

Blue Ridge Environmental Defense League

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Dear Members of the State Water Control Board:

On behalf of the Blue Ridge Environmental Defense League (BREDL) and our members and chapters in Virginia, I respectfully submit these comments regarding the Virginia Department of Environmental Quality's (DEQ) responsibilities to the citizens of the commonwealth concerning water quality as it relates to erosion and sedimentation issues from the proposed Mountain Valley Pipeline (MVP). Because the Atlantic Coast Pipeline (ACP) is virtually identical to the proposed MVP, we reference it often in these comments.

All of our waters are connected; harm done to one body of water affects others, often irreparably. Therefore every proposed water crossing must take into account the adjacent waters. According to The Clean Water Act: "The agencies emphasize that the rule has defined as "adjacent waters" those waters that currently available science demonstrates possess the requisite connection to downstream waters and function as a system to protect the chemical, physical, or biological integrity of those waters... The Clean Water Act establishes both national and state roles to ensure that state's specific circumstances are properly considered to complement and reinforce actions taken at the national level."¹

Construction and operation of natural gas pipelines creates corridors that severely impact people, businesses and ecosystems. Corporate and FERC analyses ignore numerous peer reviewed scientific studies that point to the increased impact of these unbroken linear projects on everything from biodiversity and forest fragmentation, to ecosystem health that supports local economies, to the increased impacts of illegal off-road-vehicle use, and the spread of economically damaging invasive plants and animals. Landowners and communities suffer real economic losses in terms of lost agricultural production; impacts on water supplies, tourism, outdoor recreation, damage to local roads, reduced property values, public safety concerns and increased public safety costs. FERC has refused to conduct analyses of the cumulative impacts of the numerous pipeline

¹ http://www2.epa.gov/sites/production/files/2015-05/documents/finding_of_no_significant_impact_the_clean_water_rule_52715.pdf

projects that are proposed or already under construction in the eastern USA, inconceivably claiming no there is no cumulative impact.

Storm Water Management

An acre is 43,560 ft squared, roughly 209' on a side. Virginia rainfall is typically 42"/year. An inch of water falling on an acre of ground is an acre-inch. Its volume is 27,154 gallons. If the area of disturbance of these proposed linear projects is 150' wide then every 290' of run equals one acre, with the potential to receive 570,000 gallons of rainfall per year. This does not reflect runoff from terrain which would cross a pipeline route, nor does it address water quality effects by what is proposed to be the largest French drain ever constructed across the Appalachians and Blue Ridge. The DEQ cannot possibly be able to assure the water quality of runoff from this project. Any public data that exists simply proves our point; there is no safe way to construct a 42" fracked gas pipeline.

DEQ's Storm Water Management (SWM) regulations prohibit excavations exceeding 500' and yet it appears the DEQ stands prepared to waive these regulations which affect every other construction firm in the state. The purpose of these regulations is clear, to prohibit areas of impact which can cause catastrophic loss not only to the easement in question but also to neighboring citizens.

Stream crossings are one of the most significant impacts of pipeline construction. Small streams would be diverted during construction of pipelines. For many larger streams and rivers, pipeline crossings are done by excavation and blasting of the stream-bed. In each of these crossings, devastating harm would be done to the waterways.

In the mountainous regions of West Virginia and Virginia, the Atlantic Coast Pipeline (ACP) and MVP's path would traverse many mountain slopes with very steep grades. Specifically, the ACP's path would traverse 22.8 miles of mountain slopes with grades greater than 35%. The first 211.9 miles of the ACP is proposed to travel through 115.6 miles of terrain rated as high incidence with high susceptibility for landslides. An additional 46.7 miles are categorized as moderate incidence with high susceptibility for landslides. A construction practice that lowers mountain ridges by 20 to 25 feet would be used to reach a 125' level plane for easier construction. This construction practice puts entire communities at risk of major erosion, sedimentation and storm water run-off issues which could result in: i) pollution of streams, as well as recharge areas for community water supplies which are especially vulnerable in karst topography, and the drinking water wells and springs of most residents who live in the affected rural communities; and ii) increased flooding in all communities, but particularly those who have previously suffered catastrophic flooding because of heavy rain on their steep mountain slopes and shallow soils.

Over 36 miles of the proposed MVP would traverse highly erodible soils² in mountainous terrain with slopes at over 25 % grade³ in Franklin County. The amount of destruction that would be caused to excavate a pathway is substantial, causing severe erosion in vertically steep and inhospitable mountainous terrain. The amount of runoff from seasonal downpours would cause major damage in the mountains below the proposed pipeline path.

According to the Climate Reality Project, "The climate crisis has fundamentally altered the water cycle around the world. The result is shifting precipitation patterns and increased

² http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/virginia/franklinVA2009/Franklin_VA.pdf

³ http://www.franklincountyva.gov/images/planning/comp-plan-maps/slopes_map.pdf

evaporation that in turn cause more frequent severe rainfall events and more severe droughts. In many areas, rainfall has become either increasingly abundant or in desperately short supply, relative to longtime averages...

...Extreme downpours can lead to runoff and erosion because the ground simply isn't able to absorb the precipitation at the rate it's falling, stripping healthy soil of key nutrients needed to sustain agriculture. In urban, suburban, and agricultural areas, this runoff can pick up pollutants from the landscape and carry them to nearby rivers and other waterways. In the most extreme cases, when a powerful downpour occurs in an area without adequate trees to hold the soil in place, a landslide can be triggered."⁴

Most private water systems and business systems in Franklin County rely on groundwater from wells, springs or rivers for their domestic water supplies; some residents and businesses along the 220 corridor receive water from the Spring Hollow Reservoir,⁵ which is also threatened by the proposed MVP.

Construction of the proposed MVP would have severe negative consequences for the domestic and agricultural water supplies of citizens with respect to potential erosion and sedimentation of downstream areas. Franklin County's agricultural and tourism-based economy is highly reliant on the availability of abundant, clean water. Erosion caused by sediment is a major contributor to pollution of Smith Mountain Lake and other surface waters of Virginia.

As the MVP pointed out in their Resource Report (6), "much of the Appalachian Plateau is strongly dissected by stream erosion and the topography is rugged."⁶ This observation is especially true in Roanoke County.

The County of Roanoke filed comments with the Federal Energy Regulatory Commission (FERC) expressing these concerns: "Although not directly cited, the discussion in the DEIS appears based on the information Mountain Valley provided in Resource Report 6. According to Resource Report 6, the terrain along the MVP route is marked by long, steep slopes, strong erosion due to multiple stream dissections, potentials for landslides, and, specifically in the Valley, Ridge, and Blue Ridge provinces where the County is located, areas of karst terrain. The report states that 49% of the project area in the County is at moderate susceptibility for landslides while 51% has a history of high landslide incidence caused primarily by a combination of steep slopes and highly erodible soils.

The County entered data from the U.S. Department of Agriculture's Soil Survey Geographic database into the County's geographic information system to determine the percent rise and soil erosion hazard of the slopes proposed to be crossed. Of the approximate eight-mile length of the pipeline proposed in the County, 21% of the project area is along slopes with rises between 26% and 40%, and 25% of the project area is along slopes with rises over 40%. The GIS also calculated that 93% of the proposed project area is at a Moderate to Severe risk for soil erosion. Indeed, 84% of the project area has been categorized by the U.S. Department of Agriculture as being at severe risk for soil erosion.

The DEIS does not specifically address this information. The County highlighted the potential impacts to Poor Mountain, located between MP 236 and 238, which has some of the most severe slopes in the County. The County also expressed concern regarding the potential need for blasting along these slopes, where bedrock is located within the proposed pipeline trench

⁴ https://www.climaterealityproject.org/content/right-under-your-feet-soil-health-and-climate-crisis?promo_name=soil%20health&promo_creative=tile&promo_position=homepage

⁵ [http://www.westernvawater.org/85256A8D0062C8D5/vwFilesByName/WVWAMisc/\\$File/RoanokeCCR2012.pdf](http://www.westernvawater.org/85256A8D0062C8D5/vwFilesByName/WVWAMisc/$File/RoanokeCCR2012.pdf)

⁶ <https://www.mountainvalleypipeline.info/~media/sites/mvp/.../Resource-Report-6.pdf>

depth from MP 236.2 to 237, and MP 238.4 to 239. “Using controlled explosives to clear the bedrock has the potential to increase the susceptibility for landslides, specifically between mileposts 236 and 238 where the mountain slopes have a greater than 40% rise and the land is at Severe risk for soil erosion.” Blasting in this area could contribute to erosion and sedimentation problems at Spring Hollow Reservoir, one of the County’s primary water supply sources.”⁷

Earlier in the process, Roanoke County’s motion to intervene with the FERC pointed out that: “Many sections of Poor Mountain exceed 50 degrees in slope. Environmental scientists have told us that disturbed soils will not adhere to grades of 50 degrees or greater, which could result in the long term sloughing off of disturbed soils and ground cover within the MVP’s large construction corridor . Since Spring Hollow Reservoir and the Roanoke River are at the bottom of the north face of Poor Mountain, our water supply, and the many recreational activities associated with the beautiful Roanoke River would be at risk.”⁸

It continues, specifically stating that: “the County is required to prevent unauthorized storm water discharges under its MS4 Permit. If any certificate or related permits for the MVP Project are not adequately conditioned to minimize or prevent the MVP Project’s erosion and sediment-related impacts, it could increase the County’s compliance burden. More importantly, it could contribute to non-attainment of applicable water quality standards in waters affected by the MVP Project. In sum, the County is concerned that Mountain Valley Pipeline, LLC’s planned E&SCP will not be sufficient to adequately address project-related erosion and sediment impacts within the County’s uniquely steep terrain.”

You, the State Water Control Board, have the authority to request site-specific E&SC and storm water management plans from EQT as stated in the Erosion and Sediment Control Regulations 9VAC25-840-30-B: “The submission of annual standards and specifications to the department does not eliminate the need where applicable for a project specific Erosion and Sediment Control Plan.” Even this, though necessary, is not sufficient. There is no way to genuinely mitigate the damage that would be done.

As part of a larger effort to protect water quality, you are tasked with protecting rivers, wetlands and streams to preserving their beneficial uses, striving to protect state waters and prevent and reduce water pollution in Virginia. The proposed MVP and ACP projects would create serious problems related to erosion and sediment control. There are no adequate measures that could be taken to meet state and federal requirements with integrity considering how much harm would be done by the devastating and disruptive practices of pipeline construction.

Wetlands, Watersheds and Riparian Buffers

Permanents impacts to waterbodies will be caused by clearing out vital riparian buffers in the right-of-way. According to the VA Department of Conservation and Recreation, “Riparian buffers are noted for their ability to protect or enhance water quality. A vegetated riparian zone can trap sediment, and reduce or remove nutrients and other chemicals from precipitation, surface waters and ground waters.”⁹ Riparian vegetation provides many key functions for waterbodies. It

⁷ ROANOKE COUNTY, VIRGINIA’S COMMENTS ON THE MOUNTAIN VALLEY PROJECT AND EQUITRANS EXPANSION PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT 12-22-16

⁸ ROANOKE COUNTY’S MOTION TO INTERVENE AND IDENTIFICATION OF ISSUES 11/24/2015
<http://www.roanokecountyva.gov/DocumentCenter/View/7271>

⁹ RIPARIAN BUFFERS MODIFICATION & MITIGATION GUIDANCE MANUAL, VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION CHESAPEAKE BAY LOCAL ASSISTANCE September 2003 - Reprinted 2006 <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/RiparianBufferManual.pdf>

protects waters from pesticides and other pollutants, stabilizes stream banks, and regulates water temperatures.¹⁰ Maintaining a right-of-way through riparian buffers would cause permanent gaps in the forest canopy, causing permanent increases in water temperatures from the loss of shade.¹¹ The elimination of shade will further harm already-threatened heat-sensitive organisms.

Construction and operation of the MVP would cause extensive and long-lasting impacts to waterbodies and wetlands. During construction, a total loss of stream, wetland, and riparian habitat would occur within a construction right-of-way that could be up to 75 feet wide. Vegetation and mature trees would be mowed down to make way for heavy construction equipment that would tear through delicate wetland soils and protective stream banks. For virtually all impacted wetlands, the blasting and the digging of trenches would occur directly in saturated waters,¹² causing excessive sedimentation and destroying carefully formed layers of hydric soil that rely on stable, low-oxygen conditions to perform unique wetland functions.¹³

Sedimentation and turbidity from construction in waterbodies and wetlands can seriously impair aquatic life and habitats. As stated in the FERC's Final Environmental Impact Statement (FEIS) for the Atlantic Coast Pipeline (ACP), which is virtually identical to the MVP, sedimentation can cause "permanent alterations in invertebrate community structures, including diversity, density, biomass, growth, rates or reproduction, and mortality."¹⁴ Additionally, sedimentation and turbidity "reduce light available for photosynthesis," and visibility, harming organisms' ability to find food or avoid prey.¹⁵ Sedimentation can also clog the gills of fish and harm their respiratory functions, as well as "smother spawning beds," fish eggs, and benthic biota, including many endangered freshwater mussel species, which have evolved in "low levels of suspended sediment and may not be able to compensate" for increased levels.¹⁶ Furthermore, changes to the habitat caused by sedimentation can "reduce juvenile fish survival, spawning habitat, and benthic community diversity and health."¹⁷ The FEIS reveals that the construction of the pipeline could cause up to 800 percent more erosion than usual,¹⁸ and that "water resource impacts from sedimentation are largely uncertain."¹⁹

There is also tremendous uncertainty when measuring stream-flow and water quality data in small watersheds.²⁰ It is our assertion that the construction of two fracked gas pipelines would cause extensive permanent impacts to wetlands, watersheds and waterbodies, yet the ACP claims they would be "no more than minimal."²¹ This is impossible. Not only has the ACP severely distorted impacts to wetlands by labeling permanently cleared forested wetlands as mere

¹⁰ NC DEQ Website, Riparian Buffers, *available at* <https://deq.nc.gov/riparian-buffers-frequently-asked-questions>.

¹¹ FEIS, at 4-137, 4-110.

¹² Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.

¹³ US Forest Service, Forested Wetlands: Functions, Benefits and the Use of Best Management Practices, at 20–22, *available at* <https://goo.gl/J6FFJv>.

¹⁴ FEIS, at 4-228–229.

¹⁵ FEIS, at 4-228–229.

¹⁶ FEIS, at 4-228–229.

¹⁷ FEIS, at 4-228–229.

¹⁸ FEIS, at 4-128.

¹⁹ FEIS, at 4-129.

²⁰ CUMULATIVE UNCERTAINTY IN MEASURED STREAMFLOW AND WATER QUALITY DATA FOR SMALL WATERSHEDS R. D. Harmel, R. J. Cooper, R. M. Slade, R. L. Haney, J. G. Arnold Vol. 49(3): 689–701 2006 American Society of Agricultural and Biological Engineers ISSN 0001–2351

²¹ Supplemental Information, at 86.

“conversions,”²² and labeling impacts lasting a century or more as merely “temporary,”²³ the ACP has failed to show that forested wetlands will ever recover from this project. Similarly, the MVP offers no guarantee of recovery, nor is it possible for the sensitive terrain of the Appalachian region to ever fully recover from a disruption of this magnitude.

Based on the US Army Corps’ definition of a “loss of water,” it is clear that permanent elimination of the forested wetland use is a “loss of waters.”²⁴ Wetlands “that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity” are lost.²⁵ Those “permanent adverse effects include changing the use of a waterbody.”²⁶ The loss of a use includes the elimination of “certain functions and services of waters” such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained right-of-way.²⁷ Even after construction, there would be permanent damage caused by the destruction of wetland soils and mature canopies. There would be a permanent gaping hole above the right-of-way in forested wetlands and forested riparian areas, where trees would not be permitted to regrow. Mature canopies outside of the right-of-way in forested wetlands can take over a century to recover—if they ever achieve recovery.²⁸ Furthermore, sedimentation and erosion can be expected to continue long after construction from disturbed stream beds and unanticipated flooding and storm events—resulting in the chronic degradation of water quality and habitats. Initially, forested wetlands would be cleared of trees within a 75-foot construction right-of-way above the pipeline.²⁹ After construction is finished, any regrowth of trees within a 30-foot area of the entire length of the pipeline would be prevented,³⁰ permanently degrading the functions performed by a forested wetland and paving the way for the intrusion of invasive species. Outside of this 30-foot area, forested wetlands would take a century or more to recover—if they do at all.³¹

Additionally, forested wetlands perform distinct ecological and hydrological functions. For instance, the loss of forested wetlands can dramatically reduce the particular wetland’s ability to store storm and floodwaters.³² A 1981 study in Mississippi found that the loss of forested wetlands and confinement by levees reduced floodwater storage capacity by 80 percent.³³ The US Forest Service concluded that the area’s devastating flood in 1993 “proved this protection to be true and resulted in immeasurable damage,” and that proper management of the forest can not only improve wildlife habitat, but also “produce revenue to offset the cost [...] for flood control.”³⁴ Furthermore, forested wetlands provide habitats unique from those provided from other kinds of wetlands, and are preferred by wildlife such as muskrats, beavers, black bears, red-

²² Atlantic claims that impacts to 155 acres of North Carolina wetlands are mere “conversions,” and that there will only be .8 acres of lost wetlands. Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C2.

²³ Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C-2; FEIS, at ES-10.

²⁴ 82 Fed. Reg. 2006.

²⁵ 82 Fed. Reg. 2006.

²⁶ 82 Fed. Reg. 2006.

²⁷ 81 Fed. Reg. 35234.

²⁸ FEIS, at ES-10.

²⁹ FEIS, at 4-135, Table 4.3.3-2; Supplemental Information, at 14.

³⁰ Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix J, at 29.

³¹ FEIS, at ES-10 (emphasis added).

³² “Wetland use” under 15A N.C. Admin. Code 2B. 0231(a)(1).

³³ US Forest Service, Forested Wetlands: Functions, Benefits and the Use of Best Management Practices, *available at* <https://goo.gl/J6FFJv>

³⁴ *Id.*

shouldered hawks, herons, and wood ducks.³⁵ The U.S. Supreme Court has interpreted the purpose of the Clean Water Act as preserving “the *natural* structure and function of ecosystems.”³⁶ When it comes to forested wetlands, “the removal of all of the vegetation would destroy the vital ecological function of the wetlands.”³⁷

In addition to the widespread permanent loss of forested wetlands within the pipeline’s right-of-way, there will be long-lasting, if not permanent, impacts to forested wetlands outside of the right-of-way. Although these impacts are described as “temporary,”³⁸ the closed canopy of a mature wetland forest could take “up to a century or more” to recover from, and it is indisputable that these effects will be significant and long-lasting.³⁹ As stated in the FEIS, “impacts on forested wetlands would be much longer, and may include changes in the density, type, and biodiversity of vegetation. [...] Impacts on habitat may occur due to fragmentation, loss of riparian vegetation, and microclimate changes associated with gaps in forest canopy.”⁴⁰

The massive disruption of wetland soil layers and the compaction caused by heavy construction equipment, coupled with dismal restoration plans, will inhibit regeneration of vegetation and permanently harm the hydrologic patterns of wetlands. The FEIS for the ACP acknowledges that there will be increases in water temperature from the loss of shade.⁴¹ Pipeline construction would cause permanent damage to riparian buffers above the right-of-way. Permanent impacts would further be caused by destroying the integrity of stream banks and adjacent slopes, putting streams and rivers at risk of receiving continued, long-lasting sedimentation from the erosion of disturbed land. As the ACP FEIS states, “increased erosion and sedimentation from the construction right-of-way and access road use, and removal of riparian vegetation” are *long-term impacts*.⁴² “Ongoing impacts” include “increased surface runoff and erosion/sedimentation from cleared areas, disturbed steep slopes, surface compaction, access roads, and the proximity of the right-of-way and other features to streams.”⁴³ Disturbed stream banks and hill slopes are at higher risk of future instability, even if work is conducted under dry conditions. Once stream banks have been disturbed with heavy construction equipment and construction of trenches, the stream is at high risk of increased future erosion. Restoration plans and erosion control measures cannot prevent it with any certainty.

As stated in a Forest Service document on wetlands and their unique functions, one of the identifying characteristics of wetlands is the presence of hydric soils, which have at least three layers—all of which have developed slowly under distinctive environmental conditions.⁴⁴ These include: “saturation, reduction, and redoximorphic features.”⁴⁵ Saturation requires water to be present to “limit the diffusion of air into the soil;” a layer of decomposing organic matter

³⁵ *Id.*

³⁶ *U.S. v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 132, (1985) (emphasis added).

³⁷ *Avoyelles Sportsmen’s League, Inc. v. Marsh*, 715 F.2d 897, 922 (5th Cir. 1983).

³⁸ Temporary impacts appear to include impacts that could take a century or more to recover from, and even include “*permanent*” and “*extra temporary*” workspace. Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C-2; FEIS, at ES-10.

³⁹ FEIS, at ES-10 (emphasis added).

⁴⁰ FEIS, at 4-137.

⁴¹ FEIS, at 4-110. (“Permanent right-of-way maintenance may lead to a minor and localized increase in stream temperature, but this increase is expected to be minimal.”)

⁴² FEIS, at 4-129.

⁴³ FEIS, at 4-130.

⁴⁴ US Forest Service, *Forested Wetlands: Functions, Benefits and the Use of Best Management Practices*, at 20–22, available at <https://goo.gl/J6FFJv>

⁴⁵ *Id.*, at 20.

accumulates if saturation occurs for “extended periods of time.”⁴⁶ This organic layer, which can grow up to many feet over time, will even form its own layers over time—each with distinct features.⁴⁷ Reduction occurs only if the soil is “virtually free” of oxygen, so that soil microbes either “substitute oxygen-containing iron compounds in their respiratory process or cease their decomposition of organic matter.”⁴⁸ Finally, the gray or blue-gray soils of the redoximorphic layer occur when “iron compounds are reduced by soil microbes in anaerobic soils.”⁴⁹

Construction of the MVP would inevitably devastate the layers of wetland soil that have developed over time. Not only will the equipment tear through fragile layers of nutrient-heavy wetland soils, compaction and rutting caused by heavy machinery could “alter natural hydrologic patterns of the wetlands and potentially inhibit seed germination and regeneration of vegetation.”⁵⁰ As discussed, topsoil has the “highest concentration of organic materials,” containing the “bulk of necessary nutrients,” and “greater biological productivity than subsurface soils.”⁵¹ The ACP FEIS states that, “during construction, failure to segregate topsoil could result in the mixing of topsoil with the subsoil, which could result in reduced biological productivity or modification of chemical conditions in wetland soils,” and “affect the reestablishment and natural recruitment of native wetland vegetation.”⁵²

Precedents for Denial of 401 Water Permits in New York

Constitution Pipeline

On April 22, 2016, the New York State Department of Environmental Conservation (NYSDEC) sent a letter to Constitution Pipeline Company, LLC regarding its joint application to obtain a Clean Water Act section 401 water quality certification (along with Protection of Waters and Freshwater Wetlands permits).⁵³ That project included a new 124.14-mile pipeline originating in Pennsylvania and terminating in New York, including new right-of-way (ROW) construction of approximately 99 miles of new 30-inch diameter pipeline, temporary and permanent access roads, and additional ancillary facilities. The letter notified Constitution that “based on a thorough evaluation of the Application as well as supplemental submissions ... the Application fails in a meaningful way to address the significant water resource impacts that could occur from this Project and has failed to provide sufficient information to demonstrate compliance with state water quality standards.” Furthermore, the pipeline company’s “failure to adequately address these concerns limited the Department’s ability to assess the impacts and conclude that the Project will comply with water quality standards.” Accordingly, NYSDEC denied the request for a water quality certification.

NYSDEC noted that Constitution project construction would impact 251 streams (87 of which support trout or trout spawning); include disturbance to 3,161 linear feet of streams resulting in 5.09 acres of stream disturbance impacts; and cumulatively impact 85.5 acres of freshwater wetlands and result in impacts to regulated wetland adjacent areas totaling 4,768 feet for crossings, 9.70 acres for construction, and 4.08 acres for project operation. “Cumulatively,

⁴⁶ *Id.*

⁴⁷ *Id.*, at 21.

⁴⁸ *Id.*

⁴⁹ *Id.*, at 21.

⁵⁰ FEIS, at 4-137.

⁵¹ FEIS, at 4-58.

⁵² FEIS, at 4-137.

⁵³ http://www.dec.ny.gov/docs/administration_pdf/constitutionwc42016.pdf

within such areas, as well as the ROW generally, impacts to both small and large streams from the construction and operation of the Project can be profound and could include loss of available water body habitat, changes in thermal conditions, increased erosion, and creation of stream instability and turbidity.” Moreover, “impacts to these streams are exacerbated as the cumulative negative effects of multiple crossings are added.”

NYSDEC’s letter noted that initially, 100% loss of stream and riparian habitat would occur within the ROW as it is cleared and the pipeline trenched across streams, which would “destroy all in-stream habitat in the shorter term and in some cases could destroy and degrade specific habitat areas for years following active construction.” In addition, changes to the stream channel would persist beyond the active construction period thereby “creating physical and behavioral barriers to aquatic organism passage,” and “loss of riparian vegetation that shades streams from the warming effects of the sun will likely increase water temperatures, further limiting habitat suitability for cold-water aquatic species.” NYSDEC noted that trenching of streams can also destabilize the stream bed and cause an exceedance of water quality standards, while turbidity and sediment transport from construction can negatively impact aquatic organisms and downstream habitat. Disturbed stream channels are “at much greater risk of future instability, even if the actual work is conducted under dry conditions; long ranging stream erosion may occur up and downstream of disturbed stream crossings well beyond the time of active construction.”

As with the MVP and ACP, “destabilization of steep hillslopes and stream banks will likely occur and may result in erosion and failure of banks, causing turbid inputs to waterbodies” that negatively affect water quality and habitat quality. Moreover, “chronic erosion from disturbed stream banks and hill slopes” can cause “consistent degradation of water quality.” Like the Constitution, the MVP and ACP have failed to provide sufficient information in its application to demonstrate compliance with state water quality standards. Thus the DEQ cannot be assured that these “adverse impacts to water quality and associated resources will be avoided or adequately minimized and mitigated so as not to materially interfere with or jeopardize the best usages of affected water bodies.”

Stream Crossings

NYSDEC required site-specific information for each of the 251 streams impacted by the Constitution Pipeline project. NYSDEC also informed Constitution that all 251 stream crossings “must be evaluated for environmental impacts and that trenchless technology was the preferred method for stream crossing.” *Id.* Constitution failed to supply the necessary information for decision making.

Deficient Trenchless Stream Crossings Information and Lack of Specific Stream Crossings Details: Because open trenching is a highly impactful construction technique and alternative trenchless techniques exist, NYSDEC directed Constitution to determine whether a trenchless technology was constructible for each stream crossing. Where other methods are proposed, “Constitution should explain why trenchless crossing technology will not work or is not practical for that specific crossing.” Although NYSDEC identified the need to provide information so that it could evaluate trenchless stream installation methods, Constitution failed to provide sufficient information to enable the agency to determine if the application demonstrated compliance with state water quality standards, including standards for turbidity, thermal impacts, and best usages. Specifically, NYSDEC noted that Constitution’s November 2013 Trenchless Feasibility Study “provided insufficient justification” and “all streams less than 30’ wide were

arbitrarily eliminated from any consideration for trenchless crossing method.”⁵⁴ The study evaluated only 87 of the 251 streams, and ultimately concluded that only 11 stream crossings “displayed preliminary evidence in support of a potentially successful trenchless design.”⁵⁵

In January 2015, NYSDEC again “indicated that the justification for stream crossing methods was insufficient and that appropriate site specific information must be provided.” The following month, Constitution provided “an updated example of a trenchless feasibility study” that “continued to exclude streams up to 30 feet wide from analysis and did not provide detailed information of the majority of streams.” After continued back-and-forth in 2015, Constitution had still not provided sufficient information. NYSDEC therefore did “not have adequate information to assure that sufficient impact avoidance, minimization or mitigation measures were considered as to each of the more than 200 streams proposed for trenched crossings.” Similarly, the DEQ currently lacks adequate information with regard to the ACP stream crossings.

NYSDEC concluded that “due to the lack of detailed project plans, including geotechnical borings, the Department has determined to deny Constitution’s WQC Application because the supporting materials supplied by Constitution do not provide sufficient information for each stream crossing to demonstrate compliance with applicable narrative water quality standards for turbidity and preservation of best usages of affected water bodies.” Furthermore, Constitution failed to provide “sufficient detailed information including site specific project plans regarding stream crossings” and its application lacked “required site-specific information for each of the 251 stream crossings,” including, but not limited to:

- the specific location of access roads
- definite location of temporary stream crossing bridges
- details for temporary bridges, including depth of abutments in stream banks
- details of proposed blasting
- the location of temporary coffer dams for stream crossings

The missing information meant that the state agency could not “determine whether additional water quality impact avoidance, minimization, or mitigation measures must be taken to ensure compliance with water quality standards in water bodies associated with this infrastructure.”

Insufficient Site-Specific Information on Depth of Pipe

Historically, NYSDEC staff had “observed numerous and extensive vertical movements of streams” that had “led to pipe exposure and subsequent remedial projects to rebury the pipe and armor the stream channel” (corrective actions which themselves caused severe negative impacts on water quality, as well as the stability and ecology of the stream). Accordingly, agency staff

⁵⁴ Constitution maintained that it excluded streams less than 30’ wide because trenchless crossing at such locations could require greater workspace than a conventional dry crossing, but the company did not actually assess the workspace needs of the streams eliminated from consideration. Atlantic has made similar claims here. FERC guidelines indicate that HDD is an appropriate method for crossing waterbodies less than 30’ wide. *See* FERC, Office of Energy Projects, *Wetland and Waterbody Construction and Mitigation Procedures* at 8-9 (May 2013), available at <https://www.ferc.gov/industries/gas/enviro/procedures.pdf>.

⁵⁵ Constitution also improperly eliminated streams from consideration by evaluating non-environmental factors such as construction timelines, cost, estimated workspace requirements, and regulatory agency reviews. NYSDEC informed Constitution that the feasibility determination must be based solely on technical characteristics. DEQ should require the same of MVP and ACP.

requested that Constitution “provide a comprehensive and site-specific analysis of depth for pipeline burial.” Constitution failed to provide sufficient information and analysis. NYSDEC noted that “without a site-specific analysis of the potential for vertical movement of each stream crossing to justify a burial depth, NYSDEC is unable to determine whether the depth of the pipe is protective” of state water quality standards. NYSDEC also noted that “future high flow events could expose the pipeline,” which would “require more extensive stabilization measures and in stream disturbances resulting in additional degradation to environmental quality.”

Deficient Blasting Information

Constitution’s Blasting Plan failed to “provide site-specific information where blasting will occur,” instead providing “a list of potential blasting locations based on the presence of shallow bedrock.” Shallow bedrock occurred along 44% of the route in New York, involving 84 wetlands crossings and 27 waterbody crossings. The pipeline company indicated that “a final determination on the need for blasting will be made at the time of construction in waterbodies and wetlands.” NYSDEC concluded that “due to the lack of specific blasting information needed for review with respect to associated water bodies, NYSDEC is unable to determine whether this Plan is protective” of state water quality standards.

Wetlands Crossings

Constitution’s application failed to “demonstrate that wetland crossings will be performed in a manner that will avoid or minimize discharges to navigable waters that would violate water quality standards, including turbidity.” NYSDEC concluded that “absent detailed information for each wetland crossing that demonstrates Constitution properly avoided, minimized and mitigated impacts to wetland and adjacent areas, the Application does not supply the Department with adequate information to assure that streams and water bodies will not be subject to discharges that do not comply with applicable water quality standards.”

Like the Constitution, the ACP and MVP have failed to provide sufficient information to demonstrate compliance with state water quality standards.

Northern Access Pipeline

On April 7, 2017, NYSDEC sent a letter to National Fuel Gas Supply Corporation and Empire Pipeline, Inc. (collectively, “NFG”) regarding their application to obtain a Clean Water Act section 401 water quality certification for the Northern Access Pipeline (as well as Protection of Waters and Freshwater Wetlands permits). That project included a new 97-mile, 24-inch gas pipeline that would cross 192 State-regulated streams and impact a total of 73.4 acres of federal and State wetlands. NYSDEC noted that the project “would necessarily impact these waterbodies and jeopardize their best usages that New York’s water quality standards were enacted to protect.”

NYSDEC denied the request for water quality certification because the application failed to demonstrate compliance with state water quality standards. Specifically, NYSDEC “reviewed the impacts directly associated with the Project proposal in terms of water body water quality, stream bed and bank disturbances, and wetlands and wetland adjacent area disturbances,” noting that because of the identified impacts from Project construction and operation (including

cumulative effects⁵⁶), the application failed to demonstrate compliance with state water quality standards.

During its review of the application, NYSDEC directed NFG to demonstrate compliance with state water quality standards “by providing site-specific information for each of the streams impacted by the Project.”⁵⁷ Due to “the potential for significant habitat damage, destruction and permanent loss from pipeline construction,” NYSDEC required a trenchless feasibility analysis of streams crossed by the pipeline. The applicant concluded that trenchless crossing methods were not feasible with respect to 184 of the stream crossings. NYSDEC noted that “impacts and damage to water resources will necessarily occur where trenchless crossing methods are not employed.”

Specifically, NYSDEC requested a feasibility analysis “aimed to assess the possibility of installing the Project pipeline using trenchless technology at 55 selected crossings,” focusing on more environmentally sensitive or significant waterbodies. Even after NYSDEC further narrowed the scope of review for trenchless feasibility analysis to 13 priority streams, NFG “concluded it would utilize trenchless methods at only five of the 13 priority streams.” NFG’s analysis comprised sequential reviews encompassing 1) physical/technical parameters, 2) environmental constraints, and 3) technical design parameters.

NFG intended that the remaining 184 streams (including eight of the 13 priority streams) be crossed using dry crossings, permanent culverts, or temporary bridges. NYSDEC noted that the dry crossings “will permanently impair aquatic habitat and generate turbidity that will impair the best usages of these waterbodies,” and that the dry crossing of streams designated as Trout or Trout Spawning will “negatively affect riparian and in-stream conditions necessary to provide habitat to support trout presence and preserve water quality.” NYSDEC noted the loss of and conversion of riparian cover types would increase the input of turbid water; construction in the ROW would destabilize stream banks and increase risks for further erosion and bank instability (which would compromise water quality); and excavation across stream beds would remove in-stream habitat forms that create pools and pockets as habitat for trout and other aquatic organisms, as well as destabilize stream beds and make them more susceptible to erosion (affecting both immediate habit in the ROW and downstream water quality and habitat).

NYSDEC also stated that in its “recent experiences with constructing large scale natural gas pipelines across New York State, involving multiple water body crossings in multiple watersheds or basins, ... even with stringent water quality protection conditions, violations of water quality standards at this scale occur causing significant degradation of water quality in stream after stream along a constructed ROW.”

NYSDEC noted that, more broadly, “riparian habitat surrounding streams within the Project ROW will be permanently impacted by construction activities involving excavation and burial of the pipeline and any needed grading of local topography by heavy construction equipment.” When crossing streams, “construction in the wet” would lead to adverse water quality impacts, while construction in dewatered conditions would “not only physically disturb stream beds via excavation..., but also dry and desiccate any stream habitat between the excavated centerline and the perimeter of the dewatered ROW.” NYSDEC concluded that these construction techniques would cause “significant damage or destruction to both riparian and in-

⁵⁶ See *id.* at 4 (“Crossing multiple streams and freshwater wetlands within a watershed or basin, including degrading riparian buffers, causes a negative cumulative effect on water quality to that watershed or basin.”)

⁵⁷ See also *id.* (“NYSDEC informed NFG that *all* stream crossings must be evaluated for environmental impacts....”)

stream habitat,” both during construction and for a period of time post-construction.⁵⁸

NYSDEC identified significant impacts to riparian and stream habitat during construction (with resulting adverse impacts to water quality):

- The loss of riparian habitat for open-dry trench stream crossings “is a negative impact to water quality and stream habitat to the extent that the riparian area contributes unfiltered, sediment laden, turbid water to the water body through bank erosion.”
- NYSDEC performed a desktop aerial analysis of all open-dry trench stream crossings that aggregate the area of impacts within the riparian habitat zone. The agency noted that “fully in-kind vegetation, including mature trees, will not be replanted nor ever be allowed to fully regrow to pre-construction conditions,” such that riparian habitat values will “not return to previous capacity to protect each water body from erosion and resulting sedimentation and turbidity.”
- NYSDEC noted that “upon preparing a stream for dewatering, various construction steps, such as the excavation of intake pits and the placement of barriers, will be conducted within flowing water that will cause a significant visible contrast and exceedance of the turbidity water quality standard.” Moreover, at the completion of construction, work would again occur within flowing water, and installation and removal of temporary bridges and stream bank stabilization efforts would also cause violations of the turbidity water quality standard.
- For streams with flowing water at the time of construction of open-dry trench stream crossings, because of dewatering and subsequent drying, “any aquatic organisms within this disturbed area will be lost” and, consequently, “the disturbed stream bed is considered a 100% loss of stream habitat.” Moreover, “due to the increased turbidity caused during construction, the best usages of these waters for aquatic species and maintenance of these species’ habitat will be lost until the affected water bodies recover and stabilize.”

NYSDEC also identified post-construction impacts to streams:

- The permanent loss of native, established riparian vegetation “will have a negative effect on water quality and stream ecological health for the full service life of the pipeline.”
- The degraded vegetative buffer (including the removal of established treed areas) “will cause bank erosion, resulting in sedimentation and turbidity in the water body,” which in turn will “degrade the best uses of the water body for aquatic organisms.”
- Although disturbed in-stream areas will be rewatered and stabilized following construction, “the hydrogeomorphology of these streams is extremely complicated and disturbance to the bed and banks of the streams will result in instability and lead to future vertical or lateral erosion, which will result in additional turbidity and impairment of water quality.”

⁵⁸ See also *id* at 7-8 “The narrative standard for *turbidity* will be violated when in-water construction occurs and at certain times during the post-construction phase. These water quality impacts and changes in riparian and stream habitat will degrade the affected waters which will then be unable to support best usages. This is particularly the case with a trout standard or rare species designation where the water body impact degrades the water body’s capacity to guarantee the survival and propagation of balanced, indigenous populations of shellfish, fish and wildlife that rely upon those waters.”

NYSDEC also addressed impacts to wetlands, noting that they “preserve water quality through their hydrologic absorption and storage capacity... protect subsurface water resources, recharge groundwater, and cleanse surface runoff to water bodies.” The agency concluded that disturbances to wetlands “due to construction and ROW maintenance will have permanent and temporary impacts on New York’s surface and subsurface water quality by decreasing wetland functions and benefits directly associated with protecting and preserving the integrity of water chemistry and biology.” For example, the pipeline companies’ “activities – particularly removing and changing vegetation – will alter the wetlands abilities to hold and release flood waters, and will change the ability of those disturbed areas to provide pollution treatment and water quality benefits.”

In concluding that NFG failed to demonstrate that the Project disturbances would adequately avoid or minimize effects on wetlands benefits as they relate state water quality standards, NYSDEC noted the following:

- NFG failed to demonstrate “that there are no practicable alternatives to avoid all disturbance to wetlands impacts due to construction of the Project, and post-construction ROW maintenance.”
- NFG failed to demonstrate “that it will adequately minimize disturbances to wetlands so as to assure that there will be no adverse impacts to wetlands themselves or to State water quality.” NYSEC emphasized that NFG “is not proposing to replace woody plants located in and near forested and shrub wetlands that its Project will impact.”
- By failing to minimize wetland impacts, NFG failed to “assure that water quality standards will be met in water bodies associated with these impacted wetlands.”
- Finally, NYSDEC found that mitigation of impacts to regulated wetlands did not meet state regulatory provisions because “[t]he area proposed by NFG to mitigate these collective impacts is not in the same basin as that containing the majority of these impacts, much less in the same subwatershed where most of the impacts occur.”

NYSDEC concluded that the Project’s impacts “will cause turbidity in such a manner to that [sic] impedes the best usages of many waterbodies, particularly those with a trout standard or rare species, by degrading the survival and propagation of balanced, indigenous populations of shellfish, fish and wildlife that rely upon these waters.”

The Virginia DEQ should look to the NYSDEC as a guide and act in a similar manner by denying the permitting necessary to build and operate the MVP.

Conclusion

In terms of water use and quality, even the MVP says: “...impacts from crossing a flowing waterbody can include a short-term increase in the sediment load in the waterbody during the period of trenching and backfilling, increased vulnerability of streambanks to erosion, streambank sloughing, increased turbidity and sedimentation downstream of the crossing location and, without proper mitigation, increased potential for sediment input from the construction right-of-way. Sustained periods of exposure to high levels of suspended solids can cause loss of fish egg and fry, reduced natural fish movements, fish vacating areas of high suspended solids, and other adverse impacts on fisheries resources.”⁵⁹ It is BREDL’s assertion that there is no manner by which the harm caused by the MVP and ACP could be adequately mitigated and the damage

⁵⁹ Mountain Valley Pipeline Project, Docket No. PF15-3, “Resource Report 2 – Water Use and Quality”

would not be short term. The only way to proceed is not to proceed at all.

You are a board comprised of citizens appointed by the Governor.

Your fellow citizens are depending on you to do the right thing. As we move into an uncertain future that is compromised if not obliterated by the damage that has been done by the development of fossil fuel and the related impacts to our water, soil, air and climate, we must make choices that privilege and value the natural resources we are blessed to still have and that prohibit the pursuit of projects that would cause further damage to an already compromised ecosystem.

The citizens of the Commonwealth of Virginia are placing their trust with you to make the right choice in terms of protecting our priceless water resources. As the process of decision-making moves forward, consider carefully your responsibility to the citizens you serve. Our governor has repeatedly and consistently chosen to listen to the corporations proposing these projects and not the people who elected him and whom he serves. Virginians have overwhelmingly spoken in favor of the pursuit of clean, renewable energy that does not compromise the health and safety of their families, land, air and water. You have the power to recommend that all permits you are tasked to approve be denied. Do not hesitate. The only responsible thing to do is to indisputably insist upon the denial of any permits necessary to authorize the construction of the proposed MVP.

Sincerely,

Mara E Robbins
Floyd County, Virginia



On behalf of:

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