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October 30, 2019

NC Division of Water Resources  
401 & Buffer Permitting Branch  
Attn: Ms. Sue Homewood  
1617 Mail Service Center  
Raleigh, NC 27699-1617

RE: MVP Southgate Project  
DWR # 20181638  
Response to Request for Additional Information  
Major Variance Application

Dear Ms. Homewood:

Mountain Valley Pipeline, LLC ("Mountain Valley") is providing this response to your request for additional information, dated September 23<sup>rd</sup>, 2019, regarding the above-referenced application for a Major Variance to the Jordan Lake Buffer Rules (15A NCAC 02B .0267) for the MVP Southgate Project ("Project"). The comments from your September 23<sup>rd</sup> letter are restated below and are followed by Mountain Valley's response.

- 1. Provide a detailed buffer restoration plan for all temporary workspace areas within Zone 1 that are not within the operational corridor shown on the plans. The plan must include a replanting design including species and location, vegetation monitoring parameters, and proposed success criteria.**

**Response:** We are in the process of preparing a detailed buffer restoration plan for all temporary workspace areas within Zone 1 of the Jordan Lake Watershed. This plan will follow NCDWR Riparian Buffer Restoration criteria pursuant to Section 9.(C)(7)(e) of the *Riparian Buffer Protection (Model) Ordinance for Lands within the Jordan Watershed* and will be submitted under separate cover upon completion. Details regarding the establishment of temporary and permanent groundcover will be included in the Plan and a planting plan (plant list, general planting schematic, and installation details) will also be provided to describe the proposed bank and buffer planting. Native plant community types in the project vicinity will be evaluated for use in our streambank and buffer planting plan.

- 2. Page 1 of Appendix E states "*Features not shown on either reference are not subject to the buffer rules per the administrative code, and as such, were not buffered on the maps in Appendices C and D per the exemption based on a field determination from the NCDWR.*" The first portion of this statement is correct, that features not shown on either map are not subject to the Jordan Lake Buffer Rules. However, an on-site determination to document that features do not exist when they are shown on either map is a separate exemption within the Jordan Buffer Rules and should be stated as such within the project request.**

**Response:** Features not shown on either reference are not subject to the buffer rules per the administrative code, and, as such, were not buffered on the maps in Appendices C and D. Other



surface waters shown on either reference, but determined in the field by DWR to be either “ephemeral” or “not present” are exempt and, therefore, were not buffered on the maps in Appendices C and D.

3. **The Summary Impact Table denotes some of the requested variance locations as "Workspace Only." If these areas are for workspace activities only and not for pipeline installation, please clarify for each specific location as to why the requirements of Footnote 1 and/or 4 are unable to be met for these locations.**

**Response:** The Project is unable to meet the requirements of Footnotes 1 and/or 4 for the “Additional Temporary Workspace (ATWS)” areas, as the entire workspace must be cleared of obstructions (e.g., trees and stumps, brush, logs, large rocks) and graded to allow large equipment to construct the pipeline and traverse the corridor safely. For clarification, temporary workspace is area that is needed in addition to the 50’ permanent easement for construction that generally extends out an additional 50 feet. In some areas (e.g. road crossings, pipe bends) additional temporary workspace may be required beyond the standard construction corridor (permanent easement plus temporary workspace).

The Project will limit the vegetation clearing and grading to the workspace approved by FERC should the Project be certificated. Vegetation clearing methods will follow Mountain Valley’s Project-specific Upland Erosion Control Plan, the Project-specific Erosion and Sedimentation Control Plan and applicable regulatory approvals. This plan is included in Attachment 5.

The standard construction corridor width of 100 feet in uplands and 75 feet within wetlands are the minimum width necessary for safe construction, operation, and maintenance of this diameter pipeline. The workspace must allow for the pipe trench, space for stockpiling of top and sub soils as well as area for equipment to work and safely pass. At no time will the Project or its contractor clear or alter any areas outside of the boundaries of FERC-approved workspace areas. Should additional workspace be required subsequent to the commencement of construction activities, the Project will request approval from the landowner, the FERC and other federal and state regulatory agencies as applicable. The ATWS areas are required not only for construction access, but for other construction-related staging activities. Table 1 in Attachment 4 lists the proposed ATWS in the North Carolina portion of the route by Milepost, ID number, acreage, current land use and purpose.

4. **The associated 401 application for this project proposes to adhere to a 30-foot operational workspace (10 feet regularly mowed, and trees removed within 15 feet on either side of the pipeline) as required by FERC for intermediate and major waterbodies and all wetlands. Page 3 of Appendix E submitted with the variance request states "only 10 feet centered over the pipeline will be mowed in wetland and riparian buffer areas to maintain an herbaceous state.... In addition, trees within 15 feet of the pipeline with roots that could compromise the integrity of the pipeline coating will be removed." However, Appendix C indicates that 50-foot operation corridor will be maintained for the majority of locations within the variance request. Please clarify.**

**Response:** Routine vegetation management activities will only occur within 15 feet of the pipeline in the Jordan Lake riparian buffer. Approximately once every 3 years, a 10-foot wide corridor centered over the pipeline will be mowed to maintain the area over the pipeline in an herbaceous state. If maintenance is required on the pipeline, Mountain Valley may need to utilize the entire 50-foot permanent easement to perform maintenance activities which could include mechanized clearing and grubbing to facilitate pipeline inspection and replacement activities.

5. **At various locations within variance request it appears that impacts could be avoided with a minor realignment, relocation, or reduction of the temporary workspace. Please review these**

areas and propose further avoidance and minimization, or site-specific justification of why these impacts could not be avoided or further minimized:

- a. Sheet 15, 15VAR
- b. Sheet 26, 28VAR
- c. Sheet 35, 37VAR

**Response:**

- a. **Sheet 15, 15VAR:** The pipeline corridor was re-routed to entirely avoid buffer impacts in this area. The re-route begins at MP 59.0RR and extends to MP 59.56RR. Please refer to the attached, updated Impact Drawings.
- b. **Sheet 26, 28VAR:** Impacts at 28VAR at MP 67.6 (Boyds Creek crossing) were further minimized by removing an Additional Temporary Workspace (ATWS) area to reduce Zone 1 buffer impacts by 5,324 square feet and Zone 2 buffer impacts by 2,431 square feet. Please refer to the attached, updated Impact Drawings. Please note that the Boyds Creek crossing is now identified as 32VAR.
- c. **Sheet 35, 37VAR:** The northern boundary of CY-26B has been adjusted to avoid impacts to the adjacent buffer in this location. The only buffer impacts now proposed at this contractor yard are associated with a temporary access road (TA-AL-195). These impacts are updated and provided in the JPA RAI Response, dated October 30th, 2019, in Attachment E.

6. **Please review the Proposed Pipeline Route and Impacts sheets to confirm that in all buffer impact areas proposed within the variance request the construction corridor width has been reduced to 75 feet where proposed in Appendix E of the request. Examples of locations noted as greater than 75-foot construction corridor are:**

- a. Sheet 4, 3VAR
- b. Sheet 14, 14VAR
- c. Sheet 17, 17VAR and 18VAR
- d. Sheet 18, 19VAR
- e. Sheet 22, 23VAR
- f. Sheet 24, 25VAR
- g. Sheet 27, 29VAR
- h. Sheet 29, 31VAR
- i. Sheet 32, 34VAR

**Response:**

- a. **Sheet 4, 3VAR:** The construction corridor width is 75-foot wide at this location (MP 50.8). Please note that this crossing is now 4VAR and the 75-foot wide corridor is labelled on the attached, updated Impact Drawings on Sheet 4 in Attachment 1.
- b. **Sheet 14, 14VAR:** The proposed pipeline and associated construction corridor is no longer crossing or impacting pond buffers at 14VAR (MP 59.2), so this feature has been removed from the variance request.
- c. **Sheet 17, 17VAR and 18VAR:** The Project has reduced the construction corridor to 75 feet at this stream crossing (S-A18-78; formerly 17VAR). The corridor is wider on the eastern side, which minimizes parallel buffer impacts to stream S-A18-76. Please note that this crossing is now designated as 20VAR and 21VAR in the updated Impact Drawings and Buffer Impact Table (Attachment 1 and 2).

- Sheet 18, 19VAR:** We have evaluated the construction corridor at 19VAR (now 22VAR) and have determined that the 100-foot construction corridor is necessary to allow sufficient workspace for the construction of a bend in the pipe north of this location at approximately MP 62.9 and to minimize impacts to the forested wetland (W-B18-32).
- d. **Sheet 22, 23VAR:** We have reviewed the construction corridor at 23VAR (now 26VAR) and has reduced the construction corridor in this location to 75 feet. The reduction is depicted on the attached, updated Impact Drawings (Attachment 1).
  - e. **Sheet 24, 25VAR:** We have evaluated the construction corridor at 25VAR (now 28VAR) and have determined that the 100-foot construction corridor is necessary to allow sufficient workspace for the construction of a bend in the pipe to the south at approximately MP 66.65RR, and to minimize impacts to a waterbody and the forested wetland (W-B19-164).
  - f. **Sheet 27, 29VAR:** We have reviewed the construction corridor at 29VAR (now designated as 33VAR) and have reduced the workspace at this location to 75 feet. The reduction is depicted on the attached, updated Impact Drawings (Attachment 1).
  - g. **Sheet 29, 31VAR:** We have reviewed the construction corridor at 31VAR and have determined that the 100-foot wide construction corridor is necessary in this location due to steep slopes. The corridor is wider on the eastern side, which minimizes buffer impacts to the stream (S-B18-3). This alignment minimizes the net impact to the buffers for this stream. Please note that this crossing is now designated as 35VAR in the updated, attached Impact Drawings and Buffer Impact Table in Attachments 1 and 2.
  - h. **Sheet 32, 34VAR:** We have reviewed the construction corridor at 34VAR and have determined that the 100-foot wide construction corridor is necessary in this location to allow sufficient workspace to place a bend in the pipe to facilitate reducing the corridor width to 75 feet and crossing stream S-B18-132 at a perpendicular angle. This alignment minimizes the net impact to the buffers for these streams. Please note that this crossing is now designated as 38VAR in the updated, attached Impact Drawings and Buffer Impact Table in Attachments 1 and 2.
7. **The Division recognizes the Wetland and Waterbody Crossing Analysis that the applicant has referenced from the 401 Individual Certification Application, however we request additional information on the following specific locations:**
- a. **Sheet 4, 4VAR -Given the size of the tributary to the Haw River (S-A19-286) and that the stream runs parallel with, and directly over, the pipeline in this location, and that the Jordan Buffers also run parallel with the pipeline, please provide further detailed analysis that incorporates the practicality of a Conventional Bore.**

**Response:** As discussed previously in the Joint Permit Application, there are several factors to consider when determining whether a bore is a feasible or practical crossing method including: elevation changes adjacent to the resource, which dictate the depth and width of the bore pits; safety risks for workers in and around the bore pit; the duration of land disturbance required for construction; engineering and logistical challenges associated with excavating deep bore pits in riparian areas with shallow water tables; the need for additional workspace (and thus potential additional buffer or other resource impacts); and the increased cost of the bore.

The Project has evaluated the potential for boring at the requested location. A conventional bore to avoid parallel impacts to the Jordan Buffers and crossing the Tributary to Haw River (S-A19-286) were determined to not be practical primarily due to the topography of the location and cost to complete a 698-foot long bore. The south side of the pit would be located in a side hill at approximate elevation 672, and the top of bank to the tributary is at elevation 658 requiring at least a 24-foot deep bore pit to reach an adequate depth below the stream bed. Bore pits greater than 20 feet

require engineered controls to mitigate for the depth including benching. This increases the area and duration of the disturbance, the likelihood of encountering groundwater, and the safety risks for workers in and around the bore pits. Conventional bores are typically not considered practical when the resource to be crossed is entrenched or adjacent to a slope. Additionally, the cost to perform the boring at this particular stream would increase significantly from approximately \$142,956 to \$975,455 – a nearly seven-fold increase, which is not fiscally practical.

8. **The Summary Impact Table indicates that 5VAR, 12VAR and 13VAR are required for "Workspace Only" however it appears that these impacts are related to non-perpendicular crossings of the pipeline.**

**Response:** Impact 5VAR (S-C18-21, WB-C18-19) is a temporary workspace only (i.e., “utility, non-electric, other than perpendicular crossings” use) variance, as there is no stream physically crossed by the pipeline at this location. This location is still 5VAR in the updated Impact Drawings and Buffer Impact Table (Attachments 1 and 2).

12VAR (S-A18-132, S-A18-136) has both non-perpendicular crossing and workspace only impacts. The calculated angle of the stream crossing (40 degrees) was depicted on Sheet 12 at MP 57.1. Further downstream, there are workspace only impacts associated with a tributary stream to 12VAR. Please note that this crossing is now designated as 15VAR in the updated, attached Impact Drawings and Buffer Impact Table (Attachments 1 and 2).

13VAR (S-A18-136) is a workspace only variance, as there is no stream physically crossed by the pipeline at this location. Note that this area is now designated as 16VAR in the updated, attached Impact Drawings and Buffer Impact Table (Attachments 1 and 2).

9. **The alternative stream crossing analysis for 8VAR, 9VAR and 10VAR is presented as an alternative for all three impact areas. Please provide another alternative which avoids impacts at 8VAR and 9VAR and re-aligns with the proposed route alignment between MP 54.7 and 54.8, possibly aligning a portion of the alternative route adjacent to the proposed access road.**

**Response:** We have reviewed an alternative perpendicular crossing that avoids impacts at 8VAR and 9VAR (now 9VAR and 10VAR) and re-aligns with the proposed route between MP 54.7 and 54.8 (see Attachment 3). This alternative would result in lower buffer impacts (approximately 9,643 sq ft in Zone 1 and 6,095 sq ft in Zone 2) but is not practical as it would result in a significant increase in pipeline length (1,581 feet) and add two additional bends in the pipe requiring ATWS. It would also have a greater impact on the landowners’ active agricultural fields.

10. **The analysis provided in Appendix E for 11VAR indicates that stream S-A18-129 is an ephemeral stream. If this channel has been verified by field determination by the Division as an ephemeral feature, then it would not be subject to the Jordan Buffer Rules and should not be part of the variance request.**

**Response:** The upstream end of S-A18-129 was determined to be ephemeral and non-jurisdictional during the September 2018 field review with NCDWR and the US Army Corps of Engineers (USACE). Further downgradient, the stream gained definition and was delineated to be a jurisdictional, intermittent stream (S-A18-129). NCDWR was not asked to review the stream in this downstream location during the September 2018 site visit, and, since the stream is also depicted on the soil survey maps, the downstream portion of S-A18-129 was considered to be a buffered stream by MVP consultants on the permit drawings where it crosses the Project workspace.

11. The alternative stream crossing analysis for 26VAR includes both stream S-A18-177 and S-818-80 within one alternative route alignment. Provide an analysis that evaluates only the first portion of the alternative alignment for crossing stream S-A18-177 and rejoins the proposed alignment at approximately MP67.2. This analysis must include an evaluation of the benefit of avoiding crossing two stream channels at a confluence (AS-A18-180 and S-A18-177) which has additional risk for restoration of a channel confluence immediately above the pipeline center and long-term maintenance activities which will be a long-term concern for stream stabilities.

**Response:** We have reviewed an alternative perpendicular crossing for 26VAR (now 29VAR) that evaluated the first portion of the alternative alignment for crossing stream S-A18-177, rejoining the proposed alignment at MP 67.2 as requested (Attachment 3). The Project determined that this alternative was not practical due to the crossing of an additional waterbody, steep side slopes, and remaining buffer impacts to S-A18-177 and S-A18-180.

Mountain Valley appreciates the opportunity to provide this additional information to the North Carolina Division of Water resources in support of its request for a Major Variance to the Jordan Lake Buffer Rules. Should you have any additional questions or need further information to complete your review of the Project, please do not hesitate to contact Alex Miller at 713-374-1599 or via email at alex.miller@nexteraenergy.com or me at 561-691-7054 or via email kathy.salvador@nexteraenergy.com. Thank you for your continued consideration.

Sincerely,  
**Mountain Valley Pipeline, LLC**

*Kathy Salvador*

Kathy Salvador  
 Senior Director, Environmental Services

Attachments:

- Attachment 1: Updated Appendix C: Impact Sheets
- Attachment 2: Updated Table C-1: Buffer Impact Table
- Attachment 3: Updated Sheets to Appendix D: Perpendicular Crossing Alternatives
- Attachment 4: Revised Appendix 1-D from FERC Supplement, October 2019
- Attachment 5: Mountain Valley's Project-specific Upland Erosion Control Plan, Project-specific Erosion and Sedimentation Control Plan

CC: David Bailey, USACE  
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