Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482 FAX (804) 698-4178
www.deq.virginia.gov

Travis A. Voyles
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

December 19, 2022

Bill Mawyer
Rivanna Water & Sewer Authority (RWSA)
695 Moores Creek Lane
Charlottesville, VA 22902-9016

SENT VIA EMAIL: BMawyer@rivanna.org
RECEIPT CONFIRMATION REQUESTED

Re: Virginia Water Protection (VWP) Individual Permit Number 06-1574
Ragged Mountain Expansion Project, Albemarle County, Virginia
Approval of Minor Modification No. 4

Dear Mr. Mawyer:

The Virginia Department of Environmental Quality (Department) received a Minor Modification request on July 12, 2022, for the modification of VWP Individual Permit No. 06-1574 issued on February 11, 2008. The permit was previously modified four times: a Minor Modification on March 20, 2009; a Major Modification on December 20, 2011; a Minor Modification on December 21, 2020; and a Minor Modification on July 21, 2021.

This minor modification request includes 1) modification to the definition of "Natural Inflow" and stream gage used regarding the South Fork Rivanna Reservoir, to reflect inflows into the reservoir more accurately, and 2) addition to the definition of "Natural Inflow" regarding Sugar Hollow Reservoir in order to represent inflow to the reservoir under low-flow conditions.

In accordance with your request and pursuant to the VWP Permit Program Regulation 9VAC25-210-380 and Public Law 95-217, the Department has determined that this request qualifies for a Minor Modification and the Department approves the request to modify the above referenced permit. Special conditions Part I F 1, Part I F 4 c i, and Part I F 4 c ii of the VWP Individual Permit No. 06-1574 were modified to reflect the Minor Modification.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have **30 calendar days** from the date of service (the date you actually received this decision or the date it was e-mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are

added to that period. Refer to Part 2A of the Rules of the Supreme Court of Virginia for additional requirements governing appeals from administrative agencies.

Alternatively, an owner may request a formal hearing for the formal taking of evidence upon relevant fact issues under Section 2.2-4020 of the Administrative Process Act. A petition for a formal hearing must meet the requirements set forth in 9VAC25-230 of the Virginia Administrative Code. In cases involving actions of the Department, such petition must be filed within 30 calendar days after notice of such action is sent to such owner by certified mail.

Please note that this letter is an official component of the permit. Please retain this letter in your files and replace the original Permit Cover Page, Part I Special Conditions, and Part II General Conditions with the revised Permit Cover Page, Part I Special Conditions, and Part II General Conditions provided herein.

Should you have any questions, please contact Kathy Dobbie by phone at 804-659-1727, email at kathryne.dobbie@deq.virginia.gov, or at the above address.

Respectfully,

Director, Water

Enclosures: Modified Permit Cover Page
Modified Part I – Special Conditions
Modified Part II - General Conditions
Permit Modification Fact Sheet

Cc (by e-mail):
Joseph Grist, Water Withdrawal Permitting Program Manger
Andrea Bowles, RWSA
Jennifer Whitaker, RWSA

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VWP Individual Permit Number 06-1574
Effective Date: February 11, 2008
Minor Modification No. 1 Date: March 20, 2009
Major Modification No. 1 Date: December 20, 2011
Minor Modification No. 2: December 21, 2020
Minor Modification No. 3: July 21, 2021
Minor Modification No. 4: December 19, 2022
Expiration Date: February 11, 2023

VIRGINIA WATER PROTECTION PERMIT
MODIFIED PURSUANT TO THE STATE WATER CONTROL LAW

Based upon an examination of the information submitted by the owner and the State Water Control Law and regulations adopted pursuant thereto, the Department has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The Department finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

Permittee: Rivanna Water and Sewer Authority

Address: 695 Moores Creek Lane Charlottesville, VA 22902-9016

Activity Locations: Ragged Mountain Reservoir and South Fork Rivanna River Reservoir in Albemarle County, Virginia and a pipeline between the two reservoirs in Albemarle County and Charlottesville Virginia.

Activity Description: The expansion of Ragged Mountain Reservoir for public water supply, including permanent and temporary flooding, excavation, or filling of 13,085 linear feet of stream bed, 2.68 acres of wetlands, and 0.06 of an acre open water; the construction of a pipeline between the two reservoirs; and the construction of intake structures on South Fork Rivanna River Reservoir and Ragged Mountain Reservoir and the withdrawal of water from the two reservoirs.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.

Director, Water

12/19/2022
Date

A. *Authorized Activities*

This permit authorizes the following impacts, as described in the Joint Permit Application and Permit Support Document dated June 30, 2006, received by the Department on July 5, 2006, and deemed complete by the Department on May 18, 2007; additional information submitted via correspondence dated 2006 through May 2007; the request for a permit modification dated March 22, 2011, received by the Department on March 24, 2011; and additional information submitted via correspondence dated July 25 and July 28, 2011.

1. The permanent inundation and fill of 2.63 acres of non-tidal wetlands, including 0.81 acres of palustrine forested wetlands, 0.08 acres of palustrine scrub-shrub wetlands, and 1.73 acres of palustrine emergent wetlands for the construction of reservoir structures and filling of the Ragged Mountain Reservoir to a normal pool elevation of up to 683 feet above mean sea level (msl).

2. The permanent inundation of up to 11,511 linear feet, or approximately 2.2 miles, of stream bed, including unnamed tributaries of Moores Creek, to raise the normal reservoir pool elevation up to 683 feet above mean sea level (msl) and for the installation of culvert extensions and riprap aprons on both sides of Interstate 64.

3. The permanent fill of 881 linear feet (7,048 square feet) of stream bed on an unnamed tributary of Moores Creek with approximately 500 cubic yards of material for the construction of the new Ragged Mountain Reservoir dam.

4. The permanent fill of 0.06 acres of open water in the South Fork Rivanna Reservoir for installation of concrete support piles and piers, raw water intake tower, and raw water pumping station.

5. The permanent excavation below the existing reservoir normal pool elevation to generate fill material to be used in construction of the earthen dam and remove or breach two existing dams (upper and lower) in the Ragged Mountain Reservoir.

6. The temporary excavation of 0.05 acres of emergent wetlands and 693 linear feet of stream bed for the placement of temporary coffer dams and utility trenches for installation of the raw water pipelines, provided all work complies with Special Conditions Part I.C.5, -C.7, -C.8, -C.15, -H.1, and -H.2.

7. The temporary use of mechanical equipment in surface waters when conducted according to the permit Special and General Conditions.

8. The withdrawal of surface water from the South Fork Rivanna River Reservoir, not to exceed a maximum *daily* withdrawal volume of 48.0 million gallons. Authorization of this withdrawal shall also be subject to the conditions in Part I.F below.

9. Surface water impacts resulting from the compensation site creation or restoration activities shall be authorized under this permit, provided that no in-stream work occurs in tributaries within the Buck Mountain Creek compensation site from May 15th through July 31st of any year. The exception for coffer dam installation in Part I.C.8 shall apply. The permittee shall include a detailed summary of the temporary and permanent impacts, including but not limited to the type and amount of impacts, and shall provide proposed compensation for the permanent impacts in the final compensation plan. Any impacts to state waters resulting from the proposed compensation site construction activities shall be compensated for and approved by the Department prior to construction.

B. *Permit Term*

This permit is valid for 15 years from the date of issuance. If the permittee desires to continue the water withdrawal activities authorized by this permit after it expires, a new application must be submitted to the Department at least 180 days prior to the expiration of this permit. The application will be evaluated by the Department based on the regulations and laws in effect at that time.

C. *Conditions Applicable to All Project Construction and Compensatory Mitigation Activities*

1. The activities authorized by this permit shall be executed in such a manner that any impacts to stream beneficial uses are minimized. As defined in § 62.1-10(b) 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. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.

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

3. At crossings of streams, pipes and culverts less than 24 inches in diameter shall be countersunk a minimum of three inches, and pipes and culverts greater than 24 inches in diameter shall be countersunk a minimum of six inches to provide for the re-establishment of a natural stream bottom and to maintain a low flow channel. For multiple-celled

culverts, only the bottoms of those cells situated below the limits of ordinary high water shall be countersunk. To the greatest extent practicable, other cells, pipes, or culverts shall be elevated to provide a natural distribution of flood flows. The requirement to countersink shall not apply to extensions or maintenance of existing culverts that are not countersunk, to floodplain culverts being placed above ordinary high water, to culverts being placed on bedrock, or to culverts required to be placed on slopes 5% or greater.

4. Flows downstream of the project area shall be maintained to protect all beneficial uses as specified in this permit.

5. Excepting the construction of the dam, no activity shall cause more than minimal adverse effect on navigation, and no activity shall block more than half of the width of a stream or water body at any given time.

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

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

8. No in-stream work shall occur from May 15th through July 31st of any year on any perennial or intermittent stream being disturbed for installation or relocation of utility lines, including water transport pipelines. This restriction does not apply to utility line crossings installed via directional drilling where the stream bottom is not disturbed. An exception will be made for the *installation* of cofferdams, which may occur during these restricted time periods, provided that all practicable procedures are followed to prevent or reduce the likelihood of events that would cause the coffer dam to lose isolation from free flowing channels. Instream work does not include work that is performed *behind* a cofferdam or in a secured area isolated from a free flowing channel.

   This restriction may be lifted if further mussel surveys performed on perennial or intermittent stream crossings (except those being directionally drilled), or further consultation with the Virginia Department of Wildlife Resources and United States Fish and Wildlife Service, concludes that suitable mussel habitat is not present.

   Once exact pipeline crossings of perennial streams are determined, the permittee shall consult with the Department of Wildlife Resources on the need to perform mussel surveys on perennial tributaries to Ivy Creek. Surveys for freshwater mussels requested by the Department of Wildlife Resources shall be conducted 100 meters upstream through 400 meters downstream of impact areas. Surveys should be performed by a qualified biologist, preferably no more than six months prior to the start of construction. All mussels

encountered within the impact area should be relocated upstream into suitable habitat and any listed species should be tagged for future monitoring. Relocation should occur within 30 days of the start of construction to avoid or minimize the chance that mussels will recolonize the work area.

9. Surveys for Indiana bats shall be re-conducted if tree-clearing activities in forested areas do not occur within three years of July 26, 2011. Any surveys conducted as a result of this permit condition shall be performed by a qualified biologist in accordance with standard survey protocols acceptable to the Virginia Department of Wildlife Resources (DWR) and the United States Fish and Wildlife Service (USFWS). If surveys are necessary, the permittee shall submit a survey plan to the Department at least 45 days prior to commencing tree-clearing activities, and no tree-clearing activities shall commence until the Department receives written concurrence from DWR and USFWS that the activities are not likely to adversely affect this species.

10. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity. Turbidity levels downstream of any in-stream construction sites shall be minimized to the greatest extent practicable at all times.

11. Erosion and sedimentation controls shall be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction. These controls shall be placed prior to clearing and grading activities and shall be maintained in good working order, to minimize impacts to surface waters. These controls shall remain in place only until clearing and grading activities cease and these areas have been stabilized.

12. 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. Wet, excess, or waste concrete shall be prohibited from entering surface waters. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters. Any fish kills, or spills of fuels or oils, shall be reported to the Department immediately upon discovery at (540) 574-7800. If the Department cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802. The Department 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 debris or potentially toxic substance, or to change the location of any structure, are prohibited until approved by the Department, except to the extent that emergency measures are required to protect against imminent threats to public health and safety. In such instances the Department shall be

notified within 24 hours of taking the emergency action. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.

13. All authorized 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.

14. All non-impacted wetlands, streams, open water, and designated upland buffers that are located within fifty feet of any project activities shall be clearly marked or flagged 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*.

15. Machinery or heavy equipment used 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.

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

17. All materials (including fill, construction debris, 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, and shall be immediately stabilized to prevent the materials, or leachate associated with the materials, from entering surface waters. The materials shall be entirely removed within 30 calendar days following completion of that construction activity. After removal, disturbed areas shall be restored to pre-existing conditions (except for mature woody vegetation) in accordance with Part I.H.

18. All required notifications and submittals shall be submitted electronically to withdrawal.permitting@deq.virginia.gov or mailed to the Department office stated below, unless directed in writing by the Department subsequent to the issuance of this permit:

    Virginia Dept. of Environmental Quality
    Attn: Water Withdrawal Permitting Program Manager
    Office of Water Withdrawal Permitting
    P. O. Box 1105
    Richmond, Virginia 23218

19. All reports required by this permit and other information requested by the Department 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 the Department.

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.

20. 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."

21. The permittee shall notify the Department of any additional impacts to surface waters, including wetlands, and of any change to the type of surface water impacts associated with this project. The permittee shall also notify the Department of any substantial or material modifications to the design or configuration of the dam, culverts, in-stream armoring, concrete support piles and piers, intake structure, raw water intake tower, raw water pumping station, existing dam removals, or raw water pipeline installation. Any additional impacts, modifications, or changes affecting surface waters shall be subject to individual permit review and/or modification of this permit. Compensation may be required.

22. The permittee shall provide the public with access to Ragged Mountain Reservoir.

D. *Stream Modifications, Including Intake/Outfall Structures*

1. Any exposed slopes or stream banks shall be stabilized immediately upon completion of work in each impact area. Methods and materials for stabilization shall be in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.

2. Redistribution of existing stream substrate for erosion control purposes is prohibited, unless otherwise authorized for compensatory mitigation purposes.

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

4. Outlet protection for all outfalls and piped channel sections 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. Alternative energy dissipation measures may be installed with prior approval by the Department.

5. For stream bank protection activities, structures and backfill shall be placed as close to the stream bank as practical, while still avoiding and minimizing impacts to vegetated wetlands to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.

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

7. If stream channelization or relocation is required, all work in surface waters shall be done in the dry, unless authorized by this permit, and all flows shall be diverted around the channelization or relocation area until the new channel is stabilized. The diversion shall be accomplished by leaving a plug at the inlet and outlet ends of the new channel during excavation. Once the new channel has been stabilized, flow shall be routed into the new channel by first removing the downstream plug and then the upstream plug. The new stream channel shall be constructed following the typical sections submitted with the final design plans and should incorporate natural stream channel design principles to the greatest extent practicable. A low flow channel shall be constructed within the channelized or relocated area. The centerline of the channel shall meander, to the extent possible, to mimic natural stream morphology. The rerouted stream flow shall be fully established before construction activities in the old streambed can begin.

E. *Utilities*

1. 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 the applicable conditions of Part I.H.1 and I.H.2, unless otherwise authorized by this permit.

2. 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.

3. 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).

F. *Water Withdrawal and Instream Flow Conditions*

1. Definitions:

"Natural inflow," when used with respect to South Fork Rivanna Reservoir (SFRR), uses the gage at the South Fork Rivanna River near Charlottesville, VA (USGS gage #02032515) and is calculated as follows:
(South Fork Rivanna River gage #02032515 daily mean flow + SFRR change in storage + SFRR net evaporation + water supply withdrawal - water returned to river through plant VPDES discharge - seepage) * 0.99, where:

- 0.99 is the scale factor for watershed size between the gage and the dam
- SFRR net evaporation, discharge, water supply withdrawal, and seepage are calculated as defined in the Flow Measurement Design Plan and Operations Manual.

"Natural inflow," when used with respect to Sugar Hollow Reservoir, uses the gage at the Moormans River near Free Union (USGS gage #02032250) and is calculated as follows: $[17.43* ((Q_{gage}-Q_{SHR})*0.65)]/(77.0-17.43)$, where:

- 17.43 mi^2 is the Sugar Hollow Drainage area
- 77.0 mi^2 is the Moorman's gage drainage area
- Q_{gage} is the previous day's provisional mean daily flow at the Moorman's gage, in cubic feet per second (cfs)
- Q_{SHR} is the previous day's flow from SHR, in cfs, to include any discharge or spillage from the dam or reservoir.
- 0.65 is the conversion factor from cfs to millions of gallons per day (Mgal/day)

Currently, the USGS mean discharge rates are available online at http://waterdata.usgs.gov.

Under low flow conditions (when estimated inflows to Sugar Hollow Reservoir are less than or equal to 5.0 Mgal/day) RWSA may calculate natural inflow into Sugar Hollow Reservoir as follows:

- When the transfer between Sugar Hollow Reservoir and Ragged Mountain Reservoir via the pipeline is closed, natural inflow may be estimated based on the release rate from Sugar Hollow Reservoir necessary to maintain a stable reservoir elevation.
- When the transfer between Sugar Hollow Reservoir and Ragged Mountain Reservoir via the pipeline is open, natural inflow may be estimated based on the

release rate from Sugar Hollow Reservoir necessary to maintain a stable reservoir elevation minus the equivalent volume of the transfer to Ragged Mountain Reservoir.

"Initial fill," with respect to an Expanded Ragged Mountain Reservoir, refers to the period of time beginning when the facility becomes operational (as defined below), and ending when either (a) the water level at the facility for the first time reaches the normal pool elevation, or (b) a permanent operation and maintenance certificate is issued for the facility by the Virginia Department of Conservation and Recreation, whichever is later.

"Operational," with respect to a new water supply facility, means that it has been completely constructed, can be operated as intended, and is in active service. With respect to an Expanded Ragged Mountain Reservoir, the facility shall be deemed "operational" upon issuance of a temporary operation and maintenance certificate by the Virginia Department of Conservation and Recreation, even though the Reservoir may not fill with water to its full normal pool elevation until some time thereafter.

"Total downstream flow" is the rate at which all water in a stream is moving past a defined point and flowing downstream during a given interval of time. Total downstream flow is expressed in millions of gallons per day and includes, but is not limited to, all water traveling over a dam spillway, water seeping through, around, or under a dam or spillway, water conveyed through a pipeline from a reservoir to the downstream, or water conveyed through a hydroelectric plant from a reservoir to the downstream during the defined interval.

"Urban Water System" is the system of water supply reservoirs, intakes, pipelines, and water treatment facilities that provide potable drinking water to the citizens of the City of Charlottesville and areas of the County of Albemarle surrounding the City as defined by the Board of Supervisors. Water storage for the Urban Water System includes the Sugar Hollow Reservoir, the Ragged Mountain Reservoir, and South Fork Rivanna Reservoir.

"Useable storage" is the volume of water in a reservoir at a particular time that is available for routine withdrawal and use for water supply purposes. It consists of all that volume of water within a reservoir located above the dead storage pool (or sediment pool) up to the water surface elevation. The volume of useable storage at a particular reservoir at a given time depends upon the water surface elevation (which shall be determined by observation), and upon the then-current contour of the reservoir bottom and elevation of the dead storage pool (which shall be determined from the most recent stage-storage curves prepared by the Rivanna Water & Sewer Authority under the seal of a professional engineer on the basis of periodic bathymetric surveys).

"Total useable storage" is the sum of the Useable Storage in each of the storage reservoirs in the Urban Water System at a given time.

2. Where provisions applicable to a fully Expanded Ragged Mountain Reservoir (Total Useable Storage of 2.189 billion gallons, normal pool elevation of 683 feet) differ from those applicable to an intermediate-Expanded Ragged Mountain Reservoir (Total Useable Storage of 1.549 billion gallons, normal pool elevation of 671 feet), the provisions shown in brackets shall apply to an intermediate-Expanded Ragged Mountain Reservoir.

3. Total downstream flow Provisions before an Expanded Ragged Mountain Reservoir is Operational.

   a. From South Fork Rivanna Reservoir:

      i. When the water level at South Fork Rivanna Reservoir is at or above the spillway elevation of 382 feet, South Fork Rivanna Reservoir will be spilling water on a daily basis and no additional total downstream flow is required.

      ii. When the water level at South Fork Rivanna Reservoir is below the spillway elevation of 382 feet total downstream flow will be at least 8 mgd or natural inflow, whichever is less.

   b. From Sugar Hollow Reservoir:

      i. When the water level at Sugar Hollow Reservoir is at or above the spillway elevation of 975 feet, Sugar Hollow Reservoir will be spilling water on a daily basis and no additional total downstream flow is required.

      ii. When the water level at Sugar Hollow Reservoir is below the spillway elevation of 975 feet, total downstream flow past the dam will be at least 0.4 mgd or natural inflow, whichever is less.

   c. From Ragged Mountain Reservoir: there are no new requirements.

4. Total downstream flow Provisions After an Expanded Ragged Mountain Reservoir is Operational, But Before the Pipeline from South Fork Rivanna Reservoir to Ragged Mountain Reservoir is Operational.

   a. From South Fork Rivanna Reservoir:

      i. If total useable storage available to the Urban Water System is equal to or greater than 2.36 billion gallons [1.6 billion gallons], total downstream flow past South

Fork Rivanna Reservoir must be at least 70% of the natural inflow or 1.3 mgd, whichever is greater, subject to the following exceptions:

(a) No total downstream flows in excess of 20 mgd shall be required.

(b) If useable storage in South Fork Rivanna Reservoir has been exhausted (e.g., the water level is at or below the lowest operable water supply intake), then total downstream flow past South Fork Rivanna Reservoir shall be whatever volume of water enters that intake unless or until the total downstream flow past South Fork Rivanna Reservoir equals or exceeds 1.3 mgd.

ii. If total useable storage available to the Urban Water System is equal to or greater than 1.36 billion gallons [0.75 billion gallons] but less than 2.36 billion gallons [1.6 billion gallons], total downstream flow past South Fork Rivanna Reservoir must be at least 50% of the natural inflow or 1.3 mgd, whichever is greater, subject to the following exceptions:

(a) No total downstream flows in excess of 20 mgd shall be required.

(b) If useable storage in South Fork Rivanna Reservoir has been exhausted (i.e., the water level is at or below the lowest operable water supply intake), then total downstream flow past South Fork Rivanna Reservoir shall be whatever volume of water enters that intake unless or until the total downstream flow past South Fork Rivanna Reservoir equals or exceeds 1.3 mgd.

iii. If total useable storage available to the Urban Water System is less than 1.36 billion gallons [0.75 billion gallons], total downstream flow past South Fork Rivanna Reservoir must be at least 30% of the natural inflow or 1.3 mgd, whichever is greater, subject to the following exceptions:

(a) No total downstream flows in excess of 20 mgd shall be required.

(b) If useable storage in South Fork Rivanna Reservoir has been exhausted (i.e., the water level is at or below the lowest operable water supply intake), then total downstream flow past South Fork Rivanna Reservoir shall be whatever volume of water enters that intake unless or until the total downstream flow past South Fork Rivanna Reservoir equals or exceeds 1.3 mgd.

b. From Sugar Hollow Reservoir, when the water level in Sugar Hollow Reservoir is above the lowest operable water intake and an Expanded Ragged Mountain Reservoir has not completed its initial fill.

i. If the useable storage in Ragged Mountain Reservoir is equal to or greater than 1.53 billion gallons [1.08 billion gallons], total downstream flow past Sugar Hollow Reservoir must be at least 100% of the natural inflow to Sugar Hollow Reservoir; or 10 mgd, whichever is less.

ii. If the useable storage in Ragged Mountain Reservoir is equal to or greater than 1.1 billion gallons [0.8 billion gallons] but less than 1.53 billion gallons [1.08 billion gallons], total downstream flow past Sugar Hollow Reservoir must be at least 100% of the natural inflow to Sugar Hollow Reservoir; or 2 mgd, whichever is less.

iii. If the useable storage in Ragged Mountain Reservoir is equal to or greater than 0.66 billion gallons [0.45 billion gallons] but less than 1.1 billion gallons [0.8 billion gallons], total downstream flow past Sugar Hollow Reservoir must be at least 100% of the natural inflow to Sugar Hollow Reservoir; or 1 mgd, whichever is less.

iv. If the useable storage in Ragged Mountain Reservoir is less than 0.66 billion gallons [0.45 billion gallons], total downstream flow past Sugar Hollow Reservoir must be at least 100% of the natural inflow to Sugar Hollow Reservoir; or 0.4 mgd, whichever is less.

c. From Sugar Hollow Reservoir when the water level in Sugar Hollow Reservoir is above the lowest operable water intake and an Expanded Ragged Mountain Reservoir has completed its initial fill.

i. If the useable storage in Ragged Mountain Reservoir is equal to or greater than 1.53 billion gallons [1.08 billion gallons] and natural inflow to Sugar Hollow is greater than 5.0 mgd, total downstream flow past Sugar Hollow Reservoir must be at least 100% of the natural inflow to Sugar Hollow Reservoir; or 10 mgd, whichever is less.

ii. If the useable storage in Ragged Mountain Reservoir is less than 1.53 billion gallons [1.08 billion gallons] and natural inflow to Sugar Hollow is greater than 5.0 mgd, then total downstream flow must be at least 100% of the natural inflow to Sugar Hollow, or 2 mgd, whichever is less.

iii. When the water level in Sugar Hollow Reservoir is at or below the lowest operable water intake, RWSA must fully open the total downstream flow control device supplied from the lowest operable water intake and leave it in the fully open position until the water level in Sugar Hollow Reservoir is again higher than the lowest water intake.

d. From Ragged Mountain Reservoir: the permittee must provide a total downstream flow

past the dam of at least 23,800 gallons per day.

5. Total downstream flow provisions After Both an Expanded Ragged Mountain Reservoir and the Pipeline from South Fork Rivanna Reservoir to Ragged Mountain Reservoir are Operational.

   a. From South Fork Rivanna Reservoir:

      i. If total useable storage available to the Urban Water System is equal to or greater than 2.36 billion gallons [1.8 billion gallons], total downstream flow past South Fork Rivanna Reservoir must be at least 70% of the natural inflow or 1.3 mgd, whichever is greater, subject to the following exceptions:

         (a) No total downstream flows in excess of 20 mgd shall be required.

         (b) If useable storage in South Fork Rivanna Reservoir has been exhausted (i.e., the water level is at or below the lowest operable water supply intake), then total downstream flow past South Fork Rivanna Reservoir shall be whatever volume of water enters that intake unless or until the total downstream flow past South Fork Rivanna Reservoir equals or exceeds 1.3 mgd.

      ii. If total useable storage available to the Urban Water System is equal to or greater than 1.36 billion gallons [1.0 billion gallons] but less than 2.36 billion gallons [1.8 billion gallons], total downstream flow past South Fork Rivanna Reservoir must be at least 50% of the natural inflow or 1.3 mgd, whichever is greater, subject to the following exceptions:

         (a) No total downstream flows in excess of 20 mgd shall be required.

         (b) If useable storage in South Fork Rivanna Reservoir has been exhausted (i.e., the water level is at or below the lowest operable water supply intake), then total downstream flow past South Fork Rivanna Reservoir shall be whatever volume of water enters that intake unless or until the total downstream flow past South Fork Rivanna Reservoir equals or exceeds 1.3 mgd.

      iii. If total useable storage available to the Urban Water System is less than 1.36 billion gallons [1.0 billion gallons], total downstream flow past South Fork Rivanna Reservoir must be at least 30% of the natural inflow or 1.3 mgd, whichever is greater, subject to the following exceptions:

         (a) No total downstream flows in excess of 20 mgd shall be required.

(b) If useable storage in South Fork Rivanna Reservoir has been exhausted (i.e., the water level is at or below the lowest operable water supply intake), then total downstream flow past South Fork Rivanna Reservoir shall be whatever volume of water enters that intake unless or until the total downstream flow past South Fork Rivanna Reservoir equals or exceeds 1.3 mgd.

b. From Sugar Hollow Reservoir:

i. When the water level at Sugar Hollow Reservoir is at or above the spillway elevation of 975 feet, Sugar Hollow Reservoir will be spilling water on a daily basis and no additional total downstream flow is required.

ii. When the water level at Sugar Hollow Reservoir is below the spillway elevation of 975 feet.

(a) If the water level in Sugar Hollow Reservoir is above the lowest operable water intake total downstream flow past Sugar Hollow Reservoir must be at least 90% of the natural inflow to Sugar Hollow Reservoir; or 10 mgd, whichever is less.

(b) If the water level in Sugar Hollow Reservoir is not above the lowest operable water intake, RWSA must fully open the total downstream flow control device supplied from the lowest operable water intake and leave it in the fully open position until the water level in Sugar Hollow Reservoir is again higher than the lowest water intake.

c. From Ragged Mountain Reservoir: the permittee must provide a total downstream flow past the dam of at least 23,800 gallons per day.

6. Monitoring and Reporting of instream flows:

Within eight months of permit issuance, after opportunity for public input, the permittee will provide for Department approval, a Flow Measurement Design Plan and Operations Manual. The manual will describe the methods and procedures and any planned improvements for monitoring inflows and releases from Sugar Hollow and South Fork Rivanna River Reservoirs. The manual will describe the procedures that will be made and the frequency and conditions with which they will be made to adjust releases so the total downstream flow requirements of this permit will be met.

The Flow Measurement Design and Operations Plan will determine the suitability of the existing release equipment to meet the special conditions of Section F. In the event that existing release equipment cannot release water so that the total downstream flow past Sugar Hollow or Ragged Mountain Reservoirs is within 10% of the required total

downstream flow required by Section F, then the Flow Measurement Design Plan and Operations Manual will include a schedule for the installation of equipment capable of releasing water to satisfy that requirement and a description of the equipment. In no case shall the necessary equipment be installed later than two years after permit issuance. The plan will describe procedures to be used to calibrate and verify releases from the reservoirs and a include schedule for periodic recalibration and verification of the release equipment.

The Flow Measurement Design Plan and Operations Manual will identify the measurements and formulas to calculate natural inflow to Sugar Hollow and South Fork Rivanna reservoirs. The Flow Measurement Design Plan and Operations Manual will specify the frequency of measurements and specify what data will be used and how that data will be compiled to compute natural inflow to the reservoirs. The Flow Measurement Design Plan and Operations Manual will describe the permittee's records retention policy with regard to data collection and instrument calibration and verification records. The Flow Measurement Design Plan and Operations Manual will describe what contingency procedures, gages and formulas will be used in case the primary gage used to estimate inflow is out of service.

The Flow Measurement Design Plan and Operations Manual will include a schedule for updating useable storage values for each of the three reservoirs through bathymetric studies. The first update will not be required until an expanded Ragged Mountain Reservoir becomes operational.

The Flow Measurement Design Plan and Operations Manual will include the development of a reporting form(s) to be submitted to the Department annually. The form will be designed to evaluate the permittee's compliance with the special conditions of Section F. A reporting table designed to check compliance with Special Condition I.F.3 shall be submitted within at least eight months of permit issuance. For each reporting period the table shall record the date, the natural inflow to Sugar Hollow Reservoir and to South Fork Rivanna River Reservoir, whether the reservoirs are at full pond, and the required and actual total downstream flow past Sugar Hollow Reservoir and South Fork Rivanna River Reservoirs.

At least 6 months prior to the date when an expanded Ragged Mountain Reservoir becomes operational, proposed revisions to the Flow Measurement Design Plan and Operations Manual, including a revised Reporting Form shall be submitted to the Department to comply with Special Condition I.F.4.

At least 6 months prior to the date when both an expanded Ragged Mountain Reservoir and the pipeline from the South Fork Reservoir to the Ragged Mountain Reservoir become operational, proposed revisions to the Flow Measurement Design Plan and Operations

Manual, including a revised Reporting Form shall be submitted to the Department to comply with Special Condition I.F.5.

The required rates of total downstream flow past South Fork Rivanna Reservoir and Sugar Hollow Reservoir shall be determined and the rates of total downstream flow shall be adjusted as necessary twice per week. When the required rate of total downstream flow depends upon the natural inflow to the reservoir, the total downstream flow shall be calculated by determining the average of the natural inflows for the three most recent days for which data are available. No adjustment to the rate of total downstream flow shall be required unless the current calculation of total downstream flow differs from the previously calculated total downstream flow by more than ten percent.

A monitoring report shall be prepared and submitted by January 31st of each year documenting the daily withdrawals, natural inflow, and required and actual total downstream flow in the previous calendar year.

7. Water Conveyance Between facilities:

   a. Except as set forth below, the Rivanna Water & Sewer Authority may convey water between and among its reservoirs and/or water treatment plants at rates up to the capacities of the conveyances involved.

   b. After both an Expanded Ragged Mountain Reservoir and the pipeline from South Fork Rivanna Reservoir to Ragged Mountain Reservoir are Operational.

      i. There shall be no conveyance of water from Sugar Hollow Reservoir to Ragged Mountain Reservoir or Observatory Water Treatment Plant via the existing pipeline.

      ii. There shall be no conveyance of water from South Fork Rivanna Reservoir into Ragged Mountain Reservoir when the water level at the Expanded Ragged Mountain Reservoir is at or above the spillway elevation.

      iii. When the water level at South Fork Rivanna Reservoir is below its spillway elevation and water is released from Sugar Hollow Reservoir to the Moormans River at a rate substantially in excess of the applicable total downstream flow specified herein for the purpose of conveying water into South Fork Rivanna Reservoir for water supply, the Rivanna Water & Sewer Authority will reduce the rate of flow released through the flow control device at Sugar Hollow Reservoir by no more than fifty percent (50 %) per day until the applicable total downstream flow specified herein is achieved.

      iv. The maximum withdrawal from South Fork Rivanna Reservoir shall not exceed 48

million gallons per day and the maximum refill of Ragged Mountain Reservoir from South Fork Rivanna Reservoir shall not exceed 25 million gallons per day.

8. Prior to impacting any surface waters as authorized by this permit, the applicant shall submit any existing regional or local water supply conservation plans that apply to the service areas being supplied by the water withdrawn under this permit.

9. The permittee must issue a call for voluntary conservation, prior to reducing flowby to the South Fork Rivanna River to 50% of natural inflow or 1.3 mgd, whichever is greater, under the provisions of Special Conditions I.F.4.a.ii or I.F.5.a.ii; and the retail customers must be practicing mandatory conservation prior to reducing flowby to the South Fork Rivanna River to 30% of natural inflow or 1.3 mgd, whichever is greater, under the provisions of Special Conditions I.F.4.a.iii or I.F.5.a.iii.

10. In the event that the Governor or the Virginia Drought Coordinator declares a drought emergency in the Drought evaluation Region, which includes Albemarle County and the City of Charlottesville, the permittee shall implement the mandatory conservation measures, as detailed in Attachment A of this permit. The permittee shall be responsible for determining when drought emergencies are declared. The Department may require documentation that mandatory conservation measures were implemented during declared drought emergencies.

11. Water withdrawal monitoring and reporting activities shall comply with this section, with Part I.C, and with Part II. All records and information that result from the monitoring and reporting activities required by this permit, including any records of maintenance activities to the withdrawal system, shall be retained for the life of the permit. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or as requested by the Department.

12. *For all permittees whose average daily withdrawal during any single month exceeds 10,000 gallons per day,* the water withdrawals shall be reported to the Department by January 31st of the next year, as required under State Water Control Board (SWCB) Water Withdrawal Reporting Regulation (9 VAC 25-200 et seq.). The annual monitoring report shall contain the following information: the permittee's name and address, the sources and locations of water withdrawal, the cumulative volume of water withdrawn each month of the calendar year, the maximum day withdrawal and the month in which it occurred, and the method of withdrawal measurement. *For permittees subject to the Virginia Department of Health (VDH) Waterworks Regulations*, the annual reports to the Department may include, as an alternative, the source and location of water withdrawals, the type of use for the water withdrawn, and reference to the reports filed with VDH that contain the monthly withdrawal data.

G. *Project Construction Monitoring and Submittals for Project Surface Water Impact Sites*

Project Pre-Construction Monitoring and Submittals

1. Final construction plans for the project activities authorized by this permit shall be submitted at least 30 calendar days prior to initiating any land disturbance or construction in permitted impact areas. Construction activities shall not be initiated until the Department has reviewed and commented on the plans, or until 30 calendar days have passed without Department comments being received by the permittee. If the Department submits comments regarding activities authorized by this permit, construction shall not proceed until comments are resolved to the Department's satisfaction. Final construction plans shall include, at a minimum but not limited to, the location of all photographic monitoring stations, as described in Part I.G.3 below. Plan revision(s) in permitted areas shall be submitted to the Department for approval immediately upon determination that a change is necessary. Department approval shall be required prior to implementing the revision(s).

2. At least ten calendar days prior to the initiation of any land disturbance or construction activities in permitted areas, the permittee shall submit written notification to the Department, including a projected schedule for initiating and completing work at each permitted impact area.

3. The permittee shall conduct photographic monitoring of pre-construction conditions in permitted, temporary or permanent impact areas covered by this permit. The photos shall be of sufficient quantity to thoroughly document the environmental conditions at the permitted impact areas prior to disturbance. Photographic monitoring shall be conducted by the following method:

   Enumerated photo stations shall be established at each permitted impact area and shall be consistent for the duration of construction activities. Photo stations may be established via water craft or temporary floating structures. Photos will be taken from the same directional orientation during each monitoring event. Each photograph taken shall be labeled with the photo station number, the permitted impact location, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and a brief description of the activities being conducted at the time of the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

   Photos shall be submitted with the notification (Part I.G.2) to the Department that land disturbing or construction activities are planned to begin.

4. Final wetlands and stream compensation plans (final plans) shall be prepared in accordance with the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10 et. seq.) in effect at the time of plan submittal, and shall be based on the most recent mitigation guidance, if any, posted on the Department's wetlands web page.

   The final plans shall be approved by the Department *prior to any construction activity in permitted impact areas*. The Department shall have 60 calendar days to review and either provide written comments on the final plans or approve the final plans. The final plans as approved by the Department shall be an enforceable requirement of this permit. Any change to the approved final plans must be submitted to the Department for approval prior to implementing the change.

   a. The final wetland compensation plan shall include complete information on all components of the conceptual compensatory mitigation plan, as detailed in the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10 et. seq.) in effect at the time of final plan submittal, including but not limited to, compensation amounts, ratios, wetland types, and locations. In addition, the plan shall include: a summary of the type and acreage of wetland impacts anticipated during the construction of the compensation site and the proposed compensation for these impacts; a site access plan; a monitoring plan, including the proposed success criteria, the monitoring goals, the monitoring schedule, the location of photo stations, monitoring wells, vegetation sampling points, and reference wetlands (if available), and the monitoring provisions contained in this permit; an abatement and control plan for undesirable plant species; an erosion and sedimentation control plan; a construction schedule; and the mechanism for protection in perpetuity of the compensation site(s), including all surface waters and buffer areas within its boundaries.

      The mechanism for protection shall be in place within 180 days of final compensation plan approval. The mechanism for protection shall state that no activity will be performed on the property in any area designated as a compensation area, with the exception of maintenance or corrective action measures authorized by the Department. The mechanism of protection applies to ditching, land clearing, or discharge of dredge or fill material, unless these activities are specifically authorized by the Department through the issuance of a VWP individual or general permit, or waiver thereof. Such mechanism of protection shall contain the specific phrase "ditching, land clearing, or discharge of dredge or fill material" in the limitations placed on the use of these areas. The mechanism of protection, or an equivalent mechanism for government-owned lands, shall be recorded in the chain of title to the property, and proof of recordation shall be submitted to the Department within 180 days of final compensation plan approval.

Hydrology analyses should include: For riverine or stream-driven systems, a water budget (for nontidal sites only) based on expected monthly inputs and outputs which will project water level elevations for a typical year, a dry year, and a wet year; For groundwater- and precipitation-driven sites in non-riverine systems, historic groundwater elevation data, if available, or the proposed location of groundwater monitoring wells to collect these data; and For overbank flood-driven systems, gaging station data and a floodplain analysis, including a minimum 10-year continuous simulation which will account for variability in inputs and outputs under varying conditions.

b. The final stream compensation plan shall include complete information on all components of the conceptual compensatory mitigation plan, as detailed in the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10 et. seq.) in effect at the time of final plan submittal, including but not limited to, compensation amounts, credits and/or credit ratios, condition assessment types, and locations. In addition, the plan shall include: a summary of the type and linear feet of stream bed impacts anticipated during the construction of the compensation site and the proposed compensation for these impacts; a site access plan; an erosion and sedimentation control plan, if appropriate; an abatement and control plan for undesirable plant species; a monitoring plan, including the proposed success criteria, the monitoring goals, the monitoring schedule, and the location of photo stations, vegetation sampling points, survey points, bank pins, scour chains, and reference streams (if available), and the monitoring provisions contained in this permit; a plan view sketch depicting the pattern and all compensation measures being employed; a profile sketch; cross-sectional sketches of the proposed compensation stream; and the mechanism for protection in perpetuity of the compensation site(s), including all surface waters and buffer areas within its boundaries.

The mechanism for protection shall be in place within one year of final compensation plan approval. The mechanism for protection shall state that no activity will be performed on the property in any area designated as a compensation area, with the exception of maintenance or corrective action measures authorized by the Department. The mechanism of protection applies to ditching, land clearing, or discharge of dredge or fill material, unless these activities are specifically authorized by the Department through the issuance of a VWP individual or general permit, or waiver thereof. Such mechanism of protection shall contain the specific phrase “ditching, land clearing, or discharge of dredge or fill material” in the limitations placed on the use of these areas. The mechanism of protection, or an equivalent mechanism for government-owned lands, shall be recorded in the chain of title to the property, and proof of recordation

shall be submitted to the Department within one year of final compensation plan approval.

c. Any compensation plan proposing the purchase or use of mitigation banking credits shall include: (i) the name of the proposed mitigation bank and the HUC in which it is located; (ii) the number of credits proposed to be purchased or used; and (iii) certification from the bank owner of the availability of credits.

d. Any compensation plan proposing to include contributions to an in-lieu fee fund shall include proof of the willingness of the entity to accept the donation and documentation of how the amount of the contribution was calculated.

Monitoring and Submittals Required During Project Construction

5. Monitoring of water quality parameters shall be conducted as described below during relocation of any flowing stream through a new channel. Corrective measures and additional monitoring may be required if Virginia Water Quality Standards, as detailed in the most recent version of Regulation 9 VAC 25-260-10 et. seq., are not met. The permittee shall report violations of Virginia Water Quality Standards to the Department within 24 hours of monitoring. All monitoring data shall be submitted to the Department within seven calendar days of the monitoring event.

   a. One sampling station shall be located upstream of the relocated channel, and one sampling station shall be located immediately downstream of the relocated channel.

   b. At the *upstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *before* opening a new channel, and every 30 minutes thereafter for at least *two* hours.

   c. At the *downstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *after* opening a new channel, and every 30 minutes thereafter until the measurements indicate that the site has stabilized (a minimum of *three* hours).

6. The permittee shall conduct photographic monitoring of sufficient quantity and frequency to thoroughly document all temporary and permanent construction activities in permitted impact areas. Photos shall also document any non-compliant events or problems encountered during the construction activities. For work being conducted in phases, or only in certain areas at the same time, monitoring may begin upon initiating work in those specific permitted impact areas.

The established, enumerated photo stations in each permitted impact area shall be used for photo monitoring. Photos will be taken from the same directional orientation during each monitoring event. Each photograph taken shall be labeled with the photo station number, the permitted impact location, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and a brief description of the activities being conducted at the time of the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

Photos shall be submitted as part of the construction monitoring reports detailed in Part I.G.7.

7. Construction monitoring reports shall be submitted to the Department monthly, due by the 15th of the following month (for example, the report for January is due by February 15th). The reports shall include the following, as applicable:

   a. A written narrative stating whether or not work was performed in each permitted impact area, including installation and maintenance of erosion and sediment controls, during the monitoring period. If work was performed, the narrative shall include a description of the major work items performed, when those items were initiated, when those items are expected to be completed, and any non-compliant events or problems encountered.

   b. A written summary of any corrective actions taken and any subsequent notifications to the Department regarding non-compliant events or problems encountered during construction activities in permitted impact areas.

   c. A summary of anticipated work to be completed during the next monitoring period in all permitted impact areas.

   d. A labeled site map showing each permitted impact area where work activities occurred during the monitoring period and the photo stations used to document activities.

   e. The photos taken during the monitoring period.

Project Post-Construction Monitoring and Submittals

8. The permittee shall submit written notification within 30 calendar days after the completion of activities in each permitted impact area(s) authorized under this permit. The notification may be included with monthly construction monitoring reports or may be submitted separately. In either case, notification shall include the post-construction photos of disturbances in the particular permitted impact area(s), as described in Part I.G.9.

9. The permittee shall conduct photographic monitoring of sufficient quantity to thoroughly document that all construction activities were completed in permitted impact areas. The established, enumerated photo stations shall be used for photo monitoring. Each photograph taken shall be labeled with the photo station number, the permitted impact location, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and the date that activities were completed. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

   For temporary disturbances to surface waters, the permittee shall conduct photographic monitoring immediately after restoration, then once annually in August or September for *two consecutive years*. If restoration is not completed by June 30th of a given year, the monitoring should not begin until August or September of the *following* year in order to allow one growing season to pass. If post-restoration conditions are not equivalent to pre-construction conditions after two years (except for mature woody vegetation), the Department may require corrective action and continued annual monitoring until the temporary impacts are restored.

   For permanent disturbances, the permittee shall conduct photographic monitoring of all authorized, permanent-impact areas once at the time of completion of construction and stabilization of the area.

   Photos shall be submitted with the post-construction notification detailed in Part I.G.8.

10. Final As-Built plans shall be submitted to the Department prior to filling the reservoir for all structures completed to that date. These may include, but are not limited to, the dams, access roads, intake structures, water transfer pipelines, pump station, etc. Final As-Built plans for the remaining portions of the project authorized by this permit, such as, but not limited to relocation of utility lines, shall be submitted to the Department within 90 calendar days after the completion of construction. A licensed land surveyor or a licensed professional engineer shall certify the plans. The plans shall include a narrative comparing the As-Built plans with the design plans. The Department shall have 30 calendar days to review the plans and provide comments to the permittee.

H. *Compensatory Mitigation*

1. All temporarily disturbed wetland areas shall be restored to preconstruction conditions within 30 calendar days of completing work in the areas, which shall include re-establishing pre-construction contours, and planting or seeding with appropriate wetland vegetation according to cover type (emergent, scrub/shrub, or forested), except for invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee

shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed wetlands for a minimum of two years after the area is restored.

2. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours within 30 calendar days following the construction at that stream segment, and the banks shall be seeded or planted with the same vegetative cover type originally present along the banks, including supplemental erosion control grasses if necessary but not including invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed streams and stream banks for a minimum of two years after the area is restored.

3. Final compensation for wetland impacts shall be based on the conceptual compensation plans submitted as part of the complete application for this project. The permittee shall provide off-site compensation for 2.61 acres of wetland impacts at the Moores Creek compensation site in Albemarle County, Virginia, as detailed in the final wetland compensation plan approved by the Department. The compensation site shall be preserved in perpetuity, as described in the final wetlands compensation plan and Part I.G.4.

4. Final compensation for stream impacts shall be based on the conceptual compensation plans submitted as part of the complete application for this project. The permittee shall provide off-site compensation for 13,163 linear feet of stream impacts through a combination of stream restoration, stream riparian buffer restoration and enhancement, and preservation of stream and riparian buffer, a minimum of 100 feet but no more than 300 feet on each bank, at the Buck Mountain Creek compensation site, as detailed in the final stream compensation plan approved by the Department. Compensation will occur along Buck Mountain Creek and its tributaries. The compensation areas shall be preserved in perpetuity, as described in the final stream compensation plan and Part I.G.4.

5. Compensation for any additional permanent impacts based on the final project and compensation designs will be provided at appropriate ratios, as detailed in the final wetlands and stream compensation plans approved by the Department.

6. Any change to the compensation options noted in Part I.H.1 through I.H.5 above shall be approved by the Department prior to initiating any construction activities in surface waters.

I. *Conditions Applicable to Compensatory Mitigation Activities*

1. The permittee is responsible for meeting all of the components of the compensatory mitigation requirements associated with this permit. This responsibility can only be

transferred if and when the permit is transferred to another party and then only to the new permit recipient.

2. Compensation site construction shall commence *within 180 calendar days (approximately six months) of beginning project construction activities in <u>any</u> permitted impact area*. Work in the permitted impact areas shall cease until compensation site construction begins, unless otherwise authorized to continue by the Department.

3. All vegetation removal for control purposes shall be done by manual means, unless authorized by the Department in advance. Herbicides or algacides shall not be used in or immediately adjacent to compensation areas without prior authorization by the Department.

4. Vegetation shall be native species common to the area and shall be suitable for growth in local wetland and/or riparian conditions. Seeds used for compensation site activities shall conform to the Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et. seq.). Planting of woody plants shall occur when vegetation is normally dormant unless otherwise approved in the final compensation plan.

5. Point sources of stormwater runoff shall be prohibited from entering any compensation site prior to treatment by appropriate best management practices (BMPs) that are designed, installed, and maintained as described in the Virginia Erosion and Sediment Control Handbook (Third Edition, 1992, or the most recent version in effect at the time of construction) and the Virginia Stormwater Management Handbook (First Edition, 1999, or the most recent version in effect at the time of construction), or for any compensation site within state forest boundaries, the Forestry Best Management Practices for Water Quality in Virginia Technical Guide (Fourth Edition, July 2002). Appropriate best management practices may include sediment traps, grassed waterways, vegetated filter strips, debris screens, oil and grease separators, and forebays. Installation of alternative practices not described in these references shall be submitted to the Department for approval prior to beginning construction.

J. *Compensation Site Construction Tasks, Monitoring, and Submittals*

Pre-Construction Tasks, Monitoring, and Submittals for the Compensation Sites

1. At least ten calendar days prior to the initiation of any land disturbance or construction activities at the Moores Creek and Buck Mountain Creek compensation sites (compensation sites), the permittee shall submit written notification to the Department, including a projected schedule for initiating and completing work at each wetland cell and each stream restoration reach, and the pre-construction photographs described in Part I.J.4.

2. For compensation sites involving land disturbance, a site stabilization plan shall be implemented prior to compensatory mitigation construction activities.

3. All non-impacted wetlands, streams, open water, and designated buffers that are located within the compensation site limits, or that are located within fifty feet of any compensation site construction activities, shall be clearly marked or flagged 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*.

4. The permittee shall conduct photographic documentation of pre-construction conditions in each cell of wetlands to be created and in each reach of stream restoration or enhancement at the compensation sites. The photos shall be of sufficient quantity to thoroughly document the environmental conditions prior to disturbance. Photographic documentation shall be conducted by the following method:

   For wetland creation areas and stream restoration areas, enumerated photo stations shall be established in each wetland cell or stream restoration reach of the compensation sites. These locations will be consistent for the duration of compensation site construction activities. Photo stations may be established via water craft or temporary floating structures. Photos will be taken from the same directional orientation during each monitoring event, except for stream restoration reaches, where photographs shall be taken from the center of the stream, facing downstream, so that the entire length of the restoration reach is captured. Each photograph taken shall be labeled with the photo station number, the cell number and wetland type, the stream reach identification number or name, the photograph orientation, the date and time of the photograph, and the name of the person taking the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

   For preservation areas only, representative photos shall be taken once while marking the non-impact areas noted in Part I.J.3, or once prior to commencing any construction activities at the compensation sites. Each photograph taken shall be labeled with the stream reach identification number or name, the photograph orientation, the date and time of the photograph, and the name of the person taking the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs. In lieu of individual photos in large preservation reaches, an aerial photograph shall be submitted provided that the photo contains sufficient detail to identify pre-construction conditions. Each aerial photograph shall be labeled with the stream reach identification numbers or names, the photograph elevation, the date and time of the photograph, and the name of the person or firm taking the photograph.

Photos shall be submitted with the notification (Part I.J.1) to the Department that land disturbing or construction activities are planned to begin.

Short-Term Monitoring and Submittals during Compensation Site Construction

5. Monitoring of water quality parameters shall be conducted during relocation of any flowing stream through a new channel. Corrective measures and additional monitoring may be required if water quality standards are not met. The permittee shall report violations of water quality standards to the Department within 24 hours of monitoring. All monitoring data shall be submitted to the Department within seven calendar days of the monitoring event. The method for monitoring water quality parameters shall be as follows:

   a. One sampling station shall be located upstream of the relocated channel, and one sampling station shall be located immediately downstream of the relocated channel.

   b. At the *upstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *before* opening a new channel, and every 30 minutes thereafter for at least *two* hours.

   c. At the *downstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *after* opening a new channel, and every 30 minutes thereafter until the measurements indicate that the site has stabilized (minimum of *three* hours).

6. The permittee shall conduct photographic monitoring of sufficient quantity and frequency to thoroughly document all construction activities in each wetland cell and stream restoration or enhancement reach at the compensation sites, such as, but not limited to, clearing, grading, installation of water control structures, erosion and sediment control structures, access roads, stream relocations, etc. Photos shall also document any non-compliant events or problems encountered during the construction activities. No photos are necessary in preservation-only areas. For work being conducted in phases, or only in certain areas at the same time, monitoring may begin upon initiating work in those specific areas.

   The established, enumerated photo stations in each wetland cell or stream restoration or enhancement reach shall be used for photo monitoring. Photos will be taken from the same directional orientation during each monitoring event, except for stream restoration reaches, where photographs shall be taken from the center of the stream, facing downstream, so that the entire length of the restoration reach is captured. Each photograph taken shall be labeled with the photo station number, the cell number and wetland type, the stream reach identification number or name, the photograph orientation, the date and time of the

photograph, the name of the person taking the photograph, and a brief description of the activities being conducted at the time of the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

Photos shall be submitted as part of the compensation site construction monitoring reports detailed in Part I.J.7.

7. Compensation site construction monitoring reports shall be submitted to the Department monthly, due by the 15th of the following month (for example, the report for January is due by February 15th). The reports shall include the following, as applicable:

   a. A written narrative including a description of the major work items performed, when those items were initiated, when those items are expected to be completed, and the details of any non-compliant events or problems that were encountered.

   b. A written summary of any corrective actions taken and any subsequent notifications to the Department regarding non-compliant events or problems encountered during construction activities.

   c. A summary of anticipated work to be completed during the next monitoring period.

   d. A labeled site map showing where work activities occurred during the monitoring period and the photo stations used to document activities.

   e. The photos taken during the monitoring period.

8. After each cell of the wetland compensation site reaches final grades, but prior to planting the cell, the permittee shall submit a post-grading survey to the Department. The survey shall be conducted by a licensed land surveyor and certified by a licensed surveyor, licensed professional engineer, or licensed landscape architect. The survey shall document spot elevations (in feet above mean sea level) that are within +/- 0.2 feet (1.2 inches) of the elevations indicated in the site construction grading plan that was approved as part of the final compensation plan. Post-grading elevations for the compensation site shall be sufficient to ensure that wetland hydrology will be achieved on the site to support the goals and objectives of the approved final compensation plan. The Department shall have 30 calendar days to review the survey and provide comments to the permittee.

Submittals after Compensation Site Construction

9. The permittee shall submit written notification within 30 calendar days after the completion of activities in each wetland cell and each stream restoration or enhancement reach at the

compensation sites. The notification may be included with monthly compensation site construction monitoring reports or may be submitted separately. In either case, notification shall include the post-construction photos of the wetland cell or stream reach, using the established, enumerated photo stations.

10. Final As-Built plans of the entire Moores Creek site, and the areas of the Buck Mountain Creek compensation site where stream restoration or enhancement occurred, shall be submitted to the Department within 90 calendar days of completing construction at each site. A licensed land surveyor or a licensed professional engineer shall certify the plans. The plans shall include a narrative comparing the As-Built plans with the design plans or reference reach information. The Department shall have 30 calendar days to review the plans and provide comments to the permittee.

Long-Term Monitoring for Success after Compensation Site Construction and in Preservation Areas

11. Success monitoring at all compensation sites shall be conducted in accordance with the current Virginia Water Protection Permit Program Regulation 9 VAC 25-210-10 et. seq. in effect at the time that monitoring begins, with the most recent mitigation guidance found on the Department's wetlands web page, with the approved final compensatory mitigation plans, and with this permit.

12. Success monitoring at constructed or restored sites shall be conducted on the frequency and duration stipulated in the approved final compensation plans. Success monitoring shall begin at the first full growing season (monitoring year one) following compensation site construction. If construction ends before the beginning of the growing season in a particular year, then *that* year shall be considered as monitoring year one for purposes of success monitoring. If construction ends during or after the growing season in a particular year, the *following* growing season shall be considered as monitoring year one for purposes of success monitoring. The growing season for the area in which the compensation is located is defined by the local U.S.D.A Natural Resources Conservation Service or Soil Conservation Service office.

13. If all success criteria have not been met by November 30th of the last monitoring year specified in the approved final compensation plan, or if visual observations conclude that the site has not met the overall restoration goals, corrective actions shall be implemented in accordance with the Department approved corrective action plan. Annual monitoring shall continue until two sequential, annual reports indicate that all criteria have been successfully satisfied (e.g., that corrective actions were successful) and the compensation sites have met the overall restoration goals. The permittee shall be solely responsible for ensuring that all necessary corrective actions are implemented so that the compensation

sites meet the success criteria, as detailed in the final compensation plans. Should any significant changes to the compensation sites be necessary, the first full growing season after the changes are complete shall become the new monitoring year one. Monitoring shall continue in accordance with the Department approved corrective action plan.

14. Photographic documentation during success monitoring shall be conducted in accordance with the final compensation plans approved by the Department.

15. Hydrology monitoring at a *nontidal* wetland compensation sites shall be conducted in accordance with the final compensation plans approved by the Department.

16. Wetland vegetation monitoring shall be conducted in accordance with the final compensation plans approved by the Department. Undesirable plant species shall be identified and controlled as described in the monitoring and control plan for undesirable plant species, such that they are not dominant species or do not change the desired community structure.

17. Monitoring for the presence of hydric soils or soils under hydric conditions shall be conducted in accordance with the final compensation plans approved by the Department.

18. Wildlife data collection shall be conducted in accordance with the final compensation plans approved by the Department.

19. All bank pins and scour chains used to monitor bank and channel stability shall be monitored and measured each monitoring year on the frequency detailed in the Department-approved final compensation plans. Maintenance on bank pins and scour chains shall be conducted within 30 days of each inspection.

20. All preserved stream and riparian buffer areas provided as compensation for this project shall be monitored by aerial photography once every five years for the effective term of this permit, beginning upon the Department's approval of the final stream compensation plan. Aerial photographs shall be of sufficient number to capture all preservation areas and shall be of sufficient scale and elevation to discern changes in vegetation density and coverage in the preservation areas.

Submittals for Success Monitoring at the Compensation Sites

21. Compensation site monitoring reports shall be submitted by December 31st of the years in which a monitoring is required, including the final monitoring year, as identified in the approved final compensation plans. The reports shall include the following, at a minimum:

a. A general description of the compensation site including a site location map identifying wetland, open water, and stream compensation areas, photo stations, vegetative and soil monitoring stations, monitoring wells (if applicable), wetland zones, survey points, bank pins, and scour chains;

b. Summary of activities completed during the monitoring year;

c. Description of monitoring methods;

d. An analysis of all hydrology information, including monitoring well data, precipitation data, and gauging data from streams, or other open water areas, as detailed in the final compensation plans;

e. Evaluation of hydric soils or soils under hydric conditions;

f. Discussion of the stream geomorphologic parameters measured, including channel dimension, pattern, profile, and materials within defined stream type, as they relate to channel or stream bank stability;

g. An analysis of all vegetative community information, including woody and herbaceous species, both planted and volunteers, set forth in the final compensation plans;

h. Discussion of wildlife or signs of wildlife observed at the compensation sites;

i. Discussion of macroinvertebrate sampling data;

j. Evaluation of instream structures;

k. Discussion of observed success of livestock access limiting measures;

l. Discussion of alterations, maintenance, and/or major storm events resulting in significant change in stream profile or cross section;

m. Comparison of site conditions from the previous monitoring year, or comparison of site conditions to the reference site;

n. A calculation of the acreage of each wetland type based upon that monitoring year's soils, vegetation, and hydrology data, shown on the site location map;

o. Stream restoration reach survey, certified by a licensed land surveyor or a licensed professional engineer, including at a minimum, the stream classification, the required

stream cross-sections, a longitudinal profile (including Thalweg, bankfull, and top of bank measurements), a pebble count, all instream structures, and other required information as detailed in the approved final compensation plans;

p. A corrective action plan, if necessary, which includes any proposed actions or maintenance activities, a schedule, and a monitoring plan (e.g., the control of undesirable species, the repair of a damaged water control device, the replacement of damaged, planted vegetation, etc.); and

q. Properly labeled photographs.

22. Within 90 calendar days of the final monitoring event in the final monitoring year, a wetland boundary survey shall be conducted by a licensed land surveyor or a licensed professional engineer, and shall be based upon the results of monitoring data for soils, vegetation, and hydrology. A calculation shall be made of the total acreage of each wetland type. The boundary and acreage per wetland type shall be shown on the most recent version of the compensation site design plan sheet(s). The so-noted compensation design plan sheets shall be submitted to the Department as part of the final monitoring report or as a separate document.

23. Aerial photographs of preservation areas taken in accordance with Part I.J.20 shall be submitted to the Department within 30 days of the flight date. Each aerial photograph shall be labeled with the stream reach identification numbers or names, the photograph elevation, the date and time of the photograph, and the name of the person or firm taking the photograph.

Part II – General Conditions

A. Duty to Comply

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

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 permit which may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Action

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.

2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the Department. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9VAC25-210-185 (VWP Permit Extension).

3. VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the Department's discretion, or upon Department initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9VAC25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

E. Inspection and Entry

Upon presentation of credentials, any duly authorized agent of the Department may, at reasonable times and under reasonable circumstances:

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

1. The permittee shall furnish to the Department any information which the Department may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by the permittee.

2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the Department prior to commencing construction.

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 (2000), 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 the expiration of a granted VWP permit. This period may be extended by request of the Department 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. Transferability

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:

1. The current permittee notifies the Department within 30 days of the proposed transfer of the title to the facility or property;

2. The notice to the Department includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage, and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and

3. The Department does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

I. Property rights

The issuance of this 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 law or regulation.

J. Reopener

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the Department. 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 Department 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.

K. Compliance with State and Federal Law

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

L. Severability

The provisions of this VWP permit are severable.

M. Permit Modification

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;

2. When new information becomes available about the operation or activity covered by the VWP permit which 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;

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

4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;

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

6. When the Department determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of 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.

N. Permit Termination

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9VAC25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

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

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

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

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

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

6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

O. Civil and Criminal Liability

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

P. 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.

Q. Unauthorized Discharge of Pollutants

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;

2. Excavate in a wetland;

3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;

4. On or after October 1, 2001 conduct the following activities in a wetland:

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

    b. Filling or dumping;

    c. Permanent flooding or impounding;

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

R. Permit Extension

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, shall submit written notification requesting an extension. The permittee must file the request prior to the expiration date of the VWP permit. Under no circumstances will the extension be granted for more than 15 years beyond the original effective date of the VWP permit. If the request for extension is denied, the VWP permit will still expire on its original date and, therefore, care should be taken to allow for sufficient time for the Department to evaluate the extension request and to process a full VWP permit modification, if required.

PERMIT DECISION RATIONALE
Virginia Water Protection Individual Permit No. 06-1574
Minor Modification No. 4
Ragged Mountain Reservoir Expansion Project, Albemarle County, Virginia

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This document provides the pertinent information concerning the legal basis, scientific rationale, and justification for the issuance of the VWP permit minor modification listed below. The Department has reviewed the request for the minor modification to Virginia Water Protection (VWP) Individual Permit Number 06-1574 and has determined that the request qualifies for a minor modification and the Department approves the request to modify the above referenced permit. Based on the information provided in the minor modification request and the State Water Control Law and regulations, the Department has determined that there is a reasonable assurance that the activity authorized by this permit will protect instream beneficial uses, will not violate applicable water quality standards, and will not cause or contribute to significant impairment of state waters or fish and wildlife resources, provided the permittee complies with all permit conditions. Surface water impacts have been avoided and minimized to the maximum extent practicable.

Approved:

Director, Water

12/19/2022

Date

The Department has reviewed the application for modification of the Virginia Water Protection (VWP) Individual Permit Number 06-1574 and has determined that the project qualifies for a Minor Modification in accordance with VWP Permit Program Regulation 9VAC25-210-380.

The following details the minor modification application review process:

1. **Processing Dates:**

Modification Request Received:	July 12, 2022
Request Reviewed by Permit Writer:	July 13, 2022
Request for Technical Evaluation:	July 13, 2022
Technical Evaluation Received:	July 29, 2022
Request for Coordination with DWR:	October 5, 2022
DWR Coordination Response Received:	November 17, 2022
Minor Modification Issued:	December 19, 2022

2. **Minor Modification Description:**

Rivanna Sewer and Water Authority (RSWA) requests changes be made to the methods and definitions used for estimating inflows to both the Sugar Hollow Reservoir and the South Rivanna Reservoir.

Sugar Hollow Reservoir:

The modification is requested as recent information indicates the USGS gage at Moormans River near Free Union, Virginia (USGS gage #02032250) does not fully represent inflows to Sugar Hollow under low-flow stream conditions. Therefore, the following additions were made to the "natural inflow" definition provided in Special Condition Part I F1, regarding Sugar Hollow Reservoir:

> Under low flow conditions (when estimated inflows to Sugar Hollow Reservoir are less than or equal to 5.0 Mgal/day) RWSA may calculate natural inflow into Sugar Hollow Reservoir as follows:
>
> - When the transfer between Sugar Hollow Reservoir and Ragged Mountain Reservoir via the pipeline is closed, natural inflow may be estimated based on the release rate from Sugar Hollow Reservoir necessary to maintain a stable reservoir elevation.
> - When the transfer between Sugar Hollow Reservoir and Ragged Mountain Reservoir via the pipeline is open, natural inflow may be estimated based on the release rate from Sugar Hollow Reservoir necessary to maintain a stable reservoir elevation minus the equivalent volume of the transfer to Ragged Mountain Reservoir.

In addition, the following revisions were made to Special Conditions Part I F 4 c i, and Part I F 4 c ii:

i. If the useable storage in Ragged Mountain Reservoir is equal to or greater than 1.53 billion gallons [1.08 billion gallons] and natural inflow to Sugar Hollow is greater than 5.0 mgd, total downstream flow past Sugar Hollow Reservoir must be at least 100% of the natural inflow to Sugar Hollow Reservoir; or 10 mgd, whichever is less.

ii. If the useable storage in Ragged Mountain Reservoir is less than 1.53 billion gallons [1.08 billion gallons] and natural inflow to Sugar Hollow is greater than 5.0 mgd, then total downstream flow must be at least 100% of the natural inflow to Sugar Hollow, or 2 mgd, whichever is less.

South Rivanna Reservoir:
The modification is requested as recent information indicates the USGS gage at South Fork Rivanna River (SFRR) near Charlottesville, Virginia (USGS gage #02032515) more accurately reflects inflows to the South Rivanna Reservoir than the currently used USGS gage at Mechums River near Whitehall, Virginia (USGS gage # 02031000).

The modification requests a revision to the definition of "Natural Inflow," when used with respect to South Rivanna Reservoir, included in Special Condition Part I F1, to the following:

- "Natural inflow," when used with respect to South Fork Rivanna Reservoir, uses the gage at the South Fork Rivanna River near Charlottesville, Virginia (USGS gage #02032515) and is calculated as follows:

  (South Fork Rivanna River gage daily mean flow + SFRR change in storage + SFRR net evaporation + water supply withdrawal- water returned to river through plant VPDES discharge-seepage) * 0.99, where 0.99 is the scale factor for watershed size.

3. Project History:

The Ragged Mountain Expansion Project is part of the RWSA system that seeks to provide system redundancy and better meet water demand across the public water system by managing multiple reservoirs to service the Urban Systems of Charlottesville and surrounding Albemarle service area.

The VWP Individual Permit No. 06-1574 was issued on February 11, 2008. A Minor Modification to the permit was issued on March 20, 2009 to allow for the time period for recordation following approval of the final stream compensation plan to be changed from 180 days to 365 days. A Major Modification to the permit was issued on December 20, 2011, to change 1) the new dam material from concrete to earth-fill, affecting the dimensions of the dam and 2) construction of the dam and/or fill of the reservoir in two phases. A Minor Modification to the permit was issued on December 21, 2020 to change the USGS gage used in estimating inflows in respect to Sugar Hollow Reservoir. A Minor Modification to the permit was issued on July 21, 2021 to authorize the removal of an 0.086-acre parcel within the Buck Mountain Project Area and transfer the parcel to VDOT for use as a riparian buffer for bridge improvement along Route 667.

4. Avoidance and Minimization Efforts:

There are no changes to impacts, so no additional avoidance and minimization efforts are noted.

5. Project Impacts:

There are no additional impacts resulting from this modification.

Overall Impacts:

The original permit authorizes the expansion of Ragged Mountain Reservoir for public water supply, including permanent and temporary flooding, excavation, or filling of 13,085 linear feet of stream bed, 2.68 acres of wetlands, and 0.06 of an acre open water; the construction of a pipeline between the two reservoirs; and the construction of intake structures on South Fork Rivanna River Reservoir and Ragged Mountain Reservoir and the withdrawal of water from the two reservoirs.

6. Compensation for Unavoidable Impacts:

No decrease or increase in compensatory mitigation is proposed as a result of this modification request.

Overall Compensation

The original permit notes the applicant will compensate for unavoidable impacts at the sites noted below:

Wetlands Compensation Site Name:	Moores Creek Site
Wetlands Compensation Site City:	Charlottesville
Wetlands Compensation Site Basin:	James
Wetlands Compensation Site Sub-basin:	Rivanna
Wetlands Compensation Site HUC:	02080204

Stream Compensation Site Name:	Buck Mountain Creek site
Stream Compensation Site County:	Albemarle
Stream Compensation Site Basin:	James
Stream Compensation Site Sub-basin:	Rivanna
Stream Compensation Site HUC:	02080204

7. Riparian/Adjacent Landowner Notification:

As no additional impacts to streams or wetlands are proposed with this minor modification, riparian landowner notifications are not required.

8. Revisions to Part I - Special Conditions:

Special Conditions Part I F1, Part I F 4 c i, and Part I F 4 c ii – revised to reflect a change in USGS gauge, definitions, and calculations that affect the revisions approved in this minor modification of the permit.

The Special Conditions were also updated to reflect recent Department structural changes including 1) Department of Game and Inland Fisheries (DGIF) updated to the Department of Wildlife Resources (DWR) 2) DEQ updated to the Department 3) State Water Control Board updated to the Department and 4) Office of Water Supply updated to Office of Water Withdrawal Permitting.

9. General Conditions:

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

The General Conditions Part II were also updated to reflect recent Department structural changes including 1) DEQ updated to the Department and 2) State Water Control Board updated to the Department.

See Attachment A – Water Conservation for mandatory non-essential water use restrictions during periods of declared drought.

10. 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 which 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.

11. Staff Findings:

- In compliance with the State Water Control Law and regulations adopted pursuant thereto, the Department 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 Department has not taken into consideration the structural stability of any proposed activities.

- The modification is warranted to provide more accurate estimations and definitions of "Natural Inflow" to both the South Rivanna Reservoir and Sugar Hollow Reservoir.

- The proposed permit conditions address no net loss of wetland acreage and no net loss of functions in all surface waters, through the avoidance and minimization of wetland impacts to the maximum extent practicable, compensatory mitigation, and compensation monitoring and reporting. Permitted wetland impacts have been inventoried in evaluating this proposed permit.

Attachment A- Water Conservation

Mandatory Non-essential Water Use Restrictions

The following non-essential water uses will be prohibited during periods of declared drought emergencies. Please note the exceptions that follow each prohibited use. These prohibitions and exceptions will apply to uses from all sources of water and will only be effective when the Governor of Virginia or the Virginia Drought coordinator declares a Drought Emergency. Water use restrictions shall not apply to the agricultural production of food or fiber, the maintenance of livestock including poultry, nor the commercial production of plant materials so long as best management practices are applied to assure the minimum amount of water is utilized.

Unrestricted irrigation of lawns is prohibited.

- Newly sodded and seeded areas may be irrigated to establish cover on bare ground at the minimum rate necessary for no more than a period of 60 days. . Irrigation rates may not exceed one inch of applied water in any 7-day period.
- Gardens, bedding plants, trees, shrubs and other landscape materials may be watered with hand held containers, hand held hoses equipped with an automatic shutoff device, sprinklers or other automated watering devices at the minimum rate necessary but in no case more frequently than twice per week. Irrigation should not occur during the heat of the day.
- All allowed lawn irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation systems may be tested after installation, routine maintenance or repair for no more than ten minutes per zone.

Unrestricted irrigation of golf courses is prohibited.

- Tees and greens may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Localized dry areas may be irrigated with a hand held container or hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Greens may be cooled by syringing or by the application of water with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Fairways may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary not to exceed one inch of applied water in any ten-day period.

- Fairways, tees and greens may be irrigated during necessary overseeding or resodding operations in September and October at the minimum rate necessary. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period.
- Newly constructed fairways, tees and greens and areas that are re-established by sprigging or sodding may be irrigated at the minimum rate necessary not to exceed one inch of applied water in any seven-day period for a total period that does not exceed 60 days.
- Fairways, tees and greens may be irrigated without regard to the restrictions listed above so long as:
    - The only water sources utilized are water features whose primary purpose is stormwater management;
    - Any water features utilized do not impound permanent streams;
    - During declared Drought Emergencies these water features receive no recharge from other water sources such as ground water wells, surface water intakes, or sources of public water supply; and,
    - All irrigation occurs between 9:00 p.m. and 10:00 a.m.
- All allowed golf course irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Rough areas may not be irrigated.

Unrestricted irrigation of athletic fields is prohibited.

- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at a rate not to exceed one inch per application or more than a total of one inch in multiple applications during any ten-day period. All irrigation water must fall on playing surfaces with no outlying areas receiving irrigation water directly from irrigation heads.
- Localized dry areas that show signs of drought stress and wilt (curled leaves, foot-printing, purpling) may be syringed by the application of water for a cumulative time not to exceed fifteen minutes during any twenty four hour period. Syringing may be accomplished with an automated irrigation system or with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. during necessary overseeding, sprigging or resodding operations at the minimum rate necessary for a period that does not exceed 60 days. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period. Syringing is permitted during signs of drought stress and wilt (curled leaves, foot-printing, purpling).
- All allowed athletic field irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation is prohibited on athletic fields that are not scheduled for use within the next 120-day period.
- Water may be used for the daily maintenance of pitching mounds, home plate areas and base areas with the use of hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary.
- Skinned infield areas may utilize water to control dust and improve playing surface conditions utilizing hand held containers or hand held hoses equipped with an automatic

shutoff device at the minimum rate necessary no earlier than two hours prior to official game time.

Washing paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios is prohibited.

- Driveways and roadways may be pre-washed in preparation for recoating and sealing.
- Tennis courts composed of clay or similar materials may be wetted by means of a hand-held hose equipped with an automatic shutoff device at the minimum rate necessary for maintenance. Automatic wetting systems may be used between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Public eating and drinking areas may be washed using the minimum amount of water required to assure sanitation and public health.
- Water may be used at the minimum rate necessary to maintain effective dust control during the construction of highways and roads.

Use of water for washing or cleaning of mobile equipment including automobiles, trucks, trailers and boats is prohibited.

- Mobile equipment may be washed using hand held containers or hand held hoses equipped with automatic shutoff devices provided that no mobile equipment is washed more than once per calendar month and the minimum amount of water is utilized.
- Construction, emergency or public transportation vehicles may be washed as necessary to preserve the proper functioning and safe operation of the vehicle.
- Mobile equipment may be washed at car washes that utilize reclaimed water as part of the wash process or reduce water consumption by at least 10% when compared to a similar period when water use restrictions were not in effect.
- Automobile dealers may wash cars that are in inventory no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
- Automobile rental agencies may wash cars no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
- Marine engines may be flushed with water for a period that does not exceed 5 minutes after each use.

Use of water for the operation of ornamental fountains, artificial waterfalls, misting machines, and reflecting pools is prohibited.

- Fountains and other means of aeration necessary to support aquatic life are permitted.

Use of water to fill and top off outdoor swimming pools is prohibited.

- Newly built or repaired pools may be filled to protect their structural integrity.

- Outdoor pools operated by commercial ventures, community associations, recreation associations, and similar institutions open to the public may be refilled as long as:
    - Levels are maintained at mid-skimmer depth or lower,
    - Any visible leaks are immediately repaired,
    - Backwashing occurs only when necessary to assure proper filter operation,
    - Deck areas are washed no more than once per calendar month (except where chemical spills or other health hazards occur),
    - All water features (other than slides) that increase losses due to evaporation are eliminated, and
    - Slides are turned off when the pool is not in operation.
- Swimming pools operated by health care facilities used in relation to patient care and rehabilitation may be filled or topped off.
- Indoor pools may be filled or topped off.
- Residential swimming pools may be filled only to protect structural integrity, public welfare, safety and health and may not be filled to allow the continued operation of such pools.

Water may be served in restaurants, clubs, or eating-places only at the request of customers.