impacts and which also harbors freshwater mussels. If such an area cannot be found, the surveyor should determine the location of most suitable habitat. The direct project footprint shall be defined as the area of potentially disturbed substrate, any zone of heavy equipment operation, plus the distance downstream that may experience significant sedimentation from construction. If not determined prior to the relocation, the surveyor is responsible for determining the most suitable relocation area. All relocated mussels must be at least partially placed in the substrate, anterior end down.

Project applicants may be required to monitor relocated mussels to determine relocation success/failure.

Standard mussel relocation protocols are outlined below. These protocols may vary based on factors such as the scope of the project and the results of the initial mussel survey. If the relocation protocols vary, VDGIF will clearly outline the appropriate protocols with the project applicant. It is the project applicant's responsibility to ensure that the proper relocation protocols are used and that the contracted mussel surveyor is aware of any modifications to the standard protocols.

The reach from which mussels are to be relocated will be at least 100 m long including the project footprint. The standard protocol is as follows:

- The 1st relocation survey must occur within 30-45 days of instream construction activities and at least 7 days prior to the 2nd relocation survey.

- The 2nd relocation survey must occur within 30 days of instream construction activities and at least 7 days after the 1st relocation survey.

- All relocation surveys must include at a minimum, two passes. The target relocation percentage of the initial number of mussels collected is 80%. If on the 2nd pass, more than 20% of the initial number of mussels is collected, continued passes must be conducted until no more than 20% of the initial number of mussels is collected on the final pass. The target relocation percentage may be adjusted higher or lower depending on the species and numbers collected during the initial survey.

- If a state-listed species is found, continued passes must be conducted until no listed species are found on the final pass. If repeated passes result in continual collection of state-listed species, modification of the survey techniques may be required.

If relocation surveys are not possible due to natural conditions such as high water, contact VDGIF to arrange contingency plans.

The location of all relocated mussels must be accurately documented (preferably with geographic coordinates) and reported to VDGIF. All state-listed mussel species must be tagged and measured for potential future monitoring.

Project applicants may be required to adhere to time of year restrictions for mussel relocations as directed by VDGIF. If this is the case, for the long-term brooders, relocations can occur from June 16 through August 14 and October 1 through October 31. For short-term brooders, relocations can occur from April 1 through May 14 and August 1 through October 31.
All mussel survey and relocation results, including tag and measurement data, must be submitted to VDGIF for review, prior to instream construction activities. Reviews will be expedited due to

the potential short timeframe between surveys and/or relocations and the start of instream work. Reports must contain, at a minimum, number of species found, number of individuals per species and their sizes, and number of individuals tagged.

Guidelines if federally listed mussel species are present

Federally listed mussels must *not* be relocated during the initial survey. If federally listed mussels are found, they must remain exactly where found and all specimens should be photo documented, if possible. Coordination with FWS and VDGIF must occur to determine future actions.

If it is determined that a project may affect a federally listed species, FWS will complete a consultation with the Federal action agency and prepare a biological opinion in accordance with the Federal Endangered Species Act. The relocation procedures for federally listed mussels will be specified in FWS's biological opinion and will be determined on a project-specific basis.

If relocation surveys are not possible due to conditions such as high water, contact FWS and VDGIF to arrange contingency plans. All listed mussels must be moved to suitable habitat upstream of any potential project impacts. Mussels may be relocated downstream if habitat upstream is determined unsuitable by VDGIF and FWS. If not determined prior to the relocation, the surveyor is responsible for determining the most suitable relocation area. All relocated mussels must be at least partially placed in the substrate, anterior end down. Project applicants may be required to monitor relocated mussels to determine relocation success/failure.

The location of all relocated federally listed mussels must be accurately documented (preferably with geographic coordinates) and reported to FWS and VDGIF. All federally listed mussel species also must be tagged and measured for potential future monitoring.

All mussel survey and relocation results must be submitted to FWS and VDGIF for review, prior to instream construction activities. Every effort will be made to expedite reviews due to the potential short timeframe between surveys and/or relocations and the start of instream work. Reports must contain, at a minimum: number of species found, number of individuals per species and their sizes, number of individuals tagged, etc.

Project applicants may be required to adhere to time of year restrictions (Enclosure 6) for mussel relocations as recommended by FWS and VDGIF. Time of year restrictions will be specified in a letter or in FWS's biological opinion.

Enclosure 4: Surveyor List for Atlantic Slope Mussels in Virginia

Approved Surveyors in Virginia for Atlantic Slope Freshwater Mussels (http://www.fws.gov/northeast/virginiafield/pdf/endspecies/Surveyor_Lists/PDF%20Format/SURVEYOR%20LIST%20-%20Atlantic%20Slope%20Mussels.pdf)

Enclosure 5: Surveyor List for Upper Tennessee River Basin Mussels in Virginia

Approved Surveyors in Virginia for Tennessee River Drainage Freshwater Mussels (http://www.fws.gov/northeast/virginiafield/pdf/endspecies/Surveyor_Lists/PDF%20Format/SURVEYOR%20LIST%20-%20TN%20Drainage%20Mussels.pdf)

Enclosure 6: Time of Year Restrictions

Virginia Department of Game and Inland Fisheries Time of Year Restrictions (TOYR) Table (https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf)

Enclosure 7: Federally Designated Critical Habitat for Mussels in Virginia

Map of Federally Designated Critical Habitat in Virginia (http://fws.maps.arcgis.com/apps/Viewer/index.html?appid=f6e84e675ba1461b8ae6a351adea1429)

DGIF Fish Relocation Best Practices

Wildlife Information and Environmental Services

804-367-4335

July 17, 2020

I. Purpose

To comply with regulatory requirements regarding protection of state Threatened or Endangered species, and to protect other sensitive fish species from harm during instream construction. Additional relocation efforts may be required if cofferdams are overtopped by high water events.

II. Permits and Certification Requirements

1. The Lead/Supervisor for a fish relocation project in any waters designated as Threatened/Endangered Species Waters due to the likely presence of a Threatened or Endangered species of fish must be authorized (certified) by: (1) successfully completing fish identification and collection techniques training approved by the Virginia Department of Wildlife Resources (DWR), or (2) otherwise documenting competency in fish identification and collection techniques to the satisfaction of VDGIF; and (2) be authorized to lead/supervise fish relocations within Threatened/Endangered Species Waters on the applicable DWR Threatened/Endangered Species Permit. Such authorizations and permits may be specific both with regard to fish species and to stream reaches or river basins.

2. The certified Lead/Supervisor must be present and directly supervise all fish relocation efforts in Threatened/Endangered Species Waters. The certified Lead/Supervisor also must be onsite during the cofferdam installation and dewatering process (or during enactment of other isolation procedures) to ensure these activities do not cause fish stress or injury. Non-certified assistants participating in the fish relocation project must be listed as sub-permittees on the appropriate DWR Threatened/Endangered Species Permit. Additional Threatened/Endangered Species Permit conditions may apply due to the likely presence of Threatened or Endangered species other than fish.

3. The Lead/Supervisor and all assistants participating in any fish relocation project in waters not designated as Threatened/Endangered Species Waters must be named as the permittee or as authorized sub-permittees on an appropriate DWR Scientific Collection Permit.

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III. Methods

Fish caught within cofferdammed areas must be removed within 24 hours after placement of the cofferdams. If water depth within the cofferdam is too deep to remove fish, and it has been determined that partial dewatering is necessary prior to removing fish, then the pump intakes must be screened to prevent fish and aquatic biota from entering the intake. Details of the fish relocation efforts will be documented, photographed, and summarized in a final report to be submitted to DWR for state and federally listed species, and to the US Fish and Wildlife Service (USFWS) for federally listed species. Unless otherwise authorized by DWR and USFWS, fish relocation efforts shall not be conducted during applicable Time-of-Year Restrictions (TOYR) for any protected fish species likely to be encountered at the project site, as determined during the pre-project assessment described in step *1a* below.

1. Fish collection and identification: The method(s) used may depend on the stream characteristics or conditions such as depth, flow, substrate, water clarity, and size or area of the potential impact zone. Methods are also dependent upon the target fish. For example, schooling fish like minnows may be more susceptible to seining, while benthic species such as darters may require electroshocking to capture. At some locations, it may be necessary to use a combination of these methods to ensure that all fish have been safely removed from the cofferdammed area. Because there is no flow within a cofferdam, one inherent problem in collection is the turbid conditions once the stream bottom is disturbed. Collection efforts may need to be adjusted to account for these conditions.

    a. *Pre-project assessment:* Prior to collection, the Environmental Lead will determine listed aquatic species that may likely be collected at the project site by accessing an authorized database. Special emphasis will be placed on Threatened or Endangered species and visually similar species.

    b. *Seining and dipnetting:* The least-lethal fish removal techniques include seining and/or dipnetting. These techniques minimize potential risks of distress or injury to the fish. Seining works most effectively when there are few if any instream obstacles such as large rocks, branches, and pilings or other structures. Seining also requires water depth greater than 1 ft. to efficiently capture fish. One advantage of seining over other techniques is that it does not rely on seeing the fish, so seining can be conducted in turbid water. Seines come in varying lengths and mesh sizes: a 10 ft. long by 3 ft. high seine with a mesh of 1/8" mesh is sufficient for most cofferdams. In many cases, three individuals are needed to operate a seine. One individual is positioned on each end holding the brail. Brails are maintained at a 45-degree angle on the stream bottom as the individuals move parallel to one another from one end of the cofferdammed area to the other. During this time, the bottom of the seine (lead line) is kept close to the stream bottom, while the top of the seine (float line) is maintained on the water's surface. While the seine is being pulled, the third individual frees

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it of any snags and assists in lifting the seine if necessary. Upon reaching the end of the cofferdammed area, the lead line is lifted out of the water, ensuring that the float line is out of the water as well. Visual inspection or observation with viewscopes or polarized sunglasses may be used to determine locations of fish concentrations and the effectiveness of this method. Dipnets may be used in conjunction with seine nets and, in shallow water, aquarium nets may be needed to remove fish.

c. *Electroshocking:* Electroshocking is most effective in clear water conditions or when obstacles prevent seining or dipnetting. It is also useful on alert and active species such as smallmouth bass, which are effective at avoiding nets. The downside of electroshocking is that it is potentially dangerous for staff and target organisms. As with seining, electroshocking requires at least two individuals: one individual operates the shocker while the other dips for fish and holds the bucket. Both individuals should carry a dipnet. The shocker should be tested and controls set outside of the cofferdammed area. Shocking should occur in a sweeping motion from side-to-side, ensuring that the area in front of the shocker is covered before moving forward. Staff should keep ahead of any sediment plumes kicked up during collection. All fish should be netted and immediately transferred to clean, oxygenated water in the bucket. At no time should anyone touch the water unless they are assured the electroshocker is turned off. In the bucket, fish should quickly recover and begin swimming. If this is not the case, shocking unit controls must be adjusted and the voltage reduced. Fish numbers in the bucket must be monitored to ensure overcrowding does not occur. This is especially critical in summer when oxygen can be quickly depleted from warm water. Electrofishing will be conducted in a manner that minimizes harm to fish. The minimum effective voltage, pulse width, and pulse rates necessary to achieve the desired response (stunned fish) will be used. All efforts will be taken to ensure that fish do not come into contact with the electroshocker anode.

d. *Collection effort:* Efforts to capture fish within the cofferdammed area will be repeated until the surveyors are confident that all fish have been removed. This will require a minimum of three seine hauls with no fish collected. Capture or observation of any fish during a haul will precipitate three additional seine hauls (*i.e.*, seining will continue until no fish are collected during three successive hauls). In situations where electroshocking is needed, the entire cofferdammed area should be covered with special emphasis on difficult to reach places (crevices, rocks, etc.). When electroshocking, three passes should be conducted with no additional fish collections. As with seining, three additional passes must be initiated if a fish is caught or observed. If conditions become turbid with low visibility, seining should be conducted after an initial electroshocking effort, using the above-described depletion protocols.

e. *Fish Identification:* All fish will be identified to species level when possible, and at least to the Family level. Photographs will be taken of each species found during the fish removal efforts. All individual fish identified as possibly representing a Threatened or Endangered species will be photographed. Total counts will be taken for all species found. Notes will be taken regarding any fish showing signs of distress, parasitism, anomalies, or injuries.

2. Fish handling and relocation: After workup, captured fish will be relocated to suitable habitat outside of the cofferdam, and away from the work area. Handling of the fish will be minimized to the greatest extent possible. Individuals handling the fish will do so with clean, wet hands that are free of chemicals and toxins such as insect repellent, sunscreen, or lotions.

   If it has been determined that fish need to be relocated at least 100 meters upstream or downstream from the impact area, it may be necessary to place the fish in buckets of fresh streamwater so they can be released to suitable habitat. Fish held in the bucket will be checked often to ensure they are healthy and that water conditions are acceptable. Frequent water changes and a battery operated air pump may be necessary in certain situations. Except as stipulated below for incidentally killed fish, no individual fish will be kept or killed for scientific collection or other purposes.

   Fish will be released in calm, shallow (<1 ft. deep) waters that facilitate their recovery and reorientation to river conditions. The fish will be monitored to ensure they remain upright and are able to actively swim. Any Threatened or Endangered species will be reported to DWR within 24 hours of capture. Any Threatened or Endangered fish incidentally taken (killed) will be preserved and delivered to DWR. Documentation of the fish removal operation will include project location, date, methods, personnel, water temperature, conductivity, flow conditions, water depth and clarity, substrate type, equipment settings, fish species, total numbers, fish condition, fish release location, and digital photographs.

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Matthew J. Strickler
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
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Deputy Director of Dam Safety & Floodplain Management and Soil & Water Conservation

Nathan Burrell
Deputy Director of Government and Community Relations

Thomas L. Smith
Deputy Director of Operations

MEMORANDUM

DATE: June 6, 2021

TO: Steve Hardwick, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ-VWP 21-0416, Mountain Valley Pipeline

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage's (DCR-DNH) mission is conserving Virginia's biodiversity through inventory, protection, and stewardship. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

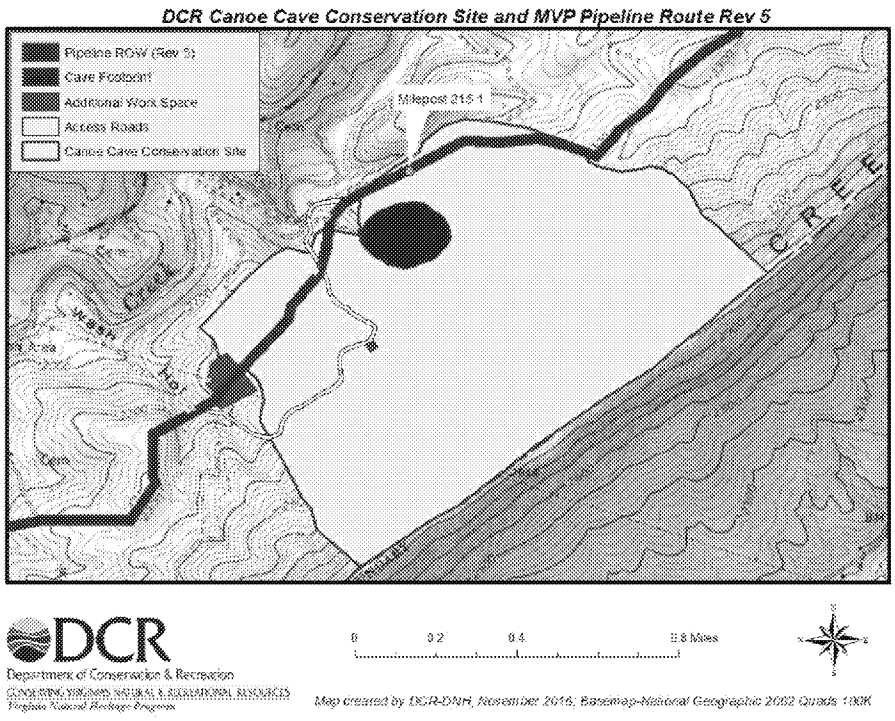
DCR-DNH previously provided comments on the Mountain Valley Pipeline Project under FERC Docket PF15-3-000 on June 11, 2015 (accession number 20150611-5170); and FERC Docket CP16-10 on March 17, 2016 (accession number 20160317-5126), May 20, 2016 (accession number 20160520-5051), September 9, 2016 (accession number 20160909-5315) and December 22, 2016 (accession number 20161222-5394), DEQ 17-091F, MVP Final Environmental Impact Statement and Updated Biological Assessment, Docket No. CP16-10-000, U.S. Forest Service and Bureau of Land Management, Draft Supplemental Impact Statement, Mountain Valley Pipeline and Equitrans Expansion Project (DEQ 20-136F) on December 11, 2020 (accession number 20201211-5170). DCR-DNH reiterates those comments.

DCR-DNH has reviewed the proposed route alignment, MVP_LOD_IP_April2021 including the wetland and stream (permanent and temporary) impacts and would like to offer the following comments at this time by quadrangle or stream ID:

Newport Quad-Canoe Cave Conservation Site

Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Canoe Cave Conservation Site has a (B2) very high biodiversity significance.

Canoe Cave is classified by USFWS as a known, occupied hibernaculum for the federally threatened and state-endangered northern long-eared bat and has been documented as having contained the state-endangered tri-colored bat. For any portions of the Mountain Valley Pipeline within the Canoe conservation site, appropriate best management practices must be adopted and strictly adhered to in order to minimize the potential for impact. Compensatory mitigation for karst areas permanently disturbed within the conservation site may be appropriate. Monitoring of the spring (resurgence) water for Canoe Cave should take place, and include at a minimum turbidity and volatile organic compounds.



Newport Quad-Clover Hollow Cave Conservation Site

Clover Hollow is a conservation site of outstanding biodiversity significance (B1). The natural heritage resources within the pipeline project area including a 100 foot buffer are the Spotted cave beetle (*Pseudanophthalmus punctatus,* G2G3/S1/SOC/NL) and the Clover Hollow cave beetle (*Pseudanophthalmus gracilis*, G1G2/S1S2/SOC/NL). No extant records of federally listed species are associated with this conservation site. There is a historical record for the Indiana bat. This conservation site protects cave and karst associated element occurrences, including 4 state designated significant caves. The conservation site boundary includes the land overlying the caves and the watershed of the cave streams as determined by dye trace studies and topographic analysis. Nineteen additional caves are documented within the conservation site.

A total of 7 cave limited terrestrial species and 3 cave limited aquatic species are known from the site. Of these six species are globally very rare, cave limited invertebrate. Tawneys cave is the type locality for three of these species, Smokehole cave for one, and Stay High Cave (State Natural Area Preserve) for another. The range for three of these species is limited to the Sinking Creek Valley in Giles and Craig counties, VA.

Two rare bat species, the Eastern small-footed bat and the Indiana bat are known from the conservation site. However, the Indiana bat record is very old and the species has not been observed in the conservation site for decades. The pipeline route is over known cave passage in two designated significant caves – Tawneys and Smokehole. In addition to the invertebrate element occurrences, Tawneys Cave has hosted a modest hibernacula (~800-1000 total individuals) for little brown (*Myotis lucifugus,* G3/S1S3/NL/LE*)*, tricolored (*Perimyotis subflavus,* G2G3/S1S3/SOC/LE*)*, and big brown bats (*Eptesicus fuscus*.) DCR recommends continued coordination with the US Fish and Wildlife Service and VDWR to ensure compliance with the protected species legislation.

Eggleston Quad- Doe Creek Cave Conservation Site

The Doe Creek Cave Conservation Site is within the project area and has a moderate (B4) biodiversity significance due to the presence of a significant cave.

Penhook Quad-Jacks Creek Conservation Site

According to the information currently in our files, the Jacks Creek Conservation Site is immediately adjacent to the pipeline centerline. Jacks Creek Conservation Site has been given a biodiversity significance ranking of B1, which represents a site of outstanding significance. The natural heritage resources of concern at this site are:

Phemeranthus piedmontanus	Piedmont fameflower	G1/S1/SOC/NL
Poa saltuensis	Weak bluegrass	G5/S2/NL/NL
Sporobolus heterolepis	Prairie dropseed	G5/S1/NL/NL
Significant Community	Southern Piedmont Ultramafic Barren	G1/S1/NL/NL

DCR recommends avoidance of the Jacks Creek Conservation Site and associated documented occurrences of natural heritage resources.

Sandy Level Quad-Jonnikin Creek Net Conservation Site and Redwood Quad-Flint Hill Road Net

The Jonnikin Creek Net Conservation Site and Flint Hill Road are located within the project site. Jonnikin Creek Net Conservation Site and Flint Hill Road Net Conservation Site have been given a biodiversity significance ranking of B3, which represents a site of high significance The natural heritage resource of concern at both of these sites is:

Perimyotis subflavus	tri-colored bat	G2G3/S1S3/SOC/LE

The tri-colored bat is a very small bat distinguished from other Myotis species by tricolored individual back hairs and inhabits open woods near water, rock cliffs, buildings and caves in the summer. Since 2008 there has been a significant decline in population numbers (greater than 90%) for both bat species due to white nose syndrome.

Due to the legal status of the tri-colored bat, DCR recommends coordination with the VDWR, Virginia's regulatory authority for the management and protection of these species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Lindside Quad-Peters Mountain Slopes-Laurel Branch Slopes Conservation Site

The Peter Mountain Slopes-Laurel Branch Slopes Conservation Site is documented within the proposed project area. The Peter Mountain Slopes-Laurel Branch Slopes has been given a biodiversity significance ranking of B2,

which represents a site of very good significance. The natural heritage resources of concern associated with this conservation site are:

Aneura sharpii	A liverwort	G1G2/S1/NL/NL
Corallorhiza bentleyi	Bentley's coralroot	G2/S2/LE/NL
Myotis lucifugus	Little brown bat	G3/S1S3/NL/LE
Myotis leibii	Eastern Small-footed Myotis	G4/S2/NL/NL

The Eastern small-footed myotis is a bat species known from southern Canada and New England, south through the Appalachians and Ohio Valley (NatureServe, 2009). This species has been recorded in Virginia most frequently in association with cavernous limestone (karst) areas and sandstone ridges in the western portion of the state. It roosts in rock crevices, rock shelters, caves, mines, human habitations, and trees in mountainous areas with deciduous or evergreen forest.

Threats to the Eastern small-footed myotis include alteration or destruction of its roosting or hibernation habitats including rock outcrops, bridges, trees, and caves.

The Little brown bat is a small brown insect eating bat, which uses a wide range of habitats including caves and human-made structures (NatureServe, 2015). Since 2008 there has been a significant decline in population numbers (greater than 90%) for bat species due to white nose syndrome. The Little brown bat is state listed as "endangered" on April 1, 2016 by the Virginia Department of Wildlife Resources.

DCR recommends avoidance of documented natural heritage resources. Due to the legal status of the little brown bat, DCR recommends coordination with the VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). DCR supports prudent measures, terms and conditions, and monitoring and compliance-reporting requirements included in the September 4, 2020 revised United States Fish and Wildlife (USFWS) revised biological opinion for the Mountain Valley Pipeline to avoid, minimize impacts to the Indiana bat and Northern-long eared bat.

The Western part, on the southeastern slope of Peters Mountain, consists mostly of a long access road on Devonian-Silurian bedrock that contains a very small percentage of limestone. Because of this, it is included in our new statewide karst screen. However, only very locally are any significant karst features developed. In the project area, there are no caves or sinkholes documented in the unit. Downslope (east) of the project area, streams cross onto the significant karst. Some are likely to sink while others may not. DCR recommends adherence to erosion and sediment control measures as required by the US Forest Service, FERC, and DEQ under the DSEIS protective of the downstream, karst resources. No documented significant cave resources are at risk from activities associated with the construction of the Mountain Valley Pipeline on the southeast slope of Peters Mountain.

McDonald's Mill Quad- Slussers Chapel Cave Conservation Site

Slussers Chapel is a conservation site of high biodiversity significance (B3). No extant records of federal or state listed species are associated with this conservation site. There is potential for the state listed endangered Ellett Valley Millipede (*Pseudotremia cavernarum*) in the site. This conservation site protects cave and karst associated element occurrences, including 2 state designated significant caves, both under conservation ownership. The conservation site boundary includes the land overlying the caves and the watershed of the cave streams as determined by dye trace studies and topographic analysis. Six additional caves are documented within the conservation site.

The two significant caves are Slussers Chapel and Mill Creek Caves. Entrances to both caves are in conservation ownership, Slussers Chapel by the Cave Conservancy of the Virginias and Mill Creek Cave by the Nature Conservancy. Three cave limited terrestrial invertebrate species and two cave limited aquatic invertebrate species are known from the site. Of these, three species are globally very rare, cave limited invertebrates. Slussers Chapel cave is the type locality for one of these species. The range for two of these species is limited to the karst of the upper Roanoke River basin.

A recent biological inventory of Mill Creek Cave (2012) obtained specimens of the millipede genus *Pseudotremia*. They specimens were consistent with the state listed endangered Ellett Valley millipede. However, the specimens were juveniles and not identifiable to the species level. Subsequent collections of adult male *Pseudotremia* will help to determine whether or not the state endangered species is present in the conservation site. Recent exploration by cave divers in Mill Creek Cave has increased the length of the cave by more than 1000', in the direction of the proposed route for the MVP pipeline. Exploration is ongoing, and there is a high likelihood that significant, additional subterranean habitat will be documented. Little brown, tricolored, and big brown bats are known from caves in the site, but not in high numbers.

Pearisburg Quad- Kimballton Quarry Cave Conservation Site

The Kimballton Quarry Cave Conservation Site is within the project area and has a moderate (B4) biodiversity significance due to the presence of a significant cave. Based on dye trace studies, any release to karst features in this area will either resurge at Klotz Spring or be captured by the Kimballton Mine. These features should be specified in the Spill Prevention Controls and Countermeasures Plan (SPCCP).

McDonalds Mill Quad-Old Mill Conservation Site

Old Mill is a conservation site of high biodiversity significance (B3). No extant records of federal or state listed species are associated with this conservation site. There is potential for the state listed endangered Ellett Valley Millipede (*Pseudotremia cavernarum*) in the site.

This conservation site protects cave and karst associated element occurrences, including a state designated significant cave. The conservation site boundary includes the land overlying the cave and the watershed of the cave stream as determined by dye trace studies and topographic analysis. The current boundary should be modified to include the entire watershed of Dry Run, which sinks in its bed supplying the majority of the water in the Old Mill Cave stream. Two additional caves are documented within the conservation site.

Three cave limited terrestrial invertebrate species and two cave limited aquatic invertebrate species are known from the site. Of these, three species are globally very rare, cave limited invertebrates. In addition, a globally rare troglophilic beetle (Ellett Valley Cave Beetle, *Pseudanophthalmus pusio,* G2G3/S1S2/NL/NL) is known from the cave. The range for two of these species is limited to the karst of the upper Roanoke River basin. No information is available regarding bat use of the site.

Elliston Quad-Upper Spring Hollow Reservoir Slopes Conservation Site

The Upper Spring Hollow Reservoir Slopes Conservation Site is located within the project site. The Upper Spring Hollow Reservoir Slopes Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Myotis leibii	Eastern small-footed myotis	G4/S2/NL/NL

The Eastern small-footed myotis is a bat species known from southern Canada and New England, south through the Appalachians and Ohio Valley (NatureServe, 2009). This species has been recorded in Virginia most frequently in association with cavernous limestone (karst) areas and sandstone ridges in the western portion of the state. It roosts in rock crevices, rock shelters, caves, mines, human habitations, and trees in mountainous areas with deciduous or evergreen forest.

Threats to the eastern small-footed myotis include alteration or destruction of its roosting or hibernation habitats. DCR recommends avoiding impacts to roost habitats during the summer or winter months.

Stream ID S-S5 Stony Creek

The Stony Creek Stream Conservation Unit (SCU) is located within or immediately adjacent to the project site. SCUs identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Stony Creek SCU has been given a biodiversity ranking of B4, which represents a site of moderate significance. The natural heritage resources associated with this site are:

Etheostoma osburni	Candy darter	G3/S1/LE/NL
Etheostoma caeruleum	Rainbow darter	G5/S2/NL/NL

The Candy darter occurs in the New River drainage of Virginia and the Appalachian Plateaus of West Virginia (Jenkins and Burkhead, 1994). It inhabits rocky, clear, and small to large creeks in unsilted runs and riffles (Burkhead and Jenkins, 1991).

Threats to the habitat of this species include siltation and turbidity (Burkhead and Jenkins, 1991). In addition, the stocking of trout may result in predation of the Candy darter while the spawning sites may be trampled by wading trout fishermen (Burkhead and Jenkins, 1991). Please note, that this species is currently classified as endangered by the United States Fish and Wildlife Service (USFWS).

Stream ID S-C21 Bradshaw Creek and Stream ID S-NN16 Roanoke River

The Roanoke River – North and South Forks Stream Conservation Unit (SCU) is located within the pipeline footprint. The Roanoke River – North and South Forks SCU has been given a biodiversity significance ranking of B1, which represents a site of outstanding significance. The natural heritage resources of concern associated with this SCU are:

Noturus gilberti	Orangefin madtom	G2/S2/SOC/LT
Percina rex	Roanoke logperch	G1G2/S1S2/LE/LE
Allocapnia simmonsi	Spatulate snowfly	G3/S1S2/NL/NL

The Orangefin madtom is native to the Roanoke and James River systems of North Carolina and Virginia (NatureServe, 2009). The Orangefin madtom inhabits moderate to strong riffles and runs having little or no silt in moderate-gradient, intermontane and upper Piedmont streams. This species is an intersticine dweller, found in or near cavities formed by rubble and boulders (Jenkins and Burkhead, 1993). Please note that this species is currently classified as a species of concern (not a legal designation) by the United States Fish and Wildlife Service (USFWS) and as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF). Threats to the Orangefin madtom include channelization, siltation, various forms of chronic pollution, catastrophic

chemical spills, impoundment, dewatering, and bait-seining (NatureServe, 2009). Its low reproductive rate and short life span (Simonson 1997, Simonson and Neves 1992, Simonson 1987) exacerbate these threats (Burkhead and Jenkins 1991).

The Roanoke logperch is endemic to the Roanoke and Chowan River drainages in Virginia (Burkhead and Jenkins, 1991) and inhabits medium and large, warm and usually clear rivers with sandy to boulder spotted bottoms (NatureServe, 2009). Please note that this species is currently classified as endangered by the USFWS and the VDGIF. The Roanoke logperch is threatened by channelization, siltation, impoundment, pollution, and de-watering activities (Burkhead & Jenkins, 1991).

Spatulate snowfly is a stonefly documented in only two locations in Virginia. Stoneflies are generally medium-sized to small, somewhat flattened, soft-bodied, rather drab-colored insects found near streams or rocky lake shores (Borror, 1981). They are poor fliers and are seldom found far from water. Stonefly nymphs are often found under stones in streams but may occasionally be found anywhere in a stream where food is available (Borror, 1981). Stoneflies are highly sensitive to any practices that degrade the quality of its aquatic habitat.

In addition, the North Fork Roanoke River, Roanoke River and Pigg River have been designated by the VDWR as a "Threatened and Endangered Species Waters". The species associated with these T & E Waters are the Orangefin madtom and the Roanoke logperch.

Stream ID S-C3 Harpen Creek and Stream ID S-E11 Pigg River

The Pigg River-Harpen Creek Stream Conservation Unit (SCU) is located 0.25 miles immediately downstream of the pipeline construction right-of-way. The Pigg River-Harpen Creek SCU has been given a biodiversity ranking of B2, which represents a site of very high significance. The natural heritage resource associated with this site is:

Percina rex	Roanoke logperch	G1G2/S1S2/LE/LE

DCR provides the following recommendations for avoiding and minimizing impacts to documented natural heritage resources at the above referenced crossings:

- To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.
- DCR supports adherence to time of year restrictions for instream work as recommended by the Virginia Department of Wildlife Resources (VDWR) and United States Fish and Wildlife Service (USFWS).
- DCR supports the proposed horizontal directional bore of the Roanoke River to minimize impacts to documented occurrences of natural heritage resources. DCR recommends pre-construction geotechnical investigations and frac-out contingency plan measures to avoid and minimize impacts to sensitive species.
- DCR recommends adherence to the Emergency Spill Plan (APPENDIX D-2 Spill Prevention, Control, and Countermeasure (SPCC) Plan and Unanticipated Discovery of Contamination Plan for Construction Activities in Virginia) updated in October 20, 2017.
- Due to the legal status of the Roanoke logperch, Orangefin madtom, Candy Darter, DCR recommends continued coordination with VDWR and USFWS to ensure compliance with protected species legislation.
- DCR supports the monitoring of water quality in these streams, rivers and creeks supporting rare, threatened and endangered resources to identify and address sediment loads during the construction of the Mountain Valley Pipeline.

- DCR recommends a spill plan be developed to address issues with leaks or ruptures that may occur at or near stream/river crossings, and that spill plan should be evaluated by resource agencies to determine if it addresses concerns for aquatic species, including those associated with subterranean karst streams and aquifers.

Karst

The following stream crossings for the MVP are situated on karst-forming carbonate rock and can be characterized by sinkholes, caves, disappearing streams, and large springs. The Virginia DCR Karst staff screened this project against the Virginia Speleological Survey (VSS) database and the Virginia DMME sinkhole coverage for documented sensitive karst features and caves. Based on this review, DCR provides the following comments:

Stream ID S-S5 Stony Creek

The stream bed in the area of the crossing is underlain by coarse alluvial deposits, mainly comprised of sandstone (orthoquartzite) cobbles. In the unlikely event that the trench intersects the underlying Knox Group dolomite bedrock and encounters solutional voids, these should be mitigate using an inverted filter appropriate to the pre-existing hydrology (e.g. features receiving infiltration prior to construction should continue to do so.) If bedrock solution features are encountered that appear to receive or discharge water, the contractor should coordinate with the DCR Karst Protection Coordinator (540-230-5960, Wil.Orndorff@dcr.virginia.gov) for inspection and documentation. No DCR karst conservation sites will be impacted by this crossing.

Stream ID-S-NN17 Sinking Creek

The northwestern bank of the creek crossing is mostly Ordovician limestone bedrock, while the southeastern bank is underlain by alluvial deposits (gravels, sands, cobbles). Care should be taken in particular with the approach from the northwestern side to be aware of potential solution features in the Ordovician limestone, which is one of the most prolific cave-forming units in the area. If bedrock solution features are encountered that appear to receive or discharge water, the contractor should coordinate with the DCR Karst Protection Coordinator (540-230-5960, Wil.Orndorff@dcr.virginia.gov) for inspection and documentation . The crossing is not expected to impact the Clover Hollow Conservation Site, as it lies downstream of the discharge springs from the karst system.

Stream ID S-G36 North Fork Roanoke River

The streambed at the crossing is likely underlain by a combination of alluvial deposits and carbonate bedrock, and is east of the Ordovician Edinburg formation which has some layers with significant karst development. If bedrock solution features are encountered that appear to receive or discharge water, the contractor should coordinate with the DCR Karst Protection Coordinator (540-230-5960, Wil.Orndorff@dcr.virginia.gov) for inspection and documentation. The crossing is not expected to impact any DCR karst related conservation sites, as it lies downstream of the discharge springs from the karst systems in the vicinity.

Stream ID S-NN16 Roanoke River

The north side of the river crossing is underlain by alluvial deposits, while the south side may expose bedrock of the Rome Formation. The potential for karst features in this formation at the crossing site is very low. However, if bedrock solution features are encountered that appear to receive or discharge water, the contractor should coordinate with the DCR Karst Protection Coordinator (540-230-5960, Wil.Orndorff@dcr.virginia.gov) for inspection and documentation. No DCR karst conservation sites will be impacted by this crossing.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at (804-367-2733) or ernie.aschenbach@dwr.virginia.gov). According to the information currently in our files, Craig Creek, which has been designated by the VDWR as a "Threatened and Endangered Species Water" for the James spinymussel is within the submitted project boundary including a 100-foot buffer. Therefore, DCR-DNH recommends coordination with USFWS and VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with protected species legislation. In addition, Bottom Creek, which has been designated by the VDWR as a Threatened and Endangered Species Water" for the Orangefin madtom is within the submitted project boundary including a 100-foot buffer and DCR-DNH recommends coordination with VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). Furthermore, numerous other streams and unnamed tributaries in Table B-1 MVP Project Individual Permit Application: Attachment B support threatened and endangered animal species. Therefore, DCR-DNH recommends coordination with VDWR and USFWS to ensure compliance with protected species legislation.

Division of Dam Safety and Floodplain Management

Floodplain Management Program:
The National Flood Insurance Program (NFIP) is administered by the Federal Emergency Management Agency (FEMA), and communities who elect to participate in this voluntary program manage and enforce the program on the local level through that community's local floodplain ordinance. Each local floodplain ordinance must comply with the minimum standards of the NFIP, outlined in 44 CFR 60.3; however, local communities may adopt more restrictive requirements in their local floodplain ordinance, such as regulating the 0.2% annual chance flood zone (Shaded X Zone).

All development within a Special Flood Hazard Area (SFHA), as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance.

State Agency Projects Only
Executive Order 45, signed by Governor Northam and effective on November 15, 2019, establishes mandatory standards for development of state-owned properties in Flood-Prone Areas, which include Special Flood Hazard Areas, Shaded X Zones, and the Sea Level Rise Inundation Area. These standards shall apply to all state agencies.

1. Development in Special Flood Hazard Areas and Shaded X Zones
    A. All development, including buildings, on state-owned property shall comply with the locally-adopted floodplain management ordinance of the community in which the state-owned property is located and any flood-related standards identified in the Virginia Uniform Statewide Building Code.

B. If any state-owned property is located in a community that does not participate in the NFIP, all development, including buildings, on such state-owned property shall comply with the NFIP requirements as defined in 44 CFR §§ 60.3, 60.4, and 60.5 and any flood-related standards identified in the Virginia Uniform Statewide Building Code.
   (1) These projects shall be submitted to the Department of General Services (DGS), for review and approval.
   (2) DGS shall not approve any project until the State NFIP Coordinator has reviewed and approved the application for NFIP compliance.
   (3) DGS shall provide a written determination on project requests to the applicant and the State NFIP Coordinator. The State NFIP Coordinator shall maintain all documentation associated with the project in perpetuity.
C. No new state-owned buildings, or buildings constructed on state-owned property, shall be constructed, reconstructed, purchased, or acquired by the Commonwealth within a Special Flood Hazard Area or Shaded X Zone in any community unless a variance is granted by the Director of DGS, as outlined in this Order.

The following definitions are from Executive Order 45:

Development for NFIP purposes is defined in 44 CFR § 59.1 as "Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials."

The Special Flood Hazard Area may also be referred to as the 1% annual chance floodplain or the 100-year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study. This includes the following flood zones: A, AO, AH, AE, A99, AR, AR/AE, AR/AO, AR/AH, AR/A, VO, VE, or V.

The Shaded X Zone may also be referred to as the 0.2% annual chance floodplain or the 500- year floodplain, as identified on the effective Flood Insurance Rate Map and Flood Insurance Study.

The Sea Level Rise Inundation Area referenced in this Order shall be mapped based on the National Oceanic and Atmospheric Administration Intermediate-High scenario curve for 2100, last updated in 2017, and is intended to denote the maximum inland boundary of anticipated sea level rise.

"State agency" shall mean all entities in the executive branch, including agencies, offices, authorities, commissions, departments, and all institutions of higher education.

"Reconstructed" means a building that has been substantially damaged or substantially improved, as defined by the NFIP and the Virginia Uniform Statewide Building Code.

<u>Federal Agency Projects Only</u>

Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.

DCR's Floodplain Management Program does not have regulatory authority for projects in the SFHA. The applicant/developer must contact the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. For state projects, DCR recommends that compliance documentation be provided prior to the project being funded.

For federal projects, the applicant/developer is encouraged reach out to the local floodplain administrator and comply with the community's local floodplain ordinance.

To find flood zone information, use the Virginia Flood Risk Information System (VFRIS): www.dcr.virginia.gov/vfris

To find community NFIP participation and local floodplain administrator contact information, use DCR's Local Floodplain Management Directory: www.dcr.virginia.gov/dam-safety-and-floodplains/floodplain-directory

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Cc: Amy Ewing, VDWR
Troy Andersen, USFWS
Wil Orndorff, DCR-Karst

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12/20/21 Revised

FINAL FACT SHEET[1]
Virginia Water Protection (VWP) Individual Permit No. 21-0416
Mountain Valley Pipeline Project, Craig, Franklin, Giles, Montgomery, Pittsylvania, and Roanoke Counties, Virginia

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DEQ has reviewed the application for the VWP Individual Permit No. 21-0416 and has determined that the project qualifies for an individual permit. Pursuant to Va. Code 62.1-44.15:21.J, issuance of the permit shall constitute the certification of any Section 404 permit issued by the USACE that requires Section 401 of the Clean Water Act for the project.

The following details the application review process and summarizes relevant information for developing the Part I - Special Conditions for permit issuance.

1. Contact Information:

Permittee Legal Name and Address:

Mountain Valley Pipeline, LLC
2200 Energy Drive
Canonsburg, PA 15317
Robert Cooper
rcooper@equitransmidstream.com
724-271-7600

Agent Legal Name and Address

Clay Roesler
Tetra Tech, Inc.
661 Anderson Drive, Foster Plaza 7, Suite 200
Pittsburgh, PA 15220
412-921-7090

2. Processing Dates:

Prefiling Meeting Request:	1/26/21
Prefiling Meeting:	2/3/21
Joint Permit Application (JPA) Dated:	2/19/21
Received Joint Permit (JPA) Application:	2/22/21
Received Joint Permit Application (JPA) Number:	3/1/21
Water Quality Certification Request:	3/4/21

[1] Upon final review of all permit documents, revisions were made to the Draft Fact Sheet as incorporated herein. Errors found were corrected; clarifications were made to how attachments, appendices, and tables are referenced; revisions were made for consistency between this Final Fact Sheet and the permit, permit cover page, and transmittal letters; and information was added to reflect the Board's action.

Joint Permit Application (JPA) Complete:	6/4/21
Permit Fee Deposited by Accounting:	6/4/21
Processing Deadline (120 days from Complete JPA):	10/2/21
1st Request for Additional Information Sent:	3/16/21
Final Request for Additional Information Received:	5/14/21
Notification of JPA sent to Local Government(s):	3/30/21
Request for comments sent to VDH, VDWR, VDCR, VMRC:	4/19/21
Letters sent to Riparian Landowners:	4/13/21
Draft Permit Package Issued:	8/20/21
Copy of Public Notice sent to DEQ Central Office:	8/30/21
Public Notice Published:	8/25/21 to 8/28/21
End of 60-Day Public Comment Period:	10/27/21
Received Verification of Publication:	11/10/21
Public Meeting or Hearing:	9/27/21 & 9/28/21
Final Permit Decision:	12/14/21
Water Quality Certification Action Deadline:	12/31/21

3. Project Location and Site Description:

The Mountain Valley Pipeline (MVP) Project is a 42-inch diameter natural gas pipeline approximately 304 miles in length, running from Wetzel County, West Virginia to Transco Village in Pittsylvania County, Virginia. The portion of the project located within Virginia consists of approximately 107 miles of pipeline and 51 miles of access roads in Giles, Craig, Montgomery, Roanoke, Franklin, and Pittsylvania counties. Stationing numbers and mileposts (MP) identified on application map entitled *Mountain Valley Pipeline Project Spreads 8, 9, 10 & 11,* dated July 2018, and *Figure 4. Detail Maps 4-525 through 4-786* of the application provide reference points for locations along the pipeline. *Figure 5. USACE Norfolk District Wetlands and Waterbodies Overview Map* depicts the Project's location in Virginia, including surface waters located within the project's right-of-way.

The portions of this project occurring in uplands are in various states of construction. Generally, the applicant has cleared right-of-way and installed pipeline in the upland areas that do not require permits to impact surface waters. Many of these areas remain cleared and in a state of temporary stabilization as MVP seeks authorization to install the pipeline across streams and wetlands. MVP previously undertook some surface water impacts in Virginia under its original Nationwide Permit 12 authorization. MVP has installed one wetland and three stream crossings in Montgomery County and two wetland and twenty-one stream crossings in Franklin County. The current Virginia Water Protection (VWP) Permit application is for the remaining impacts to state waters associated with pipeline construction, access roads and support activities. The application proposes 428 total surface water impact locations comprised of 315 temporary stream impact locations, 2 permanent stream impact locations, 72 temporary wetland impact locations, 1 permanent fill wetland impact and 38 permanent conversion wetland impacts.

Information for each impact location including county, waterbody, basin, subbasin, section, class, special standards, HUC, latitude, longitude, U.S.G.S. Quadrangle and State Watershed Number are located in Attachment 1 of this document.

In Virginia, the MVP crosses three EPA Level III ecoregions: 1) Ridge and Valley (MPs 191.3 to 238.1), 2) Blue Ridge (MPs 238.1 to 251.7 and 252.0 to 253.5), and 3) Piedmont (MPs 251.7 to 252.0 and 253.5 to 303.5). "*The Ridge and Valley ecoregion is a diverse and extensive region extending from New York south into Alabama. The landscape is a mix of forest, pasture, and cropland. The terrain is northeast-southwest oriented with roughly parallel ridges, rolling valleys, and irregular hills composed of sandstone, shale, limestone, and dolomite. The MVP pipeline route across the Ridge and Valley physiographic region would cross through the Middle New, Upper James, and Upper Roanoke River watersheds.*

The Blue Ridge ecoregion is a narrow region that extends from southern Pennsylvania south into northern Georgia. The terrain is generally rugged with a variety of features including narrow ridges, hilly plateaus, and massive mountainous areas with a landscape a mix of forest, small pasture, fruit orchards, and tree farms. The MVP pipeline route across the Blue Ridge physiographic region would cross through the Upper Roanoke River watershed.

The Piedmont ecoregion is a transitional area between the mountainous Appalachians and the relatively flat coastal plain. The area is comprised of oak-hickory-pine forests with rolling hills and plains dominating the landscape. Much of the region is urbanized with a mix of planted pine, pasture, and cropland (Woods et al., 1999). The MVP pipeline route across the Piedmont physiographic region would cross through the Upper Roanoke River and Banister watersheds."

4. Application

The application was deemed complete based on the information received from the applicant from February 22, 2021, through June 4, 2021, including the request for Section 401 Water Quality Certification submitted on March 4, 2021. This information will be hereto referred to as the "application."

5. Project Purpose:

The applicant describes the Project's purpose and need in the narrative attachment to the Joint Permit Application (JPA) titled "Mountain Valley Pipeline Project Individual Permit Application," dated February 2021 and detailed in the Final Environmental Impact Statement (FEIS)[2]. The overall project purpose is to provide natural gas for use by local distribution companies, industrial users, and power-generation facilities in the Mid-Atlantic, southeastern, and Appalachian markets. The Project will also provide markets along the route access natural gas supplies.

Specifically, the MVP's purpose is to deliver natural gas to five contracted shippers via a pooling point at Transco Station 165 in Pittsylvania County, Virginia. This entails construction of a 42" natural gas pipeline and associated infrastructure from the new Mobley Interconnect in Wetzel County, West Virginia to the WB Interconnect in Braxton County, West Virginia; Greene Interconnect in Monroe County, West Virginia; Roanoke Gas Lafayette Tap in Montgomery County, Virginia; the Roanoke Gas Franklin Tap in

[2] June 23, 2017, MVP FEIS on FERC's website: https://www.ferc.gov/final-environmental-impact-statement-mountain-valley-project-and-equitrans-expansion-project.

Franklin County, Virginia; and finally to the existing Transcontinental Gas Pipe Line Company LLC Station 165 in Pittsylvania County, Virginia.

6. Project Information and History:

On October 23, 2015, Mountain Valley Pipeline, LLC (MVP) filed an application with the Federal Energy Regulatory Commission (FERC) for authorization, pursuant to section 7(c) of the Natural Gas Act, to construct and operate its proposed Mountain Valley Pipeline Project in West Virginia and Virginia. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA), FERC staff evaluated the potential environmental impacts associated with the construction and operation of the MVP Project in an Environmental Impact Statement (EIS). Numerous federal and state agencies including the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA) and the U.S. Department of the Interior (DOI), Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS) participated as cooperating agencies. FERC issued the draft EIS for the project on September 16, 2016, addressing the issues raised during the scoping period and up to the point of publication.

In October 2016, after the issuance of the draft EIS, Mountain Valley filed a number of minor route modifications to address recommendations in the draft EIS, avoid sensitive environmental areas, accommodate landowner requests, or for engineering design reasons. FERC issued a Final Environmental Impact Statement (FEIS) for the Mountain Valley Project in June 2017.

Mountain Valley submitted a Joint Permit Application to the USACE, Virginia Department of Environmental Quality (DEQ), and Virginia Marine Resources Commission (VMRC) on September 11, 2017. On January 23, 2018, the USACE Norfolk District issued a letter to Mountain Valley verifying that the Project complied with all conditions of Nationwide Permit 12 (NWP 12), including the Commonwealth's April 7, 2017, conditional 401 water quality certification for the nationwide permit.

Additionally, due to significant public concern regarding construction of the pipeline raised during 2016-2017, DEQ made the decision to require an upland Section 401 water quality certification (upland 401 certification) for the project. This upland 401 certification included additional conditions to address several unique aspects of the project that are not directly regulated by other regulations or permits, including the Virginia Water Protection Program. The upland 401 certification conditions focused on providing additional protections related to those unique aspects that DEQ believes are necessary in upland areas to minimize potential impacts to water quality. The resources and impacts of concern are karst hydrogeology, private and public water supplies, maximization of riparian forest buffers, surface water withdrawals that are exempt from permitting requirements, minimization of landslide risks related to construction activity on steep slopes, minimization of risks associated with blasting activities, and financial responsibility associated with impacts to private drinking water sources.

Several parties filed a petition in the U.S. Court of Appeals for the Fourth Circuit challenging the Board's decision to issue the upland 401 certification. Following briefing and oral argument, the court denied the petition. An opinion was issued on August 1, 2018, upholding the State Water Control Board's (SWCB) unanimous decision to issue the upland 401 certification (*Sierra Club v. SWCB, 898 F.3d 383 (4th Cir. 2018*).

A number of legal and regulatory events occurred during 2018 that bear on the project history and the status of Project permitting. In the face of continuing opposition and citizen demands, in April 2018, the SWCB directed DEQ to solicit public comment on three issues surrounding the Corps' verification of NWP 12. After the public comment process concluded, the SWCB decided to take no action to amend or modify the 401 certification with respect to MVP's NWP 12 verification.

Also, during 2018, the Virginia General Assembly amended the Code of Virginia to incorporate DEQ's decision to require two Section 401 water quality certifications for natural gas pipeline projects that have an internal diameter greater than thirty six inches. This law became effective on July 1, 2018. The law also requires these projects to obtain an individual Virginia Water Protection Permit rather than be authorized under a general permit. The Board approved the associated amendments to the Virginia Water Protection Permit Program regulations in September 2018.

Additionally, by letter dated October 5, 2018, the USACE suspended MVP's authorization under NWP 12. The suspension was the result of a ruling by the United States Court of Appeals for the Fourth Circuit that vacated the USACE's verification of MVP's compliance with the NWP 12 in West Virginia.

In September 2020, the USACE proposed to re-issue and modify its NWPs, including NWP 12. By letter dated December 21, 2020, DEQ denied Section 401 water quality certification under the NWP 12 specifically "for any applicant to the Federal Energy Regulatory Commission for a certificate of public convenience and necessity pursuant to § 7c of the federal Natural Gas Act (15 U.S.C. § 717f(c)) to construct any natural gas transmission pipeline greater than 36 inches inside diameter, in which case issuance of a Virginia Water Protection Permit pursuant to this article and a certification issued pursuant to Article 2.6 (§ 62.1-44.15:80 et seq.)."

A detailed project history was also provided by the applicant in Section 1.2 of the Individual Permit Application narrative, Attachment B of the application, and the Section 401 water quality certification request.

7. Avoidance and Minimization Efforts:

The VWPP regulations incorporate the requirement of avoidance and minimization in accordance with the federal Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 40 CFR Part 230, also known as the Section 404(b)(1) guidelines (See 9VAC25-210-80 B 1 g) in terms of impacts to surface waters. FERC, the lead federal agency on the MVP Project, issued the *Mountain Valley Project and Equitrans Expansion Project Final Environmental Impact Statement (FERC/FEIS-0272F)* in June 2017.

DEQ has been engaged in the environmental review of the proposed MVP Project (Project) for more than four years. MVP made its initial filing for a Certificate of Public Convenience and Necessity with the Federal Energy Regulatory Commission (FERC) on October 23, 2015. Formal review of multiple environmental aspects of the Project was initiated during the Environmental Impact Review (EIR) process, which is Virginia's opportunity to review and comment upon the draft environmental impact statement (EIS). DEQ reviewed numerous environmental considerations of the Project, including a GIS-based, crossing-by-crossing review of the Project's alignment and many other analyses relevant to the protection of water quality. In fact, comments that DEQ raised during EIR have informed the additional

requirements in the upland 401 certification. FERC released its draft EIS on September 16, 2016. DEQ submitted its comments on the draft EIS to FERC on December 22, 2016.

In addition to DEQ's participation in FERC's environmental review process, inquiries from concerned citizens and affected property owners, local governments, state legislators, and environmental organizations were addressed to DEQ as early as November 2015, just weeks after MVP's initial filing with FERC. After consideration of these inquiries and concerns, by letter dated May 16, 2016, DEQ notified MVP that due to the scope of its proposed pipeline, project-specific erosion and sediment control and stormwater management plans must be submitted to and approved by DEQ. In this letter, DEQ also required that these plans be posted on the MVP website and that all inspection reports, compliant logs, and complaint responses must be submitted to DEQ.

The FERC is the federal agency responsible for authorizing interstate natural gas transmission facilities under the Natural Gas Act and was the lead federal agency for preparation of the FEIS in compliance with the requirements of NEPA. The FEIS established the "preferred alternative that could meet the project purpose" for the project, which resulted in the alignment presented in the Joint Permit Application to DEQ. The application states, "*The CWA requires that the location of discharges authorized under Section 404 be determined through the application of guidelines developed by the USACE and the Environmental Protection Agency (EPA). The guidelines required by Section 404(b), which are set forth at 40 C.F.R. Part 230, require that an applicant demonstrate that the proposed discharge of dredged or fill material is the least environmentally damaging practicable alternative (LEDPA)*".

DEQ assesses VWP Permit applications for whether the application demonstrates that alternatives were evaluated and that proposed alternative is demonstrated to be the LEDPA for any given project. However, with respect to FERC-regulated interstate pipelines, the Virginia code limits the scope of DEQ's review of project alternatives in two material respects. First, Virginia Statute § 62.1-44.15:21, Impacts to wetlands, states, "*Each wetland and stream crossing shall be considered as a single and complete project; however, only one individual Virginia Water Protection Permit addressing all such crossings shall be required for any such pipeline.*" Second, Virginia Statute § 62.1-44.15:81, Application and preparation of draft certification conditions, states, "*No action by either the Department or the Board on a certification pursuant to this article shall alter the siting determination made through Federal Energy Regulatory Commission or State Corporation Commission approval.*"

Therefore, the project's alignment as presented in the application for a VWP Permit has been determined by the FERC to be "*the preferred alternative that could meet the project purpose*," and the Code of Virginia specifically excludes DEQ from evaluating further alignment modifications. In Virginia, the MVP has already installed approximately 78% of the pipeline in the upland portions of the project right-of-way, generally leaving only the jurisdictional water crossings unconstructed. The Application states, *"FERC, as the lead agency, reviewed the no action alternative, alternative modes of transportation, system alternatives, a number of major route alternatives, and over 25 route variations in the FEIS. Based on its technical analysis and comments received, FERC concluded that the proposed Project, with the adoption of one route variation, was the preferred alternative that could meet the project purpose."*

The following is a synopsis of the no action and offsite alternatives evaluated by the applicant that were evaluated prior to the FERC's approval of the current alignment, as presented in the Application, and

detailed in the *Mountain Valley Project and Equitrans Expansion Project Final Environmental Impact Statement (FERC/FEIS-0272F).*

7.1 No Action Alternatives

Alternative # 1 No Action (No Build)

MVP would not construct the Project under The No Action (No Build) Alternative. The applicant explains that this alternative would likely result in other natural gas shippers seeking alternative means to transport the proposed volumes of gas in the market associated with the Project. This, in turn, may result in the expansion of existing natural gas infrastructure and transportation systems that would have associated environmental impacts. The applicant suggests that the No Build Alternative would limit economic growth in the areas proposed for natural gas delivery. Finally, the No Build Alternative does not support the stated purpose of the project, and therefore, is not a practicable alternative.

Alternative # 2 No Action (No Permit) Alternative

Under the No Action (No Permit) Alternative, MVP would construct the Project to avoid all impacts that would require permits from USACE under Clean Water Act (CWA) § 404 and Rivers and Harbors Act (RHA) § 10, and/or DEQ under CWA § 401. MVP explains that there are hundreds of streams within the proposed alignments. Construction with no CWA permits would require a combination of rerouting around resources, installing the pipeline beneath resources and bridging resources with the pipeline. Authorization from the USACE (and VMRC) would be necessary to cross RHA § 10 navigable waters using any of the available crossing methods. This would necessitate avoiding RHA § 10 waters altogether. There are five RHA § 10 waters that the proposed pipeline route crosses, two of which, the Roanoke River and Blackwater River, are in Virginia. Avoiding RHA § 10 waters would require a longer route resulting in increased stream crossings, many of them in mountainous terrain where the topography is often prohibitive to trenchless grossing methods. The applicant concludes *"the inherent engineering and cost challenges that must be overcome to construct the Project in mountainous terrain, attempting to do so while avoiding all stream and wetland impacts likely would prove not only impracticable, but impossible."*

7.2 Natural Gas Transportation Method Alternatives

MVP considered other methods of natural gas transportation besides the transportation of natural gas via underground steel pipelines, including transportation by ships, trucks, and railroads. MVP states in the Application "*While these following options were originally considered in the FEIS, before construction began, it is worth noting that any of the environmental impacts that would result from implementing these alternatives would be in addition to the many environmental impacts of the Project, including tree clearing and WOTUS crossings, that have already occurred.*"

Alternative # 3 Liquid Natural Gas (LNG) Water Vessel Delivery

MVP considered transporting the natural gas by water to terminals via ships. The closest Liquid Natural Gas (LNG) import/export terminal to the Project is the Dominion Cove Point terminal in Calvert County, Maryland.

The Cove Point terminal total capacity (1.8 Bcf/D) is less than the amount proposed by the Project (2.0 Bcf/D). To handle the required volumes of the Project, the Cove Point terminal would have to expand to over double the current size. This expansion would result in temporary and permanent environmental impacts to wetlands and other aquatic resources along the Chesapeake Bay shore. MVP states, "*The regulatory risk of obtaining approvals to expand the terminal, the cost of the expansion, and the many years it would take to complete the expansion appear to present significant obstacles. Accordingly, this option is not an 'available' alternative within the meaning of 40 C.F.R. § 230.10(a)(2).*"

MVP states that even if this alternative were pursued, LNG Truck Delivery, LNG Railroad Delivery and pipeline delivery are not practicable alternatives to transport the Project's volume of gas from the Project terminus in West Virginia to the Cove Point terminal.

MVP states that this alternative would not satisfy the overall project purpose of "*transporting low-cost natural gas produced in the Appalachian Basin to markets in the Mid-Atlantic, Appalachia, and southeastern United States*." The LNG terminals on the East or Gulf coasts capable of importing gas shipped from Cove Point are all significantly further away from the Project's delivery points than the Project terminus in Mobley, West Virginia.

MVP states that this alternative is not less environmentally damaging than the proposed alternative. The Cove Point terminal would have to double its capacity and transportation infrastructure constructed to supply the gas to the intended recipients, resulting in cumulative environmental impacts greater than the impacts of the proposed Project. MVP states, "*Based on the considerations above, the Cove Point LNG alternative is not available, practicable, or less environmentally damaging than the Project.*"

Alternative # 4 LNG Truck Delivery

MVP considered the potential transportation alternative of using trucks to transport LNG on existing roadways. MVP found this alternative to be logistically impracticable because it would require the construction of new natural gas lignification facilities in the Appalachian Basin, new gasification facilities at the delivery points, and new pipeline to deliver the gas to the liquefaction points. MVP anticipates that the required infrastructure expansion under this alternative would have substantial environmental impacts. This alternative would also require MVP to procure 3,182 transportation trucks that would have high maintenance costs and introduce a large volume of truck traffic to the public road systems. MVP concludes that, "*Due to the technical and logistical constraints associated with the construction and operation of new liquefaction and regasification facilities and associated pipelines, this is not a practicable alternative.*"

Alternative # 5 LNG Railroad Delivery

MVP considered the potential transportation alternative of using railroad tanker cars along existing tracks to transport LNG. MVP found this alternative to be logistically impracticable because it would require the construction of new natural gas liquefaction facilities and new gasification facilities at the delivery points, as well as the procurement of railway access and new railway construction. MVP anticipates that the required infrastructure expansion to liquefaction and gasification facilities and the projected requirement of railway extensions under this alternative would have substantial environmental impacts. This alternative would require 779 rail cars and a daily consumption of 95,600 gallons of fuel, resulting in an increase in local air pollution. MVP concludes that, "*The environmental impacts that would result from the implementation of this alternative would be in addition to the many environmental impacts of the Project, including tree clearing and WOTUS crossings, that have already. Therefore, the Project would be less environmentally damaging than this alternative.*"

7.3 System Alternatives

Systems alternatives would use existing and proposed natural gas transmission facilities to meet the Project's purpose. The FERC evaluated existing systems.

Alternative # 6 Existing Systems

- Texas Eastern Pipeline System Alternative
- Columbia Pipeline System Alternative
- East Tennessee Pipeline System Alternative
- Transco Pipeline System Alternative

As detailed in the Application and FEIS, the FERC analysis concluded that using the alternative systems to meet the Project's purpose would result similar or greater environmental impacts as the Project. FERC determined that the system alternatives did not provide the necessary geographic coverage, did not allow for the volumes of gas proposed, would require facility expansion resulting in environmental impacts, added costs and long project delays.

7.4 Route Alternatives Analysis

Alternative # 7 Alternate Routes

MVP's route selection process considered pipeline length, avoidance of major population centers and avoidance of "sensitive areas" or "exclusion areas." The route selection considered avoidance of National Forests, National Parks, The Appalachian National Scenic Trail, and the Blue Ridge Parkway. Where avoidance of these resources was not practicable, MVP sought to find optimal crossing location. Additionally, the route analysis sought to collocate the pipeline with existing utility corridors to minimize the creation of new right-of-way. MVP evaluated collocation opportunities with existing pipelines, major highways and major electric transmission lines.

The initial corridor selection analysis identified 94 potential corridor segments consisting of approximately 2,362 miles of possible pipeline routes. MVP rejected as not practicable initial routes that partially collocated with power transmission lines, because the power lines perpendicular orientation across ridges and slopes "*presented significant construction challenges, as well as a high risk of slope failure and pipeline slips in the side-slope areas once the pipeline was in operation.*" MVP determined that collocation routes on major highways were not practicable due to federal and state constraints on activities within the roads' rights-of-way. MVP determined that location adjacent to highway rights-of-way was not practicable due to "*constructability challenges due to numerous roadway overpasses and underpasses, large interchanges, elevated sections of roadway including bridges, roadway cuts and fills, areas congested with development and homes, and narrow valleys where suitable terrain is already partially or fully encumbered by the roadway.*" MVP also determined that the roadway collocation alternative would be 143 miles longer, affect 2,100 more acres and cross an additional 104 perennial streams than the selected route.

MVP provides the following summary of the route selection process in the Application: "*Between FERC's FEIS and the Supplemental Environmental Impact Statement (SEIS) prepared by the U.S. Forest Service (USFS), the agencies evaluated 27 route alternatives and compared their impacts to the proposed pipeline. With one exception, none of the alternatives were found to be practicable or have less adverse environmental impacts than the proposed Project route. One alternative, Variation 250, was found to be practicable and have less adverse environmental impacts and has therefore been incorporated into the proposed Project route prior to completion of the FEIS. Additional details and maps for these alternatives can be found in the FERC FEIS § 3.4.2 and USFS SEIS § 2.*"

For additional information, see pages 11-23 of the *Mountain Valley Pipeline Project Individual Permit Application* dated February 2021, and pages 3-1 through 3-119 of the *Mountain Valley Project and Equitrans Expansion Project Final Environmental Impact Statement (FERC/FEIS-0272F)*, dated June 2017.

Therefore, the project's alignment as presented in the application for a VWP Permit has been determined by the FERC to be "*the preferred alternative that could meet the project purpose*", and has been incorporated into a certificate order by FERC. As discussed above, Virginia Statute § 62.1-44.15:21 requires that DEQ consider each stream and wetland crossing as a "single and complete project" for the purposes of its review of the application. Additionally, Virginia Statute § 62.1-44.15:81 prohibits DEQ from altering pipeline siting determinations made by FERC."

DEQ provided comments and recommendations to the FERC on December 22, 2016, for the Mountain Valley Project Draft Environmental Impact Statement (FERC/DEIS-DO272, FERC Docket Number CP16-10-000; DEQ 16-194F). These comments and recommendations addressed pre-impact characterization of temporary impact locations, surface water resources, recommended mitigation, and alignment revisions based on a GIS evaluation of each pipeline crossing of a waterbody.

Specific On-site Measures to Reduce Impacts

Beyond the siting determination, avoidance and minimization includes specific on-site measures taken to reduce the size, scope, configuration, or density of the proposed project, which would avoid or result in less adverse impact to surface waters. For the purpose of evaluating on-site avoidance and minimization efforts, DEQ considers each stream and wetland crossing to be a single and complete project. Furthermore, Virginia Statute § 62.1-44.15:21 J 1 requires DEQ to conduct an "individual review" only for any "proposed water body crossing with an upstream drainage area of five square miles or greater." In addition to the GIS-based crossing-by-crossing analysis performed for the FERC DEIS, DEQ also conducted a crossing-by-crossing review of each plan and profile drawing included in the Joint Permit Application.

DEQ Upland Section 401 Water Quality Certification

DEQ issued Section 401 Water Quality Certification No. 17-001 to MVP on December 8, 2017 (upland 401 certification). The upland 401 certification addressed Project activities in upland areas outside of the USACE jurisdictional areas under 33 U.S.C. § 1344 and the VWP Permit Program. The upland 401 certification applies to 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 upland 401 certification covers all relevant upland Project activities within the route identified in the Environmental Impact Statement. The upland 401 certification conditions related to the onsite avoidance and minimization of impacts to surface waters, including wetlands are:

1. 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.

2. 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, notification of FERC approval (and Corps approval, if required) shall be provided to the Department prior to initiating land disturbing activity in that area.

3. 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.

4. 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.

5. All construction and installation associated with the Project, except as permitted by USACE, 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.

6. The Owner shall implement the measures intended to minimize the potential for discharges of soil or rock as detailed in the General Blasting Plan (February 2017) and the Landslide Mitigation Plan Revision 4 (February 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.

DEQ also regulates the potential discharge of sediments from the Project to surface waters through (a) regulations adopted for land-disturbing activities pursuant to the Stormwater Management Act (Va. Code § 62.1-44.15:24, *et seq.*) and Erosion and Sediment Control Law (Va. Code § 62.144.15:51, *et seq.*); and (b) all requirements of the Annual Standards and Specifications applicable to the Project initially approved by the Department on June 20, 2017.

In addition to the on-site avoidance and minimization measures proposed in the Application, DEQ's review of VWP Permit Application 21-0416, and subsequent requests for additional information resulted in the following on-site avoidance and minimization:

- The avoidance of impacts to wetlands W-IJ97 and W-D4, resulting in a reduction of 61 square feet to proposed permanent wetland impacts.

- A revision from permanent impact to temporary impact at wetland W-IJ96PEM, a reduction of 579 square feet to proposed permanent impacts.

- A revision from permanent impact to temporary impact at stream S-IJ85, a reduction of 401 square feet (50 linear feet) to proposed permanent stream impacts.

The VWP Permit application included MVP's evaluation of each surface water crossing of the pipeline for the practicability of using a trenchless crossing method rather than an open cut. Open-cut crossings install the pipeline via a trench excavated in the stream or wetland. Trenchless crossing methods bore or tunnel beneath the surface water resource. Trenchless methods include Horizontal Directional Drilling (HDD), Conventional Bore, Guided Conventional Bore, Microtunneling, and Direct Pipe. The Application's "*Table 15 - Crossing Method Summary*" summarizes MVP's evaluation of using trenchless crossing methods at each surface water crossing to avoid and minimize impacts. MVP considered crossing length, bore-pit depth, stream depth, steep slopes, karst geology, cost, potential for bore failure and unique site-specific constraints. MVP's evaluation identified 236 surface water crossings in Virginia.

Of these 236 crossings, MVP determined that 91 could be crossed using trenchless methods, completely avoiding pipeline impacts to streams and wetlands at those locations.

To minimize the disturbance to surface waters from the construction equipment, the application evaluated whether equipment could access construction areas via the placement of timber mat bridges over streams instead of installing temporary road crossings and using fill material that would then have to be removed. Table B-1 of the Application identifies 317 individual stream impact areas, 315 of which are temporary impacts. Of the 315 temporary stream impact locations reported, the Application identifies 135 that propose the use of timber mats that span the affected stream channels with no direct impact proposed to the streambed.

Although Virginia Statute § 62.1-44.15:21 J 1 requires that DEQ conduct an individual review only for waterbody crossings with a drainage area greater than 5 square miles, DEQ has reviewed each crossing in the Application. Based on DEQ review of the Application, the Department has determined the Application meets the requirement of 9 VAC 25-210-80.B.1.g. in providing an alternatives analysis for the proposed Project detailing the specific on-site and off-site measures taken during project design and development to first avoid and then minimize impacts to surface waters to the maximum extent practicable in accordance with the Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 40 CFR Part 230 in terms of impacts to state waters and fish and wildlife resources.

For the reasons discussed above, DEQ has determined that the alternatives evaluated are not practicable and/or do not meet the Project's purpose and need. Given the requirements under § 62.1-44.15:21 and prohibitions under § 62.1-44.15:81, DEQ has determined the proposed project is the LEDPA.

8. Project Impacts:
The permit authorizes surface water impacts as listed below. In summary, this permit authorizes a total of 9.41 acres of impacts to surface waters consisting of 5.90 acres of wetlands and 3.51 acres (17,128 linear feet) of streams.

Impact Type	Surface Water Type	Impact Authorized	
		Square Feet	Linear Feet
Permanent	Palustrine Emergent Wetland (PEM)	1,707	N/A
	Stream Channel	441	63
	Subtotal	*2,148*	*63*
Conversion	PFO to PEM	51,826	N/A
	PSS to PEM	32,948	N/A
	Subtotal	*84,774*	N/A
Temporary	Palustrine Emergent Wetland (PEM)	170,409	N/A
	Stream Channel	152,684	17,065
	Subtotal	*323,093*	*17,065*
	TOTAL	**410,015 (9.41 Acres)**	**17,128**

The location and dimension of the Authorized surface water impacts shall be as depicted on the impacts maps provided as Figure 4 Detail Maps 4-552 through 4-786, Attachment H-3, entitled Virginia Plan and

Profile Crossing Drawings, Attachment B entitled Table B-1 Virginia Stream Impacts, and Table B-2 Virginia Wetland Impacts, dated February 22, 2021, with latest revisions dated of May 14, 2021, received May 14, 2021.

9. Compensation for Unavoidable Impacts:

The VWP Permit requires the documentation of the purchase of wetland and stream compensation credits for unavoidable permanent impacts.

Mitigation for Permanent Wetland and Stream Impacts

The Joint Permit Application provides documentation of compensatory mitigation for wetland and stream crossings. The applicant has provided compensation for the proposed permanent and conversion wetland impacts through the purchase of 7.1 wetland credits from Banister Bend Farm, LLC Wetland Mitigation Bank in Pittsylvania County, Virginia, purchase agreement dated November 30, 2017. The applicant has provided compensation for the proposed permanent stream impacts through the purchase of 298 stream credits from Graham and David Mitigation Bank, LLC in Montgomery County, Virginia, purchase agreement dated November 30, 2017. The applicant has provided documentation of a reserved purchase of 0.014 wetland credits from Thompson Place Stream and Wetland Mitigation Bank in Blacksburg, VA, credit availability letter dated August 17, 2021.

Banister Bend Mitigation Bank
Mitigation Types: Wetland, Stream
Approval: 2004
Location: Roanoke River basin, HUC 03010105 – Banister River, Pittsylvania County
GSA: 8-digit HUCs 03010101 (Partial), 03010102 (Partial), 03010103, 03010104, 03010105.
Credits released: 76.2 wetland credits, 3,845 stream credits
Credits available (*RIBITS, Nov 11, 2021*): 19.95 wetland credits, 121 stream credits
Mitigation activities: Wetland restoration, wetland enhancement, wetland preservation, stream preservation, buffer restoration, buffer preservation
Performance: According to the most recent monitoring report (2019), wetland mitigation phase I, II, and III of the bank were monitored for the required 10 year period, have attained performance standards, and have been released from monitoring. Phase IB and the stream mitigation areas were in Year 7 of monitoring in 2019, and met most of the performance standards that year. These areas completely met for hydrology and woody stem performance standards, where applicable. A small portion of the vegetation plots did not meet for native herbaceous coverage or invasive species performance standards, and the mitigation sponsor continues with adaptive management for invasive species onsite, in order to meet performance standards in Year 10 (2022).

Graham and David Mitigation Bank
Mitigation Types: Stream
Approval: 2014
Location: Roanoke River basin, HUC 03010101 – Upper Roanoke, Montgomery County
GSA: 8-digit HUCs 03010101, 03010102, 03010103, 03010105.
Credits released: 37,928 stream credits
Credits available (*RIBITS, Nov 11, 2021*): 1,600 stream credits

Mitigation activities: Stream preservation, buffer restoration, buffer preservation, livestock exclusion, watershed protection, rare, threatened and endangered (RTE) species conservation
Performance: According to the most recent monitoring report (2019), the bank was in Year 5 of monitoring, and met most of the performance standards that year. The bank completely met for woody stem performance standards. A small portion of the vegetation plots did not meet for native herbaceous coverage or invasive species performance standards, and the mitigation sponsor continues with adaptive management for invasive species onsite, in order to meet these performance standards in in future monitoring Year 7 (2021) and Year 10 (2024).

Thompson Place Farm Mitigation Bank
Mitigation Types: Wetland, Stream
Approval: 2020
Location: New River basin, HUC 05050001 – Upper New River, Montgomery County
GSA: 8-digit HUCs 05050001, 05050002
Credits released: 0.36 wetland credits, 2,179 stream credits
Credits available (*RIBITS, Nov 15, 2021*): 0.32 wetland credits, 2,156 stream credits
Mitigation activities: Wetland creation, wetland enhancement, stream enhancement, stream preservation, buffer restoration, buffer enhancement, buffer preservation, livestock exclusion.
Performance: The mitigation bank was approved by the Interagency Review Team in 2020. The Sponsor is currently pursuing a Corps Nationwide Permit to construct the first portion of the bank. Construction is proposed to begin in Winter/Spring 2022.

Mitigation for Temporary Wetland and Stream Impacts

Wetland or stream compensation is not required per VWP Permit Program regulations for temporary impacts as the temporary impacts are required to be restored to the pre-construction elevation and reseeded or planted to restore a native wetland or riparian vegetation. The restoration of temporarily impacted surface waters shall be in accordance with the approved *Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework* (*Mitigation Framework*).

MVP prepared the *Mitigation Framework* with input from Potesta & Associates, Inc.; Tetra Tech, Inc.; and Wetland Studies and Solutions, Inc. MVP developed the *Mitigation Framework* in response to comments from the U.S. Environmental Protection Agency (USEPA), and other parties on Mountain Valley's IP application, expressing the need for enhanced baseline data, restoration, monitoring and, potentially, supplemental mitigation for temporary impacts. Per USEPA's recommendation, MVP based the Mitigation Framework on the West Virginia Department of Environmental Protection's West Virginia Stream and Wetland Valuation Metric (SWVM).

The Mitigation Framework incorporates the following elements:
A. Baseline Assessment Plan
B. Restoration Work Plan
C. Performance Standards
D. Monitoring Plan
E. Maintenance & Adaptive Management Plan
F. Supplemental Credit Determination Methodology

The Baseline Assessment Plan identifies the metrics captured for each stream and wetland. The survey information collected under the Baseline Assessment Plan is used to restore streams and wetlands under the Restoration Work Plan. The information is then used to define the restoration success criteria in the Performance Standards, which, in turn, are monitored under the Monitoring Plan. If restoration is not proceeding as intended, the survey information will inform the measures to be taken under the Maintenance & Adaptive Management Plan.

Baseline Assessment Plan

The Baseline Assessment Plan establishes the pre-construction condition of each stream and wetland crossing included in the application. Metrics captured under the plan for wetlands include soil characterization, hydrology indicators, dominant vegetation, and percent of invasive species present. Baseline stream metrics include longitudinal profiles and cross sections, riffle-pool data, pebble counts, vegetation, dissolved oxygen, pH, EPA rapid bioassement data, benthic macroinvertebrate data, and data related to Virginia's Unified Stream Methodology. MVP completed the Baseline Assessment and submitted the data to DEQ in November 2021. Appendix A of the *Mitigation Framework* details the Baseline Assessment Plan.

Restoration Work Plan

The Restoration Work Plan describes the stream and wetland restoration procedures for the streams and wetlands impacted by project construction. The Restoration Work Plan consolidates existing construction and restoration procedures and outlines how MVP will implement the elements of the Mitigation Framework during the post-construction restoration of temporarily impacted streams and wetlands. MVP's *Mitigation Framework* narrative lists the various restoration requirements that already apply to the project and are consolidated within the *Mitigation Framework*. Existing requirements include FERC's *Upland Erosion Control, Revegetation and Maintenance Plan*, FERC's *Wetland and Waterbody Construction and Mitigation Procedures*, site-specific Erosion and Sediment Control Plans and post-construction stormwater management plans approved by DEQ under Mountain Valley's Annual Standards and Specifications. The Restoration Work Plan documents how work crews use the Baseline Assessment data in the field to restore the impacted resources and attain the *Mitigation Framework's* performance standards. Appendix B of the *Mitigation Framework* details the Restoration Work Plan.

Performance Standards

Immediately following construction MVP will restore the temporarily impacted streams and wetlands to their original condition using the baseline data. MVP will then monitor the restoration areas for successful restoration based on performance standards established in the *Mitigation Framework*. If a restored resource is not meeting one or more performance standards during the monitoring period, MVP will perform targeted maintenance and/or adaptive management actions. Restoration of a stream or wetland will be considered successful when post-restoration monitoring demonstrates that the resource has met all relevant performance standards. Appendix C of the *Mitigation Framework* details the performance standards.

Monitoring Plan

Mountain Valley will conduct post-restoration monitoring of each restored stream and wetland in accordance with the Monitoring Plan. The Monitoring Plan details the methodology proposed to ensure that restoration areas are meeting the defined performance standards. MVP anticipates that the monitoring period will last up to three years, or less time if performance standards have been met and DEQ and the Corps agree that successful restoration has been achieved. If the performance standards at a restoration area have not been met after three years, MVP will submit a plan for agency approval proposing corrective actions, which may include continued monitoring.

MVP will submit annual monitoring reports to the appropriate Corps district and DEQ that address the previous year's monitoring activities. Each annual report will include:

- All data collected for each restored stream and wetland site in accordance with the Monitoring Plan;
- Any findings that warrant action under the Maintenance & Adaptive Management Plan and, if necessary, a corrective action plan based on those findings; and
- Recommended determination of whether each monitored site has achieved the applicable performance standards or if additional monitoring is required.

Appendix D of the *Mitigation Framework* details the elements of the Monitoring Plan.

Maintenance and Adaptive Management Plan

MVP will conduct annual maintenance inspections of the stream and wetland restoration areas. MVP will maintain and repair restoration areas as needed during the monitoring period to meet the objectives of the *Mitigation Framework*.

MVP will also conduct maintenance as required for all related erosion and sediment controls and as necessary to comply with stormwater management permits issued for this Project. MVP will promptly conduct all required maintenance, such as invasive-species controls, reseeding/replanting or soil modifications, subject to growing season constraints.

If annual monitoring indicates that a stream or wetland restoration area that is not meeting the performance standards, then MVP will use adaptive management principles to develop a corrective action plan. The proposed plan, including a description of the corrective actions and a timeline to implement them, will be included in the annual monitoring report submitted to DEQ for review. Corrective actions, and any associated supplemental monitoring, may extend beyond the proposed three-year post-construction monitoring period.

If MVP determines that adaptive management has not been and is not likely to be successful in fully restoring an impacted resource, it may propose the purchase of additional compensatory mitigation credits or in-lieu-fee (ILF) payments. Any supplemental credit purchases would be to ensure that the project results in no net loss of aquatic resources. Appendix E of the *Mitigation Framework* details the elements of the Maintenance and Adaptive Management Plan.

Supplemental Credit Determination Methodology

MVP provided compensatory mitigation for all permanent impacts in the form of mitigation bank or ILF credits in appropriate ratios. Per DEQ regulations, restoration is the primary form of compensatory mitigation for temporary impacts. Based on EPA's comments on the MVP Project that were provided to the Corps of Engineers, MVP developed the Supplemental Credit Determination Methodology. The *Mitigation Framework* narrative provides the following description of the methodology:

"To determine the quantity of supplemental mitigation credit, Mountain Valley identified the expected duration of each temporary impact associated with Project construction – which includes the time from when the impact first occurs until it is restored. Because resources are not likely to meet the Performance Standards immediately after they are restored, Mountain Valley added one year of additional compensatory mitigation to stream impacts and two years to wetland impacts. Building on a methodology developed by the West Virginia Interagency Review Team, Mountain Valley proposes to provide supplemental compensatory mitigation at a rate of 3% per year for projected period of potential impact (i.e., sum of direct impacts during construction and post-construction restoration period). This approach to supplemental compensatory mitigation exceeds the applicable federal and state regulatory requirements and the standard practices in each of the respective USACE districts. Most importantly, this proposal provides additional assurance that the goal of "no net loss" will be achieved..."

Appendix F of the *Mitigation Framework* details the elements of the Supplemental Credit Determination Methodology.

DEQ reviewed and provided comment on the Draft Mitigation Framework. MVP submitted a revised version of the *Mitigation Framework* to address comments from DEQ, the Corps and West Virginia Department of Environmental Protection (WVDEP). The revised *Mitigation Framework* is under review, and must be approved before any work is initiated under the VWP permit.

10. Site Inspection:

Starting in 2017 DEQ inspectors and DEQ approved third-party inspectors have conducted ongoing site inspections related to Erosion and Sediment Control plan approvals and compliance at proposed stream and wetland crossings.

11. Relevant Regulatory Agency Comments:

As part of the application-review process, DEQ contacted the appropriate state regulatory agencies. Any relevant agency comments were addressed in the VWP individual permit Part I - Special Conditions. Therefore, staff anticipates no adverse effect on water quality and fish and wildlife resources provided the applicant adheres to all permit conditions.

Summary of State Agency Comments and Actions

By email, dated April 19, 2021, DEQ requested comments from the following state agencies: Virginia Department of Wildlife Resources (VDWR), Virginia Department of Conservation and Recreation

(VDCR), Virginia Marine Resources Commission (VMRC), and Virginia Department of Health (VDH). Failure to provide comments within 45 calendar days of the DEQ request for comments implies that the agency has no comments on the project activities. Final comments were not received from VDWR within the 45 days; however, their draft comments were received on June 3, 2021, within the 45-day review period. VDWR subsequently provided final comments on July 7, 2021. VMRC did not reply with comments; however, VMRC is issuing an MRC Individual Permit for the project. VDCR and VDH replied with comments within the 45-day comment period. A summary of State Agency comments is presented below.

DEQ reviewed the comments from VDCR and VDWR listed below and summarized in the referenced attached tables. Based upon DEQ's review of the comments, some of the comments are addressed by VWP Permit Conditions. Some comments are outside of the scope of VWP Program's statutory and regulatory authority. Compliance with some comments are necessary to protect any potential impacts to rare, threatened or endangered species. The recommendations not addressed in the standard Permit conditions, and appropriate in terms of VWP Permit regulations, are included as a condition of the VWP Permit via Permit Condition E 1 – Wildlife Resources and attached to the Permit as Table 3 located in Appendix 2.

Virginia Department of Conservation and Recreation (VDCR)

DEQ received comments from the VDCR on June 6, 2021. VDCR supports adherence to time-of-year restrictions (TOYRs) for instream work as recommended by the Virginia Department of Wildlife Resources (VDWR) and U.S. Fish and Wildlife Service (USFWS). Specific recommendations made by VDCR are located in Appendix 2. The following general recommendations were also received:

- Due to the legal status of the Roanoke logperch, orangefin madtom, and candy darter, VDCR recommends continued coordination with VDWR and USFWS to ensure compliance with protected species legislation.
- For bat species such as the eastern small-footed bat, the Indiana bat, the little brown bat, the tricolored bat, and the big brown bat, VDCR recommends continued coordination with USFWS and VDWR to ensure compliance with the protected species legislation. Due to the legal status of the tri-colored bat and little brown bat, VDCR recommends coordination with the VDWR, Virginia's regulatory authority for the management and protection of these species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). VDCR recommends avoiding impacts to roost habitats during the summer or winter months.
- To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, VDCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. VDCR recommends adherence to erosion and sediment control measures as required by the U.S. Forest Service, FERC, and DEQ under the DSEIS protective of the downstream, karst resources.
- VDCR recommends adherence to the Emergency Spill Plan (APPENDIX D-2 Spill Prevention, Control, and Countermeasure (SPCC) Plan and Unanticipated Discovery of Contamination Plan for Construction Activities in Virginia) updated in October 20, 2017.

- VDCR supports the monitoring of water quality in these streams, rivers and creeks supporting rare, threatened and endangered resources to identify and address sediment loads during the construction of the Mountain Valley Pipeline.
- The applicant/developer must contact the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. For state projects, VDCR recommends that compliance documentation be provided prior to the project being funded.

Virginia Department of Wildlife Resources (VDWR)

VDWR provided preliminary comments to DEQ by email dated June 3, 2021, and July 7, 2021. VDWR provided final comments in table format on August 6, 2021. Specific recommendations made by VDWR are included in Table 3 in Appendix 2. VDWR also provided the following general recommendations:

- Mussel Surveys (associated with Craig Creek and tributaries): We recommend that a mussel survey be performed from 100 meters upstream through 400 meters downstream of impact areas as noted in the attached spreadsheet. This survey should be performed by a qualified, permitted biologist, preferably no more than six months prior to the start of construction. If mussel relocations are necessary, they should be coordinated with Brian Watson, VDWR Region II Aquatic Resources Biologist (434-525-7522), and no federally listed species should be relocated without first coordinating with the USFWS (804-693-6694). All survey and relocation activities should adhere to the attached guidance. In addition, we recommend a time of year restriction on all instream work (not including any mussel surveys) as depicted in the attached spreadsheet. Survey results should be made available to Amy Martin in VDWR's Headquarters office in Henrico and Brian Watson in VDWR's Forest Office. Upon review of the results, we will make final recommendations regarding the protection of listed species known from the area. All survey reports should reference the ESSLog# displayed in the subject line of this email. If the applicant prefers, they may provide us with good, representative photographs of the impact area(s) for our review. The photos should clearly depict the size of the stream, the substrate type, and the banks up and downstream of the site. Upon review of the photos, we may be able to rule out the need for a mussel survey based on the habitat available on site.

- Stockable Trout Waters: There are a couple crossings of waters designated as stockable trout waters. If instream work in such waters is proposed, we ask that the applicant coordinate with our regional managers to ensure avoidance of any stocking or angling activities. Those contacts are as follows: Jeff Williams, 276-783-4860 or Jeff.Williams@DWR.virginia.gov and Scott Smith, 434-525-7522 or Scott.Smith@DWR.virginia.gov.

- Bored/Drilled crossings: Assuming the sites have been assessed and are appropriate for this method of crossing, that there is a frac-out plan in place, and there is strict adherence to erosion and sediment controls during installation bore pits and associated activities, such crossings do not have to adhere to instream work Time of Year Restrictions (TOYRs).

- Ephemeral/Intermittent streams: If work can be performed when there is no flow in the stream (dry conditions) and erosion and sediment controls are in place during work, TOYRs are not necessary. Placement of cofferdams and installation of pump arounds to create a dry work area/trench in a stream with flow is not considered "dry conditions" and such activities should adhere to any TOYR recommended for the crossing.

- Recommend that instream work be designed and performed in a manner that minimizes impacts upon natural streamflow and movement of resident aquatic species. If a dam and pump-around must be used, we recommend it be used for as limited a time as possible and that water returned to the stream be free of sediment and excess turbidity. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap.

- To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, recommend that such activities occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.

- Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, VDWR prefer stream crossings to be constructed via clear-span bridges. However, if this is not possible, we recommend countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms.

- Recommend the installation of floodplain culverts to carry bankfull discharges.

- Recommend adherence to the attached fish relocation Best Management Practices (BMPs) at all stream crossings.

- Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable; maintain naturally vegetated buffers of at least 100 feet in width around wetlands and on both sides of perennial and intermittent streams.

- Where practicable; conduct significant tree removal and ground clearing activities outside of the primary songbird nesting season of March 15 through August 15.

- Implement and maintain appropriate erosion and sediment controls throughout project construction and site restoration.

- To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap.

Virginia Department of Health (VDH)

VDH provided comments in a memorandum dated June 2, 2021 and transmitted by email on June 2, 2021. VDH identified wells within one a one-mile radius of the project, surface water intakes within a five-mile radius of the project, and watersheds where the project is located that include public water sources. VDH also recommended best management practices be employed including erosion and sediment controls, spill prevention controls and management of materials on site and during transport.

Virginia Marine Resources Commission (VMRC)

VMRC did not reply to the request for comments; however, they have issued an Individual MRC Permit for the Project. The MRC permit is subject to ongoing modifications to change eight stream crossings from open cut to trenchless occurring up to and during the VWP application receipt and processing period.

Summary of Federal Agency Comments and Actions
The project is being reviewed by the USACE for an individual permit, which the USACE public noticed on March 29, 2021.

12. Riparian Landowner Notification:

Staff notified riparian landowners located adjacent to the impact area and within one-half mile downstream of each distinct impact area by letter dated April 13, 2021. Notifications of riparian and adjacent landowners were conducted in accordance with DEQ guidance. The applicant obtained the riparian landowner information from each counties' land records databases as provided by the respective counties, with the exception of Craig County, which does not maintain a land records website. The applicant obtained riparian landowner information for twelve total affected riparian landowners in Craig County through a third-party land records service, and verified the accuracy of those records with the Craig County Commissioner of Revenue's office on August 11, 2021.

The applicant identified 804 riparian parcels affected by the project, presented in *Attachment B-5* of the application. The applicant provided to DEQ unsealed envelopes addressed to each of the property owners identified by the respective county resources. The envelopes contained a notification letter and mapping depicting the affected parcel in relation to the project. For multiple affected parcels with the same owner, the applicant placed the notification letters and mapping into one envelope, resulting in six hundred twenty total envelopes. Prior to sending the notifications, DEQ staff performed a quality control check by randomly selecting 10% of the envelopes and checking them for accuracy against the counties' online land records. DEQ staff sealed the envelopes and mailed them from DEQ Central Office. Of the six hundred and twenty envelopes mailed, eight came back to DEQ marked return to sender, representing approximately 1% of the total envelopes mailed.

13. Public Comment and Public Hearing:

Due to the significant public interest over the life span of the project and during the previous public comment periods, DEQ held two (2) in-person public hearings regarding the proposed issuance of the draft VWP IP No. 21-0416.

Draft Permit and Hearing Public Notice

The public notice of the draft VWP permit and two (2) in-person public hearings was published in fourteen (14) newspapers, between August 25, 2021 and August 28, 2021:

- Franklin News Post
- Smyth County News Messenger
- Floyd Press
- Roanoke Times
- Danville Register & Bee
- Chatham Star Tribune
- Southwest Times
- Virginian Leader
- Salem Times Register
- New Castle Record
- Vinton Messenger
- Fincastle Herald
- News Messenger
- Radford News Journal

Public Hearings

The public hearings were held on September 27, 2021 (Pigg River Community Center, Rocky Mount, VA) and September 28, 2021 (Kyle Hall, Radford University, Radford, VA). Both hearings commenced at 6:00 p.m. EDT, and concluded when all registered speakers had an opportunity to voice their opinions. Both public hearings were held before a quorum of the State Water Control Board. Fifty-four (54) citizens spoke at the September 27, 2021 public hearing, and 49 citizens spoke at the September 28, 2021 public hearing. Transcripts of both public hearings were prepared by a court reporter. Both public hearings were video recorded.

Draft Permit Public Comments

Public comments were accepted between 12:00 a.m. EDT on August 28, 2021 and 11:59 p.m. EDT on October 27, 2021 (60-day comment period). Comments were submitted via postal letters and postcards, hand-delivered notes and letters, electronic mail, petitions, photographs, technical reports, and oral comments at the two hearings.

As of 11:59 p.m. EDT on October 27, 2021, DEQ received over 7,900 public comments. Of the public comments received during the comment period, approximately 7,500 were form letters.

One hundred and twenty (120) comments were received after the public comment period closed at 11:59 p.m. EDT on October 27, 2021.

Of the comments received, approximately 5,300 support the Project and 2,400 oppose it.

Environmental Protection Agency's Letter to the U. S. Army Corps of Engineers

On March 29, 2021, the U.S. Army Corps of Engineers (USACE) public noticed their receipt of an application to construct the Project. On May 27, 2021, the Environmental Protection Agency (EPA) submitted a letter to USACE providing their comments on the Project. During DEQ's public comment period for the VWP draft permit, DEQ received numerous submissions that referenced or attached EPA's entire letter to the USACE. Because DEQ received EPA's letter through our public comment process, we provided a separate response addressing EPA's comments to USACE.

DEQ responses to comments received during the 60-day public comment period, and a separate response to the May 27, 2021 EPA comment letter to USACE, are attached to this Fact Sheet.

In response to citizen comments, DEQ made the following changes to the draft permit Special Conditions:

C. Standard Project Conditions

6. Except for temporary impacts authorized by this permit, continuous flow of perennial springs shall be maintained by the installation of spring boxes, French drains, or other similar structures as approved in the stream and wetland restoration plan (*Mitigation Framework*).
7. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity. Any dredge material dewatering area shall be of adequate size to contain the dredge material and to allow for adequate dewatering and settling out of sediment prior to discharge back into state waters. Runoff from precipitation shall be diverted around the dewatering area.

D. Installation of Utilities and Temporary Impacts

2. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area. Temporarily disturbed surface waters shall be restored in accordance with this Permit, Virginia Water Protection Permit regulations, and the approved stream and wetland restoration plan (*Mitigation Framework*), unless otherwise authorized by this permit.
6. All materials (including fill, construction debris and materials, excavated materials, and woody materials, that are temporarily placed in wetlands, in stream channels, or on stream banks) shall be placed on mats or geotextile fabric, shall be immediately stabilized to prevent the material or leachate from entering surface waters, and shall be entirely removed within 90 calendar days following completion of that construction activity. After removal, disturbed areas shall be returned to original contours, shall be stabilized, and shall be restored to the original vegetated state in accordance with the a stream and wetland restoration plan (*Mitigation Framework*) to be approved by the Department.
8. All temporarily disturbed wetland areas shall be restored to their original elevations and contours. The restoration work shall be completed as approved by DEQ in the stream and wetland restoration plan (*Mitigation Framework*).
9. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours. All temporarily impacted wetlands shall be restored to their pre-construction conditions. The restoration ~~work~~, as defined in 9VAC25-210-10, shall be completed as approved by DEQ in the stream and wetland restoration plan (*Mitigation Framework*). The *Mitigation Framework* shall be approved by DEQ in writing prior to initiating impacts authorized by this Permit. Any revisions to the

Mitigation Framework shall be submitted for DEQ review and approval prior to implementing the revision(s). The *Mitigation Framework* shall include:

~~10. Submit a stream and wetland restoration plan (Plan) to DEQ for review and approval prior to initiation of construction activities in wetlands or stream channels. The Plan shall be approved by DEQ in writing prior to initiating impacts authorized by this Permit. The Plan shall establish site-specific methodologies and requirements sufficient to demonstrate successful restoration of temporarily impacted streams and wetlands to pre-construction conditions. The Plan shall include:~~

a. A pre-construction wetland and stream assessment, including contours, elevations, stream geomorphology, vegetation survey and other information sufficient to establish baseline conditions at each temporary impact area;

b. Temporary impact area restoration methods;

c. Re-vegetation plan;

d. Criteria for successful restoration;

e. A monitoring schedule and report format to document attainment of success criteria;

f. A corrective action strategy for areas not meeting the success criteria; and,

g. A supplemental compensatory mitigation strategy addressing temporal loss of stream and wetland functions.

E. Wildlife Resources

~~1.~~ The permittee shall implement the time of year restrictions (TOYR) on in-stream construction that have been recommended and approved by the Virginia Department of Wildlife Resources (VDWR), and conditions recommended and approved by the Virginia Department of Conservation and Recreation (VDCR) as specified in ~~Table 3,~~ and attached to this permit ~~in~~as Appendix 2. The permittee shall notify the Department within three business days of any subsequent revisions or addenda to Table 3 that are approved or required by VDWR and/or VDCR and shall post the most current information on their website at https://www.mountainvalleypipeline.info/news-info/. TOYR and coordination are not necessary if ~~constructed~~construction is conducted via ~~bore~~boring, unless an instream impact is associated with the boring.

J. Compensatory Mitigation

1. The Joint Permit Application provides documentation of compensatory mitigation for wetland and stream crossings. The applicant has provided compensation for the proposed permanent and conversion wetland impacts through the purchase of 7.1 wetland credits from ~~Bannister~~Banister Bend Farm, LLC Wetland Mitigation Bank in Pittsylvania County, Virginia, purchase agreement dated November 30, 2017. The permittee has provided compensation for the proposed permanent stream impacts through the purchase of 298 stream credits from Graham and David Mitigation Bank, LLC in Montgomery County, Virginia, purchase agreement dated November 30, 2017. The applicant has provided documentation of a reserved purchase of 0.014 wetland credits from

Thompson Place Stream and Wetland Mitigation Bank in Blacksburg, VA, credit availability letter dated August 17, 2021.

2. To fulfill any additional mitigation requirements of this permit in accordance with 9VAC25-210 et seq. and § 62.1-44.15:23 of the Code of Virginia, the permittee shall first purchase available mitigation bank released credits. The permittee shall then fulfill its remaining credit obligation through the purchase of released mitigation credits from an ILF program. The permittee shall then fulfill its remaining credit obligation through the purchase of advance mitigation credits from an ILF program.

   If the permittee proposes to purchase credits from an ILF program, no more than 45 days prior to initiating work within impact areas authorized by the permit, the permittee shall determine the availability of any mitigation bank released credits with a service area that covers the project and submit its proposed mitigation credit sources to DEQ for approval. Within 15 calendar days of receipt, DEQ shall review and provide any objections to the proposal, or the proposal shall be deemed approved.

   Documentation of the purchase of any required mitigation credits shall be submitted to and received by DEQ prior to initiating work in the impact areas authorized by this permit.

   For the period ending December 31 of each calendar year, the permittee shall submit to DEQ by January 15th a summary of the amount of surface water impacts initiated; the amount of compensation completed and compensation requirement remaining; the status of initiating any remaining surface water impacts; and the status of completing any remaining compensation requirement.

K. Other Regulatory Actions

2. This permit incorporates by reference all conditions of ~~the latest~~any DEQ approved revision of the Annual Standards and Specifications pertaining to work within and around wetlands and streams.

3. This permit incorporates by reference all ~~requirements~~conditions of ~~the latest~~any DEQ approved revisions ~~of the DEQ approved~~to the Erosion and Sediment Control General Details, Erosion and Sediment Control Narrative, and Erosion and Sediment Control Plan drawings that pertain to work within and around wetlands and stream crossings.

14. Special Conditions:

The following conditions were developed to protect instream beneficial uses, to ensure compliance with applicable water quality standards, to prevent significant impairment of state waters or fish and wildlife resources, to provide for no net loss of wetland acreage, and to provide no net loss of functions in all surface waters through compensatory mitigation and monitoring and reporting.

Section A Authorized Activities

Nos. 1-4 addresses the activities authorized by this permit, including impact types and limits. No. 1 references Table 1 Stream Impacts and Table 2 Wetland Impacts, located in Appendix 1 of the permit.

Section B Permit Term

Nos. 1-2 addresses the permit term and re-issuance process to ensure that all permit conditions are completed. The draft permit term is set at 10 years.

Section C Standard Project Conditions

No. 1 addresses the requirement for the minimization of adverse impacts to instream beneficial uses.
No. 2 ensures that the project will be executed in a manner that limits the disruption of the movement of aquatic life.
No. 3 ensures that downstream flows will be maintained to protect both instream and off-stream beneficial uses.
No. 4 ensures the minimization of adverse effects on navigation.
No. 5 ensures the passage of high flows.
No. 6 requires maintenance of continuous flow of perennial springs for the protection of instream beneficial use except for temporary impacts authorized by this permit.
No. 7 ensures that dredging and filling operations will minimizes stream bottom disturbances and turbidity.
No. 8 requires instream activities to be conducted during low-flow conditions to protect instream beneficial uses.
No. 9 requires erosion and sedimentation controls to be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.
Nos. 10 through 12 provide requirements and limitations on the entry of various materials (including concrete, fill, construction and waste material, fuels, lubricants, and untreated stormwater runoff) into state waters.
Nos. 13 through 14 limits the use of machinery and equipment in surface waters to protect beneficial uses.
No. 15 prohibits the violation of Water Quality Standards in surface waters as a result of project activities.
No. 16 requires the identification of all non-impacted surface waters in the vicinity of the proposed activity to prevent unpermitted impacts.
Nos. 17 through 20 set forth all reporting requirements concerning construction, monitoring, compensation, and restoration as required by current law and regulations.

Section D Installation of Utilities and Temporary Impacts

No. 1 sets forth permit conditions as required by the regulatory requirements for natural gas pipelines.
No. 2 requires the minimization of disturbance to surface waters and restoration to preconstruction conditions following utility line installation.
No. 3 sets a 90-day time limit for temporary sidecasting during trench excavation to minimize impacts to surface waters.
No. 4 provides the requirements for trench construction to avoid the drainage of surface waters.
No. 5 through 9 require temporary disturbances to surface waters during construction to be avoided and minimized to the maximum extent practicable and the restoration of such temporary disturbances; and require submission of a temporary stream and wetland impact restoration plan to DEQ for review and approval prior to initiation of construction activities in in wetlands or stream channels, and specifies the required elements of the plan.

Section E ***Wildlife Resources***

Requires that the permittee adhere to time-of-year restrictions recommended by the Department of Wildlife Resources for the protection of fish and wildlife resources, and the recommendations of the Department of Conservation and Recreation, as presented in Appendix 2. This condition sets the approval process for revisions to TOYRs and requires the creation of a public webpage to host the latest revisions to Table 3.

Section F ***Stream Modifications, Including Intake/Outfall Structures***

No. 1 prohibits the use of stream substrate for erosion control to avoid additional impacts to state waters.
No. 2 requires upland disposal of material removed from stream substrate to avoid unpermitted impacts to surface waters.
No. 3 ensures riprap placement conforms to current law and regulation.
Nos. 4 and 5 direct the placement and contents of materials for the construction of submerged structures, and on-bank storage and staging of materials, to protect water quality and fish and wildlife resources.

Section G ***Road Crossings***

No. 1 provides specifications for access road construction to minimize adverse effects to surface waters.
No. 2 ensures pipes and culvert construction is conducted in the dry to protect water quality and wildlife habitat.
No. 3 requires that temporary impacts be restored immediately following construction to minimize impacts to water quality and fish and wildlife resources.
No. 4 requires measurement of stream bottom elevations at permanent road crossings S-H42 (VWP No. S-314) and S-IJ16a (VWP No. S-60) to ensure for the re-establishment of a natural stream bottom and low flow channel to maintain instream beneficial uses. The intent of this condition is to maintain a hydrologic connection and enable the stream bottom to reestablish in the culvert.
No. 5 summarizes requirements for pipe and culvert placement and countersinking to provide for the re-establishment of a natural stream bottom and low flow channel to maintain instream beneficial uses.
No. 6 dictates when and how stream bottom elevations at road crossings shall be measured.

Section H ***Stormwater Management Facilities***

No. 1 defines the general requirements for stormwater management facility construction to minimize adverse effects to aquatic resources and provide for long-term aquatic resources protection and enhancement.
No. 2 provides limits and guidance for maintenance excavation to avoid unpermitted impacts to surface waters.
No. 3 requires correct draining methods to minimize sedimentation of surface waters.

Section I ***Project Construction Monitoring and Submittals (Impact Site)***

Nos. 1 through 6 address monitoring and submittals required for pre-construction, during construction and post-construction for the impact areas on site.

Section J ***Compensatory Mitigation***

No. 1 references the documentation included in the application that establishes the applicant's purchase of 7.1 wetland credits from Banister Bend Farm, LLC Wetland Mitigation Bank in Pittsylvania County, Virginia, 298 stream credits from Graham and David Mitigation Bank, LLC in Montgomery County, Virginia, and documentation of a reserved purchase of 0.014 wetland credits from Thompson Place Stream and Wetland Mitigation Bank in Blacksburg, VA.
No. 2 provides the requirement to fulfill any additional mitigation requirements of this permit in accordance with 9VAC25-210 et seq. and § 62.1-44.15:23 of the Code of Virginia.

Section K ***Other Regulatory Actions***

No. 1 incorporates by reference the conditions set forth in Section IV(b)(2) and Section IV(c) of the Consent Decree between Mountain Valley Pipeline, LLC and DEQ, dated December 11, 2019.
No. 2 incorporates by reference all conditions of the latest DEQ approved revision of the Annual Standards and Specifications pertaining to work within and around wetlands and streams.
No. 3 incorporates by reference all requirements of the latest revisions of the DEQ approved Erosion and Sediment Control General Details, Erosion and Sediment Control Narrative, and Erosion and Sediment Control Plan drawings that pertain to work within and around wetlands and stream crossings.

15. General Conditions:

The general conditions specified in the effective VWP Permit Program Regulation 9VAC25-210 apply to all VWP individual permits.

16. General Criteria (9VAC25-260-20.A):

State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations that contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life.

Specific substances to be controlled include, but are not limited to, floating debris, oil, scum, and other floating materials; toxic substances (including those which bioaccumulate); substances that produce color, tastes, turbidity, odors, or settle to form sludge deposits; and substances which nourish undesirable or nuisance aquatic plant life. Effluents which tend to raise the temperature of the receiving water will also be controlled. Conditions within mixing zones established according to 9VAC25-260-20.B do not violate the provisions of this subsection.

17. Staff Findings and Recommendations:

- The proposed activity is consistent with the provisions of the Clean Water Act and State Water Control Law, and will protect instream beneficial uses.

- The proposed permit addresses avoidance and minimization of wetland impacts to the maximum extent practicable.

- The effect of the impact, together with other existing or proposed impacts to streams and wetlands, will not cause or contribute to significant impairment of state waters or fish and wildlife resources.

- Discharges from the proposed activity will comply with applicable water quality requirements.

- The proposed permit conditions address no net loss of wetland acreage and no net loss of functions in all surface waters through compensatory mitigation, and adequately assess compensation implementation via success monitoring and reporting.

- The draft permit reflects the required consultation with and full consideration of the written recommendations of VMRC, VDH, VDCR, and VDWR. The staff invited, but did not receive, comments from VMRC, which is reviewing the project through its own permitting process.

18. Action by the State Water Control Board

At the State Water Control Board's meeting on December 14, 2021, the Department of Environmental Quality (Department) recommended that:

Based on (i) the Board book materials, including revised draft VWP permit no. 21-0416 and fact sheet; (ii) public comments made at the September 27, 2021 and September 28, 2021 public hearings; (iii) written comments received during the 60-day public comment period; (iii) staff responses to public comments; (iv) staff presentation, (v) Board discussions, and (vi) agency files on the draft permit, the Board

1. Find that:
   A. The permit has been prepared in conformance with all applicable statutes, regulations, and agency practices;
   B. The proposed activity is consistent with the provisions of the Clean Water Act and State Water Control Law and there is reasonable assurance that compliance with the permit will protect instream beneficial uses, and will not violate applicable water quality standards;
   C. The proposed permit addresses avoidance and minimization of surface water impacts to the maximum extent practicable;
   D. The effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to significant impairment of state waters or fish and wildlife resources;
   E. The proposed permit conditions are sufficient to achieve no net loss of wetland acreage and function through compensatory mitigation;
   F. The permit is designed to prevent unpermitted impacts;
2. Approve VWP permit 21-0416 with conditions, as contained in the Board book.
3. Authorize the Director to issue the final permit, as approved by the Board.

The Board, by a vote of 3 to 2 (Ms. Wallace, Mr. Hayes and Dr. Lanier voted aye and Ms. Jasinski and Mr. Seiger voted nay):

1. Adopted the Department's recommended findings and basis for their decision as described in the fact sheet as the Board's written findings and directed that the recommendations be put into the record as the Board's written findings;
2. Approved Virginia Water Protection Permit 21-0416 with the conditions as contained in the Board book and incorporated the permit and fact sheet as contained in the Board book into the Board's record; and
3. Authorized the Director to issue the final permit, as approved by the Board.

ATTACHMENT 1

County	NHD Stream Name1	Basin	Subbasin	Section	Class	Special Standards	HUC 8	Latitude2	Longitude2	USGS Quad	State Watershed No.	WQS_ID	WQA Water Name	Trout	Stream Type
Giles	UNT to Kimballton Branch	New River Basin	New River Subbasin	1d	IV	u	05050002	37.375311	-80.680878	LINDSIDE	NE75	RL_09_043147	Stony Creek Tributaries		Intermittent
Giles	Kimballton Branch	New River Basin	New River Subbasin	1d	IV	u	05050002	37.374377	-80.682038	PEARISBURG	NE75	RL_09_043001	Kimballton Branch		Perennial
Giles	UNT to Stony Creek	New River Basin	New River Subbasin	1d	IV	u	05050002	37.362202	-80.688092	PEARISBURG	NE75	RL_09_043129	Stony Creek Tributaries		Intermittent
Giles	Stony Creek	New River Basin	New River Subbasin	1d	V		05050002	37.360325	-80.684214	PEARISBURG	NE75	RL_09_043041	Stony Creek Lower 1	Yes	Perennial
Giles	Stony Creek	New River Basin	New River Subbasin	1d	V		05050002	37.360276	-80.684193	PEARISBURG	NE75	RL_09_043041	Stony Creek Lower 1	Yes	Perennial
Giles	Stony Creek	New River Basin	New River Subbasin	1d	V		05050002	37.360071	-80.68396	PEARISBURG	NE75	RL_09_043041	Stony Creek Lower 1	Yes	Perennial
Giles	UNT to Dry Branch	New River Basin	New River Subbasin	1	IV	u	05050002	37.35043	-80.658259	PEARISBURG	NE74	RL_09_043032	New River/Little Stony Creek		Intermittent
Giles	UNT to Dry Branch	New River Basin	New River Subbasin	1	IV	u	05050002	37.350373	-80.65823	PEARISBURG	NE74	RL_09_043032	New River/Little Stony Creek		Intermittent
Giles	Dry Branch	New River Basin	New River Subbasin	1	IV	u	05050002	37.349095	-80.65204	PEARISBURG	NE74	RL_09_042960	New River/Little Stony Creek		Intermittent
Giles	UNT to Dry Branch	New River Basin	New River Subbasin	1	IV	u	05050002	37.348641	-80.647225	PEARISBURG	NE74	RL_09_042960	New River/Little Stony Creek		Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.344876	-80.633426	PEARISBURG	NE74	RL_09_042990	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.344859	-80.631295	PEARISBURG	NE74	RL_09_042990	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.344779	-80.633379	PEARISBURG	NE74	RL_09_042990	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.344278	-80.626185	PEARISBURG	NE74	RL_09_043176	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.344277	-80.626113	PEARISBURG	NE74	RL_09_043176	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.344163	-80.6284	PEARISBURG	NE74	RL_09_043176	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.342351	-80.620823	EGGLESTON	NE74	RL_09_043164	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.342236	-80.620542	EGGLESTON	NE74	RL_09_043164	Little Stony Creek Tributaries	Yes	Intermittent
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.342214	-80.620312	EGGLESTON	NE74	RL_09_063957	Little Stony Creek Middle	Yes	Perennial
Giles	Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.342172	-80.62009	EGGLESTON	NE74	RL_09_063957	Little Stony Creek Middle	Yes	Perennial
Giles	UNT to Little Stony Creek	New River Basin	New River Subbasin	1d	VI		05050002	37.340977	-80.618031	EGGLESTON	NE74	RL_09_063957	Little Stony Creek Middle	Yes	Perennial
Giles	Doe Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.338952	-80.614618	EGGLESTON	NE74	RL_09_063924	New River/Little Stony Creek		Intermittent
Giles	UNT to Doe Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.337763	-80.606008	EGGLESTON	NE74	RL_09_063958	New River/Little Stony Creek		Intermittent
Giles	UNT to Doe Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.337639	-80.605571	EGGLESTON	NE74	RL_09_063958	New River/Little Stony Creek		Intermittent
Giles	UNT to Doe Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.335094	-80.596868	EGGLESTON	NE74	RL_09_063960	New River/Little Stony Creek		Intermittent
Craig	Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.333152	-80.429438	NEWPORT	NE64	RL_09_064516	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.332869	-80.559168	EGGLESTON	NE65	RL_09_063965	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.332191	-80.559979	EGGLESTON	NE65	RL_09_063936	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.332146	-80.560079	EGGLESTON	NE65	RL_09_063936	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Doe Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.331748	-80.583355	EGGLESTON	NE74	RL_09_063934	New River/Little Stony Creek		Intermittent
Giles	Doe Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.331332	-80.583047	EGGLESTON	NE74	RL_09_063940	Doe Creek		Intermittent
Craig	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.328329	-80.42281	NEWPORT	NE64	RL_09_064455	Sinking Creek Tributaries		Intermittent
Craig	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.326705	-80.425803	NEWPORT	NE64	RL_09_064455	Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.326015	-80.556831	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.325728	-80.565082	EGGLESTON	NE65	RL_09_063936	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.325638	-80.56468	EGGLESTON	NE65	RL_09_063936	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.325607	-80.564373	EGGLESTON	NE65	RL_09_063936	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.325566	-80.564634	EGGLESTON	NE65	RL_09_063936	New River & Sinking Creek Tributaries		Intermittent
Craig	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.324781	-80.431446	NEWPORT	NE64	RL_09_064455	Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.323702	-80.555627	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.323533	-80.555257	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.322737	-80.552396	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.322194	-80.553058	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.321823	-80.55311	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.321756	-80.553011	EGGLESTON	NE65	RL_09_063937	New River & Sinking Creek Tributaries		Intermittent
Montgomery	UNT to Craig Creek	James River Basin	Upper James River Subbasin	12	IV		02080201	37.32109	-80.412831	NEWPORT	JU41	RL_2A_064368	Craig Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.318956	-80.440648	NEWPORT	NE64	RL_09_064526	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.31893	-80.44093	NEWPORT	NE64	RL_09_064526	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.318647	-80.441619	NEWPORT	NE64	RL_09_064526	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.318324	-80.54772	EGGLESTON	NE65	RL_09_063972	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.318246	-80.547711	EGGLESTON	NE65	RL_09_064023	Sinking Creek Tributaries		Intermittent
Montgomery	UNT to Craig Creek	James River Basin	Upper James River Subbasin	12	IV		02080201	37.317187	-80.409235	NEWPORT	JU41	RL_2A_064348	Craig Creek Tributaries		Intermittent
Montgomery	UNT to Craig Creek	James River Basin	Upper James River Subbasin	12	IV		02080201	37.316523	-80.408646	NEWPORT	JU41	RL_2A_064348	Craig Creek Tributaries		Intermittent
Montgomery	Craig Creek	James River Basin	Upper James River Subbasin	12	V		02080201	37.314504	-80.402613	NEWPORT	JU41	RL_2A_064327	Craig Creek	Yes	Perennial
Montgomery	UNT to Craig Creek	James River Basin	Upper James River Subbasin	12	IV		02080201	37.31391	-80.398683	NEWPORT	JU41	RL_2A_064358	Craig Creek Tributaries		Intermittent
Montgomery	UNT to Craig Creek	James River Basin	Upper James River Subbasin	12	IV		02080201	37.313615	-80.402521	NEWPORT	JU41	RL_2A_064365	Craig Creek Tributaries		Intermittent
Montgomery	Craig Creek	James River Basin	Upper James River Subbasin	12	V		02080201	37.313511	-80.404606	NEWPORT	JU41	RL_2A_064308	Craig Creek	Yes	Perennial
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.311735	-80.532304	EGGLESTON	NE65	RL_09_063927	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.31173	-80.544091	EGGLESTON	NE65	RL_09_063970	New River & Sinking Creek Tributaries		Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.31173	-80.544091	EGGLESTON	NE65	RL_09_063970	New River & Sinking Creek Tributaries		Intermittent
Giles	Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.311616	-80.515786	EGGLESTON	NE65	RL_09_064074	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.307524	-80.466665	NEWPORT	NE64	RL_09_064495	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	V		05050002	37.305508	-80.467231	NEWPORT	NE64	RL_09_064495	Sinking Creek Middle	Yes	Artificial Path
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.300454	-80.472911	NEWPORT	NE64	RL_09_064475	Sinking Creek Tributaries		Intermittent
Montgomery	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.299397	-80.391243	NEWPORT	RU06	RL_4A_064396	Unnamed tributary	Yes	Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.298226	-80.480624	NEWPORT	NE64	RL_09_064472	Sinking Creek Tributaries		Intermittent
Montgomery	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.297166	-80.386612	NEWPORT	RU06	RL_4A_064385	Mill Creek	Yes	Intermittent
Giles	Greenbriar Branch	New River Basin	New River Subbasin	1	IV	u	05050002	37.296666	-80.494174	NEWPORT	NE64	RL_09_063963	New River & Sinking Creek Tributaries		Perennial
Giles	UNT to Greenbriar Branch	New River Basin	New River Subbasin	1	IV	u	05050002	37.296612	-80.494165	NEWPORT	NE64	RL_09_063963	New River & Sinking Creek Tributaries		Perennial
Montgomery	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.296356	-80.375118	NEWPORT	RU06	RL_4A_064392	Mill Creek	Yes	Intermittent
Giles	UNT to Sinking Creek	New River Basin	New River Subbasin	1	IV	u	05050002	37.296226	-80.481455	NEWPORT	NE64	RL_09_064472	Sinking Creek Tributaries		Intermittent
Montgomery	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.296153	-80.36751	MCDONALDS MILL	RU06	RL_4A_064391	Mill Creek	Yes	Intermittent
Montgomery	Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.295743	-80.375921	NEWPORT	RU06	RL_4A_064385	Mill Creek	Yes	Intermittent
Montgomery	North Fork Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.268586	-80.313161	MCDONALDS MILL	RU06	RL_4A_052011	Roanoke River, North Fork Upper Middle		Perennial
Montgomery	UNT to North Fork RoanokeRiver	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.264817	-80.308486	MCDONALDS MILL	RU06	RL_4A_052073	N.F. Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.258717	-80.29321	MCDONALDS MILL	RU07	RL_4A_052203	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.258673	-80.296446	MCDONALDS MILL	RU07	RL_4A_052203	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.258403	-80.288186	MCDONALDS MILL	RU07	RL_4A_052249	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.258198	-80.286029	MCDONALDS MILL	RU07	RL_4A_052252	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.258176	-80.289222	MCDONALDS MILL	RU07	RL_4A_052249	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.257998	-80.284735	MCDONALDS MILL	RU07	RL_4A_052252	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.25726	-80.281611	MCDONALDS MILL	RU07	RL_4A_052228	North Fork Roanoke River Tribs.		Intermittent
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.257133	-80.281475	MCDONALDS MILL	RU07	RL_4A_052228	North Fork Roanoke River Tribs.		Intermittent

County	NHD Stream Name1	Basin	Subbasin	Section	Class	Special Standards	HUC 8	Latitude2	Longitude2	USGS Quad	State Watershed No.	WQS_ID	WQA Water Name	Trout	Stream Type
Montgomery	UNT to Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.256959	-80.280329	MCDONALDS MILL	RU07	RL_4A_052228	North Fork Roanoke River Tribs.		Intermittent
Montgomery	Flatwoods Branch	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.256387	-80.278021	MCDONALDS MILL	RU07	RL_4A_052167	Roanoke River, North Fork/Bradshaw Creek		Intermittent
Montgomery	UNT to Bradshaw Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.254342	-80.267895	MCDONALDS MILL	RU08	RL_4A_052151	Roanoke River, North Fork/Bradshaw Creek		Intermittent
Montgomery	UNT to Bradshaw Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.254135	-80.266743	MCDONALDS MILL	RU08	RL_4A_052245	Bradshaw Creek Tribs.		Intermittent
Montgomery	Bradshaw Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.251791	-80.25899	MCDONALDS MILL	RU08	RL_4A_052168	Bradshaw Creek		Perennial
Montgomery	UNT to Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7b	IV	PWS pH-6.5-9.5,	03010101	37.244319	-80.206995	ELLISTON	RU09	RL_4A_052635	Roanoke River Tributaries sec. 7b		Intermittent
Montgomery	UNT to Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7b	V	PWS pH-6.5-9.5,	03010101	37.231693	-80.198778	ELLISTON	RU09	RL_4A_052939	Roanoke River	Yes	Artificial Path
Montgomery	UNT to Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7b	V	PWS pH-6.5-9.5,	03010101	37.231179	-80.19846	ELLISTON	RU09	RL_4A_052939	Roanoke River	Yes	Artificial Path
Montgomery	UNT to South Fork Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7b	V	PWS pH-6.5-9.5,	03010101	37.229764	-80.201144	ELLISTON	RU09	RL_4A_052939	Roanoke River	Yes	Artificial Path
Montgomery	UNT to Indian Run	Roanoke River Basin	Roanoke River Subbasin	7b	IV	PWS pH-6.5-9.5,	03010101	37.216102	-80.19739	ELLISTON	RU05	RL_4A_052716	Roanoke River, South Fork UT PWS Sec. 7b Tributaries		Intermittent
Montgomery	UNT to Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7b	IV	PWS pH-6.5-9.5,	03010101	37.210922	-80.193318	ELLISTON	RU09	RL_4A_052836	Roanoke River Tribs.		Intermittent
Montgomery	UNT to Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7b	IV	PWS pH-6.5-9.5,	03010101	37.205284	-80.187282	ELLISTON	RU09	RL_4A_052836	Roanoke River Tribs.		Intermittent
Roanoke	UNT to Roanoke River	Roanoke River Basin	Roanoke River Subbasin	7a	IV	PWS pH-6.5-9.5,	03010101	37.194064	-80.167933	ELLISTON	RU09	RL_4A_052693	Roanoke River Tributaries w/ PWS sec. 7a		Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.187687	-80.151146	ELLISTON	RU02	RL_4A_052620	Bottom Creek Upper	Yes	Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.187568	-80.151049	ELLISTON	RU02	RL_4A_052620	Bottom Creek Upper	Yes	Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.181736	-80.148948	ELLISTON	RU02	RL_4A_052760	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.181506	-80.149497	ELLISTON	RU02	RL_4A_052760	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.181385	-80.14914	ELLISTON	RU02	RL_4A_052760	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.179186	-80.141	ELLISTON	RU02	RL_4A_052434	Bottom Creek Upper	Yes	Perennial
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.170458	-80.138216	ELLISTON	RU02	RL_4A_052443	Bottom Creek	Yes	Perennial
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.169474	-80.130356	ELLISTON	RU02	RL_4A_052536	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.169211	-80.138258	ELLISTON	RU02	RL_4A_052443	Bottom Creek	Yes	Perennial
Roanoke	Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.168395	-80.138295	ELLISTON	RU02	RL_4A_052314	Bottom Creek Upper	Yes	Perennial
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.168361	-80.138381	ELLISTON	RU02	RL_4A_052314	Bottom Creek Upper	Yes	Perennial
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.165862	-80.139317	ELLISTON	RU02	RL_4A_052406	Bottom Creek Upper	Yes	Perennial
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.165685	-80.139378	ELLISTON	RU02	RL_4A_052406	Bottom Creek Upper	Yes	Perennial
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.160173	-80.134799	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.154424	-80.129179	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.150009	-80.13246	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.148333	-80.133919	ELLISTON	RU02	RL_4A_052419	Bottom Creek Tributaries	Yes	Perennial
Roanoke	UNT to Bottom Creek	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.143003	-80.138399	ELLISTON	RU02	RL_4A_052496	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.138636	-80.139715	ELLISTON	RU02	RL_4A_052410	Bottom Creek Tributaries	Yes	Perennial
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.134576	-80.137649	ELLISTON	RU02	RL_4A_052465	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.134481	-80.137622	ELLISTON	RU02	RL_4A_052465	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.134176	-80.137484	ELLISTON	RU02	RL_4A_052465	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128922	-80.133769	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128853	-80.13391	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.12849	-80.132601	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Roanoke	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128484	-80.130943	ELLISTON	RU02	RL_4A_052330	Bottom Creek Tributaries		Intermittent
Franklin	UNT to Green Creek	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.126412	-80.121398	BENT MOUNTAIN	RU21	RL_4A_052537	S.F. Blackwater River Tribs.	Yes	Intermittent
Franklin	UNT to Green Creek	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.125398	-80.121401	BENT MOUNTAIN	RU21	RL_4A_052537	S.F. Blackwater River Tribs.	Yes	Intermittent
Franklin	UNT to Green Creek	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.125055	-80.113578	CALLAWAY	RU21	RL_4A_052550	S.F. Blackwater River Tribs.	Yes	Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.124137	-80.086182	CALLAWAY	RU20	RL_4A_059927	Upper Blackwater River		Intermittent
Franklin	North Fork Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.123098	-80.074673	CALLAWAY	RU20	RL_4A_059887	Blackwater River, North Fork Upper		Perennial
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.121558	-80.085642	CALLAWAY	RU20	RL_4A_059993	N.F. Blackwater River Tribs.		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.121513	-80.08568	CALLAWAY	RU20	RL_4A_059993	N.F. Blackwater River Tribs.		Intermittent
Franklin	UNT to North Fork Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.121473	-80.088457	CALLAWAY	RU20	RL_4A_059993	N.F. Blackwater River Tribs.		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.106177	-80.050105	CALLAWAY	RU20	RL_4A_060038	N.F. Blackwater River Tribs.		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.105883	-80.048861	CALLAWAY	RU20	RL_4A_060038	N.F. Blackwater River Tribs.		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.104707	-80.04622	CALLAWAY	RU20	RL_4A_059936	Upper Blackwater River		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.104329	-80.045343	CALLAWAY	RU20	RL_4A_059936	Upper Blackwater River		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.10329	-80.041868	CALLAWAY	RU20	RL_4A_059908	Upper Blackwater River		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.102491	-80.041046	CALLAWAY	RU20	RL_4A_059908	Upper Blackwater River		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.101127	-80.039653	CALLAWAY	RU20	RL_4A_059969	N.F. Blackwater River Tribs.		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.093062	-80.027724	CALLAWAY	RU20	RL_4A_059931	Upper Blackwater River		Intermittent
Franklin	UNT to North Fork BlackwaterRiver	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.092891	-80.027593	CALLAWAY	RU20	RL_4A_059931	Upper Blackwater River		Intermittent
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.089812	-79.956077	BOONES MILL	RU22	RL_4A_060548	Blackwater River Tribs.		Intermittent
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.089745	-79.956042	BOONES MILL	RU22	RL_4A_060548	Blackwater River Tribs.		Intermittent
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.089178	-79.95011	BOONES MILL	RU22	RL_4A_060398	Upper Blackwater River		Intermittent
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.089047	-79.9613	BOONES MILL	RU22	RL_4A_060349	Teels Creek		Perennial
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.085247	-79.948057	BOONES MILL	RU22	RL_4A_059444	Teels Creek		Perennial
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.082875	-79.945556	BOONES MILL	RU22	RL_4A_059497	Teels Creek		Perennial
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.078963	-79.941911	BOONES MILL	RU22	RL_4A_059524	Upper Blackwater River		Intermittent
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.073367	-79.939865	BOONES MILL	RU22	RL_4A_059543	Teels Creek		Perennial
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.070703	-79.937069	BOONES MILL	RU22	RL_4A_059487	Teels Creek		Perennial
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.070322	-79.931039	BOONES MILL	RU22	RL_4A_059487	Teels Creek		Perennial
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.070101	-79.929732	BOONES MILL	RU22	RL_4A_059662	Blackwater River Tribs.		Intermittent
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.06956	-79.926213	BOONES MILL	RU22	RL_4A_059449	Teels Creek		Perennial
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.069542	-79.933892	BOONES MILL	RU22	RL_4A_059487	Teels Creek		Perennial
Franklin	UNT to Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.069485	-79.92623	BOONES MILL	RU22	RL_4A_059449	Teels Creek		Perennial
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.064748	-79.87442	REDWOOD	RU22	RL_4A_059633	Blackwater River Tribs.		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.064723	-79.87819	BOONES MILL	RU22	RL_4A_059525	Upper Blackwater River		Intermittent
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.063956	-79.921985	BOONES MILL	RU22	RL_4A_059449	Teels Creek		Perennial
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.063464	-79.878281	BOONES MILL	RU22	RL_4A_059525	Upper Blackwater River		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.062262	-79.862639	REDWOOD	RU22	RL_4A_059526	Upper Blackwater River		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.061193	-79.880018	BOONES MILL	RU22	RL_4A_059439	Upper Blackwater River		Intermittent
Franklin	UNT to Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.059535	-79.840624	REDWOOD	RU23	RL_4A_061408	Maggodee Creek Tributaries		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.059098	-79.853595	REDWOOD	RU22	RL_4A_059729	Blackwater River Lower 2		Artificial Path
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.05906	-79.853379	REDWOOD	RU22	RL_4A_059729	Blackwater River Lower 2		Artificial Path
Franklin	Teels Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.05839	-79.918015	BOONES MILL	RU22	RL_4A_059480	Teels Creek		Perennial
Franklin	UNT to Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.058165	-79.844877	REDWOOD	RU23	RL_4A_061408	Maggodee Creek Tributaries		Intermittent
Franklin	UNT to Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.057776	-79.838583	REDWOOD	RU23	RL_4A_061408	Maggodee Creek Tributaries		Intermittent
Franklin	UNT to Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.057724	-79.836406	REDWOOD	RU23	RL_4A_061408	Maggodee Creek Tributaries		Intermittent

County	NHD Stream Name1	Basin	Subbasin	Section	Class	Special Standards	HUC 8	Latitude2	Longitude2	USGS Quad	State Watershed No.	WQS_ID	WQA Water Name	Trout	Stream Type
Franklin	Little Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.057584	-79.913921	BOONES MILL	RU22	RL_4A_059542	Little Creek Middle		Perennial
Franklin	UNT to Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.056594	-79.835785	REDWOOD	RU23	RL_4A_061590	Maggodee Creek Lower		Artificial Path
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.056084	-79.850384	REDWOOD	RU22	RL_4A_059587	Blackwater River Tribs.		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.055912	-79.883177	BOONES MILL	RU22	RL_4A_059763	Blackwater River Lower 3		Artificial Path
Franklin	UNT to Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.055193	-79.833881	REDWOOD	RU23	RL_4A_061590	Maggodee Creek Lower		Artificial Path
Franklin	Maggodee Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.055147	-79.830098	REDWOOD	RU23	RL_4A_061590	Maggodee Creek Lower		Artificial Path
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.053336	-79.884604	BOONES MILL	RU22	RL_4A_059604	Blackwater River Tribs.		Intermittent
Franklin	Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.052843	-79.825711	REDWOOD	RU24	RL_4A_061577	Blackwater River Upper		Artificial Path
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.052125	-79.886182	BOONES MILL	RU22	RL_4A_059565	Blackwater River Tribs.		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.049238	-79.817223	REDWOOD	RU24	RL_4A_061522	Blackwater River Tribs.		Intermittent
Franklin	Little Creek	Roanoke River Basin	Roanoke River Subbasin	6f	IV	PWS, NEW-1	03010101	37.049219	-79.908513	BOONES MILL	RU22	RL_4A_059788	Little Creek Lower		Artificial Path
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.048037	-79.813934	REDWOOD	RU24	RL_4A_061522	Blackwater River Tribs.		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6f	IV	PWS, NEW-1	03010101	37.047765	-79.897636	BOONES MILL	RU22	RL_4A_059592	Blackwater River Tribs.		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.047172	-79.813	REDWOOD	RU24	RL_4A_061522	Blackwater River Tribs.		Intermittent
Franklin	UNT to Maple Branch	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.043871	-79.822898	REDWOOD	RU24	RL_4A_061454	Maple Branch		Intermittent
Franklin	Maple Branch	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.043854	-79.822974	REDWOOD	RU24	RL_4A_061454	Maple Branch		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.042742	-79.809015	REDWOOD	RU24	RL_4A_061353	Blackwater River Lower Tributaries		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.037916	-79.804237	REDWOOD	RU24	RL_4A_061569	Blackwater River Lower Tributaries		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.036271	-79.799442	REDWOOD	RU24	RL_4A_061571	Blackwater River Tribs.		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.036173	-79.79924	REDWOOD	RU24	RL_4A_061571	Blackwater River Tribs.		Intermittent
Franklin	Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.031714	-79.788213	REDWOOD	RU24	RL_4A_061419	Foul Ground Creek Lower		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.031063	-79.778588	REDWOOD	RU24	RL_4A_061547	Blackwater River Tribs.		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.031011	-79.778435	REDWOOD	RU24	RL_4A_061547	Blackwater River Tribs.		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.030974	-79.77819	REDWOOD	RU24	RL_4A_061547	Blackwater River Tribs.		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.030972	-79.778083	REDWOOD	RU24	RL_4A_061547	Blackwater River Tribs.		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.030861	-79.778069	REDWOOD	RU24	RL_4A_061547	Blackwater River Tribs.		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.028893	-79.774785	REDWOOD	RU24	RL_4A_061367	Blackwater River Lower Tributaries		Intermittent
Franklin	UNT to Foul Ground Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.028392	-79.773359	REDWOOD	RU24	RL_4A_061367	Blackwater River Lower Tributaries		Intermittent
Franklin	UNT to Poplar Camp Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.019612	-79.761958	REDWOOD	RU24	RL_4A_061498	Blackwater River Tribs./SML		Intermittent
Franklin	UNT to Poplar Camp Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.019526	-79.762002	REDWOOD	RU24	RL_4A_061498	Blackwater River Tribs./SML		Intermittent
Franklin	UNT to Poplar Camp Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.019359	-79.761643	REDWOOD	RU24	RL_4A_061498	Blackwater River Tribs./SML		Intermittent
Franklin	Poplar Camp Creek	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.017364	-79.76	REDWOOD	RU24	RL_4A_061387	Poplar Camp Creek		Perennial
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.009236	-79.754238	REDWOOD	RU24	RL_4A_061333	Blackwater River Lower/Smith Mountain Lake		Intermittent
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.001271	-79.747749	MONETA SW	RU24	RL_4A_061443	Blackwater River Lower/Smith Mountain Lake		Perennial
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.000529	-79.74276	MONETA SW	RU24	RL_4A_061436	Blackwater River Lower/Smith Mountain Lake		Perennial
Franklin	UNT to Blackwater River	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	36.995814	-79.735144	PENHOOK	RU24	RL_4A_061139	Standiford Creek		Perennial
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.98943	-79.722366	PENHOOK	RU32	RL_4A_061215	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988273	-79.708199	PENHOOK	RU32	RL_4A_061814	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988031	-79.71745	PENHOOK	RU32	RL_4A_061830	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988009	-79.711881	PENHOOK	RU32	RL_4A_061830	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988008	-79.714922	PENHOOK	RU32	RL_4A_061830	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.987961	-79.702711	PENHOOK	RU32	RL_4A_061868	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.987818	-79.700634	PENHOOK	RU32	RL_4A_061740	Pigg River Middle		Perennial
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.987719	-79.698901	PENHOOK	RU32	RL_4A_061740	Pigg River Middle		Perennial
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.987715	-79.698555	PENHOOK	RU32	RL_4A_061740	Pigg River Middle		Perennial
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.985174	-79.692272	PENHOOK	RU32	RL_4A_061844	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.985124	-79.692272	PENHOOK	RU32	RL_4A_061844	Pigg River Tribs.		Intermittent
Franklin	UNT to Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.984846	-79.69187	PENHOOK	RU32	RL_4A_061844	Pigg River Tribs.		Intermittent
Franklin	UNT to Little Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.982507	-79.687818	PENHOOK	RU32	RL_4A_061863	Pigg River Tribs.		Intermittent
Franklin	UNT to Little Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.98224	-79.6875	PENHOOK	RU32	RL_4A_061863	Pigg River Tribs.		Intermittent
Franklin	UNT to Little Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.981971	-79.686901	PENHOOK	RU32	RL_4A_061863	Pigg River Tribs.		Intermittent
Franklin	UNT to Little Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.979223	-79.684192	PENHOOK	RU32	RL_4A_061723	Pigg River Middle		Intermittent
Franklin	Little Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.978529	-79.682186	PENHOOK	RU32	RL_4A_061723	Pigg River Middle		Intermittent
Franklin	UNT to Little Jacks Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.978025	-79.680682	PENHOOK	RU32	RL_4A_061723	Pigg River Middle		Intermittent
Franklin	UNT to Turkey Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.976421	-79.677525	PENHOOK	RU32	RL_4A_061852	Pigg River Tribs.		Intermittent
Franklin	UNT to Turkey Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.974647	-79.674453	PENHOOK	RU32	RL_4A_061837	Pigg River Tribs.		Intermittent
Franklin	Turkey Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.973282	-79.673075	PENHOOK	RU32	RL_4A_061771	Pigg River Middle		Perennial
Franklin	UNT to Turkey Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.973237	-79.669898	PENHOOK	RU32	RL_4A_061812	Pigg River Tribs.		Intermittent
Franklin	Dinner Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.972125	-79.662987	PENHOOK	RU32	RL_4A_061768	Pigg River Middle		Intermittent
Franklin	UNT to Dinner Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.972032	-79.662504	PENHOOK	RU32	RL_4A_061768	Pigg River Middle		Intermittent
Franklin	Polecat Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.970904	-79.65737	PENHOOK	RU32	RL_4A_061750	Pigg River Middle		Intermittent
Franklin	UNT to Owens Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.970522	-79.653726	PENHOOK	RU32	RL_4A_062024	Pigg River Middle		Intermittent
Franklin	UNT to Owens Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.970133	-79.651328	PENHOOK	RU32	RL_4A_062024	Pigg River Middle		Intermittent
Franklin	Owens Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.969118	-79.645042	PENHOOK	RU32	RL_4A_062020	Pigg River Middle		Perennial
Franklin	Strawfield Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.96864	-79.642174	PENHOOK	RU32	RL_4A_061968	Pigg River Middle		Perennial
Franklin	UNT to Parrot Branch	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.967711	-79.63659	PENHOOK	RU32	RL_4A_061969	Pigg River Middle		Perennial
Franklin	Parrot Branch	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.967025	-79.630747	PENHOOK	RU32	RL_4A_061969	Pigg River Middle		Perennial
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.965631	-79.605542	SANDY LEVEL	RU36	RL_4A_062027	Pigg River Lower		Perennial
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.9656	-79.604894	SANDY LEVEL	RU36	RL_4A_062027	Pigg River Lower		Perennial
Pittsylvania	Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.965405	-79.59913	SANDY LEVEL	RU36	RL_4A_062001	Pigg River Lower		Perennial
Franklin	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.964763	-79.617043	SANDY LEVEL	RU36	RL_4A_062120	Unnamed tributary		Intermittent
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.96443	-79.595691	SANDY LEVEL	RU36	RL_4A_062157	Pigg River Lower		Artificial Path
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.964407	-79.595841	SANDY LEVEL	RU36	RL_4A_062157	Pigg River Lower		Artificial Path
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.96242	-79.5905	SANDY LEVEL	RU36	RL_4A_062130	Unnamed tributary		Intermittent
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.959361	-79.586437	SANDY LEVEL	RU36	RL_4A_087413	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.957805	-79.583545	SANDY LEVEL	RU36	RL_4A_087413	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Jonnikin Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.95758	-79.583492	SANDY LEVEL	RU36	RL_4A_087413	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Rocky Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.952275	-79.58046	SANDY LEVEL	RU36	RL_4A_087416	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Rocky Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.949615	-79.579553	SANDY LEVEL	RU36	RL_4A_087397	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Rocky Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.944049	-79.571442	SANDY LEVEL	RU36	RL_4A_087327	Pigg River Lower		Perennial
Pittsylvania	UNT to Rocky Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.944016	-79.571517	SANDY LEVEL	RU36	RL_4A_087327	Pigg River Lower		Perennial
Pittsylvania	Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.929762	-79.526109	SANDY LEVEL	RU36	RL_4A_087515	Harpen Creek		Perennial
Pittsylvania	UNT to Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.929745	-79.52629	SANDY LEVEL	RU36	RL_4A_087515	Harpen Creek		Perennial

County	NHD Stream Name1	Basin	Subbasin	Section	Class	Special Standards	HUC 8	Latitude2	Longitude2	USGS Quad	State Watershed No.	WQS_ID	WQA Water Name	Trout	Stream Type
Pittsylvania	Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.925105	-79.51735	SANDY LEVEL	RU36	RL_4A_087487	Pigg River Lower		Perennial
Pittsylvania	UNT to Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.920737	-79.505898	SANDY LEVEL	RU36	RL_4A_087511	Pigg River Lower		Perennial
Pittsylvania	UNT to Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.917694	-79.496604	PITTSVILLE	RU36	RL_4A_087561	Pigg RiverTribs.		Intermittent
Pittsylvania	Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.916463	-79.492669	PITTSVILLE	RU36	RL_4A_087502	Pigg River Lower		Perennial
Pittsylvania	UNT to Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.915658	-79.490029	PITTSVILLE	RU36	RL_4A_087555	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Harpen Creek	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.913003	-79.487838	PITTSVILLE	RU36	RL_4A_087590	Pigg RiverTribs.		Intermittent
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.905329	-79.471492	PITTSVILLE	RD55	RL_4A_082715	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.905307	-79.471574	PITTSVILLE	RD55	RL_4A_082715	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.902991	-79.46822	PITTSVILLE	RD55	RL_4A_082683	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.901941	-79.466535	PITTSVILLE	RD55	RL_4A_082710	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.899437	-79.462685	PITTSVILLE	RD55	RL_4A_083383	Cherrystone Creek Tributaries		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.899411	-79.462483	PITTSVILLE	RD55	RL_4A_083383	Cherrystone Creek Tributaries		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.899248	-79.462396	PITTSVILLE	RD55	RL_4A_083383	Cherrystone Creek Tributaries		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.89774	-79.458046	PITTSVILLE	RD55	RL_4A_083373	Cherrystone Creek		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.897315	-79.456119	PITTSVILLE	RD55	RL_4A_083373	Cherrystone Creek		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.895915	-79.45296	PITTSVILLE	RD55	RL_4A_083390	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.895808	-79.45292	PITTSVILLE	RD55	RL_4A_083390	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.894043	-79.445744	PITTSVILLE	RD55	RL_4A_083369	Cherrystone Creek		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.893727	-79.444763	PITTSVILLE	RD55	RL_4A_083369	Cherrystone Creek		Perennial
Pittsylvania	UNT to Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.892751	-79.440053	PITTSVILLE	RD55	RL_4A_083355	Cherrystone Creek Tributaries		Perennial
Pittsylvania	UNT to Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.891451	-79.433781	PITTSVILLE	RD55	RL_4A_083355	Cherrystone Creek Tributaries		Perennial
Pittsylvania	UNT to Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.886114	-79.430914	PITTSVILLE	RD55	RL_4A_083358	Pole Bridge Branch		Perennial
Pittsylvania	Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.884444	-79.42822	PITTSVILLE	RD55	RL_4A_083414	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.884284	-79.427914	PITTSVILLE	RD55	RL_4A_083414	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.879063	-79.420189	PITTSVILLE	RD55	RL_4A_083428	Cherrystone Creek Tributaries		Perennial
Pittsylvania	UNT to Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.877937	-79.417992	PITTSVILLE	RD55	RL_4A_083444	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Pole Bridge Branch	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.877416	-79.416255	PITTSVILLE	RD55	RL_4A_083444	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	2g	III	PWS	03010105	36.871651	-79.404061	CHATHAM	RD56	RL_4A_083403	Whitehorn Creek Tributaries		Intermittent
Pittsylvania	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	2g	III	PWS	03010105	36.871478	-79.403907	CHATHAM	RD56	RL_4A_083403	Whitehorn Creek Tributaries		Intermittent
Pittsylvania	UNT to Mill Creek	Roanoke River Basin	Roanoke River Subbasin	2g	III	PWS	03010105	36.866534	-79.400511	CHATHAM	RD56	RL_4A_083573	Whitehorn Creek Tributaries		Intermittent
Pittsylvania	Mill Creek	Roanoke River Basin	Roanoke River Subbasin	2g	III	PWS	03010105	36.863513	-79.397914	CHATHAM	RD56	RL_4A_083573	Whitehorn Creek Tributaries		Intermittent
Pittsylvania	Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.851931	-79.386051	CHATHAM	RD55	RL_4A_083594	Little Cherrystone Creek		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.849394	-79.37778	CHATHAM	RD55	RL_4A_083594	Little Cherrystone Creek		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.843486	-79.369222	SPRING GARDEN	RD55	RL_4A_083642	Unnamed tributary		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.841112	-79.366848	SPRING GARDEN	RD55	RL_4A_083544	Unnamed tributary		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.841093	-79.366942	SPRING GARDEN	RD55	RL_4A_083544	Unnamed tributary		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.834501	-79.360244	SPRING GARDEN	RD55	RL_4A_083559	Little Cherrystone Creek		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.833412	-79.359823	SPRING GARDEN	RD55	RL_4A_083607	Unnamed tributary		Perennial
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.830285	-79.356618	SPRING GARDEN	RD55	RL_4A_083609	Unnamed tributary		Intermittent
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.829823	-79.346016	SPRING GARDEN	RD55	RL_4A_083641	Unnamed tributary		Intermittent
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.828993	-79.344442	SPRING GARDEN	RD55	RL_4A_083673	Unnamed tributary		Intermittent
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.828958	-79.344315	SPRING GARDEN	RD55	RL_4A_083673	Unnamed tributary		Intermittent
Pittsylvania	UNT to Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.828831	-79.353849	SPRING GARDEN	RD55	RL_4A_083554	Little Cherrystone Creek		Perennial
Pittsylvania	Little Cherrystone Creek	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.828207	-79.349814	SPRING GARDEN	RD55	RL_4A_083571	Little Cherrystone Creek		Perennial
Giles	W-Z11	New River Basin	New River Subbasin	1d	VI		05050002	37.346591	-80.641713	PEARISBURG	NE74	RL_09_043137	Little Stony Creek	Yes	Intermittent
Giles	W-Z3	New River Basin	New River Subbasin	1d	VI		05050002	37.342244	-80.620612	EGGLESTON	NE74	RL_09_043164	Little Stony Creek Tributaries	Yes	Intermittent
Giles	W-CD12	New River Basin	New River Subbasin	1	V		05050002	37.318644	-80.441717	NEWPORT	NE64	RL_09_064526	Sinking Creek Middle	Yes	Artificial Path
Giles	W-MM10	New River Basin	New River Subbasin	1	IV	u	05050002	37.298219	-80.480617	NEWPORT	NE64	RL_09_064472	Sinking Creek Tributaries		Intermittent
Giles	W-RR1b	New River Basin	New River Subbasin	1	IV	u	05050002	37.29667	-80.494042	NEWPORT	NE64	RL_09_063963	New River & Sinking Creek Tributaries		Perennial
Montgomery	W-IJ46-PEM	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.296153	-80.367508	MCDONALDS MILL	RU06	RL_4A_064391	Mill Creek	Yes	Intermittent
Montgomery	W-AD4	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.286984	-80.330124	MCDONALDS MILL	RU06	RL_4A_064939	Roanoke River, North Fork/Bradshaw Creek		Intermittent
Montgomery	W-F9-PFO	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.258109	-80.285892	MCDONALDS MILL	RU07	RL_4A_052252	North Fork Roanoke River Tribs.		Intermittent
Montgomery	W-C12-PEM	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.257265	-80.281667	MCDONALDS MILL	RU07	RL_4A_052228	North Fork Roanoke River Tribs.		Intermittent
Montgomery	W-C12	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.257192	-80.281649	MCDONALDS MILL	RU07	RL_4A_052228	North Fork Roanoke River Tribs.		Intermittent
Montgomery	W-C11	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.257107	-80.281351	MCDONALDS MILL	RU07	RL_4A_052228	North Fork Roanoke River Tribs.		Intermittent
Montgomery	W-C6	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.25586	-80.275715	MCDONALDS MILL	RU07	RL_4A_052167	Roanoke River, North Fork/Bradshaw Creek		Intermittent
Montgomery	W-C5	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.255606	-80.274237	MCDONALDS MILL	RU08	RL_4A_052151	Roanoke River, North Fork/Bradshaw Creek		Intermittent
Montgomery	W-AB7	Roanoke River Basin	Roanoke River Subbasin	7b	V	PWS pH-6.5-9.5,	03010101	37.231426	-80.198615	ELLISTON	RU09	RL_4A_052939	Roanoke River	Yes	Artificial Path
Montgomery	W-KL58	Roanoke River Basin	Roanoke River Subbasin	7b	V	PWS pH-6.5-9.5,	03010101	37.229183	-80.203106	ELLISTON	RU05	RL_4A_052944	Roanoke River, South Fork Lower	Yes	Artificial Path
Montgomery	W-EF5-PFO	Roanoke River Basin	Roanoke River Subbasin	7b	IV	PWS pH-6.5-9.5,	03010101	37.210948	-80.193359	ELLISTON	RU09	RL_4A_052836	Roanoke River Tribs.		Intermittent
Roanoke	W-EF18	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.179449	-80.140665	ELLISTON	RU02	RL_4A_052434	Bottom Creek Upper	Yes	Perennial
Roanoke	W-EF17	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.179402	-80.1406	ELLISTON	RU02	RL_4A_052434	Bottom Creek Upper	Yes	Perennial
Roanoke	W-IJ94-PEM	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.170092	-80.138294	ELLISTON	RU02	RL_4A_052443	Bottom Creek	Yes	Perennial
Roanoke	W-IJ96-PEM	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.169461	-80.130376	ELLISTON	RU02	RL_4A_052536	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	W-IJ95-PSS	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.169068	-80.138278	ELLISTON	RU02	RL_4A_052443	Bottom Creek	Yes	Perennial
Roanoke	W-IJ102	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.168289	-80.138375	ELLISTON	RU02	RL_4A_052314	Bottom Creek Upper	Yes	Perennial
Roanoke	W-KL17	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.160152	-80.134774	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-EF42	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.157611	-80.133722	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-HS02	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.157427	-80.133413	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-AB6-PEM-2	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.156825	-80.131998	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-AB6-PFO-1	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.156713	-80.131681	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-AB6-PEM-1	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.15617	-80.130794	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-AB6-PSS	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.156034	-80.130603	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-AB5	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.15584	-80.130227	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-AB3-PEM-2	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.155664	-80.129569	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-EF46	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.154575	-80.129122	ELLISTON	RU02	RL_4A_052515	Bottom Creek Tribs.		Intermittent
Roanoke	W-KL48-PSS-1	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.152292	-80.130022	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-KL48-PEM	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.151965	-80.130049	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-KL48-PSS-2	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.150926	-80.131271	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-KL50	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.150728	-80.131537	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-KL49	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.150297	-80.132193	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-KL51-PEM	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.150006	-80.132403	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-KL51-PSS	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.149975	-80.132476	ELLISTON	RU02	RL_4A_052412	Bottom Creek Tributaries	Yes	Perennial

County	NHD Stream Name1	Basin	Subbasin	Section	Class	Special Standards	HUC 8	Latitude2	Longitude2	USGS Quad	State Watershed No.	WQS_ID	WQA Water Name	Trout	Stream Type
Roanoke	W-MN7-PEM	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.148328	-80.133901	ELLISTON	RU02	RL_4A_052419	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-EF44	Roanoke River Basin	Roanoke River Subbasin	7	VI	pH-6.5-9.5,	03010101	37.142977	-80.138327	ELLISTON	RU02	RL_4A_052496	Bottom Creek Tribs.	Yes	Intermittent
Roanoke	W-IJ36	Roanoke River Basin	Roanoke River Subbasin	7	V	pH-6.5-9.5,	03010101	37.138922	-80.139845	ELLISTON	RU02	RL_4A_052410	Bottom Creek Tributaries	Yes	Perennial
Roanoke	W-Z7	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.136601	-80.128216	ELLISTON	RU02	RL_4A_052535	Bottom Creek Tribs.		Intermittent
Roanoke	W-Z6	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.136466	-80.128238	ELLISTON	RU02	RL_4A_052535	Bottom Creek Tribs.		Intermittent
Roanoke	W-IJ62	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.135529	-80.134044	ELLISTON	RU02	RL_4A_052391	Bottom Creek Tributaries		Intermittent
Roanoke	W-Y2	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.134284	-80.137448	ELLISTON	RU02	RL_4A_052465	Bottom Creek Tribs.		Intermittent
Roanoke	W-IJ10	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.132561	-80.131744	ELLISTON	RU02	RL_4A_052308	Bottom Creek Tributaries		Intermittent
Roanoke	W-Q11	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.13247	-80.131638	ELLISTON	RU02	RL_4A_052308	Bottom Creek Tributaries		Intermittent
Roanoke	W-KL1	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.132456	-80.131463	ELLISTON	RU02	RL_4A_052308	Bottom Creek Tributaries		Intermittent
Roanoke	W-B25-PEM-4	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128942	-80.133774	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Roanoke	W-B25-PEM-1	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128645	-80.133283	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Roanoke	W-B24-PSS	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.12854	-80.130794	ELLISTON	RU02	RL_4A_052330	Bottom Creek Tributaries		Intermittent
Roanoke	W-B24-PEM	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.12853	-80.13106	ELLISTON	RU02	RL_4A_052330	Bottom Creek Tributaries		Intermittent
Roanoke	W-B25-PSS-2	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128527	-80.132335	ELLISTON	RU02	RL_4A_052330	Bottom Creek Tributaries		Intermittent
Roanoke	W-B25-PEM-1	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128449	-80.132802	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Roanoke	W-B25-PEM-2	Roanoke River Basin	Roanoke River Subbasin	7	IV	pH-6.5-9.5,	03010101	37.128436	-80.132646	ELLISTON	RU02	RL_4A_052449	Bottom Creek Tribs.		Intermittent
Franklin	W-ST2-PEM	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.125329	-80.12146	BENT MOUNTAIN	RU21	RL_4A_052537	S.F. Blackwater River Tribs.	Yes	Intermittent
Franklin	W-RR4	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.125117	-80.11353	CALLAWAY	RU21	RL_4A_052550	S.F. Blackwater River Tribs.	Yes	Intermittent
Franklin	W-RR3	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.124214	-80.114746	CALLAWAY	RU21	RL_4A_052550	S.F. Blackwater River Tribs.	Yes	Intermittent
Franklin	W-KL41	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.123851	-80.115802	CALLAWAY	RU21	RL_4A_052311	Upper Blackwater River	Yes	Intermittent
Franklin	W-D7-PEM	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.121559	-80.08575	CALLAWAY	RU20	RL_4A_059993	N.F. Blackwater River Tribs.		Intermittent
Franklin	W-EF3	Roanoke River Basin	Roanoke River Subbasin	6a	VI	NEW-1	03010101	37.117734	-80.095992	CALLAWAY	RU21	RL_4A_052432	Upper Blackwater River	Yes	Intermittent
Franklin	W-IJ1	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.092927	-80.027568	CALLAWAY	RU20	RL_4A_059931	Upper Blackwater River		Intermittent
Franklin	W-IJ2-PEM	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.092555	-80.027314	CALLAWAY	RU20	RL_4A_059931	Upper Blackwater River		Intermittent
Franklin	W-E7	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.084557	-79.947595	BOONES MILL	RU22	RL_4A_059534	Teels Creek		Perennial
Franklin	W-E8	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.082843	-79.9461	BOONES MILL	RU22	RL_4A_059497	Teels Creek		Perennial
Franklin	W-EF51	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.064781	-79.87446	REDWOOD	RU22	RL_4A_059633	Blackwater River Tribs.		Intermittent
Franklin	W-KL43b	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.059608	-79.840707	REDWOOD	RU23	RL_4A_061408	Maggodee Creek Tributaries		Intermittent
Franklin	W-CD6	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.057586	-79.915232	BOONES MILL	RU22	RL_4A_059542	Little Creek Middle		Perennial
Franklin	W-CD5	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.055438	-79.910624	BOONES MILL	RU22	RL_4A_059542	Little Creek Middle		Perennial
Franklin	W-EF48	Roanoke River Basin	Roanoke River Subbasin	6a	III	NEW-1	03010101	37.052142	-79.886197	BOONES MILL	RU22	RL_4A_059565	Blackwater River Tribs.		Intermittent
Franklin	W-CD1	Roanoke River Basin	Roanoke River Subbasin	6f	IV	PWS, NEW-1	03010101	37.047767	-79.897568	BOONES MILL	RU22	RL_4A_059592	Blackwater River Tribs.		Intermittent
Franklin	W-DD1	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.031961	-79.788589	REDWOOD	RU24	RL_4A_061419	Foul Ground Creek Lower		Intermittent
Franklin	W-A12-PFO	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.031754	-79.788099	REDWOOD	RU24	RL_4A_061419	Foul Ground Creek Lower		Intermittent
Franklin	W-A12-PEM	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.031643	-79.788111	REDWOOD	RU24	RL_4A_061419	Foul Ground Creek Lower		Intermittent
Franklin	W-GH16	Roanoke River Basin	Roanoke River Subbasin	6i	IV	PWS, NEW-1	03010101	37.028394	-79.773243	REDWOOD	RU24	RL_4A_061367	Blackwater River Lower Tributaries		Intermittent
Franklin	W-H17	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.98939	-79.72209	PENHOOK	RU32	RL_4A_061215	Pigg River Tribs.		Intermittent
Franklin	W-H11	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988077	-79.702803	PENHOOK	RU32	RL_4A_061868	Pigg River Tribs.		Intermittent
Franklin	W-H16	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988073	-79.714967	PENHOOK	RU32	RL_4A_061830	Pigg River Tribs.		Intermittent
Franklin	W-H14	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.988069	-79.711841	PENHOOK	RU32	RL_4A_061830	Pigg River Tribs.		Intermittent
Franklin	W-A8	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.987947	-79.700844	PENHOOK	RU32	RL_4A_061740	Pigg River Middle		Perennial
Franklin	W-H15	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.987938	-79.714829	PENHOOK	RU32	RL_4A_061830	Pigg River Tribs.		Intermittent
Franklin	W-H9	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.978536	-79.682057	PENHOOK	RU32	RL_4A_061723	Pigg River Middle		Intermittent
Franklin	W-H6	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.972189	-79.663042	PENHOOK	RU32	RL_4A_061768	Pigg River Middle		Intermittent
Pittsylvania	W-D3	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.965318	-79.59876	SANDY LEVEL	RU36	RL_4A_062001	Pigg River Lower		Perennial
Franklin	W-MM17	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.964731	-79.617067	SANDY LEVEL	RU36	RL_4A_062120	Unnamed tributary		Intermittent
Pittsylvania	W-B5	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.959293	-79.586201	SANDY LEVEL	RU36	RL_4A_087413	Pigg RiverTribs.		Intermittent
Pittsylvania	W-B4-PSS	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.957884	-79.583666	SANDY LEVEL	RU36	RL_4A_087413	Pigg RiverTribs.		Intermittent
Pittsylvania	W-C1	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.929954	-79.526831	SANDY LEVEL	RU36	RL_4A_087515	Harpen Creek		Perennial
Pittsylvania	W-H5	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.924983	-79.517159	SANDY LEVEL	RU36	RL_4A_087487	Pigg River Lower		Perennial
Pittsylvania	W-B3	Roanoke River Basin	Roanoke River Subbasin	6a	III		03010101	36.916508	-79.49236	PITTSVILLE	RU36	RL_4A_087502	Pigg River Lower		Perennial
Pittsylvania	W-CC2-PEM	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.905418	-79.471566	PITTSVILLE	RD55	RL_4A_082824	Cherrystone Creek Tributaries		Artificial Path
Pittsylvania	W-MM5	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.903012	-79.468192	PITTSVILLE	RD55	RL_4A_082683	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	W-MM9	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.894087	-79.44611	PITTSVILLE	RD55	RL_4A_083369	Cherrystone Creek		Perennial
Pittsylvania	W-MM8-PEM	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.894034	-79.445486	PITTSVILLE	RD55	RL_4A_083369	Cherrystone Creek		Perennial
Pittsylvania	W-MM8-PFO	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.89393	-79.445461	PITTSVILLE	RD55	RL_4A_083369	Cherrystone Creek		Perennial
Pittsylvania	W-Q2	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.884674	-79.428607	PITTSVILLE	RD55	RL_4A_083358	Pole Bridge Branch		Perennial
Pittsylvania	W-Q1	Roanoke River Basin	Roanoke River Subbasin	2d	III	PWS	03010105	36.883985	-79.427305	PITTSVILLE	RD55	RL_4A_083414	Cherrystone Creek Tributaries		Intermittent
Pittsylvania	W-G2	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.851816	-79.38593	CHATHAM	RD55	RL_4A_083594	Little Cherrystone Creek		Perennial
Pittsylvania	W-H1	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.836097	-79.360895	SPRING GARDEN	RD55	RL_4A_083559	Little Cherrystone Creek		Perennial
Pittsylvania	W-EF6	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.835004	-79.339128	SPRING GARDEN	RD58	RL_4A_083574	Unnamed tributary		Intermittent
Pittsylvania	W-H2	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.834817	-79.360479	SPRING GARDEN	RD55	RL_4A_083559	Little Cherrystone Creek		Perennial
Pittsylvania	W-IJ21	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.834623	-79.338527	SPRING GARDEN	RD58	RL_4A_083574	Unnamed tributary		Intermittent
Pittsylvania	W-H3	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.833741	-79.360081	SPRING GARDEN	RD55	RL_4A_083607	Unnamed tributary		Perennial
Pittsylvania	W-MM3	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.830361	-79.356631	SPRING GARDEN	RD55	RL_4A_083609	Unnamed tributary		Intermittent
Pittsylvania	W-IJ22-PEM	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.82778	-79.350264	SPRING GARDEN	RD55	RL_4A_083571	Little Cherrystone Creek		Perennial
Pittsylvania	W-IJ22-PFO	Roanoke River Basin	Roanoke River Subbasin	2	III		03010105	36.827748	-79.350295	SPRING GARDEN	RD55	RL_4A_083571	Little Cherrystone Creek		Perennial
Montgomery	W-NN6						03010101	37.268174	-80.316468						
Franklin	W-IJ6						03010101	37.089156	-80.005036						
Franklin	W-IJ8						03010101	37.091337	-79.992006						
Franklin	W-GH2						03010101	37.092404	-79.983182						
Montgomery	UNT to North Fork RoanokeRiver						03010101	37.267002	-80.312898						
Montgomery	UNT to North Fork RoanokeRiver						03010101	37.264882	-80.307302						
Montgomery	UNT to North Fork RoanokeRiver						03010101	37.264858	-80.307151						
Franklin	Green Creek						03010101	37.127733	-80.116787						
Franklin	UNT to Green Creek						03010101	37.127077	-80.111387						
Franklin	UNT to Green Creek						03010101	37.126962	-80.111052						
Franklin	UNT to North Fork BlackwaterRiver						03010101	37.115679	-80.0603						
Franklin	UNT to North Fork BlackwaterRiver						03010101	37.106614	-80.054219						
Franklin	UNT to North Fork BlackwaterRiver						03010101	37.092555	-80.027314						
Franklin	UNT to North Fork BlackwaterRiver						03010101	37.091189	-80.024366						
Franklin	Little Creek						03010101	37.089179	-80.005026						

County	NHD Stream Name1	Basin	Subbasin	Section	Class	Special Standards	HUC 8	Latitude2	Longitude2	USGS Quad	State Watershed No.	WQS_ID	WQA Water Name	Trout	Stream Type
Franklin	UNT to Little Creek						03010101	37.090361	-79.996354						
Franklin	UNT to Little Creek						03010101	37.091413	-79.993944						
Franklin	UNT to Little Creek						03010101	37.091382	-79.99062						
Franklin	UNT to Little Creek						03010101	37.091354	-79.992013						
Franklin	UNT to Little Creek						03010101	37.092397	-79.983227						
Franklin	UNT to Little Creek						03010101	37.091608	-79.987839						
Franklin	UNT to Little Creek						03010101	37.091564	-79.988051						
Franklin	UNT to Little Creek						03010101	37.092697	-79.978402						
Franklin	UNT to Teels Creek						03010101	37.090153	-79.953936						
Franklin	UNT to Teels Creek						03010101	37.074664	-79.941123						
Franklin	UNT to Teels Creek						03010101	37.074636	-79.941336						
Franklin	UNT to Teels Creek						03010101	37.06061	-79.921179						
Franklin	UNT to Blackwater River						03010101	37.005496	-79.752655						

Note: Grayscale rows indicate timber mat crossings, and one additional temporary workspace (ATWS) completed under NWP-12