MEMORANDUM

To: S. Daniel Smith
Director, Division of Water Resources

From: John Hennessy, Supervisor, Compliance & Expedited Permitting Branch
Water Quality Permitting Section, Division of Water Resources

Date: August 11, 2020

Subject: Hearing Officer's Report and Recommendations
Mountain Valley Pipeline LLC
Individual 401 Water Quality Certification and Jordan Lake Buffer Authorization Certificate
Alamance and Rockingham Counties

I served as the Hearing Officer for the subject Public Hearing held at the Rockingham Community College in Wentworth, NC on November 19, 2019. The public hearing was held under the authority of Title 15A NCAC 02H .0503. The rules applicable to the hearing and to the project review are available in Appendix A. The purpose of this public hearing was to receive comments on the Division of Water Resources' 401 Water Quality Certification (401 WQC) and Jordan Lake Buffer Authorization Certificate applications (Appendix B) submitted by Mountain Valley Pipeline, LLC (MVP). A 401 WQC and Jordan Lake Buffer Authorization Certificate are needed to construct a proposed natural gas pipeline through Alamance and Rockingham Counties.

In addition to listening to oral comments at the public hearing, I have reviewed all written comments received prior, during and after the public comment period. In preparation of this report, I have considered all of the public comments, the public record, discussions with Division of Water Resources (DWR) staff related to the rules, and their review of the applications for the project.

The report has been prepared using the following outline:

I. History / Background
II. Public Hearing Summary
III. General Comments
IV. Recommendations
V. Summary
VI. Appendices

I. History / Background

On August 13, 2019, Mountain Valley Pipeline, LLC (MVP) submitted an application for a 401 WQC and a Jordan Lake Buffer Authorization Certificate. MVP had previously applied to DWR on November 30, 2018. DWR denied the previous application on June 3, 2019 because insufficient information was available to review the application at that time.

MVP is proposing to construct and operate an approximately 75.1-mile-long interstate natural gas transmission pipeline system through Virginia and North Carolina. In North Carolina, MVP is proposing to install approximately 48.2 miles of transmission pipeline and appurtenances, including 3 interconnect stations and 5 mainline valve sites (2 co-located with the interconnects) through Alamance and Rockingham Counties.

MVP's initial application proposed impacts to over 207 streams and open waters. The proposed impacts comprised of temporary impacts to over 17,000 linear feet of surface waters during the construction phase. None of the proposed impacts would be considered permanent after the project's construction was complete. MVP's initial application also proposed temporarily impacting approximately 13.95 acres of wetlands and permanently impacting 0.02 acres of wetlands. MVP's initial application proposed impacts to over 357,000 square feet of Zone 1 and over 270,000 square feet of Zone 2 of the protected riparian buffers within the Jordan Lake Watershed.

DWR requested and received additional information several times throughout the application review process:

Date	Action
September 23, 2019	Req. for Add Info (1)
October 30, 2019	Add Info Received (1)
December 20, 2019	Add Info Received
January 28, 2020	Req. for Add Info (2)
March 13, 2020	Partial Add Info Received (2)
March 23, 2020	Additional Add Info Response Received (2)
April 17, 2020	Additional Add Info Partial Response Received (2)
May 19, 2020	Additional Add Info Supplemental Response Received (2)
June 12, 2020	Req. for Add Info (3)
June 26, 2020	Add Info Response Received (3)

Throughout the application review process, MVP has continued to refine the project design and has proposed a reduction in originally proposed impacts to jurisdictional streams and wetlands as well as riparian buffers. The most recent application addendum proposes the following impacts:

Impact Type	Proposed Impact Amount
Streams	14,144 linear feet
Wetlands	12.34 acres
Zone 1 riparian buffer	180,680 square feet
Zone 2 riparian buffer	220,410 square feet

Under the authority of Title 15A NCAC 02H .0503, DWR held a public comment period from October 18, 2019 until December 20, 2019 to accept public input on the application. The public comment period included a public hearing as described below.

In accordance with Title 15A NCAC 02H .0503, notice of the public hearing and availability of the application for the 401 WQC and Jordan Lake Buffer Authorization Certificate was sent by email to the Water Quality Certification Listserv on October 18, 2019 (Appendix C). It was also published in Rockingham Now on October 20, 2019 and the Burlington Times-News on October 18, 2019. The public comment period ended at 5 pm on December 20, 2019.

II. Public Hearing

A public hearing was held November 19, 2019, at 6 p.m. at the Rockingham Community College in Wentworth, NC. The public hearing was held under the authority of Title 15A NCAC 02H .0503. This was a public hearing to receive public comment for the DWR 401 WQC application (Appendix B) submitted by MVP.

Fifty-nine people attended the public hearing, including eleven staff members from the Department. (Appendix D). The hearing officer provided opening remarks and Sue Homewood, DWR, presented background information on the 401 WQC process and the proposed application. Twenty-two individuals registered in advance of the hearing to provide comments. Speakers were given three minutes for presentations. The list of speakers is included (Appendix D).

The public hearing transcript, including oral comments, is attached to this report (Appendix E). DWR also received 1,725 written comments during the public comment period. (Appendix F). Of the 1,725 written comments received, all but three were opposed to the project. A summary of the oral and written comments, along with detailed responses that have a direct impact on the certification decision making process, are included below in Section III.

III. General Comments

The following is a summary of the comments received during the November 19, 2019 public hearing and during the public comment period. Because the number of comments received were too numerous, it is not reasonable to address every comment individually in this report. However, after reviewing the comments, it was possible to identify generalized areas of concern which are addressed in this report. The discussion below is organized by these general areas of concern and is intended to analyze and address all substantive comments received. All comments received are included in Appendix E. It should be noted that all the comments received outside of the public comment period were also made part of the public record.

Climate Change & NC Executive Order 80

General Comments

A number of comments expressed concerns about the continued use of fossil fuels, specifically fracked natural gas, and their impact on climate change. Many expressed the belief that the State of North Carolina, and country as a whole, should be moving toward the use of renewable energy sources. Multiple commenters stated that the project would conflict with Governor Cooper's Executive Order 80. Proponents of the project believe that natural gas is a "clean" fuel option to replace coal and other fossil fuels.

Response to Comments on Climate Change and NC Executive Order 80

After reviewing Executive Order 80 (EO80), it was determined that, although the project may appear to be inconsistent with the strategy outlined in the Clean Energy Report directed by EO80 to "Decarbonize the electric power sector," issuing a 401 Water Quality Certification would not prevent any of the goals of the order from being achieved, or directives placed on the NCDEQ, from being implemented. EO80 lays out broad reduction goals and places requirements on NCDEQ to implement larger programmatic actions. The approval of this project would not, singularly, prevent obtaining any of the goals stated in EO80. In addition, the directives assigned to NCDEQ are programmatic in nature and intent, and as such, are much broader in scope than this single project.

Cumulative Impacts

General Comments

Multiple comments were received that expressed concern about the quality of the cumulative impact analysis provided in the application. More specifically, there was concern expressed that the direct and indirect impacts from construction and long-term operation of the project were not adequately identified, described, and quantified.

Response to Comments on Cumulative Impact Analysis

After reviewing the received comments, as well as the application, DWR requested additional information on the anticipated cumulative impacts for the project. That request was sent on January 28, 2020. The requested additional information was received by the DWR on March 13, 2020. It is important to note that the requirements of the cumulative impacts analysis for the 401 WQC and the federally required National Environment Policy Act (NEPA) are different in scope and detail, and are designed to meet different standards. DWR's is required to evaluate cumulative impacts in accordance with DWR's Cumulative Impact Policy (April 10, 2004) which is a more specific and limited analysis. Concerns expressed by commenters were specific to the federal cumulative impact analysis required as part of FERC's implementation of the National Environmental Policy Act (NEPA). After reviewing the original cumulative impact analysis and the additional data provided by the applicant on March 13, 2020, it is my opinion that the cumulative impact information provided is sufficient to meet the requirements imposed on DWR by 15A NCAC .0506. Moreover, given the protections provided in 15A NCAC 2H .0500, 15A NCAC 2B .0200, and the Hearing Officer's recommendations discussed in this report, it is my opinion that the legal requirements for cumulative impact analysis pursuant to issuance of the 401 Water Quality Certification have been met.

Project Purpose & Need

General Comments

Multiple comments were received that questioned the purpose and need of the project. The concerns included evidence that the growth of natural gas markets was estimated to be negligible and questioned the need to build such a large and expensive pipeline. Commenters articulated concern that the market demand was generated through companies owned or affiliated with power companies and that the need was self-serving rather than generated by actual growth projections. In addition, several comments identified the NC Department of Environmental Quality's comments submitted to FERC regarding the proposed project's purpose and need submitted to FERC.

Response to Comments on Purpose & Need

While we understand the concerns expressed by the commenters, any remedy for the comments is outside the evaluation criteria established in N.C. Administrative Code for the review of 401 Water Quality Certifications and Buffer Authorizations.

Environmental Justice

General Comments

Several comments were received that expressed concern about environmental justice issues associated with pipeline's construction and operation. The primary concern was that the pipeline's construction along the chosen alternative would have a disproportionate impact on low-income and minority communities. In addition, several

comments expressed concern that the applicant has not adequately addressed potential impacts to cultural resources along the pipeline route.

Response to Comments on Environmental Justice

The Director evaluates a 401 WQC application based on six criteria including a no practical alternatives analysis, minimization of adverse impacts to surface waters, an analysis of the degradation of ground waters or surface waters, a cumulative impacts analysis, protection of downstream water quality through stormwater control measures, and replacement of existing uses through mitigation. Environmental justice is not included in the criteria upon which the Director must evaluate the application under 15A NCAC 02H .0506. Although Environmental Justice is not an evaluation criterion, the Department has engaged with the stakeholders of North Carolina throughout the permitting process. In addition to aforementioned stakeholder engagement, the Department has provided transparency with all the citizens who signed up to the email newsfeed, as well as having meetings with the Commission of Indian affairs. The Department has considered all comments and communications received on this project and has undertaken a thoughtful review of the information in its review of the application for the proposed Southgate MVP project. Further comments should be directed to FERC.

Sediment and Erosion Control

General Comments

There were multiple comments received about the potential to impact water quality from erosion and sedimentation during construction activities. The comments expressed concerns with the adequacy of the erosion and sedimentation control plans, as well as the applicant's record of non-compliance with environmental regulations and permits for the present pipeline construction in other states.

Response to Comments on Sediment & Erosion Control

Under North Carolina law, MVP is required to secure, and comply with, an approved Erosion and Sedimentation Control Permit issued by the Division of Energy and Mineral Resources (DEMLR). Compliance with the Erosion and Sediment Control Plan Approval will be enforced by DEMLR. Regardless of DEMLR's future compliance actions, DWR will maintain authority to address compliance concerns through the standard conditions included in the 401 Water Quality Certification and DWR's statutory authority to protect water quality standards.

In addition, the applicant has identified opportunities for enhanced high-quality sediment and erosion control measures in sensitive areas. I recommend incorporation of these measures as a condition, should the 401 WQC be issued. All conditions of the 401 WQC would be enforced by the DWR. Additional compliance inspection recommendations are addressed below.

Construction Activities

General Comments on Blasting

A few commenters raised concerns about living within the "blast zone" of the pipeline and questioned the protection of nearby structures and private wells.

Response to Comments on Blasting During Construction Activities

These comments are outside of the evaluation criteria established in N.C. Administrative Codes for the 401 WQC and Jordan Lake Buffer Authorization Certificate review and should be directed to FERC.

General Comments on Inspections & Compliance

Several commenters raised concerns about DEQ's ability to adequately inspect the pipeline construction activities given recent annual funding cuts to the agency.

Response to Comments on Inspections & Compliance During Construction Activities

DWR enforces all the authorizations it issues to the best of its ability.

General Comments on Floodplain Impacts

Multiple comments received expressed concerns over construction of the pipeline within, and parallel to, the floodplain of the Haw River.

Response to Floodplain Impacts During Construction Activities

Floodplain impacts are subject to the FEMA Floodplain Development Permitting program implemented at the local government level. These comments are outside of the evaluation criteria established in N.C. Administrative Codes for the 401 WQC and Jordan Lake Buffer Authorization Certificate review and should be directed to either the County Planning Department or the North Carolina Floodplain Mapping Program.

General Comments on Stream Crossing & Impacts

Several comments were received that trenching through streams and wetlands will have a negative effect on stream stability and threaten wildlife.

Response to Comments on Stream Crossings & Impacts During Construction Activities

The applicant has provided construction plans which describe in detail all steps and measures to be employed to protect downstream water quality during trenching activities. All areas will be dewatered during construction and immediately restored upon completion. In addition, the application indicates that trenching activities in streams and wetlands will not take place during wet conditions, or predicted wet conditions and will be delayed until adjacent upland trenching is complete. This will limit the time necessary for trenching activities and reduce risk to downstream waters. The applicant has submitted stream, buffer, and wetland restoration plans indicating that all disturbed areas will be restored upon completion and monitored for success. I

recommend these requirements be incorporated into a 401 certification, should one be issued.

General Comments on Impacts to Stoney Creek Reservoir

The City of Burlington expressed concerns about water quality impacts (turbidity/sedimentation) to the Stoney Creek Reservoir from construction activities within the watershed. Many commenters specifically cited the already degraded condition of the Haw River and the direct adjacency of a significant portion of the proposed pipeline corridor.

Response to Comments on Impacts to Stoney Creek Reservoir During Construction Activities

MVP is required to secure and comply with detailed Erosion and Sediment Control Plan Approval issued through DEMLR. In addition, MVP has committed to the additional high quality erosion and sediment control measures throughout the length of the entire project. MVP stated that the following additional measures would be utilized throughout the project:

- Use of compost filter socks around all wetlands to minimize ground disturbance; and use of super silt fence in areas where higher sediment loading could occur;
- Compliance with additional parameters for high quality watersheds as described in Sections C3 and C4 of the NCG010000 Construction Stormwater General Permit; and
- Enhancing temporary stabilization requirements by standardizing timeframes to seven days across the project footprint.

In addition to the enhanced sediment and erosion control commitments for the Stoney Creek Reservoir, MVP has also committed to:

- A dedicated environmental inspector, during construction of the pipeline, for the entire Stoney Creek Reservoir Watershed.

Finally, in keeping with the need to ensure maximum protection for the Stoney Creek Reservoir, I am recommending the following condition be added to the 401 WQC that:

- No more than 20 acres are to be cleared and grubbed at one time for the entire Stoney Creek Reservoir watershed.

General Comments on Epoxy Coating

A few comments received expressed concerns over potential impacts to water quality and public health from the use of epoxy coating.

Response to Epoxy Coating During Construction Activities

According to information supplied by FERC and the application, we believe there will be no anticipated impacts to surface or ground waters from the use of the proposed epoxy coating.

Miscellaneous Comments

General Comments

Multiple comments received expressed concerns about the project's impacts to recreation and associated economic benefits within and adjacent to the Haw River

Response to Cultural & Community Impacts

These comments are outside of the evaluation criteria established in N.C. Administrative Codes for the 401 WQC and Jordan Lake Buffer Authorization Certificate review and should be directed to FERC.

Reliance on Construction of the Mainline Pipeline in Virginia

General Comments

Multiple commenters expressed concern about issuing an approval for a project that is dependent on finalization of the mainline MVP project which has several of its necessary federal permits under supension and litigation, and is currently under a stop work order for the entire project.

Response to Reliance on Construction of the Mainline Pipeline through Virginia

See the discussion later in this report regarding DWR's requirement to consider practical alternatives.

Degradation of Ground and Surface waters

General Comments

The majority of comments received raised concerns over the degradation of ground and surface waters as a result of the construction and operation of the pipeline. Many commenters mentioned the large number of streams and wetlands that would be crossed by the pipeline and raised concerns regarding the violations issued by Virginia DEQ on the mainline project. They connected these impacts with the degradation of downstream uses including drinking water supply, aquatic life, primary and secondary contact recreation, and fisheries. Some comments were made regarding potential impacts to drinking water wells. A significant level of concern was present among the commenters about impacts to wells from construction activities (mainly blasting

activities) and operation of the pipeline.

Response to Degradation of Ground and Surface Waters

The application has been thoroughly reviewed to ensure that all water quality standards are protected. The application includes a drinking water well identification, monitoring and complaint resolution plan to specifically address concerns regarding adjacent residential wells.

To ensure effective compliance on such a large and complex project, it is recommended that a requirement for monthly compliance inspection be included as condition of the 401 WQC. The condition should allow for flexibility of the DWR staff to determine the nature, extent, and mode (e.g. given issues with COVID a field investigation may not always be the best oversight methodology) of the compliance review.

IV. Recommendations

Based on the review of public comments, the application and additional information and revisions to the application, the North Carolina General Statutes and Administrative Code, and discussions with DWR staff, I offer the following comments and recommendations on the criteria for issuance of a 401 WQC pursuant to 15A NCAC 02H .0506(b) and the issuance of Jordan Lake Buffer Authorization Certificate pursuant to 15A NCAC 02B .0267.

Recommendations Related to 15A NCAC 02H .0506

(1) Has no practical alternative under the criteria outlined in Paragraph (f) of this Rule.

Paragraph (f) states: "A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration or density of the proposed activity and all alternative designs the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters or wetlands."

The project proposes to construct a pipeline to transport natural gas from Virginia into Alamance County, North Carolina. The North Carolina portion of the proposed route will be constructed through Rockingham and Alamance Counties. As part of the Federal Energy Regulatory Commission (FERC) National Environmental Policy Act (NEPA) analysis, MVP investigated several alternatives to meet the purpose and need of the project including a no build alternative, an alternative energy alternative, an energy conservation alternative, and system alternatives. Of these alternatives, FERC and MVP found that the build alternative best met the purpose and need of the project.

Next, MVP conducted an extensive alternatives analysis on potential route locations, including co-location of the MVP Southgate pipeline with existing Duke Power ROW. Ultimately, MVP chose the current proposed route as the best option based on the evaluation of a variety of criteria such as project length and impacts to human and natural resources. Any large linear project will result in significant impacts to a

multitude of resources and concerns. Finding a balance among the variety of human and natural resources such as public lands, roads, conservation easements, forested lands, streams and wetlands, known historical and cultural resources, riparian buffers, homes, and businesses is a difficult task. Analysis for this project included pre- and post-application communication within DWR, the NC Wildlife Resources Commission (NCWRC) as well as various local and federal agencies on avoidance and minimization opportunities. MVP continued to refine the avoidance and minimization practices in response to additional information requests from DWR and through environmental commitments. A more detailed discussion of avoidance and minimization can be found below.

Recommendation:

The recommendation presented in this section is based on the following facts:

A) Review of 15A NCAC .02H .0506 (b) states,

"The Director shall issue a certification upon determining that existing uses are not removed or degraded by a discharge to classified surface waters for an activity which: (1) has no practical alternative under the criteria outlined in Paragraph (f) of this Rule;"

B) 15A NCAC .02H .0506 (f) states,

'(f) A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration or density of the proposed activity and all alternative designs the basic project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impact to surface waters or wetlands.'

C) The Certificate of Necessity issued by FERC on June 18, 2020 stated that construction of the MVP Southgate Project shall not begin until MVP "receives the necessary federal permits for the Mainline System and the Director of the Office of Energy Projects, or the Director's designee, lifts the stop-work order and authorizes Mountain Valley to continue constructing the Mainline System."

For a 401 Water Quality Certification to be issued, the applicant must demonstrate that no practical alternative exists per the definition given in 15A NCAC .0H .0506 (f). In the absence of the MVP Mainline pipeline's completion in Virginia, the MVP Southgate project has no independent utility. In essence, it would be a pipeline from nowhere to nowhere incapable of carrying any natural gas, and certainly not able to fulfill its basic project purpose, while having no practical alternative. As such, prior to incurring any impacts to North Carolina natural resources, and to ensure that the maximum avoidance and minimization of impacts to North Carolina water and buffer resources occurs, a level of certainty regarding the completion of the MVP Mainline pipeline is required.

The MVP mainline project is currently under a stop work order and multiple lawsuits. The stated overall purpose of the MVP Southgate Project is "to provide a timely, efficient, and cost-effective means of transporting natural gas from the existing terminus of the Mountain Valley Pipeline in Pittsylvania County, Virginia to the T-15 Dan River Interconnect in Rockingham County and then on to the T-21 Haw River Interconnect in Alamance County, North Carolina, so that the natural gas may be distributed to local and regional end users via those interconnects".

Therefore, to ensure that a practical alternative that fulfills the basic project purpose can be achieved, that all appropriate avoidance and minimization can occur, and the protection of water quality standards and their designated uses are preserved, I am recommending two possible options. Either option solves the previously stated problem of an incomplete or unfinished project, in Virginia (the MVP mainline project) causing unnecessary impacts to North Carolina resources. Thus, to ensure the proper protection of water quality standards and ensure that all necessary avoidance and minimization of impacts has occurred the following two options are presented:

Option 1: It is recommended that a condition be included in the 401 Water Quality Certification that construction of the MVP Southgate pipeline (and its corresponding impacts) cannot occur until all legal ambiguities presently surrounding the mainline pipeline have been resolved, and all necessary permits and authorizations have been obtained.

Option 2: It is recommended that the 401 Water Quality Certification be denied.

Both options will be included in the summary of recommendations.

(2) Will minimize adverse impacts to the surface waters based on consideration of existing topography, vegetation, fish and wildlife resources, and hydrological conditions under the criteria outlined in Paragraph (g) of this Rule.

Paragraph (g) states: "Minimization of impacts may be demonstrated by showing that the surface waters or wetlands are able to continue to support the existing uses after project completion, or that the impacts are required due to:

(1) The spatial and dimensional requirements of the project; or
(2) The location of any existing structural or natural features that may dictate the placement or configuration of the proposed project; or
(3) The purpose of the project and how the purpose relates to placement, configuration or density.

MVP has minimized impacts to surface waters and wetlands to the greatest extent practical. There are no permanent impacts proposed to streams and wetlands. Crossings of the Dan River, an adjacent unnamed tributary to the Dan River, and Stoney Creek Reservoir will be conducted using horizontal directional drilling (HDD) to avoid open trenching. Five additional streams will be crossed using Conventional Boring methods to avoid sensitive aquatic ecosystems, and 26 additional streams will be crossed using Conventional Boring methods to comply with the Jordan Lake Buffer Rules. The magnitude of the temporary impacts is significant considering the size and scope of the project, and consistent with other large linear projects constructed

throughout the state. The project design demonstrated minimization by proposing a narrower construction corridor when crossing wetlands, streams and buffered areas. Temporary impacts to streambanks, protected riparian buffers, and wetland areas will be restored to the original contours and revegetated with native plants in accordance with a restoration plan submitted on May 14, 2020. MVP will monitor any temporary impact areas in wetlands to ensure there is no permanent loss at these locations. The monitoring plan will include monitoring for a minimum three years for wetlands with stability, vegetation, and hydrology requirements. Upon successful completion of the restoration and monitoring activities, the streams, buffers, and wetland impact areas will continue to support existing uses of hydrology, vegetation, and aquatic and wildlife habitat.

The applicant has committed to several best management practices to avoid and minimize impacts to streams and wetlands.

- Demarcation of wetland boundaries with flagging and signs prior to start of construction
- Use of temporary work bridges, matting and pads to reduce the risk of soil compaction
- Trench backfilling using native material to prevent soil contamination and to accelerate revegetation
- Limiting operation of construction equipment in wetlands to only that necessary for clearing, excavation, pipe installation, backfilling, and restoration
- Installing trench breakers or plugs at the boundaries of wetlands to prevent draining of wetlands
- Pump-out activities in the work area will be routed through an energy dissipation/sediment filtration device prior to discharging to waterbodies
- Use of a project-specific invasive plant species management plan
- Coating for concrete-coated pipe will be conducted at least 100 feet from surface waters and springs
- Prohibiting use of live concrete as a building material so that wet concrete does not come in contact with surface waters
- Prohibiting storage of chemicals, fuels, hazardous materials, and lubricating oils within 100 feet of surface waters
- Use of horizontal directional drilling for two major river crossings
- Use of directional boring for five stream crossings with sensitive aquatic species
- Use of directional boring for 26 stream crossings to comply with Jordan Lake Buffer Rules
- Use of additional erosion control measures and schedules beyond the minimum required by the NC Erosion & Sediment Control Planning and Design Manual
- Implementation of a Spill Prevention, Control, and Countermeasure plan and a Horizontal Directional Drill Drilling Fluid Monitoring, Operations, and Contingency plan

MVP has initiated consultation with US Fish and Wildlife Service (USFWS) on threatened and endangered species along the corridor. MVP has also coordinated extensively with the NCWRC. This coordination began with the alternatives analysis, site-specific routing of the pipeline and crossing methods. MVP worked with resource agencies to avoid threatened and endangered species and sensitive habitats and to develop survey protocols for mussels, and crayfish. MVP conducted pre-construction surveys for mussels and crayfish in streams at the proposed crossing locations. MVP continues to develop a relocation plan for fish, mussels and crayfish in coordination with the resource agencies.

Recommendation:

The applicant has sufficiently demonstrated that impacts to surface waters and wetlands are required due to spatial considerations, natural features and the purpose of the project. The 401 WQC should require:

1) *all the commitments listed above (they are not detailed here again for purposes of brevity);*
2) *monitoring of temporary impact areas in accordance with the proposed restoration and monitoring plan;*
3) *a reopener condition in the event that temporarily disturbed wetland, stream or buffer areas do not return to similar pre-construction conditions. The reopener language should require a modification to the 401 WQC to account for any additional permanent impacts and mitigation for all permanent stream and/or wetland impacts, and any permanent buffer impacts in accordance with current regulations;*
4) *a condition, consistent with the high quality waters sediment and erosion control practices, that allows no more than 20 acres land disturbance (clearing and grubbing) at any given time, within the Stoney Creek Watershed;*
5) *a condition that requires the issuance of a final biological opinion prior to incurring any project impacts;*
6) *a condition that requires a preconstruction meeting with the permittee prior to incurring any project impacts.*

(3) Does not result in the degradation of groundwaters or surface waters.

The main risk to surface and groundwater from the MVP project will be during construction activities. These risks include sedimentation and turbidity in surface waters, breaches of drilling fluids during HDD, and spills of petroleum products and hydraulic fluids from fueling and equipment maintenance. In addition, some commenters raised concerns regarding impacts to drinking water wells from trenching and blasting activities associated with the pipeline installation and from possible contamination due to pipeline leaks during operation.

The applicant has committed to working in the dry for all stream and wetland crossings. Proper erosion and sedimentation control measures will be required for the entire

project in accordance with an Erosion and Sediment Control Plan Approval from DEMLR. All temporary fill placed in surface waters related to construction of the pipeline will be removed once installation of the pipeline is completed at the crossing. The stream banks or wetlands will be restored to the original contours and revegetated with a native seed mix to prevent erosion. Only in areas where calculations indicate that vegetated stabilization is not likely to be successful will hardened stabilization (rip-rap, geogrid, etc.) techniques be used. No hardening will be placed below the ordinary high-water mark. Furthermore, the applicant has voluntarily agreed to meet the requirements of the NPDES Construction Activities General Permit No. NCG010000 and to utilize additional erosion control measures beyond that required by the NC Erosion & Sediment Control Planning and Design Manual.

The applicant will store chemicals, fuels, hazardous materials, and lubricating oils and conduct all equipment and vehicle fueling and maintenance at least 100 feet from surface waters and 200 feet from private drinking water wells. In situations where equipment must continue to operate during fueling activities such as dewatering pumps near surface waters, secondary containment structures will be used to prevent any spillage from reaching the surface waters.

The applicant will conduct a desktop review and route alignment civil surveying to identify all known drinking water wells and private water supply springs within 150 feet of the construction workspaces. The applicant proposes to contact property owners via certified mail and request permission to conduct pre and post water quantity and water quality testing of each well prior to construction. Testing will be conducted for a suite of parameters including pH, specific conductivity, temperature, turbidity, total and fecal coliform bacteria, total dissolved solids, total suspended solids, hardness, alkalinity, sulfate, chloride, nitrate (total), bicarbonate, calcium and magnesium, sodium and potassium, iron and manganese, volatile organic compounds, semi volatile organic compounds, and total petroleum hydrocarbons as well as well yields. These tests will provide a baseline of groundwater quality and quantity against which to measure any construction-related impacts. Should the applicant receive a complaint regarding damage to well water quality or quantity, the applicant has established a complaint resolution process which includes proposed restoration remedies.

Operation of the pipeline is not expected to have adverse effects on surface waters and groundwater. Any post-construction stormwater generated as a result of impervious surfaces installed during construction are subject to state and local stormwater requirements. MVP has committed to using sheet flow for new above ground impervious surfaces constructed in areas with no state or local stormwater programs, these stormwater management techniques will be protective of water quality and are in accordance with the diffuse flow requirements of the Jordan Lake Buffer Rules.

Many commenters raised concerns about leaks from the pipeline impacting groundwater. The pipeline will be transporting dry natural gas which is not soluble in water. Liquids contained in the transported gas are removed at a natural gas processing plant prior to transport and at liquid separators at compressor stations. Any remaining liquid will be de-minimus and is not likely to impact groundwater.

***Recommendation**:*

The project is not expected to violate water quality standards if the certification is issued and if the conditions in the 401 Water Quality Certification are fully complied with by the applicant (or its successor). The 401 WQC should also be contingent on the issuance of an Erosion and Sediment Control Plan Approval issued by DEMLR, Winston-Salem Regional Office and upon issuance of appropriate state and local stormwater permits. FERC NEPA and 401 WQC application documentation indicates that the applicant has agreed to conduct pre-construction water quality testing for drinking water wells within 150 feet of the pipeline construction corridor. The 401 WQC should be conditioned to require MVP to comply with their proposed Water Resources Identification and Testing Plan dated August 2019. Should post-construction testing indicate that well water quality or quantity has been impacted by the construction, MVP should be required to initiate their complaint resolution process and provide temporary water supplies, and/or a new water treatment system or well. An independent, qualified groundwater specialist should determine whether an impact has occurred or not.

The 401 WQC should be conditioned to require monthly ride-through inspections with appropriate DWR staff to measure compliance with the certification and water quality standards. The 401 should allow for DWR staff to determine when a specific monthly inspection is not necessary. For example, an inspection may not be necessary when there has been no recent activities within streams, wetlands, or buffers, or when DWR staff may have recently conducted an inspection that satisfies the monthly inspection requirement. Due to the ongoing COVID-19 pandemic, DWR may use another means other than onsite inspections to fulfill this condition. The 401 WQC should also require a pre-construction meeting with the construction contractors, ACP staff, and DWR staff to review the conditions and requirements of the 401 certification and permits for clarity and understanding.

(4) Does not result in cumulative impacts, based upon past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards.

Cumulative impacts are those impacts that would result from the incremental effects of the project added to other past, present and reasonably foreseeable future activities (15A NCAC 01C .0103). This includes secondary impacts or impacts from future activities that occur as a result of the proposed project. The proposed project for the most part will consist of temporary water quality impacts from the installation of the pipeline. These impacts could include sedimentation and temporary disturbance of aquatic and riparian habitat during construction. No permanent impacts will occur in streams or wetlands from project activities. The impacts will be reduced through avoidance and mitigation efforts, erosion and sedimentation control and stormwater best management practices (BMPs), and spill prevention, control, and countermeasure practices. Any other projects occurring in the same geographic area as the proposed project will also be subject to local, state, and federal regulations that address stream and wetland impacts, stormwater management, and watershed protection.

In accordance with DWR's 401 Water Quality Certification Cumulative Impact Policy, the applicant completed a review and determined that there was no potential for secondary growth as a result of the proposed project other than from short term temporary (construction) impacts.

***Recommendation**:*

In accordance with DWR's 401 Water Quality Certification Cumulative Impact Policy the project is not expected to result in cumulative impacts that violate water quality standards, if the conditions in the 401 WQC and the Jordan Lake Buffer Authorization Certificate are fully implemented by the applicant (or its successor).

(5) Provides for protection of downstream water quality standards through the use of on-site stormwater control measures.

Post-construction stormwater is a potential water quality concern. The vast majority of the proposed pipeline project will not result in new impervious surfaces. However, some new impervious surfaces are proposed as part of the project. The impervious surfaces include multiple improved access roads, valve stations, metering and regulating (M&R) stations, and multiple contractor yards. The access roads are existing unpaved roads that will be improved to allow construction and maintenance equipment to safely pass. Improvements will include minor widening and/or surface water crossing upgrades. The valve sites are needed to segment the pipeline for safety, operation, and maintenance purposes. The applicant has indicated that stormwater will be managed by using existing drainage ditches and swales for access roads. Stormwater management for above ground facilities will be managed via sheet flow/diffuse flow across vegetated areas.

Recommendation:

Session Law 2017-10 prohibits DWR from requiring on-site stormwater management through a 401 WQC. As discussed above, the 401 WQC should be conditioned to require compliance with all applicable state and local stormwater permits for construction of a linear utility line and associated incidental built-upon area.

(6) Provides for replacement of existing uses through mitigation.

Both federal and state requirements allow for the purchase of in lieu fee credits to offset unavoidable impacts to streams and wetlands. DWR requires mitigation [15A NCAC 02H .0506(h)] at a minimum of a 1:1 ratio for permanent perennial stream impacts above 300 linear feet and a minimum of a 1:1 ratio for permanent wetland impacts above one acre. Perennial stream and wetland impacts for this project will not exceed the respective mitigation thresholds, therefore, no stream or wetland mitigation is required by DWR. Mitigation is required, however, by the U.S. Army Corps of Engineers for the wetland conversion impacts. Riparian buffer mitigation is required for the uses identified in the Table of Uses of the Jordan Lake Buffer Rule [15A NCAC 02B .0267(9)] as "ALLOWABLE WITH MITIGATION." "ALLOWABLE WITH MITIGATION" is defined in 15A NCAC 02B .0267(10)(c). Buffer mitigation is discussed below in the Buffer Authorization Certificate section.

***Recommendation**:*

No mitigation is required for stream or wetland impacts as a result of the proposed project. The 401 WQC should be conditioned to include language requiring mitigation should the project changes or otherwise result in permanent impacts that exceed mitigation thresholds.

Recommendations Related to 15A NCAC 02H .0267

(8) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow and reestablishing vegetation.

As discussed above in Section 5 of the 15A NCAC 02H .0506 discussions, the vast majority of the proposed project will not result in new impervious surfaces that will create concentrated stormwater flow. However, there will be improved temporary and permanent access roads, and valve sites constructed and maintained in the Jordan Lake Watershed as part of the project. The access roads are existing unpaved roads that will be improved to allow construction and maintenance equipment to safely pass. Upgrades will include minor widening and/or surface water crossing upgrades. The valve sites will consist of gravel pads around above-ground valves with gravel driveways.

Stormwater from these areas will be managed by sheet flow or by using existing roadside ditches and swales. Sheet flow from the access roads meets the diffuse flow requirements associated with the Jordan Lake Buffer Rule [15A NCAC 02B .0267(8)].

***Recommendation**:*

The Jordan Lake Buffer Authorization Certificate should include conditions requiring that diffuse flow conditions be maintained for all stormwater from impervious surfaces flowing to or within the protected buffers in accordance with the diffuse flow requirements stated above or other applicable buffer clarification memos.

(9) TABLE OF USES.

Utility, non-electric, other than perpendicular crossings:

- **In Zone 2 – Allowable**
- **In Zone 1 – Allowable with Mitigation**

Utility, non-electric, perpendicular crossings of streams and other surface waters:

- **Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width - Allowable with Mitigation**

The proposed project is categorized as a non-electric utility line. The proposed project includes perpendicular and non-perpendicular crossings of streams and other surface waters subject to this rule. Due to the width of the maintenance (operational) corridor of 30 feet, all buffer impacts are in the category of "ALLOWABLE WITH MITIGATION" as defined in NCAC 02B .0267(9). "ALLOWABLE WITH MITIGATION" uses are defined in 15A NCAC 02B .0267(10)(c).

***Recommendation**:*

None. The proposed project is" ALLOWABLE WITH MITIGATION" under the Table of Uses.

(11) DETERMINATION OF "NO PRACTICAL ALTERNATIVES." Persons who wish to undertake uses designated as allowable or allowable with mitigation shall submit a request for a "no practical alternatives" determination to the local government (in accordance with .0267(3) the Division shall implement the rules to the exclusion of the local government). The applicant shall certify that the criteria identified in Sub-Item (11)(a) of this Rule are met. The Division shall grant an Authorization Certificate upon a "no practical alternatives" determination.

The project proposes to construct a pipeline to transport natural gas from Virginia into Alamance County, North Carolina. The North Carolina portion of the proposed route will be constructed through Rockingham and Alamance Counties. As part of the Federal Energy Regulatory Commission (FERC) National Environmental Policy Act (NEPA) analysis, MVP investigated several alternatives to meet the purpose and need of the project including no build, alternative energy, energy conservation, and system alternatives. Of these alternatives, FERC and MVP found that the build alternative best met the purpose and need of the project.

Next, MVP conducted an extensive alternatives analysis on potential route locations including co-location of the MVP Southgate with existing Duke Power ROW. Ultimately, MVP chose the current proposed route as the best option based on the evaluation of a variety of criteria such as project length and human and natural resources. MVP continued to refine the route balancing a variety of human and natural resources such as public lands, roads, conservation easements, forested lands, streams and wetlands, known historical and cultural resources, riparian buffers, homes and businesses. This

analysis included pre- and post-application communication within DWR, NCWRC, as well as various local and federal agencies on avoidance and minimization opportunities. MVP has continued to refine the avoidance and minimization practices in response to additional information requests from DWR and through environmental commitments.

***Recommendation**:*

Referencing the previous discussion presented in this report, similar logic and application of the rules for the protection of buffers applies here as well.

15A NCAC 2B .0267(11)(a) states:

…The applicant shall certify that the project meets all the following criteria for finding "no practical alternatives":

(i) The basic project purpose cannot be practically accomplished in a manner that would better minimize disturbance, preserve aquatic life and habitat, and protect water quality;

(ii) The use cannot practically be reduced in size or density, reconfigured or redesigned to better minimize disturbance, preserve aquatic life and habitat, and protect water quality; and

(iii) Best management practices shall be used if necessary, to minimize disturbance, preserve aquatic life and habitat, and protect water quality;

In the absence of the MVP Mainline completion in Virginia, the MVP Southgate project has no independent utility. In essence, it would be a pipeline from nowhere to nowhere incapable of carrying any natural gas, and certainly not able to fulfill its basic project purpose, while having no practical alternative. As such, prior to incurring any impacts to North Carolina natural resources, and to ensure that the maximum avoidance and minimization of impacts to North Carolina water and buffer resources occurs, a level of certainty regarding the completion of the MVP Mainline pipeline is required.

The MVP Mainline project is currently under a stop work order and multiple lawsuits. The stated overall purpose of the MVP Southgate Project is "to provide a timely, efficient, and cost-effective means of transporting natural gas from the existing terminus of the Mountain Valley Pipeline in Pittsylvania County, Virginia to the T-15 Dan River Interconnect in Rockingham County and then on to the T-21 Haw River Interconnect in Alamance County, North Carolina, so that the natural gas may be distributed to local and regional end users via those interconnects".

Therefore, to ensure that a practical alternative that fulfills the basic project purpose can be achieved, that all appropriate avoidance and minimization can occur, and the protection of water quality standards and their designated uses are preserved, I am recommending two possible options. Either option solves the previously stated problem of an incomplete, or unfinished project, in Virginia (the MVP mainline project) causing unnecessary impacts to North Carolina resources. Thus, to ensure the proper protection of water quality standards and ensure that all necessary avoidance and minimization of impacts has occurred the following two options are presented.

<u>Option 1:</u> it is recommended that a condition be included in the Jordan Lake Buffer Authorization Certificate that construction of the MVP Southgate pipeline (and its corresponding impacts) cannot occur until all legal ambiguities presently surrounding the mainline pipeline have been resolved, and all necessary permits and authorizations have been obtained.

In addition, if option 1 is chosen, the Jordan Lake Buffer Authorization Certificate should be conditioned to incorporate the best management practices proposed by the applicant intended to minimize disturbance, preserve aquatic life and habitat, and protect water quality. Furthermore, the Jordan Lake Buffer Authorization Certificate should require demarcation of protected buffer with flagging or signs prior to the initiation of construction and limiting operation of construction equipment in buffers to only that necessary for clearing, excavation, pipe installation, backfilling, and restoration

<u>Option 2</u>: it is recommended that the Jordan Lake Buffer Authorization Certificate be denied.

Both options will be included in the summary of recommendations.

(13) Mitigation. Persons who wish to undertake uses designated as allowable with mitigation shall meet the following requirements in order to proceed with their proposed use:

(a) Obtain a determination of "no practical alternatives" to the proposed use pursuant to Item (11) of this Rule.

(b) Obtain approval for a mitigation proposal pursuant to 15A NCAC 02B .0268.

15A NCAC 02B .0268 has been repealed and replaced with 15A NCAC 02B .0295.

Due to the fact that the maintenance corridor for the proposed pipeline will have a width of greater than 10 feet, all of the buffer impacts within the operational (maintenance) corridor are considered "ALLOWABLE WITH MITIGATION" uses and subject to the buffer mitigation requirements [15A NCAC 02B .0295]. However, impacts to wetlands within the buffers are not subject to the buffer mitigation requirements and are regulated under 15A NCAC 02H .0506(h) as discussed above in section (6) of the 401 WQC application review process. The buffer mitigation totals reflect the removal of wetland areas within the buffer.

The applicant has proposed to achieve buffer mitigation through the purchase of credits from the approved Motes Creek Mitigation Bank. A letter addressed to the applicant from the Bank provider, Restoration Systems dated April 16, 2020 states that the Motes Creek Mitigation Bank has sufficient riparian buffer credits to satisfy the required buffer mitigation credits for the proposed project.

***Recommendation**:*

The Jordan Lake Buffer Authorization Certificate should include conditions requiring buffer mitigation in accordance with the table below:

	Compensatory Mitigation Amount Required	River & Sub-basin Number (HUC)
Buffers	244,623.44 (square feet)	Jordan – Haw River Subwatershed 03020102

V. Summary

Public comments received during the public hearing and public notice comment period focused on several major areas, including the degradation of water quality, cumulative impacts, environmental justice, sedimentation and erosion control, the permitting process, and ground and surface water supply protection. Due to the number of public comments, many of which expressed concerns on the same issues, each comment is not addressed individually. Rather, the comments were categorized into major subject areas where responses and recommendations could be presented in a coherent manner. A detailed compilation of all the comments received is presented in Appendix E. Only comments that have direct relevance to the 401 Water Quality Certification and Jordan Lake Buffer Authorization Certificate decisions have been addressed in the recommendations (Section IV).

As stated above, a thorough review of all public comments received, and the project record has been conducted and evaluated in context of all pertinent statutes and regulations governing the review of 401 Water Quality Certifications and Jordan Lake Buffer Authorization Certificates. Based on all of this information, it is my recommendation that the 401 Water Quality Certification and Jordan Lake Buffer Authorization Certificate be issued and subject to the conditions included in the recommendations in Section IV and summarized in below in Section V. It is further recommended that DWR include any additional conditions necessary to ensure that the project will meet state water quality standards.

Summary of Recommendations

Monthly Compliance Drive Through – To ensure effective compliance on such a large and complex project, it is recommended that a requirement for monthly compliance drive through be included as condition of the 401 WQC. The condition should allow for flexibility of the DWR staff to determine the nature, extent, and mode (i.e. given issues with COVID-19 a field investigation may not always be the best oversight methodology) of the compliance review. In addition, a condition requiring a preconstruction meeting with DWR should be included.

<u>High Quality Sediment & Erosion Control Measures in Stoney Creek Reservoir</u> – A recommendation requiring specified additional sediment & erosion control measures for construction occurring in the Stoney Creek Reservoir watershed. The reservoir is the drinking water supply for the City of Burlington. The City expressed concerns about construction impacts to the reservoir.

<u>Additional Other Sediment & Erosion Control</u> – A recommendation that specifies all the sediment & erosion control measures the applicant committed to in their application be included in the 401 WQC as specific conditions.

<u>No Mainline Project Condition or Denial</u> – A recommendation that that the 401 Water Quality Certification include a condition requiring the lifting of all the stop work orders and acquisition of all necessary permits for the MVP mainline project be acquired before the 401 WQC and the Jordan Lake Buffer Authorization Certificate is valid. Or, an alternative recommendation that the 401 WQC and the Jordan Lake Buffer Authorization Certificate be denied.

<u>Acquire All Other Necessary Permits for MVP Southgate</u> – A recommendation that the that the 401 WQC and Jordan Lake Buffer Authorization Certificate include the standard condition requiring the applicant to acquire all other environmental permits and authorizations prior to incurring any impacts to any jurisdictional waters and buffers.

<u>Other Recommendations</u> – A recommendation that the 401 WQC include conditions that require the applicant to comply with:

1) *all the commitments listed in their application and detailed in this report (they are not detailed here again for purposes of brevity);*
2) *monitoring of temporary impact areas in accordance with the proposed restoration and monitoring plan;*
3) *a reopener condition in the event that temporarily disturbed wetland, stream or buffer areas do not return to similar pre-construction conditions;*
4) *a condition, consistent with the high quality waters sediment and erosion control practices, that allows no more than 20 acres land disturbance (clearing and grubbing) at any given time, within the Stoney Creek Watershed;*
5) *a condition that requires the issuance of a final biological opinion prior to incurring any project impacts;*
6) *a condition that requires a preconstruction meeting with the permittee prior to incurring any project impacts.*

<u>Well testing during construction</u> – A recommendation that the 401 WQC include a condition that requires the applicant follow their Water Resources Identification and Testing Plan dated August 2019.

<u>Mitigation for Permanent Impacts to Wetlands or Streams</u> – A recommendation for the standard condition that requires any permanent impacts to wetlands and streams in excess of the regulated thresholds require mitigation.

Mitigation and Diffuse Flow for Buffer Impacts – A recommendation that all the buffer impacts, that meet the definition of "Allowable with Mitigation", have the requisite mitigation requirement, and all the diffuse stormwater flow requirements in 15A NCAC 2B .0267 be met.

Acquire Biological Opinion – A recommendation that the biological opinion be finalized prior to any impacts being incurred.

VI. Appendices (available on Laserfiche)

A. Rules applicable to Project pursuant to application received date
Laserfiche Folder Name: *Rules applicable to project*
Laserfiche link:
https://edocs.deq.nc.gov/WaterResources/Browse.aspx?id=1257843&dbid=0&repo=WaterResources

B. August 13, 2919 401 Water Quality Certification Application
Laserfiche Folder Name: *Application 8-14-2019*
Laserfiche link:
https://edocs.deq.nc.gov/WaterResources/Browse.aspx?id=957735&dbid=0&repo=WaterResources

C. Notice of Public Hearing
Laserfiche Filename: 20181638 Ver 3_Public Notice_20191018
Laserfiche link:
https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=1007542&dbid=0&repo=WaterResources

D. Public Hearing Speaker and Non-Speaker Sign In sheets
Laserfiche Filename: 20181638 Ver 3_Hearing Signin Sheets_20191119
Laserfiche link:
https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=1032000&dbid=0&repo=WaterResources

E. Public Hearing transcript, including oral comments
Laserfiche Filename: 20181638 Ver 3_Public Hearing Audio Transcript_20191119
Laserfiche link:
https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=1042003&dbid=0&repo=WaterResources

F. Written comments received during the comment period, including at the public hearings
Laserfiche Folder Name: Public Comments Received
Laserfiche link:
https://edocs.deq.nc.gov/WaterResources/Browse.aspx?id=1023871&dbid=0&repo=WaterResources