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August 18, 2017

VIA E-MAIL AND U.S. MAIL

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NC Department of Environmental Quality
401 Permitting
1617 Mail Service Center
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RE: Comments on Section 401 Certification Application for Construction of the Atlantic Coast Pipeline

Dear Ms. Burdette:

The Southern Environmental Law Center and Sierra Club offer the following comments on the application from Atlantic Coast Pipeline, LLC ("Atlantic") for a water quality certification under section 401 of the Clean Water Act ("CWA") for construction of the Atlantic Coast Pipeline and its facilities ("the ACP"). These comments include, and incorporate, the attached comments prepared by Carpenter Environmental Associates ("CEA"), identifying additional errors with the application.[1] These comments are submitted on behalf of the Southern Environmental Law Center, Sierra Club, the North Carolina Conservation Network, Clean Water for North Carolina, the Natural Resources Defense Council, Sound Rivers, the Concerned Citizens of Tillery, and Winyah Rivers.

Atlantic's application for a 401 Certification suffers numerous flaws that stem from one root failure—the failure to include enough information to analyze the effects of the ACP, to demonstrate that state laws will be complied with, and to ensure that the company is held to its currently unenforceable promises during and after construction. North Carolina's 401 certification rules require much more. It is not enough to generically hope and conclude that existing uses will be protected, that water quality standards will be met, that wetland hydrology will be maintained, and that groundwater will be protected. Before the Division of Water Resources can issue a permit, Atlantic must show that the rules requiring those protections are met, and DWR must agree. Atlantic has made no such showing, and DWR must therefore deny the application. Among other issues, there are practical alternatives to the ACP that cause substantially less harm; the application fails to provide adequate information to ensure minimization of adverse impacts to wetlands and waters of the state; and the application fails to make even a *prima facie* case for compliance with water quality standards.

[1] Carpenter Environmental Associates, Report on the Revised Individual 401 Water Quality Certification and Riparian Buffer Authorization Application Submitted by Atlantic Coast Pipeline, LLC (August 2017), included as **Attachment 1** ("CEA Report").

It has never been clearer that a robust analysis of the ACP is necessary to protect the health of our communities as well as our waters and wetlands. Just in the past month, two major pipeline projects in Pennsylvania, West Virginia, and Ohio (the Sunoco Mariner East 2 Pipeline Project, and the Rover Pipeline Project) have been halted by state environmental agencies due to hundreds of construction, maintenance, and operation violations that resulted in significant avoidable sedimentation and erosion,[2] and the release of millions of gallons of drilling fluids.[3] In Ohio, several million gallons of bentonite slurry, used for drilling, were spilled into the state's wetlands.[4] The company then began transporting the fluid to a nearby quarry before the Ohio Environmental Protection Agency discovered that it contained diesel, and could contaminate nearby drinking water.[5] Pipeline companies, such as Atlantic, are incentivized to reduce construction time and cost—at the expense of the public's health and safety, and our natural environments, and must be held to the highest standards. The pending application simply does not meet those standards.

Atlantic has submitted an application that fails to provide site-specific information or analysis for hundreds of crossings. The company essentially argues that because its project will have such widespread effects, it should somehow be exempted from the 401 certification requirements that apply to smaller project. That is not so. Even if Atlantic only failed at 10 percent of its crossings, the company would destroy more than half a mile of stream and nearly 50 acres of wetlands. As recent history in other states demonstrates, the likelihood of failure in the absence of reasonable agency oversight threatens to do much more damage. The foundation of that oversight is site-specific information in the application in order to adequately determine and minimize the comprehensive wetland and waterbody impacts of the Pipeline and its facilities. As evidenced by the recent incidents in West Virginia, Pennsylvania, and Ohio, if the agency ultimately proceeds with a 401 certification, DWR must also request, monitor, and *enforce* proper construction procedures and restoration measures, in order to minimize adverse water impacts.

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[2] WV Dep't of Envtl Protection, Order Issued Under The Water Pollution Control Act, West Virginia Code, Chapter 22, Article 11 ("Rover Pipeline LLC shall immediately **cease & desist** any further land development activity until such time when compliance with the terms and condition of its permit and all pertinent laws and rules is achieved"), *available at* http://wvrivers.org/wp-content/uploads/2017/05/Rover-Pipeline-8749-Unilateral-Order.pdf, included as **Attachment 2**.

[3] Order of the Commonwealth of PA, Envtl Hearing Board, Docket No. 2017-009-L, *available at* http://ehb.courtapps.com/efile/documentViewer.php?documentID=38322, included as **Attachment 3**; PA Dep't of Envtl Quality: Spreadsheet detailing the "inadvertent returns and the status of the incident for construction related to the Mariner East 2 pipeline (to be updated weekly), *available at* http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEastII/Sunoco_Mariner_East_II-Pipeline_Construction_Inadvertent_Returns-Waters_of_the_Commonwealth_Revised.pdf (last visited August 9, 2017), included as **Attachment 4**.

[4] As discussed in Ohio Environmental Protection Agency's order, the company also committed numerous water quality and stormwater violations. Order of the Ohio Environmental Protection Agency (July 7, 2017), included as **Attachment 5**.

[5] Shane Hoover, *Diesel fuel found in mud from pipeline project*, The Columbus Dispatch, June 2, 2017, *available at* http://www.dispatch.com/news/20170602/diesel-fuel-found-in-mud-from-pipeline-project; Phil McKenna, *Rover Gas Pipeline Builder Faces Investigation by Federal Regulators*, Inside Climate News, July 19, 2017, *available at* https://insideclimatenews.org/news/19072017/rover-gas-pipeline-ferc-investigation-historic-home-demolished-ohio-farm-fields-wetlands.

I. Atlantic Has Not Demonstrated That the ACP Is Needed for Reliability; There Are Practical Alternatives to the Project

The most powerful tool DWR has to protect waters and wetlands is the requirement that if there is a practical alternative to a project, then no certification can be issued.[6] The ACP has alternatives: existing pipeline capacity and the growth of alternative forms of energy. Each of these is an alternative that will "avoid or result in less adverse impact to surface waters or wetlands," and still achieve the basic project purpose of serving energy needs within the region.[7]

First, the energy landscape that prompted Dominion Energy and Duke Energy to propose the Atlantic Coast Pipeline in 2014 has changed dramatically in the last three years, undermining market demand for the Atlantic Coast Pipeline. Electricity load forecasts for North Carolina have declined since 2014,[8] resulting in Duke Energy utilities revising their demand forecasts downward.[9] Demand for natural gas for power generation in the region that includes Virginia and North Carolina is not expected to increase through 2030.[10] Studies show that the capacity of existing natural gas pipeline and storage infrastructure, with planned modifications, is more than sufficient to meet demand for natural gas.[11] Finally, it is worth noting that there is no true "market" demand. Atlantic is owned by a conglomeration of energy companies, including Duke Energy. Affiliates of those same energy companies have contracts to purchase nearly all of the gas from the ACP, which they will then use to generate electricity for a monopolized market.[12] Requiring a meaningful practical alternatives analysis is particularly crucial here, where the market cannot possibly force a better alternative.

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[6] 15A N.C. Admin. Code 02H .00502(b)(1), (c)(1), (f).

[7] 15A N.C. Admin. Code 02H .00502(b)(1), (c)(1), (f).

[8] James F. Wilson, Wilson Energy Economics, *Evaluating Market Need for the Atlantic Coast Pipeline* 5 (2017) (If these utilities "were to re-evaluate [their] commitment to ACP, [they] would likely find that the commitment is not needed at this time, it is unclear when such capacity might be needed, and it is also unclear when such capacity might be needed, and it is also unknown whether better options might be available at such time as incremental pipeline capacity does become needed."), included as **Attachment 6**.

[9] Duke Energy Carolinas, *Integrated Resource Plan (Annual Report)* 13–14, NCUC Docket E-100, Sub 141 (Sept. 1, 2014), *available at* http://www.energy.sc.gov/files/view/2014DukeEnCarIRP.pdf; James F. Wilson, Wilson Energy Economics, *Evaluating Market Need for the Atlantic Coast Pipeline* (2017).

[10] U.S. Energy Info. Admin., *Annual Energy Outlook 2017* 5 (2017), https://www.eia.gov/outlooks/aeo/pdf/0383%282017%29.pdf; *See* U.S. Energy Info. Admin., *Annual Energy Outlook 2017, Table: Energy Consumption by Sector and Source*, https://www.eia.gov/outlooks/aeo/data/browser/#/?id=2-AEO2017&cases=ref2017&sourcekey=0 (last visited August 9, 2017).

[11] Rachel Wilson et al., Synapse Energy Economics, *Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary? An Examination of the Need for Additional Pipeline Capacity into Virginia and the Carolinas* 1 (2016), included as **Attachment 7**.

[12] N. Jonathan Peress, Environmental Defense Fund, *Hearing to Examine Oil and Gas Pipeline Infrastructure and the Economic, Safety, Environmental, Permitting, Construction, and Maintenance Considerations Associated with that Infrastructure: Hearing Before the S. Comm. on Energy & Nat. Res.*, 114th Cong. (June 14, 2016) ("[W]e are seeing a disturbing trend of utilities pursuing a capacity expansion strategy by imposing transportation contract costs on state-regulated retail utility ratepayers so that affiliates of those same utilities can earn shareholder returns as pipeline developers. . . . Thus ratepayer costs which may not be justified by ratepayer demand are being converted into shareholder return."), included as **Attachment 8**; Wilson, *supra* note 8, at 3 (Because "the future need for incremental gas supply for new gas-fired generation is highly uncertain," precedent agreements between affiliates involving captive ratepayers "may not be a reliable indicator of the market need" for new natural gas pipelines.").

Additionally, renewable alternatives—solar, wind, and battery storage—are gaining market share as their costs continue to drop.[13] In its 401 application, Atlantic briefly discusses alternative energy sources, including wind and solar, but it does not claim that these sources are unavailable as practical alternatives. It only manages to assert that these alternatives would also "require new infrastructure."[14] It is possible that the new infrastructure required by alternative energy sources would avoid any wetland and water impacts; Atlantic has not analyzed this, and therefore has not demonstrated that these credible alternatives are not practical. Since it has not been established that there are no practical alternatives, and that the ACP is necessary at this time, the application must be denied.

II. The ACP Would Cause Disproportionate Harm to Underrepresented Communities in North Carolina

The ACP will not only damage the natural environment, it also threatens low-income communities, racial and ethnic minorities, and state-recognized Indian tribes. Consistent with its obligations under Title VI of the Civil Rights Act of 1964, DWR must ensure that the ACP would not have an unjustified disproportionate impact on the water quality of environmental justice communities.

DEQ's compliance with its Title VI obligations has recently been called into question by the External Civil Rights Compliance Office of the EPA. In January of this year, the External Civil Rights Compliance Office sent a letter to DEQ in response to a pending Title VI complaint[15] filed by the North Carolina Environmental Justice Network and the Rural Empowerment Association for Community Help regarding the disparate impact of permitted industrial swine operations.[16] Importantly, the Civil Rights Compliance Office found that when the complaint was filed in 2014, DEQ was not in compliance with the implementing regulations of Title VI. These regulations "form the foundational elements of the recipient's program to implement the federal non-discrimination statutes."[17] As of January, the Civil Rights Compliance Office was unsure whether DEQ had finished putting in place these essential elements of a state agency's nondiscrimination program. DWR should not issue a 401 Certification for a project of this magnitude before it has fulfilled its obligations to establish a properly functioning nondiscrimination program to meet its obligations under Title VI.

In addition to its Title VI obligations, DWR must comply with DEQ's longstanding Environmental Equity policy by performing analysis of demographic information to identify communities that may be disproportionately impacted by the ACP. DWR should then use that more refined demographic analysis to determine whether the ACP would bring heightened

[13] *See* Matt Cox, The Greenlink Group, *Clean Energy Has Arrived: Tapping Regional Resources to Avoid Locking in Higher Cost Natural Gas Alternatives in the Southeast* 3 (2017), included as **Attachment 9**.
[14] Atlantic Coast Pipeline, 401 Water Quality Permit Application: Supplemental Information 28 [hereinafter Supplemental Information] (May 2017).
[15] N.C. Environmental Justice Network, et al. Title VI Complaint to EPA, EPA File No 11-R-14-R4 (Sep. 3. 2014).
[16] External Civil Rights Compliance Office of the EPA, Letter of Concern to William G. Ross, Jr., Acting Secretary of NC DEQ, EPA File No. 11R-14-R4, (Jan. 12, 2017).
[17] *Id.* (citing 40 CFR Part 7, Subpart D).

environmental health risks to vulnerable communities or further threaten waters relied on by these communities for drinking water, fishing, recreation, or other uses.[18]

DWR cannot rely on the scant environmental justice analysis prepared by the Federal Energy Regulatory Commission (FERC) in the ACP's Final Environmental Impact Statement (FEIS), but must instead perform its own review. The FERC used overly broad data, made invalid, overly narrow comparisons, and improperly aggregated all minority population data when evaluating whether there were any potential environmental justice concerns along the path of the pipeline.[19]

By aggregating demographic data, the FERC lumped all "minorities" together when determining whether any environmental justice concerns were present in a given census tract. This approach masked the impacts the ACP will have on particular racial or ethnic groups. For example, in one of the impacted census tracts in Wilson County (CT 15), the total "minority" population is under the county average and thus, raised no potential environmental justice concerns in the EIS. But 17 percent of the population of that tract is Latino, approximately double the county's (and the state's) Latino population generally. Similarly, the FERC concluded that there were no environmental justice concerns regarding impacts on "minorities" in census tracts 113 or 114 of Nash County even though the Latino population in each of those tracts (23.6 and 24.6 percent, respectively) is about three times the statewide percentage and four times the county percentage.

Finally, the FERC disregarded even those census tracts where it acknowledged potential environmental justice concerns by concluding that this massive, new industrial project carries no real risks to the human environment. For example, the FERC flagged every identified census tract in the following counties as containing percentages that exceed thresholds for being designated as "an environmental justice population": Johnston, Halifax, and Robeson counties in North Carolina.[20] In addition, there are a large number of census tracts along the ACP route with disproportionately high percentages of African Americans, particularly in Northampton, Halifax, and Nash counties.[21] Nevertheless, the FERC concluded that "environmental justice populations would not be disproportionately affected" by the ACP.[22] This conclusion ignored the higher risk of hazard exposure from catastrophic events to minority populations in addition to the threats posed by pipeline construction to the waters relied on by these communities.

DWR can only adequately address the effect of the ACP on underrepresented populations by correctly identifying areas where they would be affected and soliciting input in those areas. If DEQ were to do so, it would find that a variety of negative effects from the ACP exist. For many

[18] NC DENR Environmental Equity Initiative, (October 19, 2000).
[19] DEIS comments, at 259-65.
[20] DEIS at U-1.
[21] In particular, there will be disproportionate impacts from Compressor Station Three in Northampton County to African American communities. The Northampton County compressor station would be placed in census block group 6 (of census tract 9203), which is approximately 79.2 percent African American—also far higher than the population in the state, which is about 22 percent.[21] Proximity to compressor stations can cause serious health problems, including respiratory ailments and cardiovascular disease from ozone exposure, as well as gastrointestinal, neurological, and psychological effects from toxic volatile organic compounds, particulate matter, and other dangerous substances associated with natural gas infrastructure. DEIS comments, at 273–274, 271–302.
[22] Final EIS at ES-16.

of these communities, impacts to multiple upstream water bodies and wetlands may threaten subsistence fishing or recreation.

DWR should engage in direct, government to government consultation with the state recognized Indian tribes that are affected by this large, industrial project.[23] As we stated in our comments on FERC's Draft Environmental Impact Statement, over half of the census tracts impacted by the pipeline in Robeson County, North Carolina have populations over 50 percent Native American; some are over 80 percent Native American—a much higher percentage than their total population in the state as a whole, which is 1.2 percent.[24] In Halifax County, one of the census tracts that intersects with the ACP is nearly 30 percent Native American. The pipeline will affect other tribes as well, including the Coharie and Haliwa-Saponi tribes.[25] For generations, enrolled tribal members have used many of the waterbodies that will be crossed and re-crossed by the ACP including the Roanoke River, the Little Quankey and Quankey Creeks, Fishing Creek, Swift Creek, and the Little Sapony and Sapony Creeks, as well as their many tributaries.

The effects of the ACP on these communities are significant and must be addressed prior to DWR taking any action on the 401 certification. Because DWR has not done such an analysis, the certification should be denied.

III. The ACP Would Cause Significant, Long-term Damage to the Environment in Eastern North Carolina

The ACP will tear through nearly 200 miles of North Carolina, cutting straight across the entire eastern part of the state.[26] Construction of the ACP will harm nearly 37,000 feet of 326 waterbodies,[27] and at least 467.7 acres of valuable wetlands[28]—more than North Carolina has approved in 9 of the last 10 years.[29] As with streams and wetlands, it will bisect communities, farms, and forests throughout the coastal plain. This pipeline is a colossal undertaking, and it is essential that DWR has all the information necessary to determine the true impacts that this

[23] In addition to the environmental justice concerns noted above, state-recognized Indian Tribes have governing authority in their territories that should be respected by DWR. For example, state law recognizes the Haliwa-Saponi Indian Tribe's governing body, which exercises "substantial governmental duties and powers similar to the State." N.C. Gen. Stat. § 71A-5

[24] DEIS comments, at 273.

[25] DEIS comments, at 273.

[26] Supplemental Information, at 11.

[27] Supplemental Information, at 31–32, Table 4.

[28] Fed. Energy Regulatory Comm'n, Atlantic Coast Pipeline and Supply Header Project: Final Environmental Impact Statement [hereinafter FEIS] 4-135 (2017).

[29] *See* **Attachment 10** (chart listing wetland impacts approved in North Carolina between 2007 and 2012). The ACP is the second largest project during this time period, with one extraordinarily large project in 2008. Excluding that project, from 2007 through 2016, North Carolina approved impacts to 1,734 acres of wetlands, an average of 173 acres per year. NC's approved wetland impacts were less than 156 acres in 4 of the 10 years; *see also* Comments to FERC on the Draft Environmental Impact Statement for the Proposed Atlantic Coast Pipeline and Supply Header Project, submitted by SELC on behalf of Conservation Groups, Apr. 6, 2017, at 163, included as **Attachment 11** ("DEIS Comments").

endeavor will have on the state's waters, wetlands, and neighboring communities before certifying that the project will comply with state standards.[30]

A. The ACP Would Result in Extensive Destruction of Streams and Wetlands in North Carolina

Construction and operation of the ACP will cause extensive and long-lasting impacts to North Carolina's waterbodies and wetlands. During construction, a total loss of stream, wetland, and riparian habitat will occur within a construction right-of-way that can be up to 75 feet wide.[31] Vegetation and mature trees will be mowed down within the 75-foot corridor to make way for heavy construction equipment that will plow through delicate wetland soils and protective stream banks. For virtually all 468 acres of impacted wetlands, the blasting and the digging of trenches will occur directly in saturated waters,[32] causing excessive sedimentation and destroying fragile layers of hydric soil that rely on stable, low-oxygen conditions to perform unique wetland functions.[33]

Sedimentation and turbidity from construction in 326 waterbodies and 468 acres of wetlands can seriously impair aquatic life and habitats. As stated in the FERC's Final Environmental Impact Statement (FEIS) for the ACP, sedimentation can cause "permanent alterations in invertebrate community structures, including diversity, density, biomass, growth, rates or reproduction, and mortality."[34] Additionally, sedimentation and turbidity "reduc[e] light available for photosynthesis," and reduce visibility, harming organisms' ability to find food or avoid prey.[35] 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.[36] Furthermore, changes to habitat caused by sedimentation can "reduce juvenile fish survival, spawning habitat, and benthic community diversity and health."[37] The FEIS reveals that the construction of the pipeline could cause up to *800 percent* more erosion than usual,[38] and that "[w]ater resource impacts from sedimentation are *largely uncertain*."[39] This is especially concerning because the pipeline will run through several spawning and nursery areas, essential to endangered species such as the Atlantic sturgeon and the Shortnose sturgeon, as well as North Carolina's important commercial striped bass fishery and the headwaters of creeks and rivers with river herring habitat. Impacts to wetlands

[30] As the 2nd Circuit has recently stated in upholding the New York State Department of Environmental Conservation, or NYSDEC, decision to deny 401 certification for the Constitution pipeline, "an agency's decision may be found 'arbitrary and capricious' for '*issuing* a permit with insufficient information'." *Constitution Pipeline v. NYSDEC*, et al. No. 16-1568, slip op. (2nd Cir. Aug. 18, 2017), included as **Attachment 18**.
[31] Supplemental Information, at 14.
[32] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.
[33] US Forest Service, Forested Wetlands: Functions, Benefits and the Use of Best Management Practices, at 20–22, *available at* https://goo.gl/J6FFJv, included as **Attachment 12** ("USFS Wetlands Report").
[34] FEIS, at 4-228–229.
[35] FEIS, at 4-228–229.
[36] FEIS, at 4-228–229.
[37] FEIS, at 4-228–229.
[38] FEIS, at 4-128.
[39] FEIS, at 4-129 (emphasis added).

and waterbodies "have the potential to drastically change the species diversity of a system […], opening the door for less desirable species representative of a degraded habitat."[40]

Even after construction is completed, there will be permanent damage caused by the destruction of wetland soils and mature canopies. The ACP will leave a permanent gaping strip above the right-of-way in forested wetlands and forested riparian areas, where trees will 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.[41] 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.[42]

B. The Effects of the Project Would Be Permanent Under Any Reasonable Interpretation and Should Be Analyzed as Such

The ACP will cause extensive permanent impacts to wetlands and waterbodies—all of which have been grossly understated by Atlantic. Atlantic claims that there will only be 0.8 acres of wetlands lost in North Carolina,[43] when over 390 acres of forested wetlands will be deforested, or take over a century to recover—if recovery ever occurs.[44] Atlantic claims that there will less than a mile of permanent impacts to stream banks, when over seven miles of stream banks will be severely damaged and cleared of protective trees, and will likely suffer permanently increased erosion and sedimentation.[45] Atlantic falsely summarizes these impacts as "no more than minimal."[46]

1. Nearly 85% of the wetlands impacted in North Carolina are forested wetlands that will be permanently impacted from construction of the pipeline

Initially, forested wetlands will be cleared of trees within a 75-foot construction right-of-way above the pipeline.[47] After construction is finished, Atlantic will continue to prevent any regrowth of trees within a 30-foot area of the entire length of the pipeline,[48] permanently degrading the functions performed by a forested wetland, fragmenting and disrupting the breeding territories of existing populations such as the federally endangered Cerulean Warbler, and paving the way for the intrusion of invasive species.[49] Outside of this 30-foot area, forested

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[40] CEA Report, at 14.
[41] FEIS, at ES-10.
[42] Samantha Brett, Environmental Considerations of Pipeline Installation Methods through Watercourses, Royal Roads University 10 (2016) (emphasis added), *available at* https://viurrspace.ca/bitstream/handle/10170/950/brett_samantha.pdf?sequence=1&isAllowed=y, included as **Attachment 13** ("Brett Study").
[43] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C2.
[44] FEIS, at 4-135, Table 4.3.3-2; FEIS, at ES-10.
[45] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C2.
[46] Supplemental Information, at 86.
[47] FEIS, at 4-135, Table 4.3.3-2; Supplemental Information, at 14.
[48] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix J, at 29.
[49] CEA Report, at 13–14. Avian species that will be affected include the Scarlet Tanager, the Wood Thrush, and the Worm Eating Thrush. These species are "very sensitive to nest predation and to parasitic nesters." *Id.*

wetlands take a *century or more* to recover—if they do at all.[50] Not only has Atlantic severely distorted impacts to wetlands by labeling permanently cleared forested wetlands as mere "conversions,"[51] and by labeling impacts lasting a century or more as merely "temporary,"[52] Atlantic also has failed to show that forested wetlands will ever recover from this project.

The loss of those wetlands is important; forested wetlands perform distinct ecological and hydrological functions. For instance, forested wetlands are "unusually efficient in nutrient/pollutant removal associated with runoff from upland systems and, as such, are usually very productive systems that provide excellent water quality protection for their associated water bodies."[53] The loss of forested wetlands can also dramatically reduce the particular wetland's ability to store storm and floodwaters, which is essential given that North Carolina will likely experience future extreme storm events like Hurricane Matthew.[54] A 1981 study in Mississippi found that the loss of forested wetlands and confinement by levees reduced floodwater storage capacity by 80 percent.[55] The U.S. Forest Service concluded that the Great Flood of 1993 of the Upper Mississippi River Basin "proved this protection to be true and resulted in immeasurable damage," and that proper management of a forested wetland can not only improve wildlife habitat, but also "produce revenue to offset the cost […] for flood control."[56] 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-shouldered hawks, herons, and wood ducks.[57] Finally, forested wetlands "are a major source of groundwater recharge."[58] The U.S. Supreme Court has interpreted the purpose of the Clean Water Act as preserving "the *natural* structure and function of ecosystems."[59] When it comes to forested wetlands, "the removal of all of the vegetation would destroy the vital ecological function of the wetlands."[60]

In addition to the widespread loss of forested wetlands within the pipeline's right-of-way, there will be long-lasting, potentially permanent impacts to forested wetlands outside of the right-of-way. Although Atlantic describes these impacts as "temporary,"[61] the closed canopy of a mature wetland forest could take "up to a century or more" to recover, and it is indisputable that

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[50] FEIS, at ES-10 (emphasis added).
[51] Atlantic claims that impacts to 155 acres of North Carolina wetlands are "conversions," and that there will only be 0.8 acres of lost wetlands. Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C2.
[52] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C2; FEIS, at ES-10.
[53] CEA Report, at 4.
[54] "Wetland use" under 15A N.C. Admin. Code 2B. 0231(a)(1); *see also* Pamela C. Dodds, Assessment of the Adverse Hydrogeological Impacts Resulting from Construction of the Proposed Atlantic Coast Pipeline in West Virginia, Virginia, and North Carolina [hereinafter Dodds Study] (2017), Section 1.3 ("[D]eforestation removes the protective tree canopy, causing increased stormwater discharge and decreased groundwater recharge."), included as **Attachment 14** ("Dodds Study"); *see also* CEA Report, at 4 ("They are often critical flood water storage and groundwater recharge areas.").
[55] USFS Wetlands Report, at 18.
[56] USFS Wetlands Report, at 18; The Great Flood of 1993, U.S. Geological Survey Website, *available at* https://mo.water.usgs.gov/Reports/1993-Flood/ (last visited August 17, 2017).
[57] USFS Wetlands Report, at 32–35; *see also* CEA Report, at 4.
[58] CEA Report, at 11.
[59] *U.S. v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 132, (1985) (emphasis added).
[60] *Avoyelles Sportsmen's League, Inc. v. Marsh*, 715 F.2d 897, 922 (5th Cir. 1983).
[61] 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 C2; FEIS, at ES-10.

these effects will be significant and long-lasting.[62] As stated in the FEIS, "[i]mpacts 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."[63] Atlantic failed to include information about the extensive time required for forested wetland recovery in its 401 application—despite the fact that nearly 85% of North Carolina's impacted wetlands are forested wetlands.[64]

Not only will Atlantic destroy hundreds of acres of forested wetlands, it also has provided no assurances that they will ever return to their current state. Notably, Atlantic has failed to show that it will minimize adverse impacts to wetlands, or that it will adequately restore them. It only plans to segregate the topsoil of wetlands if they are not inundated at the time of construction;[65] restoration is considered "successful" if the vegetation simply appears similar to a wetland that has been newly disturbed in the same region.[66] The massive disruption of wetland soil layers and the compaction caused by heavy construction equipment, coupled with Atlantic's dismal restoration plan, will inhibit regeneration of vegetation and permanently harm the hydrologic patterns of wetlands. It is likely that hundreds of acres forested wetlands will never recover from this massive and destructive project. Therefore, these impacts must be analyzed as permanent impacts, which the current application fails to do.

2. Extensive permanent impacts will also be caused to waterbodies by damaging riparian buffers and stream bank integrity, as well as displacing and killing sensitive aquatic organisms

Significant impacts to waterbodies will be caused by clearing out vital riparian buffers in the right-of-way. For 319 trenched crossings through waterbodies, riparian areas will be cleared of trees and brush within a 110-foot construction corridor, and then kept free of trees within a 10-foot area of the length of the pipeline.[67] Riparian vegetation provides numerous key functions for waterbodies, including protecting waters from pesticides, sediment, and other pollutants, stabilizing stream banks, and regulating water temperatures.[68] Additionally, construction of the pipeline will cause significant loss of endangered mussel species, and the permanent destruction of stream bottom habitats.[69] As one extensive hydrological study states, "[i]t can only be concluded that there will be significant, permanent damage to streams receiving stormwater

[62] FEIS, at ES-10; *see also* CEA Report, at 13–14 (Significant impacts associated with the clearing of trees in forested wetlands "include species differentiation due to light penetration, habitat intrusion by predator species, habitat loss due to the edge effect, the disruption of reproductive populations and the introduction of invasive species." "Other permanent impacts associated with the edge effect and habitat fragmentation include changes in site hydrology associated with earth compaction during construction, changes in plant diversity and [] the introduction of diseases.").
[63] FEIS, at 4-137.
[64] FEIS, at 4-137.
[65] Supplemental Information, at 26.
[66] Supplemental Information, at 77. Vegetation only needs to be "consistent with the early successional wetland plant communities in the affected ecoregion."
[67] Supplemental Information, at 13; FEIS, at 4-114. The number of affected crossings is calculated by subtracting the seven HDD crossings from the total of 326 waterbody crossings.
[68] NC DEQ Website, Riparian Buffers, *available at* https://deq.nc.gov/riparian-buffers-frequently-asked-questions.
[69] Dodds Study, Figure 4.0-1.

discharge from the proposed ACP construction areas and to streams crossed by the proposed ACP route."[70]

By maintaining a right-of-way through riparian buffers, the ACP will create perpetual gaps in the forest canopy, and cause permanent increases in water temperatures from the loss of shade.[71] The elimination of shade will further harm already-threatened heat-sensitive organisms, such as the Neuse River waterdog[72] and the Carolina madtom.[73] The FEIS acknowledges that there will be increases in water temperature from the loss of shade.[74] Not only will Atlantic cause permanent damage to riparian buffers in the right-of-way, it also fails to guarantee that it will replant the trees and shrubs that have been torn down within the 110-foot construction corridor. Its application only states that revegetation "*may* include supplemental plantings of tree seedlings and shrubs."[75]

Permanent impacts will 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 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.*[76] "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."[77] Disturbed stream banks and hill slopes are at higher risk of future instability, even if work is conducted under dry conditions.[78] As stated in a study on various pipeline installation methods, bank restoration after wet or dry installation

> "must take place immediately, be done accurately, quickly, and with the appropriate design and materials […] Even the *most experienced* practitioners have stability failures in their restoration work […] Over time, river bank restorations lose their initial structure, typically due to natural processes such as unpredictable weather, freezing and thawing soils, flooding, [and] seasonal watercourse fluctuations."[79]

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[70] Dodds Study, Executive Summary.
[71] FEIS, at 4-137, 4-110.
[72] "Neuse River waterdogs tend to become inactive […] when water temperatures are greater than 18 ˚C […], but remain active at temperatures as low as 0 ˚C." AmphibiaWeb, University of California (2017), *available at* http://amphibiaweb.org/cgi/amphib_query?where-genus=Necturus&where-species=lewisi (last visited July 31, 2017).
[73] "Human-caused increases in river water temperatures have been identified as a factor in the decline of the madtom." Carolina madtom, USFWS (2017), *available at* https://www.fws.gov/southeast/wildlife/fishes/carolina-madtom/ (last visited July 31, 2017).
[74] 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.")
[75] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix J, 25–26 (emphasis added).
[76] FEIS, at 4-129.
[77] FEIS, at 4-130.
[78] CEA Report, at 8 ("[D]ry crossing methods have historically experienced significant problems leading to difficulties in meeting turbidity standards across the nation.").
[79] Brett Study, at 10.

Once Atlantic has disturbed stream banks with heavy construction equipment and construction of trenches, the stream is at high risk of increased future erosion, and Atlantic's restoration plans and erosion control measures cannot prevent it with any certainty. Atlantic's plans for erosion control during construction, as well as restoration after construction, are vague and discretionary. For instance, Atlantic only plans to restore stream banks to preconstruction contours "as near as *practicable*."[80] Furthermore, one hydrological study on Atlantic's proposed construction measures determined that, even with the implementation of Atlantic's selected Best Management Practices, "there will *always* be a certain percentage of sediment in the stormwater discharge from a construction site that will discharge to receiving streams."[81] The ACP will cause "[p]ermanent increased stormwater discharge to streams due to deforestation and soil compaction," as well as "[c]ontinual downstream stream bank erosion and stream bed."[82]

Additionally, there will likely be permanent harm to aquatic habitats. Erosion from the construction will cause sand and silt to fill in the spaces between the pebbles and cobbles of stream beds, known as embeddedness.[83] These spaces, which serve as aquatic habitats and protection for insect larvae, juvenile fish, and minnows, "are necessary for the food chain within the river continuum."[84] Construction of the ACP will result in the "continual release of sediment to streams, causing continual turbidity and permanent embeddedness."[85] The ACP will forever destroy these valuable aquatic habitats, as "they cannot be restored."[86]

Sedimentation from construction of the pipeline will permanently harm and jeopardize the future of endangered mussel populations in North Carolina. According to the FEIS, freshwater mussel species are located in at least *seventeen* of the proposed waterbody crossings.[87] State-listed mussel species that would be impacted include: the Atlantic pigtoe (currently under review by the U.S. Fish and Wildlife Service for Endangered Species Act listing), the triangle floater, the Roanoke slabshell, the yellow lampmussel, the eastern lampmussel, the creeper, and the Carolina fatmucket.[88] Atlantic claims that it will "remove individuals from workspaces." However, the U.S. Fish and Wildlife Service has rightly voiced skepticism about the effectiveness of this measure: "[D]ue to the difficulty of locating mussels buried under the surface, this may provide minimal benefit and it does not address the long term impacts from the change in streamside buffer condition, nor does it address the instability of the stream banks. Relocation is not considered an avoidance measure."[89] Studies show that

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[80] Supplemental Information, at 19 (emphasis added).
[81] Dodds Study, Section 8.0 (emphasis added). The study also found that Atlantic has provided insufficient information to determine the effectiveness of its construction practices. For instance, it has not provided (1) any drainage areas or peak discharge calculations for diversion berms and sediment trap outlets; (2) construction plan sheets to reference proper placement of silt fencing; (3) drainage delineations, construction plan sheets, or calculations determining runoff velocities for compost filter socks and pumped water filter bags; and (4) stormwater discharge calculations for sizing sediment basins. *Id*. at Section 8.1–8.5.
[82] Dodds Study, Section 10.0.
[83] Dodds Study, Section 4.2; *see also* CEA Report, at 15.
[84] Dodds Study, Section 4.2, *citing* Vannote, *et al*., *The River Continuum Concept*, Canadian Journal of Fisheries and Aquatic Species 37 (1980).
[85] Dodds Study, Section 10.0.
[86] Dodds Study, Section 4.2, Figure 4.0-1.
[87] FEIS, at 4-224.
[88] FEIS, at 4-224.
[89] Letter from John E. Schmidt (USFWS) to Kimberly Bose (FERC), June 2, 2016, included as **Attachment 22.**

freshwater mussels are incredibly susceptible to suffocation from sediment loading.[90] Excess sedimentation can cause dense, or "hardpan" layers in stream beds and reduce interstitial flow rates; silt and clay particles can clog the gills of mussels, interfere with filter feeding, or reduce the light available for photosynthesis and the production of food items.[91] Because endangered mussel species within the waters impacted by the ACP, such as the James Spinymussel, occupy a very limited geographic area, they are particularly susceptible to water quality impacts.[92] Atlantic has not taken the measures to minimize adverse impacts to populations of small, isolated, highly fragmented, and severely threatened freshwater mussel populations.

IV. The Application Materials Cannot Demonstrate Compliance with State Regulations for Ensuring Maintenance of Existing Uses or Compliance with Water Quality Standards

The ACP will impact over 7 miles of 326 waterbodies,[93] and at least 467.7 acres of valuable wetlands.[94] Despite the massive scale of this project, Atlantic gives no attention in its 401 application to the vast majority of wetlands and waterbodies—in order to save its own time and resources. Instead of providing site-specific information and tailoring its decisions to the nature of each crossing, Atlantic keeps its construction procedures[95] vague and its protective actions discretionary; it provides stock images of "typical" wetland and waterbody crossings, instead of detailed site-specific drawings; it groups all wetlands together regardless of ecological value and size, and assigns the entire 467.7 acre category open-cut construction[96]—the most harmful of all pipeline construction methods.[97] Moreover, Atlantic makes no plans to measure or monitor water quality standards for any waters within North Carolina, despite DWR's requirement to guarantee that water quality standards will not be violated on either a short- or long-term basis.

In order to carry out its legal mandate to prevent degradation of the State's waters, DWR must not follow Atlantic's lead and give North Carolina's individual waters *less* care and consideration, simply because the scope of this project is exceptionally large. Instead, DWR must reject the glaring inadequacies of Atlantic's application, deny the application as submitted, and request all information necessary for it to ensure protection of the State's waters.

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[90] Box, J.B., Mossa, J. Sediment, land use, and freshwater mussels: prospects and problems. J. N. Am. Benthol. Soc. at 100, 18(1):99-117 (1999).

[91] Gordon, N. D., T. A. McMahon, and B. L. Finlay-Son. 1992. Stream hydrology: an introduction for ecologists. John Wiley and Sons, New York; Ellis, M. M. Erosion silt as a factor in aquatic environments. Ecology, 17:29-42 (1936); Aldridge, D. W. et al. The effects of intermittent exposure to suspended solids and turbulence on three species of fresh-water mussels. Environmental Pollution, 45:17-28 (1987); Davies-Colley, R. J., C. W. Hickey, J. M. Quinn, and P. A. Ryan. Effects of clay discharges on streams: 1. Optical properties and epilithon. Hydrobiologia, 248:215-234 (1992).

[92] U.S. FWS, James Spinymussel (*Pleurobema collina*) Recovery Plan at 3 (Sept. 24, 1990), *available at* https://efotg.sc.egov.usda.gov/references/public/WV/James_Spinymussel_Recov_Plan.pdf.

[93] Supplemental Information, at 31–32, Table 4.

[94] FEIS, at 4-135, Table 4.3.3-2.

[95] Erosion and sedimentation control plans that are outside the 401 application, and have not been available for public review and comment are just one example of the inadequate information provided by Atlantic.

[96] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.

[97] CEA Report, at 13.

A. Before Issuing the ACP 401 Certification, Regulations Require That DWR Determine That Existing Uses of Waters Will Not Be Degraded, and to Request Any Necessary Additional Information in Order to Make That Determination

Under the Clean Water Act, the U.S. Army Corps of Engineers ("the Corps") may not issue a section 404 permit for the construction or operation of a facility that will result in "discharges of dredged or fill material" into waters of the United States unless DWR first grants the project a 401 certification.[98] Therefore, DWR's state-level review of the Atlantic Coast Pipeline is essential to the Clean Water Act's primary objective of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters."[99] DWR has decided to require an individual 401 certification for the ACP, which is issued on a "case-by-case basis,"[100] and can only be given if DWR has determined "that existing uses are not removed or degraded" by the discharge to surface waters and wetlands.[101] North Carolina regulations require 401 applicants to provide detailed information on discharges and the specific receiving waters of those discharges. For instance, applicants must specify: "the location of the discharge […], the name of the receiving waters; and the location of the point of discharge with regard to the receiving waters," as well as "a description of the receiving waters, including type (creek, river, swamp, canal, lake, pond or estuary) if applicable; nature (fresh, brackish or salt); and wetland classification."[102]

Additionally, applicants must include: maps or sketches "of sufficient detail to accurately delineate the boundaries of the lands […] utilized by [Atlantic] in carrying out its activity; the location, dimensions and type of any structures erected or to be erected on said lands for use in connection with the activity; and the location and extent of the receiving waters including wetlands within the boundaries of said lands."[103]

These are the *minimal* requirements for 401 applications, so that DWR can determine whether waters of North Carolina will be degraded by a project. DWR always has the power to request additional information "necessary for the proper consideration of the application."[104] The need for additional information can be expected for a project of this magnitude, for which DWR must consider impacts to each waterbody and wetland on a "case-by-case basis."[105]

For each of the receiving waters, 401 regulations require DWR to ensure that "*existing* uses are not removed or *degraded* by a discharge" to classified surface waters or class WL wetlands for an activity which:

> (1) "has *no practical alternative*," "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

[98] 33 U.S.C. § 1341(a)(1); 33 CFR Part 323.
[99] 33 U.S.C. § 1251(a).
[100] 15A N.C. Admin. Code 02H .0501(c)(1).
[101] 15A N.C. Admin. Code 02H .0506.
[102] 15A N.C. Admin. Code 02H .0502(a)(6)–(7).
[103] 15A N.C. Admin. Code 02H .0502(b).
[104] 15A N.C. Admin. Code 02H .0502(c).
[105] 15A N.C. Admin. Code 02H .0501(c)(1).

practically accomplished in a manner which would avoid or result in less adverse impact to surface waters or wetlands";[106]

(2) "will *minimize adverse impacts*" to surface waters or wetlands, by showing that surface waters or wetlands "are able to support the existing uses after project completion";[107]

(3) "does not result in the *degradation* of groundwaters or surface waters";[108]

(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";[109]

(5) "provides for *protection of downstream water quality standards*";[110] and

(6) "provides for replacement of existing uses through *mitigation*."[111]

Extensive information is generally necessary for an application to meet these requirements, especially for larger projects. For instance, in order to ensure that water quality standards are not violated, DWR must consider existing water quality classifications for classified surface waters, and their applicable standards. Class C surface waters and Water Supply waters have water quality standards for dissolved oxygen, temperature, turbidity, and dissolved oxygen—none of which can be violated by a proposed project.[112] Additionally, DWR must ensure that waterbodies are not degraded on either a *short-term* or *long-term* basis, and remain "suitable for aquatic life propagation and maintenance of biological integrity, wildlife, secondary recreation, and agriculture."[113] For the protection of wetland water quality standards, DWR must ensure protection of "hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands."[114] Therefore, there may not be adverse impacts on: (1) currents, erosion, or sedimentation patterns; (2) natural temperature variations; (3) chemical, nutrient, and dissolved oxygen regimes; (4) movement of aquatic fauna; (5) pH; and (6) water levels or elevations—such that the impacted wetland can no longer support its previous hydrological functions.[115] Finally, the biological integrity of both waterbodies and wetlands must be protected so that waters can continue "to support and maintain a balanced and indigenous community of organisms" which have "species composition, diversity, population densities and functional organization similar" to conditions prior to the project.[116]

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[106] 15A N.C. Admin. Code 02H .0506(b)(1), (c)(1), (f) (emphasis added).
[107] 15A N.C. Admin. Code 02H .0506(b)(2), (c)(2), (g) (emphasis added).
[108] 15A N.C. Admin. Code 02H .0506(b)(3), (c)(3) (emphasis added).
[109] 15A N.C. Admin. Code 02H .0506(b)(4), (c)(4) (emphasis added).
[110] 15A N.C. Admin. Code 02H .0506(b)(5), (c)(5) (emphasis added).
[111] 15A N.C. Admin. Code 02H .0506(b)(6), (c)(6) (emphasis added).
[112] 15A N.C. Admin. Code 02B .0211(6), (14), (18), (21); 15A N.C. Admin. Code 2B. 0215(g); 15A N.C. Admin. Code 2B. 0216(g); 15A N.C. Admin. Code 2B. 0218(g).
[113] 15A N.C. Admin. Code 02B .0211(2).
[114] 15A N.C. Admin. Code 02B .0231(b)(5).
[115] 15A N.C. Admin. Code 02B .0231(b)(5).
[116] 15A N.C. Admin. Code 2B. 0202(11); 15A N.C. Admin. Code 02B .0211(2); 15A N.C. Admin. Code 02B .0231(b)(6).

If DWR cannot ensure that an application guarantees compliance with each applicable standard for every impacted waterbody and wetland, it must request additional information in order to "proper[ly] consider[]" the application.[117] Here, Atlantic's incomplete application precludes a determination that applicable standards will not be violated. Moreover, the information provided indicates that the project will not comply with standards. Without information demonstrating compliance, the application must be denied.

B. Atlantic's Incomplete Application for the ACP Fails to Show That the Existing Uses of Waterbodies and Wetlands Will Not Be Removed or Degraded

Atlantic's current application wholly fails to meet the requirements for 401certification. With the information it has been given, DWR cannot ensure that existing uses of North Carolina's wetlands and waterbodies will not be degraded or removed by construction of the ACP through the entire eastern section of the state. Consequently, the application must be denied.

1. Atlantic failed to demonstrate that the selected construction method for each crossing has no practical alternative, or that the selected construction procedures will minimize adverse impacts

Atlantic must provide adequate information to show that the construction methods and procedures it has chosen for each crossing "has no practical alternative," "considering the potential for […] *all alternative designs*."[118] As discussed below, Atlantic's application does not meet that requirement.

As FERC recognized in its FEIS, Atlantic has not justified its decision to construct trenches for the pipeline through many water crossings.[119] Although there are existing trenchless construction technologies, including the conventional bore or the horizontal directional drill method ("HDD"),[120] that allow Atlantic to dig *under* waterbodies and wetlands, potentially avoiding impacts on surface waters and wetlands altogether, Atlantic has chosen to blast, carve, and dig through all but seven of its North Carolina crossings—"commonly turn[ing] to the method with the least cost and most potential for severe impacts."[121]

It is undisputed that the trenchless construction methods have less impact on waterbodies and wetlands than traditional methods that use trenches within waters, known as trenched construction. With HDD, a drilling rig is set up on one side of the waterbody or wetland and a tunnel is drilled into the ground *beneath* the waters.[122] Then, pipeline sections are welded

[117] 15A N.C. Admin. Code 02H .0506(c).
[118] 15A N.C. Admin. Code 02H .0506(b)(1), (c)(1), (f) (emphasis added).
[119] FEIS, at 4-113 ("[W]e have recommended that Atlantic complete hydrofracture potential analyses at two waterbodies (Neuse River and Nottoway River [AP-1 MP 260.7]), and if the hydrofracture potential is low, Atlantic should use the HDD crossing method.").
[120] This does not mean that HDD has no risk. Even with HDD, DWR must demand site-specific information before making a certification decision.
[121] CEA Report, at 13.
[122] Brett Study, at 10–11.

together before being pulled into the hole, known as the "entry point."[123] The "exit point" is where the drill then leaves the ground.[124] As one study states, "[t]he area of disturbance is far less than that of the open-cut method because the entry and exit points are set back from the watercourse which eliminates trenching through the riparian zone."[125] Other proposed crossing methods have more severe impacts, including habitat loss, changes in species diversity, the loss of aquatic organisms, sedimentation and turbidity, and the likelihood of introduced pollution and invasive species.[126]

The conventional bore method, another trenchless construction method, involves the digging of pits on both sides of the waterbody or wetland.[127] A boring machine with a drill is then used to tunnel under the resource before the pipeline is installed through the tunnel.[128] As discussed in the report by CEA, the conventional bore method is most commonly used for wetlands and other sensitive resources, and would substantially reduce impacts on habitat loss and sedimentation.[129] As the CEA report found, the conventional bore method "would seem a viable option" for several of the crossings CEA analyzed.[130] However, Atlantic only proposed the conventional bore method for *one* crossing.[131]

Both dry and wet construction methods proposed by Atlantic are unable to allow waters "to maintain […] natural flow pattern[s] without the risk of construction-related bank erosion and instability."[132] The wet open-cut crossing method requires digging of a trench using a track hoe, bulldozers, or draglines, within a flowing waterbody or saturated wetland.[133] It does not use any methods to control or divert the flow of water, results in the heaviest increase of sedimentation and turbidity impacts, and lacks the potential for species protection provided by other methods.[134] At least one study cited in the FEIS found that open-cut construction results in "longer term alterations to channel morphology at crossing locations, including increases in channel width, reduced water depth, and meanders 2 to 4 years after construction."[135] Dry construction methods, such as the dam-and-pump, or flume methods, also cause increased sedimentation and turbidity.[136]

Atlantic arbitrarily eliminated *all of the hundreds* of wetlands and small stream crossings from consideration for trenchless construction.[137] In addition, Atlantic entirely fails to discuss its decision to trench through large streams, such as Cypress Creek[138] and even the Neuse River—a major waterbody that is likely home to many threatened and endangered species, including the

[123] Brett Study, at 11.
[124] *Id.*
[125] *Id.*
[126] CEA Report, at 11.
[127] CEA Report, at 10.
[128] *Id.*
[129] CEA Report, at 10–11.
[130] *Id.* at 11.
[131] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.
[132] Brett Study, at 11.
[133] CEA Report, at 8.
[134] CEA Report, at 7–8, 13.
[135] FEIS, at 4-229.
[136] CEA Report, at 7.
[137] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.
[138] Supplemental Information, at 18.

Neuse River waterdog, the Atlantic Sturgeon, the Shortnose Sturgeon, the Carolina madtom, and several listed freshwater mussels.[139] Trenched construction of larger streams and rivers which are "too wide to excavate the trench from banks" will likely require operation of construction equipment "within the waterbody."[140] Large streams and rivers—including the Neuse River, Rocky Swamp, and Cypress Creek—are expected to suffer from severe sedimentation and erosion from heavy "large construction equipment," necessary for the construction of a 36-inch pipeline.[141] Hydraulic excavators and pipelayers, each weighing up to 100 tons, will devastate streambeds within flowing waters, and motor graders, weighing anywhere from 20 tons to over 50 tons, will plow through trees and vegetation on easily degraded stream banks.[142]

As stated in the FEIS, open-cut trenched construction, which is intended for all wetlands and these large rivers, could decrease dissolved oxygen, "potentially suffocating the eggs and larvae of fish and invertebrates," "decrease[e] prey availability for fish," and "degrade the quality of the habitat, making it unsuitable for spawning and rearing activities."[143] Many parts of the Neuse River are already heavily impaired,[144] and multiple open-trenched crossings in the Neuse River and its tributaries by the ACP will further devastate its populations of sensitive species—such as the Neuse River waterdog, which is endemic to the Neuse and Tar River basins, "needs clean, flowing water with high dissolved oxygen concentrations," and "is extremely susceptible to the effects of siltation, or the deposit of sediments in freshwater."[145] As discussed in the study conducted by CEA, the "[d]isplacement and loss of aquatic organisms and habitat will occur with all trench methods," but such impacts could be eliminated using trenchless construction.[146]

Rather than providing site-specific analysis regarding feasibility, Atlantic has instead provided numerous generic excuses for failing to even consider trenchless construction for hundreds of crossings.[147] It has not analyzed the feasibility of trenchless construction, demonstrated that the selected construction method for each crossing has no practical alternative, or demonstrated that the selected construction procedures will minimize adverse impacts or will ensure that state water quality standards are not violated. It has given no site-specific justification for its sweeping decision to use higher-impact trenches. For instance, Atlantic has arbitrarily determined that all small stream crossings "are not suitable for HDD" because there is not "sufficient space to place the pullback and work area for drilling equipment."[148] But Atlantic has not provided any site-specific analysis on the workspace required, or the workspace available,

[139] FEIS, at 4-221–23.
[140] Supplemental Information, at 18.
[141] Supplemental Information, at 16.
[142] Pipeline Machines and Specifications, *available at* http://www.pattencat.com/industry/pipeline.
[143] FEIS, at 4-229.
[144] Draft 2016 Category 5 Assessments EPA Submittal 303(d) List, *available at* https://ncdenr.s3.amazonaws.com/s3fs-public/Water%20Quality/Planning/TMDL/303d/2016/NC_2016_Category_5_20160606.pdf.
[145] "The major threats to this species arise from water development projects such as the construction of impoundments and stream channelization." Neuse River waterdog, U.S. Fish and Wildlife Service, *available at* https://www.fws.gov/southeast/wildlife/amphibians/neuse-river-waterdog/.
[146] CEA Report, at 7.
[147] Supplemental Information, at 15, 81.
[148] Supplemental Information, at 15, 81.

for a single crossing to establish that this claim is valid. Because Atlantic has not complied with the regulations, DWR must deny the certification.

Additionally, Atlantic states that the conventional bore method—a trenchless construction method—cannot be used to cross waterbodies with "unconsolidated soils in the substrate because it is not possible to maintain the integrity of the borehole in this condition."[149] Atlantic states that "[w]here waterbodies are entrenched or adjacent slopes are steep, excavation to sufficient depths can require excessively large pits […] which creates the potential to sink the stream or flood the bore pits."[150] However, there is no site-specific information on whether unconsolidated soils are present, whether waterbodies are entrenched, or whether adjacent slopes are steep at the relevant crossings.

Finally, Atlantic states that HDD feasibility is affected by "poor rock quality, excessive rock strength and hardness, solution cavities in bedrock, and artesian groundwater pressure."[151] It makes a general, unsubstantiated conclusion that, because traditional crossing methods take less time than HDD, traditional methods "can often reduce the environmental impact."[152] However, the application fails to provide even a single site-specific assessment of the rock quality, strength, or hardness at specific crossings, and fails to provide information on "solution cavities" and "artesian groundwater pressure." Geotechnical analyses have only been provided for six of the seven total waterbodies proposed for HDD construction.[153] Additionally, Atlantic has not analyzed the additional environmental impacts that might occur from the potential increased construction time of using HDD at any particular site. Furthermore, as part of its meager HDD feasibility discussion, Atlantic explicitly considers non-technical factors, including time and cost. Atlantic complains that the possibility that "worn bits and reamers" might need to be replaced more often, which "can result in extended construction durations and corresponding increases in construction cost."[154] Atlantic gives no indication that the additional cost of trenchless construction would make construction of the pipeline infeasible; it only states that the HDD method "*can* result in" increased costs.[155]

2. Atlantic failed to provide site-specific data on numerous other construction decisions—all essential for DWR to determine whether or not adverse impacts have been minimized

In addition, Atlantic must provide adequate information to show that the construction methods and procedures it has chosen for each crossing "will minimize adverse impacts" to each waterbody and wetlands.[156] Regulations require 401 applications to include, at a minimum, maps "of sufficient detail" of the "location and extent of receiving waters including wetlands."[157] Applications must also include additional information "necessary for the proper consideration"

[149] Supplemental Information, at 21.
[150] Supplemental Information, at 21.
[151] Atlantic Coast Pipeline, at 401 Water Quality Permit Application, Appendix P, at 4–5.
[152] Supplemental Information, at 81.
[153] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix P. One of the seven proposed for HDD construction did not have a geotechnical analysis because Atlantic concluded that it was not necessary.
[154] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix P, at 5.
[155] *Id.*
[156] 15A N.C. Admin. Code 02H .0506(b)(2), (c)(2), (g).
[157] 15A N.C. Admin. Code 02H .0502(b).

of impacts to specific wetlands and waterbodies.[158] Instead, in Appendix E of its application, Atlantic provides extremely generic drawings of "typical" wetland and waterbody crossings.[159] These drawings do not depict real wetlands or waterbodies, and provide no information about the nature of specific crossings. Therefore, they are thoroughly unable to inform DWR about potential impacts to specific wetlands or waterbodies. To be deemed complete, the application must include site-specific information about construction plans and decisions at particular crossings. Atlantic's application does not comply with regulations, and should be denied.

Atlantic's application is further filled with indeterminate and discretionary measures for its construction procedures, for instance:

- "sediment barriers *may* be installed"[160]
- "drivable berms *may* be installed"[161]
- "equipment *may* operate from within the waterbody"[162]
- stabilization measures will be conducted "as *appropriate*"[163]
- banks will be restored "as near as *practicable*"[164]
- construction mats will be used "when *necessary*"[165]
- existing access roads will be used "where *feasible*"[166]

At no point does Atlantic define what is "appropriate," "practical," "necessary," or "feasible."

Furthermore, Atlantic maintains that site-specific modifications can occur at any time, at any of the crossings.[167] Not only does this give Atlantic an impermissible amount of discretion to weaken water quality protection methods during construction of the pipeline, the generic drawings and vague statements throughout the application completely preclude DWR's ability to accurately analyze wetland and waterbody impacts. With any pipeline construction method, significant site-specific detail and planning is required, and the lack of planning can result in violations of water quality standards.[168] The work of actually building the ACP will undoubtedly be contracted and subcontracted to workers who will have differing understandings and interpretations of "as near as practicable" and other vague language used by Atlantic. Even with the best intentions, failure under such amorphous standards is near certain. As further demonstrated by FERC's request in its FEIS for Atlantic to submit site-specific crossing plans on "the location of temporary bridges and bridge type, appropriate cofferdam locations, water

[158] 15A N.C. Admin. Code 02H .0501(c)(1); 15A NCAC 02H .0502.
[159] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix E.
[160] Supplemental Information, at 17 (emphasis added).
[161] Supplemental Information, at 18 (emphasis added).
[162] Supplemental Information, at 18 (emphasis added).
[163] Supplemental Information, at 18 (emphasis added).
[164] Supplemental Information, at 19 (emphasis added).
[165] Supplemental Information, at 76 (emphasis added).
[166] Supplemental Information, at 82 (emphasis added).
[167] Site-specific modifications would have to be approved by FERC. Supplemental Information, at 17.
[168] CEA Report, at 8–10; *see also* Brett Study, at 10.

discharge structure locations, [and] pump locations," information on construction procedures at particular sites is essential to understanding the actual impacts of the pipeline.[169]

Atlantic's application should include site-specific data on particular crossings, including but not limited to: site-specific information on the depth of pipeline burial, site-specific information on engineering plans, site-specific information on the specific location of access roads and temporary bridges, site-specific information on details of proposed blasting, site-specific information on stormwater and erosion and sediment control plans, and site-specific information on discharge locations for all wastewaters. It is clear that Atlantic can perform site-specific analyses—it has done so at limited locations identified by the U.S. Fish and Wildlife Service. The company must do so at each of its crossings.

Without this information, DWR does not have sufficient information to analyze potential impacts to specific wetlands or waterbodies.

Atlantic's failure to provide information on the depth of pipeline burial, in particular, demonstrates the carelessness with which it has prepared this application. If a pipeline is not buried deeply enough, flooding and heavy storm events can re-expose the pipeline, risking damage to the pipeline and requiring remedial actions that would further impact waters.[170] The ACP would cross over 41 miles of land within Special Flood Hazard Areas, and over 5 miles of land within minimal flood hazard areas.[171] The people of eastern North Carolina are still recovering from the devastating floods caused by Hurricane Matthew in 2016. The severe flooding of last year could easily occur again, and Atlantic has provided no information to show that the pipeline will not be re-exposed by extreme storm events. Not only would this further harm wetlands and waterbodies, but it also jeopardizes the health and safety of hundreds of thousands of people.

Additionally, Atlantic argues that it has chosen to cross several intermittent and ephemeral streams using the harmful open-cut method because these particular waterbodies "can be crossed more quickly and with less spatial impact via open-cut than they can with a dry crossing method."[172] But Atlantic provides no data on the different construction time needed for the two methods at any of the crossings, or data on the water quality impacts of the two methods.[173] As it has done with its discussion on HDD feasibility, Atlantic has only provided conclusory statements that its chosen method will simply take less time and cause fewer impacts, giving DWR no information to analyze actual impacts to wetlands and waterbodies.

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[169] FEIS, at 4-102. Although FERC only requires this information for all major waterbodies, Atlantic should do this for all waterbodies and wetlands. There is nothing in the 401 certification regulations that says DEQ only has to consider impacts to large or major waterbodies and wetlands.

[170] Timothy Morse, *et al*., The Dangers of Flood Scouring on Buried Pipeline River Crossings, Exponent, *available at* http://www.exponent.com/~/media/newsletters/oil-gas-2017-v6/the-dangers-of-flood-scouring-on-buried-pipeline-river-crossings.pdf, included as **Attachment 15.**

[171] FEIS, at 4-105.

[172] Atlantic's Response to NC DEQ; Request for Additional Information for 401 Water Quality- Request for Information No. 11, at 9.

[173] *See* CEA Report, at 8 ("No comparative assessments of other methods of crossing are presented by ACP to support the necessity of using this method or to support the statement that dry crossing[s] are infeasible.").

Furthermore, Atlantic's failure to provide site-specific information on the discharge locations of wastewater means that DWR cannot ensure that adverse impacts are minimized, in violation of state regulations. As stated in the FEIS, "[t]he discharge of stormwater, trench water, or hydrostatic test water could increase the potential for sediment-laden water to enter wetlands and cover native soils and vegetation."[174]

Atlantic also fails to propose adequate time-of-year restrictions for construction that will minimize adverse impacts. Impacts can be substantially reduced by limiting construction to low-flow conditions.[175] For instance, sedimentation and turbidity impacts in intermediate systems, which are flowing only part of the year, and ephemeral systems, which only contain water during or after rain events, can be avoided if crossings are performed outside of wet seasons or rain events.[176] Yet Atlantic has only proposed time-of-year restrictions for eight out of hundreds of crossings.[177] Moreover, the Roanoke River, Neuse River, and Cape Fear River are Primary Nursery Areas.[178] If any construction is approved—it should not be—construction activities within these waterbodies must be limited to February 15 to September 30, as recommended by FERC.[179]

3. Atlantic's proposed restoration does not ensure that the project will minimize adverse impacts to disturbed wetlands and waterbodies

Atlantic makes many vague promises of restoration and rehabilitation.[180] However, a close reading of these plans reveals that Atlantic fails to assure that adverse impacts of the project will be minimized to the fullest extent possible. Atlantic has made no plans to record or report site-specific preconstruction data on: (1) contours, (2) vegetation, or (3) soil. Therefore, there is no way for DWR to know if Atlantic plans to restore contours and vegetation using detailed surveys of preconstruction contours, vegetation, and soil profiles; preconstruction photos; or mere guesswork. Additionally, Atlantic only proposes to monitor impacted sites once a year for two years—far too infrequently, and for too short a time, given the sites' susceptibility to future storm and flood events.[181] As stated in the CEA report, Atlantic should monitor wetlands for five to ten years, and streams for five to seven years after construction.[182] Atlantic's perfunctory post-construction restoration plans reflect the neglectful approach it has taken to minimizing impacts to the State's waters.

First, Atlantic will only restore preconstruction contours in waterbodies and wetlands "as near as practicable."[183] Notably, it fails to define "practicable," leaving open the possibility that

[174] FEIS, at 4-137.
[175] FEIS, at 4-230; CEA, at 6.
[176] CEA Report, at 6.
[177] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.
[178] FEIS, at 4-221.
[179] FEIS, at 4-221.
[180] With regards to waterbody restoration, the terms of success are impermissibly vague: "when construction debris is removed, similar vegetative cover or bedrock has been restored, the original surface elevations are restored as closely as practicable to preconstruction contours, the surface condition is similar to adjacent non-disturbed areas, and proper drainage is restored." Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix J, at 29.
[181] CEA Report, at 17.
[182] CEA Report, at 17.
[183] Supplemental Information, at 19, 22, 78.

attempts to restore contours might be abandoned due to additional time or cost. In order to minimize adverse impacts, waterbodies and wetlands must be restored *as closely as possible* to their "near-natural morphology," as Atlantic has promised to do for stream channels in National Forest lands.[184] Similarly, for stream channels, the width, depth and gradient associations for streambeds, streambanks, floodplains, and terraces must be restored.[185] Notably, Atlantic has proposed these measures for National Forests in other states, but not for North Carolina waters. The proposed trenching of all impacted wetlands and soil compaction "can cause significant alterations in the water regime of wetlands, [which] can significantly change the viability and functions of the system by redistributing water [or] eliminate the available waters to other areas."[186] As the CEA report states, "Wetlands are extremely sensitive to alterations in water regimes," and even "minor changes" can redistribute the flow of water and harm species survival and diversity.[187] Atlantic must conduct an initial analysis of groundwater flows, and install piezometers, throughout impacted wetlands in order to inform DWR of potential hydrological impacts.[188] DWR is required to protect the existing hydrological conditions of wetlands.[189] Atlantic has not ensured such protection, and the application must be denied.

Atlantic's promises with regards to vegetation restoration are similarly anemic. Not only will Atlantic permanently damage riparian buffers above the right-of-way, it fails to guarantee that it will make efforts to replant the trees and shrubs that have been torn down within the 110-foot construction corridor. Atlantic's application only states that revegetation "*may* include supplemental plantings of tree seedlings and shrubs."[190] Likewise, wetland restoration is considered "successful" if vegetation is "consistent with the early successional wetland plant communities in the affected ecoregion."[191] This means that a wetland can be considered "restored" if it looks similar to a wetland that has been newly disturbed in the same region. Atlantic states that it will only "replant[]" the construction right-of-way "in non-inundated deciduous hardwood wetlands […] with saplings,"[192] and neglects to discuss any replanting of trees in other types of forested wetlands. Atlantic boldly claims that "[s]eeding of wetlands is not anticipated as wetlands are expected to naturally revegetate,"[193] even though, if a wetland happens to be saturated at the time of construction, Atlantic will not make any attempts to preserve its topsoil.[194] Topsoil contains the "highest concentration of organic matter," the "bulk of necessary nutrients to vegetation," and the "highest concentration of plant roots and seeds."[195] As analyzed in the CEA report, restoration of wetland vegetation must be far more stringent in order to give the impacted wetland a mere chance of recovery. The report states, "[t]aking into consideration how fragile wetland systems are, monitoring and replanting should be required and undertaken by the applicant to attain initial planting density *no matter how long is required for*

[184] FEIS, Appendix G, at G-138.
[185] FEIS, Appendix G, at G-138.
[186] CEA Report, at 12, 15.
[187] CEA Report, at 15.
[188] CEA Report, at 11–12.
[189] 15A N.C. Admin. Code 2B .0231(b)(5).
[190] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix J, 25–26 (emphasis added).
[191] Supplemental Information, at 77–8.
[192] Supplemental Information, at 77–8.
[193] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix J, at 27.
[194] Supplemental Information, at 26.
[195] FEIS, at 4-58.

recovery. Failure to meet target densities will result in an invasion or change in habitat."[196] The report then recommends that wetlands be monitored for a minimum of five to ten years after construction is completed.[197] Atlantic makes no assurances that it will even attempt to return to restore vegetation of wetlands and forested riparian buffers.

Atlantic has also failed to ensure that it will minimize adverse impacts with regards to wetland soils, which are essential to the reestablishment of wetland vegetation and hydrology. 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.[198] These include "saturation, reduction, and redoximorphic features."[199] Saturation requires water to be present to "limit the diffusion of air into the soil"; a layer of decomposing organic matter accumulates if saturation occurs for "extended periods of time."[200] This organic layer, which can grow up to many feet over time, will even form its own layers over time—each with distinct features.[201] 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."[202] Finally, the gray or blue-gray soils of the redoximorphic layer occur when "iron compounds are reduced by soil microbes in anaerobic soils."[203] Most scientists agree that soils take at least a century for one inch of soil to form.[204]

Construction of the pipeline will inevitably devastate the layers of wetland soil that have developed over time. As stated in the application, construction of a 36-inch diameter pipeline requires the use of "large construction equipment."[205] These might include hydraulic excavators and pipelayers, each weighing up to 100 *tons*, and motor graders, weighing anywhere from 20 to over 50 *tons*.[206] The equipment would tear through fragile layers of nutrient-heavy wetland soils, and compaction and rutting caused by heavy machinery could "alter natural hydrologic patterns of the wetlands and potentially inhibit seed germination and regeneration of vegetation."[207] Furthermore, without providing any explanation, Atlantic plans to segregate wetland topsoil *only if* the wetlands are not saturated at the time of construction.[208] As discussed, topsoil has the "highest concentration of organic materials," containing the "bulk of necessary nutrients," and "greater biological productivity than subsurface soils."[209] The FEIS states that "[d]uring

[196] CEA Report, at 17.
[197] CEA Report, at 17.
[198] USFS Wetlands Report, at 20–22.
[199] *Id*. at 20.
[200] *Id.*
[201] *Id.* at 21.
[202] *Id.*
[203] *Id*. at 21.
[204] Soil Formation, U.S. Dep't of Agriculture: Natural Resources Conservation Service, *available at* https://www.nrcs.usda.gov/wps/portal/nrcs/detail/wa/soils/?cid=nrcs144p2_036333 ("An often asked question is, "How long does it take to form an inch of topsoil?" This question has many different answers but most soil scientists agree that it takes at least 100 years and it varies depending on climate, vegetation, and other factors.").
[205] Supplemental Information, at 16.
[206] Pipeline Machines and Specifications, *available at* http://www.pattencat.com/industry/pipeline.
[207] FEIS, at 4-137.
[208] Supplemental Information, at 26. Also, compaction and rutting of soils […] could "alter natural hydrologic patterns of the wetlands and potentially inhibit seed germination and regeneration of vegetation." FEIS, at 4-137.
[209] FEIS, at 4-58.

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 could "affect the reestablishment and natural recruitment of native wetland vegetation."[210] Atlantic has made plans to segregate "[a]t least 12 inches" of topsoil in Virginia's National Forest lands, yet provides no such protection for North Carolina's wetlands.[211] Construction of the pipeline will devastate the layers of wetland soil that have formed over centuries, and Atlantic has made no plans to adequately minimize these impacts, or to analyze wetland soil profiles at any point in time.

Given that Atlantic has admitted that the project will disrupt wetland and waterbody contours, vegetation, and soil, and yet has failed to provide any meaningful restoration plans, the company has not ensured that adverse impacts have been minimized. Therefore, the application in its current form must be denied.

4. Atlantic failed to demonstrate that the project will not violate water quality standards or result in the degradation of North Carolina's waters

Before issuing an individual 401 certification, DWR is required to guarantee that the project will not "result in the degradation of groundwaters or surface waters,"[212] and that it "provides for protection of downstream water quality standards."[213] Yet Atlantic has stated no plans to record any data on water quality criteria at specific sites—before or after construction—even though Atlantic admits there will be impacts on temperature, dissolved oxygen, and turbidity.[214] Notably, the FEIS states that significant increases in erosion are expected during construction, and that "[w]ater resource impacts from sedimentation are largely uncertain."[215] Annual soil loss from construction the pipeline can range anywhere from 2.19 to 8.00 tons per acre—up to 800 percent more erosion compared to undisturbed conditions, and erosion can remain higher than normal for up to five years.[216] As stated in a hydrological study on the ACP, "selected Best Management Practices will not prevent sediment from accumulating in streams."[217] Erosion and sedimentation can then cause reduced levels of dissolved oxygen.[218] The threat of poor sediment control is greater here, where the public and decision makers have not had the opportunity to review or comment on site-specific plans for each crossing. Additionally, permanent increases in temperature are expected from the clearing of riparian vegetation.[219]

Finally, Atlantic plans to withdraw nearly 20 million gallons of North Carolina water for hydrostatic testing,[220] which can further cause increased water temperature, reduced dissolved

[210] FEIS, at 4-137.
[211] FEIS, at 4-62.
[212] 15A N.C. Admin. Code 02H .00502(b)(3), (c)(3).
[213] 15A N.C. Admin. Code 02H .00502(b)(5), (c)(5).
[214] FEIS, at 4-110, 4-113.
[215] FEIS, at 4-129.
[216] FEIS, at 4-128.
[217] Dodds Study, Executive Summary.
[218] FEIS, at 4-113.
[219] FEIS, at 4-110.
[220] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix O.

oxygen levels, and entrainment of species.[221] Atlantic also plans to withdraw several million gallons of water for dust control, but has not provided any information on where this water will be taken from, or how much will be taken from each source.[222] In order to ensure that the ACP will not cause degradation of existing uses of waters, or the violation of water quality standards, DWR needs detailed data on the speed, location, amount, and time of water withdrawals and an analysis of the potential effects, including on aquatic species, as well as data on water quality criteria before, during, and after construction. Without this information, the application fails to meet state regulatory standards.

At the very least, the ACP will cross through waterbodies classified as Class C surface waters, Class ("Water Supply") WS-III, WS-IV, and WS-V waters, as well as Nutrient Sensitive Waters.[223] Further GIS studies reveal that the ACP will also cross several WS-I and WS-II waters,[224] which are both considered High Quality Waters by supplemental classification.[225] Atlantic completely failed to mention this fact in its 401 application, and then continued to deny this fact in later communications with DWR.[226] This misinformation from Atlantic on what types of surface waters will be impacted is only one of the many examples demonstrating the carelessness with which Atlantic has prepared this application.

Class C waters have water quality standards for dissolved oxygen, temperature, and turbidity—all of which will be impacted by construction and operation of the pipeline:[227]

- Minimum dissolved oxygen levels for Class C waters cannot be less than a daily average of 5.0 mg/L, with a minimum instantaneous value of not less than 4.0 mg/L.[228]
- Turbidity in Class C waters may not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters.[229]
- Temperature in Class C waters cannot increase 2.8 degrees C (5.04 degrees F) above the natural water temperature, and in no case can it exceed 32 degrees C (89.6 degrees F) for lower piedmont and coastal plain Waters.[230]

Additionally, WS-I, WS-II, WS-III, WS-IV, and WS-V waters have water quality standards listed for dissolved solids, which will likely be violated by sedimentation and erosion caused by the project.[231] Total dissolved solids in Water Supply WS-III, WS-IV, and WS-V waters cannot be greater than 500 mg/L.[232] DWR must ensure that the project does not violate any of these

[221] FEIS, 4-121.
[222] FEIS, 4-124.
[223] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix C1.
[224] Diagram of WS-I and WS-II Waters Crossed by ACP, included as **Attachment 16.**
[225] 15A N.C. Admin. Code 02B .0301(c).
[226] Atlantic's Response to NC DEQ; Request for Additional Information for 401 Water Quality- Request for Information No. 9, at 8.
[227] 15A N.C. Admin. Code 02B .0211(6), (14), (18), (21).
[228] 15A N.C. Admin. Code 02B. 0211(6). ("[S]wamp waters, lake coves, or backwaters, and lake bottom waters may have lower values if caused by *natural conditions*.")
[229] 15A N.C. Admin. Code 02B. 0211(21).
[230] 15A N.C. Admin. Code 02B. 0211(18).
[231] 15A N.C. Admin. Code 2B. 0215(g); 15A N.C. Admin. Code 2B. 0216(g); 15A N.C. Admin. Code 2B. 0218(g).
[232] 15A N.C. Admin. Code 2B. 0215(g); 15A N.C. Admin. Code 2B. 0216(g); 15A N.C. Admin. Code 2B. 0218(g).

listed water quality standards on either a *short-term* or long-term basis.[233] Further, as DWR stated in its request for additional information to Atlantic, "[s]ediment and erosion control designs for project areas within waters or watersheds designated as […] WS-I, WS-II, HQW must comply with the requirements" found in 15A N.C. Administrative Code 04B .0124.[234] These regulations require more stringent erosion control measures; for instance, those that "provide protection from the runoff of the 25 year storm which produces the *maximum peak rate of runoff*."[235] Atlantic does not appear to have addressed that requirement at all.

DWR must also ensure that the project does not violate wetland water quality standards, including "hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands."[236] Therefore, hydrological conditions must be protected to prevent adverse impacts on: (1) water currents, erosion, or sedimentation patterns; (2) natural water temperature variations; (3) the chemical, nutrient, and dissolved oxygen regime of the wetland; (4) the movement of aquatic fauna; (5) the pH of the wetland; and (6) water levels or elevations—such that the impacted wetland can no longer support its previous hydrological functions.[237]

Atlantic's failure to measure water quality or include monitoring for water quality standard violations is an indefensible omission of its incomplete application. Notably, Atlantic plans to conduct turbidity monitoring in National Forests, as stated in the FEIS, recognizing the threat that the ACP poses.[238] Acknowledging the adverse effects of excess turbidity on "reduced light" and "smothering" from reduced dissolved oxygen, Atlantic makes plans to monitor turbidity in the National Forests at least four times per day during construction.[239] It plans to make these measurements both upstream and downstream of construction, and to continue monitoring activities at least once a day, after construction and restoration is complete.[240] If turbidity standards are exceeded, Atlantic plans to conduct remediation until the source of turbidity is identified and addressed, and until turbidity readings are within standards.[241] Atlantic does not explain why it fails to take a similar monitoring approach for all regulated water quality standards for each waterbody and wetland in North Carolina. The fact that these measures are proposed elsewhere indicates that they are feasible in North Carolina waters, yet Atlantic has chosen not to propose or implement them here, leaving DWR and the downstream public in the dark.

As stated in the FEIS, "[t]he impacts of ACP […] should be evaluated based on a comparison of the proposed project to preconstruction conditions."[242] Pre-construction

[233] 15A N.C. Admin. Code 02B .0211 (2)
[234] Atlantic's Response to NC DEQ; Request for Additional Information for 401 Water Quality- Request for Information No. 9, at 8.
[235] 15A N.C. Admin. Code 02B .0124(b) (emphasis added).
[236] 15A N.C. Admin. Code 02B .0231(b)(5).
[237] 15A N.C. Admin. Code 02B .0231(b)(5).
[238] FEIS, Appendix G, at G-203. Monitoring alone, however, cannot ensure compliance with water quality standards.
[239] FEIS, Appendix G, at G-203. Although these conditions are an improvement over the company's proposal in North Carolina, that does not mean they are necessarily sufficient.
[240] FEIS, Appendix G, at G-203.
[241] FEIS, Appendix G, at G-203.
[242] FEIS, at 4-129. Although this is for National Forest Service land, the discussion is applicable to the entire project.

measurements of water quality standards must be conducted at each site. If Atlantic provides that information, DWR must then require Atlantic to demonstrate how it will maintain water quality at each crossing and downstream, and then monitor those standards during and after construction, with clear plans to respond to any violations. If Atlantic provides the necessary baseline information and information sufficient to conclude that water quality standards will be protected, it must monitor and restore (at the very least) dissolved oxygen, temperature, and turbidity to preconstruction levels if the ACP results in water quality standard violations.[243]

For wetlands, Atlantic must measure and evaluate: currents, erosion and sedimentation patterns; temperature; chemical, nutrient, and dissolved oxygen regimes; the movement of aquatic fauna; pH; and water levels or elevations.[244] This information and evaluation must take place before a 401 certification can be issued.

Atlantic states that it will test groundwater for several water quality standards before construction,[245] yet maintains that it will only conduct post-construction groundwater quality tests "[i]f a damage claim is filed."[246] This places an inappropriate and undue burden on local residents and communities to monitor their own water sources, without any plan in place for them to do so. To ensure that groundwater is not degraded, Atlantic must evaluate existing groundwater and assess the threats the ACP poses to groundwater supplies. If that information is provided, Atlantic should be required to conduct post-construction water monitoring whether or not a damage claim is filed, as recommended by the FEIS.[247]

Only if DWR requires all of these measures—that is, information and analyses prior to issuing any certification, and rigorous monitoring if a certification is issued—can it potentially ensure that water quality standards for wetlands, surface water, and groundwater will not be violated. As discussed in the report by CEA, stream crossings should be monitored for five to seven years to "assure re-establishment of the native community."[248] Additionally, the "sensitivity of and possible significance of impacts" within wetlands "warrant monitoring and guaranteed survival for a much longer [] period considering some of the areas will take up to 100 years" to recover.[249] Therefore, five to ten years of post-construction monitoring is recommended for wetlands.[250]

To find that the ACP will comply with water quality standards, DWR must not only require wetland and water body contours and vegetation to be restored, it must also require Atlantic to return to crossing sites after storm events to monitor erosion control measures. As stated in the report by CEA, "[r]estoration sites are very susceptible to upsets associated with

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[243] 15A N.C. Admin. Code 02B .0211 (6), (14), (18), (21); 15A N.C. Admin. Code 2B .0215(g); 15A N.C. Admin. Code 2B .0216(g); 15A N.C. Admin. Code 2B .0218(g).
[244] 15A N.C. Admin. Code 02B .0231(b)(5); 15A N.C. Admin. Code 02B .0231(b)(1)–(4) requires further measures in the event that harmful substances are released, such as those that are toxic, or those that might cause adverse impacts on existing wetland uses.
[245] FEIS, at 4-94.
[246] FEIS, at 4-94.
[247] FEIS, at 4-95.
[248] CEA Report, at 17.
[249] CEA Report, at 17.
[250] CEA Report, at 17.

natural occurrences such as flood or drought events."[251] Additionally, as stated in the FEIS, storm events can cause "extreme and unpredictable impacts," including "slope instability" and "mass sediment/debris loading" which can have "significant short term and long-term impacts on water resources," and "substantial water quality impairments related to water chemistry and stream channel geomorphology. Impacts could drastically alter water temperature, turbidity, dissolved oxygen, and other water quality criteria, as well as benthic-macroinvertebrate bioassessments."[252] As FERC concludes, erosion control measures must be "maintained and monitored diligently" after storm events in order to function as intended.[253] The land that the ACP would traverse is freshly recovering from Hurricane Matthew, and will surely experience future extreme storm events. Atlantic only proposes to monitor impacted sites annually for two years—far too short a period to assure restoration, especially when these sites could easily be torn up by new storm and flooding events past the two year mark.[254] Therefore, Atlantic has not shown that it would maintain effectiveness of its erosion control measures, which are currently impermissibly vague and unenforceable.

5. Atlantic has conducted a faulty and deceptive cumulative impacts analysis, such that DWR cannot ensure cumulative impacts will not cause violations of water quality standards

Before issuing a 401 certification, DWR must ensure that the project "does not result in cumulative impacts, based on past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards."[255] Atlantic's cumulative impacts assessment on past, present, and reasonably foreseeable impacts is wholly inadequate and fails to provide DWR enough information to ensure that water quality standards will not be violated due to cumulative impacts.

Appendix L of Atlantic's 401 Application lists 56 past, present, and reasonably foreseeable projects with impacts that would combine to have cumulative impacts with the ACP in North Carolina.[256] Nearly all of these are already in progress, completed, or expected to be completed within the next year.[257] Yet Atlantic has failed to provide any information on water quality impacts from any of these projects. Instead, its "cumulative impacts assessment" simply repeats the water impacts caused by the ACP and Supply Header Project alone, and provides a series of excuses for why it eliminated these other projects from its cumulative impacts analysis.[258]

Atlantic states that "[s]ome" of the 56 projects listed in North Carolina that are within the scope of the cumulative impacts analysis "will be located within the same watersheds crossed by the ACP."[259] However, Atlantic fails to state *which* projects will be located within the same

[251] CEA Report, at 17.
[252] FEIS, at 4-128.
[253] FEIS, at 4-115.
[254] CEA Report, at 17.
[255] 15A N.C. Admin. Code 02H .0506(b)(4); 15A N.C. Admin. Code 02H .0506(c)(4).
[256] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix L, at 1O-A-6–10.
[257] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix L, at 1O-A-6–10.
[258] Supplemental Information, at 86–91.
[259] Atlantic Coast Pipeline, 401 Water Quality Permit Application, Appendix L, at 1O-8, 1O-10.

watersheds, or the extent of cumulative impacts on any watershed. Atlantic simply asserts that "only a small number" of the 56 projects "will likely involve direct in-stream impacts,"[260] and that "only a small number […] will likely involve direct impacts to the same wetland features."[261] With regard to impacts on waterbodies, Atlantic states that "the construction of some of the other projects […] *could* coincide with" ACP's schedule and cause "increased sediment loading."[262] Similarly, with regard to impacts on wetlands, Atlantic states that the construction of other projects in the same area as the ACP "*could* result in the conversion or reduction in the amount of existing wetlands in the vicinity."[263] Yet Atlantic makes no attempt to analyze *which* projects would coincide with the ACP schedule, and therefore would exacerbate ACP's impacts to wetlands and waterbodies in North Carolina. Atlantic states that it "expect[s]" that these impacts will be "appropriately mitigate[d]," but offers no information on proposed wetland mitigation plans for any of the projects.[264] Furthermore, Atlantic claims that it does not know "at this time" if any of the 56 projects in North Carolina "will use water from the same surface sources within the same timeframe," yet makes no plans to determine whether that information is available.[265]

These glaring omissions throughout Atlantic's "cumulative impacts assessment" are inexcusable, and fatal to its application. Nearly all 56 projects are in progress, completed, or expected to be completed within the next year.[266] Their locations have already been determined, and many construction decisions have already been made. Completed projects have already executed the bulk of their impacts on waterbodies and wetlands. Yet Atlantic clearly does not intend to gather data on the specific locations of these projects, or their construction schedules or procedures—so that it may properly analyze the cumulative impacts of these projects with the ACP.

Atlantic has further eliminated projects from consideration merely because the project might require separate permitting actions, such as with Piedmont Natural Gas projects, including a 26-mile long, 20-inch diameter pipeline proposed to connect with the ACP.[267] The purpose of a cumulative impacts analysis, however, is to consider the *cumulative* effects of separately permitted projects. If each project requiring a separate permit was analyzed separately, there would never be an analysis of cumulative impacts. Atlantic has also eliminated projects simply if the project is not "under the purview of the Atlantic or the FERC review of the ACP."[268] On multiple occasions, Atlantic seems to claim that, because FERC or USACE are supposed to consider cumulative impacts, DWR is not required to.[269] However, FERC's flawed analysis only analyzed the cumulative watershed and wetland impacts of *FERC-regulated* projects—none of

[260] *Id*. at 1O-8.
[261] *Id*. at 1O-10.
[262] *Id*. at 1O-8 (emphasis added).
[263] *Id*. at 1O-10 (emphasis added).
[264] *Id*. at 1O-10.
[265] *Id*. at 1O-9.
[266] *Id*. at 1O-A-6–10.
[267] Supplemental Information, at 90–91.
[268] Supplemental Information, at 90–91.
[269] Supplemental Information, at 89.

which are in North Carolina.[270] Moreover, neither of these federal agencies has looked at whether the cumulative impacts of these other projects will violate North Carolina water quality standards; that is the role of DWR.

Finally, Atlantic's discussion of past and reasonably foreseeable impacts on waters does not provide any information on the extent of past and future impacts within North Carolina. The application simply states that past impacts have been "those of typical rural development with road and various utility line crossings of streams and wetlands in support of agriculture and dispersed human development," and that reasonably foreseeable impacts "would include continued slow additional growth in the small human communities with associated road and utility lien crossings of waters of the U.S."[271] The FEIS provides that North Carolina has lost nearly half its wetlands since pre-colonial times, and that it has lost four percent of the total inland freshwater wetlands and 1.5 percent of coastal wetlands since the 1970s.[272] This information on historical wetland impacts, and far more analysis on reasonably foreseeable impacts, should have been discussed in the application so that DWR could make a proper assessment of past, present, and reasonably foreseeable future impacts

Atlantic has not even given data on the cumulative impacts of the ACP *alone* on particular streams, wetlands, subwatersheds, and watersheds. As discussed in the report prepared by CEA, several of the sites analyzed by CEA involved crossings of multiple tributaries—all of which are proposed to be crossed using the open-cut method.[273] The study found that there will be "increased impacts associated with multiple disruptions."[274] As further shown in attachment 21, the length of the ACP will cross and re-cross several streams and their tributaries in North Carolina, and wetland systems, many times.[275] DWR is required to consider the cumulative impacts of these multiple crossings on affected waters. Therefore, Atlantic must give data on how many times each stream, river, wetland, subwatershed, and watershed is crossed by both the Atlantic Coast Pipeline and any of the other 56 North Carolina projects in Appendix L of the application.

As one study states, the cumulative impacts of the ACP can be assessed by measurements and calculations, but Atlantic has not done the analysis to determine any of these cumulative impacts.[276] Cumulative impacts can be measured for:

- Deforestation and soil compaction,
- Increased stormwater discharge using "standard engineering equations,"
- Increased sediment discharge using the Revised Universal Soil Loss Equation,
- Increased stream bank erosion from "bankfull discharge curves," and
- Groundwater impacts using stream baseflow calculations.[277]

[270] FEIS, 4-606–7 ("Other FERC-regulated projects […] would permanently affect an estimated total of about 102 acres of wetlands […] [W]e assume some level of impacts would occur [from non-FERC regulated projects.]"); FEIS, Appendix W.
[271] Supplemental Information, at 88.
[272] FEIS, at 4-596.
[273] CEA, at 10–11.
[274] CEA, at 10–11.
[275] Screenshots of Multiple Crossings through Streams and Tributaries, included as **Attachment 21.**
[276] Dodds Study, Section 9.0.

As such, Atlantic has not provided any information on the actual water impacts of related past, present, and reasonably foreseeable projects. Atlantic has made no effort to analyze the cumulative impacts of this enormous project that promises to impact every major watershed in eastern North Carolina.

6. Atlantic's proposed mitigation is inadequate for the vast, permanent degradation of forested wetlands

The state's 401 certification rules lay out specific requirements for wetland mitigation for "unavoidable losses of existing uses."[278] As described above, nothing in the application ensures that forested wetland uses will be protected. Moreover, Atlantic has not appropriately categorized its impacts or sufficiently described its mitigation proposals.

First, forested wetland impacts will be permanent and must be mitigated as such. As described above, the FEIS acknowledges that impacts to forested wetlands may take more than 100 years to recover *if* hydrology is maintained. There is little in the application materials to provide any assurance that Atlantic will maintain wetland hydrology during or after construction.

Second, Atlantic appears to have made no attempt to categorize wetlands as required under 401 certification rules. Mitigation requirements vary due to proximity to the nearest intermittent or perennial water body,[279] as well as proximity to water supply watershed waters.[280] Atlantic has not evaluated these elements.

Third, the mitigation plans proposed are woefully inadequate. Not only is the proposed mitigation simply not enough, the plans lack important detail. Notably, each plan includes a significant sentence: "Detailed wetland delineation has not been performed."[281] Without delineations, the plans cannot provide a reasonable basis for evaluating the mitigation proposal or potential to offset the loss of existing uses that would result from the ACP. The plans, which were submitted well into the comment period, provide little detail about existing characteristics of the sites or the restoration that is proposed.

As with the rest of Atlantic's application, the failure to provide adequate information regarding the proposed mitigation requires denial of the certification.

V. Other States Have Required Far More Detailed Information Than Provided by Atlantic

States have denied requests for section 401 water quality certification for gas pipelines where the applicants failed to provide sufficient information to demonstrate compliance with state water quality standards. The following sections outline the severe impacts and informational deficiencies that caused New York to deny section 401 certification for the Constitution and Northern Access pipelines, and New Jersey to decline to issue a freshwater

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[277] Dodds Study, Section 9.0 .
[278] 15A N.C. Admin. Code 02H.0506(h).
[279] 15A N.C. Admin. Code 02H.0506(h)(7).
[280] 15A N.C. Admin. Code 02H.0506(h)(8).
[281] *See* at Letter from R. Gangle, Dominion Energy, to S. Dailey, USACE, at 4, 7, 11, 14, 18, 22, 25, (Aug. 4, 2017).

wetlands individual permit for the PennEast pipeline. Atlantic's application suffers from many of the same deficiencies as these denied applications, including a lack of adequate site-specific information, and is even less adequate in many respects.

A. NYSDEC Denied the Constitution Pipeline 401 Certification due to the Lack of Adequate Information

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 section 401 water quality certification (along with Protection of Waters and Freshwater Wetlands permits). That project included a new 124.14-mile pipeline originating in Pennsylvania and terminating in New York, including new right-of-way 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 "[b]ased 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."[282] 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."[283] Accordingly, NYSDEC denied the request for a water quality certification.

NYSDEC's denial of 401 certification was recently upheld by the Second Circuit.[284] As the court stated,

> [A]n agency's decision may be found 'arbitrary and capricious' for '*issuing* a permit with insufficient information' […] NYSDEC is responsible for evaluating the environmental impacts of a proposed pipeline on New York waterbodies in light of the State's water quality standards […] [T]he denial of the § 401 certification after Constitution refused to provide relevant information, despite repeated NYSDEC requests, was not arbitrary or capricious.[285]

In its denial letter, 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.[286] "Cumulatively, within such areas, as well as the right-of-way 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

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[282] NYSDEC Constitution Letter at 1 (emphasis added), included as **Attachment 17**.
[283] *Id.*
[284] *Constitution Pipeline v. NYSDEC*, et al. No. 16-1568, slip op. (2nd Cir. Aug. 18, 2017), included as **Attachment 18**.
[285] *Id*. at 25–26.
[286] NYSDEC Constitution Letter, at 3.

erosion, and creation of stream instability and turbidity."[287] Moreover, "[i]mpacts to these streams are exacerbated as the cumulative negative effects of multiple crossings are added."[288]

NYSDEC's letter noted that initially, 100% loss of stream and riparian habitat would occur within the right-of-way 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."[289] 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 "[l]oss 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."[290] 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.[291] 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."[292]

"[D]estabilization 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.[293] Moreover, "chronic erosion from disturbed stream banks and hill slopes" can cause "consistent degradation of water quality."[294]

Like Constitution, Atlantic Coast Pipeline has failed to provide sufficient information in its application to demonstrate compliance with state water quality standards. Thus DWR 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."[295]

1. NYSDEC found substantial impacts to stream crossings and required site-specific information

NYSDEC required site-specific information for each of the 251 streams impacted by the Constitution Pipeline project.[296] NYSDEC also informed Constitution that all 251 stream crossings "must be evaluated for environmental impacts and that trenchless technology was the

[287] *Id*.
[288] *Id*.
[289] *Id*. at 4.
[290] *Id.*
[291] *Id*.
[292] *Id*. 4–5.
[293] *Id*.
[294] *Id*.
[295] *Id.* at 8.
[296] *Id*.

preferred method for stream crossing."[297] Constitution failed to supply the necessary information for decision making.

a. NYSDEC found deficient information on trenchless stream crossings and details on specific stream crossings

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.[298] (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."[299] On appeal, the Second Circuit rejected Constitution's attempt to justify its refusal to provide sufficient information on the basis that using trenchless methods for streams less than 30 feet wide is not an "industry recognized standard."[300] The court wrote that "in order to show than an agency's decision […] is arbitrary and capricious, 'it is not enough that the regulated industry as eschewed a given [technology]'" because "[i]ndustry preferences do not circumscribe environmental relevance."[301] Furthermore, 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."[302]

In January 2015, NYSDEC again "indicated that the justification for stream crossing methods was insufficient and that appropriate site specific information must be provided."[303] 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."[304] After continued back-and-forth in 2015, Constitution

[297] *Id*.
[298] *Id*. at 8–9.
[299] *Id*. at 10. 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.
[300] *Constitution Pipeline v. NYSDEC, et al*. No. 16-1568, slip op., at 25 (2nd Cir. Aug. 18, 2017).
[301] *Id*. *citing* Motor Vehicle Manufacturers Ass'n of the United States, Inc. v. State Farm Mutual Automobile Insurance Co., 463 U.S. 29, 49 (1983).
[302] *Id*. at 11. 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. DWR should require the same of Atlantic.
[303] *Id*. at 10.
[304] *Id*.

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."[305] Similarly, DWR currently lacks adequate information with regard to the ACP stream crossings.

NYSDEC concluded that "[d]ue 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."[306] Furthermore, Constitution failed to provide "sufficient detailed information including site specific project plans regarding stream crossings (e.g., geotechnical borings)," 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[307]

As is the case here, 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."[308]

b. *NYSDEC found 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).[309] Accordingly, agency staff requested that Constitution "provide a comprehensive and site-specific analysis of depth for pipeline burial."[310] Constitution failed to provide sufficient information and analysis. NYSDEC noted that "[w]ithout 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.[311] NYSDEC also noted that "future high flow events could expose the pipeline," which would "require more extensive stabilization

[305] *Id*. at 11.
[306] *Id*. at 12.
[307] *Id*.
[308] *Id*.
[309] *Id*. at 13.
[310] *Id*.
[311] *Id*.

measures and in stream disturbances resulting in addition[al] degradation to environmental quality."[312]

c. NYSDEC found 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."[313] 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."[314] NYSDEC concluded that "[d]ue 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.[315]

2. NYSDEC found that Constitution also did not provide adequate information on wetland impacts

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."[316] NYSDEC concluded that "[a]bsent *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."[317]

Like Constitution, Atlantic has failed to provide sufficient information to demonstrate compliance with state water quality standards.

B. NYSDEC Denied the Northern Access Pipeline 401 Certification due to the Lack of Adequate Information

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 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 long, 24-inch diameter gas pipeline that would cross 192 State-regulated streams and impact a total of 73.4 acres of 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."[318]

[312] *Id*.
[313] *Id*.
[314] *Id*.
[315] *Id*.
[316] *Id*.
[317] *Id*. at 13–14 (emphasis added).
[318] NYSDEC Northern Access Letter at 2, included as **Attachment 19**.

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 effects[319]), the application failed to demonstrate compliance with state water quality standards.[320]

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."[321] 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.[322] 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."[323]

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.[324] 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."[325] NFG's analysis comprised sequential reviews encompassing 1) physical/technical parameters, 2) environmental constraints, and 3) technical design parameters.[326] Notably, NFG's rejected analysis was far more explanatory than Atlantic's.

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."[327] NYSDEC noted the loss of and conversion of riparian cover types would increase the input of turbid water; construction in the right-of-way 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

[319] *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.")
[320] *Id*. at 3.
[321] *Id*. at 5 ("NYSDEC informed NFG that *all* stream crossings must be evaluated for environmental impacts…." (emphasis added)).
[322] *Id*. at 5.
[323] *Id*. at 5.
[324] *Id.* at 5–6.
[325] *Id.* at 6.
[326] *Id*.
[327] *Id.* at 6–7.

(affecting both immediate habit in the right-of-way and downstream water quality and habitat).[328]

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," or right-of-way.[329]

NYSDEC noted that, more broadly, "riparian habitat surrounding streams within the Project right-of-way 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."[330] 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 right-of-way."[331] NYSDEC concluded that these construction techniques would cause "significant damage or destruction to both riparian and in-stream habitat," both during and after construction.[332]

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."[333]

- NYSDEC performed a evaluated 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."[334]

- NYSDEC noted that "[u]pon 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

[328] *Id*. at 7.
[329] *Id*.
[330] *Id*.
[331] *Id*.
[332] *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." (footnote omitted)).
[333] *Id*. at 8 (emphasis added).
[334] *Id*.

exceedance of the turbidity water quality standard."[335] 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.[336]

- 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."[337] Moreover, "[d]ue 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."[338]

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."[339]

- 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."[340]

- 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."[341]

NYSDEC also addressed impacts to wetlands, noting that they "preserv[e] water quality through their hydrologic absorption and storage capacity, … protect subsurface water resources, recharge groundwater, and cleanse surface runoff to water bodies."[342] The agency concluded that disturbances to wetlands "due to construction and right-of-way 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."[343] For example, the pipeline companies' "activities – particularly removing and *changing vegetation* – will alter the wetlands abilities to hold and release flood

[335] *Id*.
[336] *Id*.
[337] *Id*. at 9.
[338] *Id*.
[339] *Id*.
[340] *Id*.
[341] *Id*. at 10.
[342] *Id*.
[343] *Id*. at 11.

waters, and will change the ability of those disturbed areas to provide pollution treatment and water quality benefits."[344]

In concluding that NFG failed to demonstrate that the Project disturbances would adequately avoid or minimize effects on wetlands benefits as they relate to 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 right-of-way maintenance."[345]

- 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."[346] NYSEC emphasized that NFG "is *not proposing to replace woody plants* located in and near forested and shrub wetlands that its Project will impact.").[347]

- 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."[348]

- 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."[349]

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."[350]

C. The New Jersey Department of Environmental Protection Denied the PennEast Pipeline 401 Certification due to the Lack of Adequate Information

The PennEast Pipeline Project would include 116 miles of new, 36 inch-diameter greenfield pipeline (37.7 miles in New Jersey and 78.3 miles in Pennsylvania). In the New Jersey Department of Environmental Protection's (NJDEP) amended deficiency letter, dated April 28, 2017, the agency identified information missing from PennEast Pipeline Company's application for a freshwater wetlands individual permit. The absence of the following information rendered the permit application deficient:

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[344] *Id*. (emphasis added).
[345] *Id.* at 12.
[346] *Id*.
[347] *Id*. (emphasis added).
[348] *Id*.
[349] *Id*.
[350] *Id*. at 13.

- Verification of "the accuracy of the wetlands delineation, transition areas, threatened and endangered species habitat, archaeological resources, and best practices to cross particular streams".[351]

- For the length of the proposed pipeline alignment: a proposed delineation of all freshwater wetlands, transition areas, and State open waters on the site, or portion thereof, that is the subject of the application;[352] soil borings and/or other physical indicators of the presence or absence of freshwater wetlands, transition areas, and/or State open waters;[353] delineating report information, including data sheets and/or other materials explaining and supporting the delineation for all wetlands within the right-of-way and 150 feet from each side of the right-of-way;[354] the total area of wetlands and State open waters on the site before and after the regulated activity is performed;[355] and copies of a site plan or subdivision map showing a complete delineation of the wetlands boundary; and[356]

- An amended archaeological survey report investigating the entire proposed alignment for the portion of the pipeline located in New Jersey.[357]

On June 28, 2017, NJDEP denied PennEast's request for additional time and deemed the application administratively closed.

VI. DWR Must, at a Minimum, Require Site-Specific Information from Atlantic

DWR cannot lawfully issue a 401 certification based on the existing application materials. The history of this type of project makes clear that the existing uses of the streams and wetlands the ACP would cross are in danger and water quality standards are likely to be violated. Therefore, the application should be denied.

If DWR does not deny the permit outright, it must demand additional information. To demonstrate that the selected construction method for each crossing has no practical alternative, or that the selected construction methods and procedures will minimize adverse impacts, DWR must, at a minimum, require **site-specific information on the following issues before considering certification**:

- Whether soil is unconsolidated to justify decision not to use the conventional bore method;
- The steepness of adjacent soils to justify decision not to use the conventional bore method;
- Whether waterbody is entrenched to justify decision not to use the conventional bore method;

[351] PennEast Letter, at ¶ 1, included as **Attachment 20**.
[352] *Id*. at ¶ 4.i.
[353] *Id*. at ¶ 4.ii.
[354] *Id*. at ¶ 4.iii.
[355] *Id*. at ¶ 4.iv.
[356] *Id*. at ¶ 4.v.
[357] *Id*. at ¶ 6.

- Rock and soil quality to justify decision not to use HDD;
- Rock strength and hardness to justify decision not to use HDD;
- Any solution cavities in the bedrock to justify decision not to use HDD;
- Artesian groundwater pressure to justify decision not to use HDD;
- Anticipated impacts of HDD versus a "traditional crossing method," based on differing construction times, to justify decision not to use HDD;
- The workspace required, and the space available, for drilling equipment to justify decision not to use HDD;
- The specific location of access roads;
- The details, and definite locations of temporary bridges, including depth of abutments in stream banks;
- The details of proposed blasting;
- Pump locations, where the dam-and-pump method will be used;
- The location of temporary cofferdams for stream crossings;
- The depth for pipeline burial, including analysis of the potential for vertical movement of each stream crossing to justify burial depth; and
- The discharge locations of wastewater;
- Preconstruction recording of contours; restoration of wetland and waterbody contours to their pre-construction state as close as technically feasible, considering the width, depth and gradient associations for streambeds, streambanks, floodplains, and terrace, and monitoring of wetland sites for 5 to 10 years, and monitoring of waterbody sites for 5 to 7 years;
- Preconstruction recording of vegetation; restoration of wetland and waterbody vegetation to pre-construction state as close as technically feasible, so that previous species composition, diversity, and density can still be supported.
- Replacement of woody plants located in and near impacted forested and shrub wetlands; the reestablishment of fully functional wetland habitats and riparian areas adjacent wetlands and streams; monitoring of wetland sites for 5 to 10 years; and monitoring of waterbody sites for 5 to 7 years;
- Preconstruction recording of soils, particularly conducting soil profiles for wetlands; segregation of at least 12 inches of topsoil in all wetlands, regardless of saturation; restoration of wetland soils and waterbodies so that biological productivity and chemical conditions remain the same; monitoring of wetland sites for 5 to 10 years; and monitoring of waterbody sites for 5 to 7 years.

To demonstrate that the project will not result in the degradation of the State's waters, and that the project will provide for the protection of water quality standards, DWR must, at a minimum, require:

- Delineations of wetlands outside the construction boundary;
- Site-specific recording of water quality parameters for waterbodies prior to construction, including: temperature, dissolved solids, dissolved oxygen, and turbidity;
- Site-specific recording of water quality standards for wetlands prior to construction, including: measurements of temperature, current, sedimentation and

erosion patterns, pH, water levels and elevations, and the chemical, nutrient, movement of aquatic fauna, and dissolved oxygen regimes;

- Monitoring of water quality criteria for wetlands during and 5 to 10 years after construction, including stringent parameters on the frequency and duration of inspection;
- Monitoring of water quality criteria for waterbodies during and 5 to 7 years after construction, including stringent parameters on the frequency and duration of inspection;
- Enforceable restoration measures to meet water quality standards if violations occur during or after construction;
- Maintenance and monitoring of erosion control measures after storm events (for 5 to 10 years after construction in a wetland, and for 5 to 7 years after construction in a waterbody);
- Post-construction groundwater tests, and groundwater remediation if tests reveal that groundwater is in violation of groundwater standards; and
- Data on water withdrawals for both hydrostatic testing and dust control, including data on the specific location, time, speed, and amount of withdrawals, impacts on aquatic species, and plans to impound and prevent discharge of wastewater and runoff after use.

To adequately analyze the cumulative impacts of the project, DWR must, at a minimum, require:

- An analysis of waterbody and wetland impacts from completed and in-progress North Carolina projects listed in Appendix L of the application;
- A prediction of reasonably foreseeable waterbody and wetland impacts from in-progress, anticipated, and planned North Carolina projects listed in Appendix L of the application;
- A determination of how many times each stream and its tributaries, wetland, subwatershed, and watershed is crossed by both the Atlantic Coast Pipeline and any of the other 56 North Carolina projects in Appendix L of the application; and
- Information on which of the North Carolina projects in Appendix L of the application will draw water from the same sources the ACP will use for hydrostatic testing or dust control, and how much water the projects will use.

All of this information is necessary to DWR's analysis and must be submitted before a 401 certification can be issued. The agency must also require detailed wetland delineations, site-specific drawings for each crossing, and additional information about Atlantic's erosion and sedimentation control plans.

VII. Conclusion

The ACP is a massive project that would leave a permanent scar on the coastal plain of North Carolina. It is imperative that a project of this scale, with impacts across the entire coastal plain, be fully analyzed. Such a project cannot be approved or undertaken based on the information available. DWR cannot lawfully issue a 401 certification because Atlantic has not

met its burden of demonstrating compliance with state water quality rules. Therefore, we respectfully request that DWR deny the proposed 401 certification for failing to include the information described above. Should Atlantic provide the required additional information, our organizations request that DWR provide opportunities for public comment on the new information

Thank you for considering these comments. Please contact us at ggisler@selcnc.org, jzhuang@selcnc.org, or 919-967-1450 if you have any questions regarding this letter.

Sincerely,

Geoffrey R. Gisler
Senior Attorney

Jean Zhuang
Associate Attorney

Elly Benson
Staff Attorney
Sierra Club

Attachments provided on compact disc (via U.S. Mail)