

Regulatory Impact Analysis for Amendment of 15A NCAC 02B .0206 and 02H .0107

Rule Citations:	15A NCAC 02B .0206 and 15A NCAC 02H .0107	
Rule Topic:	Amend the Flow Design Criteria for Effluent Limitations Rule and the NPDES Staff Review and Evaluation Rule as mandated by SL 2024-44 (s. 5.1) to allow for the discharge of domestic wastewater to zero flow receiving streams.	
Rulemaking Agency:	Environmental Management Commission (EMC)	
DEQ Division:	Division of Water Resources (DWR)	
DEQ Contacts:	Karen Higgins, DWR karen.higgins@deq.nc.gov (919) 707-3630	Karen Preston, DWR karen.preston@deq.nc.gov (919) 707-3871
Impact Summary:	State government: No DOT: No Local government: None beyond the impact from SL 2024-44 Substantial Impact: Uncertain, but would be attributable to SL 2024-44	
Authority:	G.S. 130-161; G.S. 143-214.1; G.S. 143-215.3(a)(1); G.S. 143-215.3(a)(4); G.S. 143-215.1(a); G.S. 143-215.1(c); G.S. 143-215.1(c7); SL 2024-44 (s. 5.1)	
Necessity:	The Environmental Management Commission (EMC) and Department of Environmental Quality (DEQ), Division of Water Resources (DWR), have the responsibility to implement and enforce provisions of the federal Clean Water Act and have delegated permitting authority to implement the National Pollutant Discharge Elimination System (NPDES) Program. The rule amendments are outlined in SL 2024-44 (s. 5.1) to allow domestic wastewater discharges to zero flow streams, which will align North Carolina with neighboring states. By providing an additional permitting option, this may provide additional opportunities for growth in these areas where the cost of piping to a higher flowing stream farther away was prohibitive. The SL also requires the EMC to adopt rules incorporating the amendments.	

1. **Background**

Section 5.1 of [Session Law \(SL\) 2024-44](#) required that by August 1, 2024, the Department of Environmental Quality (DEQ) and the North Carolina Environmental Management Commission (EMC) “... *develop and submit to the United States Environmental Protection Agency for USEPA's approval draft rules that establish methodologies and permitting requirements for the discharge of treated domestic wastewaters with low risk following site-specific criteria to surface waters of the State, including wetlands, perennial streams, and unnamed tributaries of named and classified streams and intermittent streams or drainage courses where the 7Q10 flow or 30Q2 flow of the receiving water is estimated to be low flow or zero flow, or under certain conditions non-existent, as determined by the United States Geological Survey (USGS).*” SL 2024-44 (s. 5.1) further required that within 20 days of USEPA’s approval of the draft rule, the EMC will initiate rulemaking.

On [July 31, 2024](#), DEQ and the EMC jointly submitted a draft rule concept to USEPA for their approval. USEPA did not approve the draft rule concept, however they did provide comments on the draft rules on [December 20, 2024](#) and [May 1, 2025](#). USEPA commented that the draft rule submitted by DEQ and the EMC was inconsistent with North Carolina’s approved NPDES program and any program change would be subject to the formal review requirements of 40 CFR 123.62 before being implemented. Because the submittal was not a request for formal review of the delegated NPDES program, the USEPA did not approve or disapprove the draft rule concept submitted on July 31, 2024. The EMC is moving forward with the proposed rulemaking package in accordance with SL 2024-44 (s. 5.1).

2. **Rule Summary**

Whereas SL 2024-44 (s. 5.1) stipulated what was in the “draft rule” to be submitted to USEPA, it did not stipulate the language required in the rule. The EMC is proposing to revise 15A NCAC 02B .0206 and 15A NCAC 02H .0107 to incorporate the language submitted in the draft rule to USEPA with revisions in response to USEPA’s comments and other revisions to ensure no conflicts with existing regulations. The proposed rule revisions are provided in Appendix A and a crosswalk for the SL 2024-44 (s. 5.1) language to proposed amendments is provided in Appendix B.

The proposed rules will enable implementation of the session law, providing an additional option for applicants of new discharges or expanding facilities. Applicants mostly likely to take advantage of this option will be in areas where the cost of piping to a higher flowing stream farther away was prohibitive. This new option can only be used by facilities with domestic wastewater discharges, so other facilities such as those discharging more than two million gallons per day or industrial facilities will be unable to take advantage of this new option.

15A NCAC 02B .0206

Under the current language in 15A NCAC 02B .0206, new or expanded discharges of oxygen consuming waste is prohibited when the 7Q10¹ and 30Q2² flows are both zero. SL 2024-44 (s. 5.1) removes the prohibition for discharges up to two million gallons per day, provided a number of criteria are met, specific effluent limits are met, and low-energy methodologies are utilized prior to discharging to the receiving stream.

USEPA expressed concerns about the rule controlling a limited set of pollutants, the rule predetermining effluent limits, other impacts related to North Carolina's water quality standards, and the potential for permits issued pursuant to the draft rule resulting in specific USEPA objections. The proposed language in 15A NCAC 02B .0206 has been revised to respond to USEPA's comments; the specific paragraphs in the rule are noted in the Crosswalk found in Appendix B.

In addition to revisions made in response to USEPA comments, other revisions were made to resolve conflicts with existing regulations as well as for clarity. For example, the definition of "treated domestic wastewater" was not included as "domestic wastewater discharge" is already defined in 15A NCAC 02B .0202. A full explanation of each change is noted in the Crosswalk found in Appendix B.

15A NCAC 02H .0107

Under the current language in 15A NCAC 02H .0107, no timeframes are provided for an application to be determined complete. SL 2024-44 (s. 5.1) adds several provisions related to application processing for applications submitted under the provisions outlined in the session law. USEPA expressed concerns about DEQ's ability to determine application completeness, the time frame for permit issuance, and the potential for permits issued pursuant to the draft rule resulting in specific USEPA objections. The proposed language in 15A NCAC 02H .0107 incorporates the language from SL 2024-44 (s. 5.1) that was not of concern from USEPA; the specific paragraph in the rule is noted in the Crosswalk found in Appendix B.

3. Fiscal Impact on State Government

The [Clean Water Act of 1972](#) initiated strict control of wastewater discharges with the responsibility of enforcement given to USEPA. USEPA then created the [National Pollutant Discharge Elimination System](#) (NPDES) to track and control point sources of pollution. The primary method of control is by issuing permits to dischargers with limitations on wastewater flow and constituents. The USEPA delegated permitting authority to North Carolina in 1975.

The NPDES program is located within the Division of Water Resources in DEQ, with staff in

¹ "7Q10" means the minimum average flow for a period of 7 consecutive days that has an average recurrence of once in 10 years

² "30Q2" means the minimum average flow for a period of 30 consecutive days that has an average recurrence of once in 2 years

both the Central Office and the seven Regional Offices. Staff include engineers, environmental specialists, environmental program consultants, and environmental program supervisors. Staff determine the quality and quantity of treated wastewater that a receiving stream can assimilate, incorporating input from modeling, collaborating among staff, and evaluating the discharger's location. Staff also enforce the discharge limitations through the NPDES Compliance Program.

The proposed rules will enable implementation of the session law, providing an additional option for applicants. Because it is an additional option, not a new requirement, fiscal impact to the state will be nominal as staff resources for implementation of the delegated NPDES program are already allocated through federal grants, state appropriations and permit fees. This new option will not result in a net change of staff time or workload. It is not anticipated that this option will take more or less staff time to review than other applications, nor do we expect an increase in total applications for staff to review.

4. Fiscal Impact on the Regulated Community (Local Government and Private Sector)

Under the current language in 15A NCAC 02B .0206, new or expanded discharges of oxygen consuming waste is prohibited when the 7Q10 and 30Q2 flows are both zero. SL 2024-44 (s. 5.1) removes the prohibition for certain discharges as described above, providing an additional permitting option for dischargers. The proposed rulemaking package enables implementation of the session law in SL 2024-44 (s. 5.1) and is a necessary administrative step to allow facilities to take advantage of this new option if they so choose.

It is unknown how many facilities will take advantage of this permitting option, but use is expected to be limited as the cost of complying with the criteria outlined in SL 2024-44 (s. 5.1) is high. However, if a facility cannot utilize a less costly regulatory option, and if discharging farther away to a higher flowing stream was cost prohibitive, this option to discharge to a zero flow stream located in closer proximity could be a viable consideration. Presumably, a facility will only pursue this option if they believe it would be net beneficial for them and their rate payers.

While centralized wastewater service is more common in municipal areas, more rural and underserved communities often rely on decentralized wastewater services such as septic tanks. By providing an additional permitting option, this may provide additional opportunities for growth in these areas where the cost of piping to a higher flowing stream farther away was prohibitive.

If a facility chooses to pursue the option under SL 2024-44 (s. 5.1) as provided in the proposed rulemaking package, the following is an estimate of potential costs and cost savings for three different discharge volumes versus discharging to a waterbody under the existing regulations approximately 1-, 2- or 5-miles away. Estimates are based on the following:

- Wastewater transmission pipelines are assumed to use a force main installation in typical site conditions. Pipe lengths are estimated and not in defined roadway or

other rights of way. Cost projections for wastewater transmission pipelines were estimated at 1-mile (5280 ft), 2-mile (10,560 ft) and 5-mile (26,400 ft) distances.

- Wastewater treatment facilities are assumed to need one single pump station for the scenarios outlined below. This is conservative estimate as more than one pump station may be required depending on grade and site conditions.
- To meet the restrictive effluent limits in SL 2024-44 (s 5.1), wastewater treatment facilities are anticipated to be built with advanced treatment. Estimated costs for new wastewater treatment facilities with advanced treatment are anticipated to be ~ 15-20% higher than those built without advanced treatment. For purposes of these estimations, 15% higher costs were used for each discharge volume.
- One outfall and energy dissipating structure will be needed for discharges of 0.5 MGD or less, two outfall structures will be needed for 1 MGD, and three outfalls will be needed for 2 MGD discharges.
- The estimated costs developed for the three scenarios reflect one-time project costs and cost savings, including planning, engineering, and construction. Each individual project will be unique and may vary from the typical costs applied for this estimate.
- The estimated costs are from [DEQ's Regional Water and Wastewater Concept Plan – US Hwy 421 Corridor](#). The estimated costs are considered a Class 5 Concept Screening cost per the Advancement of Cost Engineering (AACE). The definition for this level of cost estimation is in the planning stages, and the expected accuracy range is -50% to +100%.
 - Wastewater Treatment Plant Additional Treatment required per SL 2024-44 – \$7.88 per gallons per day
 - Wastewater Force mains – \$31.80 per inch diameter per foot
 - Wastewater Pump Station – \$4.50 per gallons per day

0.5 MGD Scenario:

Description		Additional Costs	Cost Savings		
			1 mile	2-mile	5-mile
Wastewater Treatment Plant Additional Treatment		\$3.90 M	-	-	-
Wastewater Collection System	Force Main (10-inch)	-	\$1.70 M	\$3.40 M	\$8.40 M
	Pump Station	-	\$2.25 M	\$2.25 M	\$2.25 M
Total		\$3.90 M	\$3.95 M	\$5.65 M	\$10.65 M
Net Savings			\$0.05 M	\$1.75 M	\$6.75 M

1.0 MGD Scenario:

Description		Additional Costs	Cost Savings		
			1 mile	2-mile	5-mile
Wastewater Treatment Plant Additional Treatment		\$ 7.8 M	-	-	-
Wastewater Collection System	Force Main (12-inch)	-	\$2.0 M	\$4.0 M	\$10 M
	Pump Station	-	\$4.5 M	\$4.5 M	\$4.5 M
Total		\$7.8 M	\$6.5 M	\$9.5 M	\$14.5 M
Net Savings			\$(1.3) M	\$1.7 M	\$6.7 M

2.0 MGD Scenario:

Description		Additional Costs	Cost Savings		
			1 mile	2-mile	5-mile
Wastewater Treatment Plant Additional Treatment		\$ 15.7 M	-	-	-
Wastewater Collection System	Force Main (16-inch)	-	\$ 2.7 M	\$5.4 M	\$13.5 M
	Pump Station	-	\$9.0 M	\$9.0 M	\$9.0 M
Total		\$15.7 M	\$11.7 M	\$14.4 M	\$22.5 M
Net Savings			\$(4.0) M	\$(1.3) M	\$6.8 M

5. **Fiscal Impact on the Environment**

As stated above, the EMC is proposing to revise 15A NCAC 02B .0206 and 15A NCAC 02H .0107 to incorporate the language submitted in the draft rule to USEPA with revisions in response to USEPA's comments. Several of EPA's comments related to potential detrimental impacts to designated uses in the state's waters based on the language in the session law, however the language has been revised to address EPA's comments:

EPA Comment	Revision in current proposed rulemaking
<u>Time Frame for Permit Issuance.</u> Permit development can take substantial time due to reasons outside the control of the permitting authority, such as complexity of issues raised, concerns raised by the commenting public or other resource agencies, and additional questions about the substance or adequacy of information provided. The conceptual draft rule includes a 180-day limit for permit issuance and, if adopted, this could truncate the time allowed to address procedural requirements under 40 CFR § 124, application requirements under 40 CFR § 122.21, and substantive permitting obligations such as development of technology based effluent limitations (TBEL) based on best professional judgement (BPJ), determination of need for and development of water quality-based effluent limitations (WQBEL), or performance of anti-degradation reviews. While the consequences of missing the 180-day deadline appear to be limited to the return of application fees, the pressure to meet the 180-day time frame does heighten the risk that permits will be proposed that do not meet NPDES regulatory requirements.	The language re the 180-day deadline has not been included in the proposed rulemaking package.
<u>Rule Controls a Limited Set of Pollutants.</u> CWA Section 301(b)(1)(C) and its implementing regulations at 40 CFR § 122.44(d) require that all NPDES permits include effluent limits stringent enough to achieve all state water quality standards (WQS) established under CWA Section 303. However, the conceptual draft rule includes only a limited set of effluent limits for eight pollutants that will apply to the discharge unless the applicant and Department agree to more stringent limits or more complex modeling demonstrates that less stringent effluent limits are still protective of WQS and any "DO Sag" in the receiving water will be of 0.1 mg/L or less. The conceptual draft rule language may limit the permitting authority's ability to establish water quality-based limits (WQBELs) for other pollutants even in circumstances where such limits are necessary to meet WQS.	Language has been revised in 02B .0206 (g)(6) to state that permit writers can include more stringent effluent limits as needed to meet North Carolina's water quality standards. Language has also been added to clarify that permit writers are not limited to only the eight parameters outlined in the session law for effluent limits; instead, they can include all effluent limits necessary to protect uses and comply with Section 301 of the Clean Water Act.

EPA Comment	Revision in current proposed rulemaking
<u>Rule Predetermines Effluent Limits.</u> The CWA requires that permits not violate EPA-approved criteria in the state’s water quality standards, including antidegradation requirements. The conceptual draft rule language in section (g)(2)(G), however, sets forth default effluent limits that would be generally applicable, preempting the permit writer’s ability to develop case-specific limits based on information about a proposed discharge. In addition, the language in section (g)(1) of the conceptual draft rule states, “When a discharge is determined to be low risk, the applicant shall demonstrate using simple modeling of the applicant’s choosing. . . to show that the Sag, if any, in the DO of the receiving water will not exceed 0.1 mg/l.” The applicant’s ability to select a model without input from the permitting agency raises a concern that the model selected may not be suitable for the circumstances of a particular discharge and receiving water.	Language has been revised in 02B .0206 (g)(6) to state that permit writers can include more stringent effluent limits as needed to meet North Carolina’s water quality standards. Language has also been revised in 02B .0206 (g)(8) to require DEQ approval of the applicant’s selected model.

Because the proposed revisions to 15A NCAC 02B .0206 and 15A NCAC 02H .0107 incorporate changes from the session law language in response to EPA’s comments, if an applicant chooses this permitting option, a NPDES permit will only be issued when the applicant demonstrates that the proposed discharge meets all of the requirements outlined in rules and meets all EPA-approved North Carolina water quality standards. This should result in neutral change, neither costs nor benefits to the environment.

6. Concluding Remarks

The following points summarize concepts addressed within this Regulatory Impact Analysis:

- The Session Law required the EMC to initiate rulemaking to allow for the discharge of domestic wastewater to zero flow receiving streams, which is currently prohibited.
- The proposed revisions to 15A NCAC 02B .0206 and 15A NCAC 02H .0107 incorporate the language submitted in the draft rule to USEPA with revisions in response to USEPA's comments and other revisions to ensure no conflicts with existing regulations. These program changes will be subject to the formal review requirements of 40 CFR 123.62 before being implemented.
- The proposed revisions provide an option for permitting but does not require an applicant to pursue this option.
- Fiscal impact to the state will be nominal as staff resources for implementation of the delegation NPDES program are already allocated through federal grants, state allocation and permit fees. No additional funding will be requested.
- Fiscal impacts to the regulated community are voluntary, occurring only if a facility chooses to pursue this new permitting option because they believe it would be beneficial to them and/or their ratepayers. Facilities are most likely to take advantage of this option in areas where the cost of piping to a higher flowing stream farther away was logistically or financially prohibitive.
- The bulk of impacts associated with the proposed amendments are attributable to SL 2024-44. The direct effects of the proposed rule changes themselves involve enhanced rule clarity, alignment with related regulations, and responsiveness to issues raised by the USEPA.
- Because a NPDES permit will only be issued under this new option when the applicant demonstrates that the proposed discharge will meet all EPA-approved North Carolina water quality standards, there should be neither costs nor benefits to the environment.

APPENDIX A – PROPOSED RULE LANGUAGE

15A NCAC 02B .0206 FLOW DESIGN CRITERIA FOR EFFLUENT LIMITATIONS

(a) For purposes of this Rule, the following definitions shall apply:

- (1) “1Q10” means the minimum average flow for a period of one day that has an average recurrence of once in ten years;
- (2) “7Q10” means the minimum average flow for a period of seven consecutive days that has an average recurrence of once in ten years;
- (3) “30Q2” means the minimum average flow for a period of 30 consecutive days that has an average recurrence of once in two years;
- (4) “Mean annual flow” means the same as “annual mean flow” as defined in 40 CFR 125.83.

(b) Water quality based effluent limitations shall be developed to allow appropriate frequency and duration of deviations from water quality standards so that the designated uses of receiving streams and downstream waters are protected. There are water quality standards for a number of categories of pollutants and to protect a range of water uses. For this reason, the appropriate frequency and duration of deviations from water quality standards shall not be the same for all pollutants. A flow design criterion shall be used in the development of water quality based effluent limitations as a simplified means of estimating the acceptable frequency and duration of deviations. More complex modeling techniques that the Director has determined on a case-by-case basis will protect the designated uses of receiving streams and downstream waters may be used to set effluent limitations based on frequency and duration criteria published by the U.S. Environmental Protection Agency and incorporated by reference, including subsequent amendments and editions. Frequency and duration criteria published by the U.S. Environmental Protection Agency is available free of charge at: <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm>.

(c) ~~Effluent~~ Water quality based effluent limitations shall be developed using the following flow design criteria:

- (1) ~~All standards except~~ Except for toxic substances and aesthetics/aesthetics, all water quality standards shall be protected using the 7Q10 flow. ~~minimum average flow for a period of seven consecutive days that has an average recurrence of once in ten years (7Q10 flow).~~ Other governing flow strategies, such as varying discharges with the receiving stream’s or downstream water’s waters ability to assimilate wastes, may be designated by the ~~Commission or its designee~~ Director on a case-by-case basis if the discharger or permit applicant provides evidence that establishes that the alternative flow strategies will give equal or better protection for the of water quality standards standards. “Better protection for the water quality standards” means that such that deviations from the standard would be expected at the same or less frequently frequency than provided by using the 7Q10 flow.
- (2) Toxic substances shall be protected as follows:
 - (A) Toxic substance standards to protect aquatic life from chronic toxicity shall be protected using the 7Q10 flow. flow;
 - (3)(B) Toxic substance standards to protect aquatic life from acute toxicity shall be protected using the 1Q10 flow. flow;
- (4) ~~Toxic substance standards to protect human health shall be the following:~~
 - (A)(C) Toxic substance The 7Q10 flow for standards to protect human health through the consumption of water, fish, and shellfish from ~~noncarcinogens; noncarcinogens shall be protected using the 7Q10 flow;~~ and
 - (B)(D) The mean annual flow Toxic substance standards to protect human health from carcinogens through the consumption of water, fish, and shellfish from carcinogens shall be protected using the mean annual flow, unless site specific fish contamination concerns necessitate the use of an alternative design flow; flow.
- (5) Aesthetic quality shall be protected using the 30Q2 flow. ~~minimum average flow for a period of 30 consecutive days that has an average recurrence of once in two years (30Q2 flow).~~

~~More complex modeling techniques may also be used to set effluent limitations directly based on frequency and duration criteria published by the U.S. Environmental Protection Agency, available free of charge at <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm> and incorporated by reference, including subsequent amendments and editions, and the Commission or its designee has determined, on a case-by-case basis, that the techniques will protect the designated uses of receiving waters.~~

(b)(d) If the stream flow is regulated, a minimum daily low flow may be used as a substitute for the 7Q10 flow, except in cases where there are acute toxicity concerns for aquatic life. ~~In the cases~~ For streams where there are acute toxicity concerns, an alternative low flow, such as the instantaneous minimum release, shall be ~~approved~~ used if the Director

determines, on a case-by-case basis, that the designated uses of receiving streams and downstream waters are protected.

~~(e)~~(e) Flow design criteria shall be used to develop water quality based effluent limitations and in the design of wastewater treatment facilities. Deviations from a specific water quality standard resulting from discharges that are demonstrated to be in compliance with water quality based effluent limitations for that water quality standard shall not be a violation pursuant to G.S. ~~143-215.6~~143-215.6A when the actual stream flow is less than the design flow.

~~(d)(f)~~ If the 7Q10 flow of the receiving stream is estimated to be ~~zero, zero~~ and the 30Q2 flow of the receiving stream is estimated to be greater than zero, then water quality based effluent limitations shall be assigned as follows:

- ~~(1)~~ If the 30Q2 flow is estimated to be greater than zero, effluent limitations for ~~new~~ New or expanded ~~(additional)~~ discharges of oxygen consuming waste shall be set at BOD₅ = 5 mg/l, NH₃-N = 2 mg/l and DO = 6 mg/l, unless it is determined by the Director through modeling or other analysis that these limitations will not protect water quality standards. ~~Requirements for existing discharges shall be determined on a case-by-case basis by the Director.~~ More stringent limits shall be applied if violations of water quality standards are predicted to occur for a new or expanded discharge with the limits set pursuant to this Rule or if existing limits are determined to be inadequate to protect water quality standards.
- ~~(2)~~ If the 30Q2 and 7Q10 flows are both estimated to be zero, no new or expanded discharge of oxygen consuming waste shall be allowed. ~~Requirements for existing discharges to streams where the 30Q2 and 7Q10 flows are both estimated to be zero shall be determined on a case-by-case basis.~~
- ~~(3)(2)~~ Other water quality standards shall be protected by requiring the discharge to meet the water quality standards set forth in this Subchapter, unless the Director determines that alternative limitations protect the designated uses of receiving streams and downstream waters. ~~classified water uses.~~
- ~~(3)~~ Requirements for existing discharges shall be determined on a case-by-case basis by the Director.

(g) If the 7Q10 flow and the 30Q2 flow of the receiving streams are both estimated to be zero, then the following shall apply to new or expanded domestic wastewater discharges of oxygen consuming waste:

- (1) The proposed permitted flow for the wastewater discharge shall be lesser of:
 - (A) No more than one-tenth of the flow generated by the one-year, 24-hour storm event based on the drainage area of the receiving stream at the discharge location and calculated using the rational method. The rational method shall be used to calculate the peak runoff for the one-year, 24-hour precipitation event in cubic feet per second. The peak runoff shall then be divided by 10 and multiplied by 646,272 to convert the result to gallons per day of allowable discharge at the point studied; or
 - (B) No more than two million gallons per day.
- (2) All wastewater discharges shall be directed to a system that utilizes low-energy methodologies prior to discharging to receiving streams at non-erosive velocities, such as:
 - (A) An infiltration system, which may include engineered materials to achieve higher rates of infiltration. Engineered materials shall have an ASTM gradation of fine to coarse grain sand and shall be angular to maintain structural integrity of the slope;
 - (B) Constructed free-surface wetland with a hydraulic residence time of at least 14 days; or
 - (C) Other technologies that meet the standard of practice for NC Licensed Professional Engineers for such devices that provide a hydraulic residence time of at least 14 days.
- (3) Wastewater discharges to the receiving stream shall not exceed one cubic foot per second based on the average daily flow of the discharge. Wastewater discharges from multiple outfalls shall be at least 50 linear feet apart along the receiving streams.
- (4) No wastewater discharges shall be allowed to Class SA, SB, SC, WS-I, WS-II, WS-III, WS-IV, WS-V, ORW or HQW waters.
- (5) For wastewater discharges to NSW waters, the Director may require additional modeling by the applicant. Additional allocation of flow shall be at the discretion of the Director.
- (6) In addition to any other effluent limits for any other parameters to ensure the permit does not violate any EPA-approved NC water quality standards, the following effluent limits shall apply:
 - (A) Biological oxygen demand (BOD₅) shall not exceed 5.0 mg/l monthly average;
 - (B) NH₃, 0.5 mg/l monthly average, 1.0 mg/l daily maximum;
 - (C) Total nitrogen shall not exceed 4.0 mg/l monthly average;
 - (D) Total phosphorus, 1.0 mg/l monthly average, 2.0 mg/l daily maximum;
 - (E) Fecal coliforms, 14 colonies/100ml or less;
 - (F) Dissolved oxygen, 7.0 mg/l or greater;
 - (G) Total suspended solids, 5.0 mg/l monthly average, 8mg/l daily maximum; and

(H) Nitrate, 1.0 mg/l monthly average, 2.0 mg/l daily maximum.

The Director may impose different effluent limits than those set forth in Parts (A) through (F) in Subparagraph (g)(6) of this Rule to ensure that the permit does not violate any EPA-approved NC water quality standards.

(7) The applicant shall demonstrate:

(A) The proposed discharge meets the requirements in Subparagraphs (g)(1), (2), (3), and (4) of this Rule;

(B) The proposed discharge is a domestic wastewater discharge as defined in Rule .0202 of this Subchapter;

(C) When the receiving stream has naturally occurring low dissolved oxygen levels, the proposed discharge complies with G.S. 143-215.1(c7);

(D) When the receiving stream does not have naturally occurring low dissolved oxygen levels, the proposed discharge does not reduce the dissolved oxygen levels of the receiving stream more than 0.1 mg/l below the approved modeled in-stream dissolved oxygen level for the receiving stream at total permitted capacity for all discharges to such receiving stream. The applicant shall use a model utilized elsewhere in USEPA Region 4, such as the Streeter-Phelps model used in the State of Alabama, and the selected model shall be approved by the Director as suitable for the particular discharge and receiving stream.

(8) If an applicant requests less stringent effluent limits than those set forth in Subparagraph (g)(6) of this Rule, then the applicant shall conduct more complex modeling. The applicant shall use a model accepted elsewhere in USEPA Region 4 that is approved by the Director as suitable for the particular discharge and receiving stream. The modeling must demonstrate the requirement in Part (g)(7)(B) or (g)(7)(C) of this Rule, whichever is applicable, is met, and all EPA-approved NC water quality standards are protected.

(9) Applicants shall provide either:

(A) Mapping data from USGS; or

(B) Mapping data prepared by an engineer of record licensed in the state of NC utilizing either USGS mapping data or other maps approved for use by the Director.

(h) If the 7Q10 flow and the 30Q2 flow of the receiving stream are both estimated to be zero, then new or expanded discharges of oxygen consuming waste that do not meet the criteria in Paragraph (g) of this Rule shall not be allowed.

(i) If the 7Q10 flow and the 30Q2 flow of the receiving stream are both estimated to be zero, then the requirements for existing discharges shall be determined on a case-by-case basis by the Director.

~~(e)(j)~~ Receiving water flow statistics shall be estimated through consultation with the U.S. Geological Survey. Estimates for any given location may be based on actual flow data, modeling analyses, or other methods determined to be appropriate by the ~~Commission or its designee~~ Director.

History Note: Authority G.S. 143-214.1; 143-215.1(c7); 143-215.3(a)(1); SL 2024-44 s. 5.1

Eff. February 1, 1976;

Amended Eff. January 1, 2015; February 1, 1993; October 1, 1989; August 1, 1985; January 1, 1985;

Readopted Eff. November 1, 2019.

Amended Eff. May 1, 2026.

15A NCAC 02H .0107 STAFF REVIEW AND EVALUATION

(a) The Director is authorized to accept applications for the Commission and shall refer all applications to the staff for review and evaluation. Additionally, the Director shall refer NPDES Permit applications for the discharge of waste into waters classified as sources of public water supply (WS classification) and shellfish waters classified SA to the Public Water Supply Section, Division of Water Resources, and the Shellfish Sanitation Program, Division of Marine Fisheries, respectively, both of the Department of Environmental Quality, and shall not take final action on such applications until receiving written confirmation that the proposed discharge is acceptable.

(b) The Director shall acknowledge receipt of an NPDES or Authorization to Construct permit application upon verifying that the application is administratively complete, that is, includes the completed and signed application forms specified in Rule .0105(a) of this Section, any necessary supplemental information, and any associated fees, in accordance with Rules .0105 and .0106 of this Section.

- (1) If an application is not administratively complete, the Director shall either return the application to the applicant as incomplete or request the additional information required. If additional information is requested, the applicant shall be given up to 60 days to provide the information to make the application complete.
- (2) If technical review of the application reveals that additional information is necessary for staff to evaluate the proposed discharge, the Director shall notify the applicant of the additional information required. The applicant may be given up to 60 days to provide the information to make the application complete.
- (3) If an application is submitted in accordance with 15A NCAC 02B .0206 (g), then the following shall also apply:
 - (A) Within 30 days of the filing of an application for a wastewater discharge subject to 15A NCAC 02B .0206 (g), the Director shall determine whether or not the application is complete and notify the applicant accordingly.
 - (B) If the Director determines an application is incomplete, the Director shall specify all such deficiencies in the notice to the applicant.
 - (C) The applicant may file an amended application or supplemental information within 60 days to cure the deficiencies identified by the Director for the Director's review.

(c) The staff shall review the application, supplemental information, and other pertinent information, such as monitoring data, compliance records, special studies, and water quality management plans, and shall make a tentative determination to issue, reissue, deny, modify, revoke, rescind, or deny the permit.

- (1) The staff shall conduct a site investigation of each facility prior to making its tentative determination regarding the NPDES permit. On-site investigations shall not be necessary for Authorization to Construct permits, activities covered under general permits, and renewal of individual permits when renewal does not require significant reevaluation of permit conditions such as to address expansion of treatment plant capacity, modification of the wastewater treatment process, or changes in the nature or source of wastewaters to be treated.
- (2) If the staff's tentative determination in Subparagraph (1) of this Paragraph is to issue the permit, it shall if necessary make the following additional determinations in writing:
 - (A) proposed effluent limitations for those pollutants proposed to be limited;
 - (B) a proposed schedule of compliance, including interim dates and requirements, for meeting the proposed effluent limitations; and
 - (C) a description of any other special conditions proposed in the draft permit.
- (3) The staff shall organize the determinations made pursuant to Subparagraphs (1) and (2) of this Paragraph into a draft permit.

(d) In the case of permits for which Notice of Intent is given in accordance with Rules .0105 and .0127 of this Section, a Certificate of Coverage under a general permit may be issued directly to the applicant in lieu of any other acknowledgment. If the discharge is not eligible for coverage under the general permit, or if the Notice of Intent is not complete and accompanied by the required application fee, the Notice of Intent shall be returned to the applicant with an explanation of the inadequacies.

*History Note: Authority G.S. 130-161; 143-215.3(a)(1); 143-215.3(a)(4); 143-215.1(a); 143-215.1(c); SL 2024-44 s. 5.1
Eff. February 1, 1976;
Amended Eff. March 1, 1993; August 1, 1991; August 1, 1988; October 1, 1987;
Readopted Eff. May 1, 2020.
Amended Eff. May 1, 2026.*

APPENDIX B – CROSSWALK FROM SL 2024-44 to 15A NCAC 02B .0206 & 02H .0107

Session Law Language	Rule Language	Explanation/ Crosswalk
(1) Defined terms. – a. "Treated domestic wastewater" shall mean sewage and wastewater comprised of waste and wastewater from household, commercial or light industrial operations (e.g., homes, restaurants, car washes, laundromats servicing only domestic laundry) excluding any industrial process wastewater regulated by USEPA under the Categorical Pretreatment Standards.	-	Not included as “domestic wastewater discharge” is already defined in 15A NCAC 02B .0202 (26)
b. "Low-risk discharges" means discharges of 2 million gallons per day or less of treated domestic wastewater when the dissolved oxygen content (DO) of the effluent is significantly higher (1.5 mg/l or greater) than the DO of the receiving water during low flow periods and the biological oxygen demand content (BOD) of the effluent is significantly lower (1.5 mg/l or more) than the DO of the effluent.	-	Not included as 2MGD or less requirement is specified later in the Session Law [see (2)b.2.] and the effluent limits for the discharge are also specified later in the Session Law [see (2) b.7.]. Changes broaden the scope of which discharges can be permitted under these new criteria by not limiting to facilities that demonstrate both 1.5 mg/l higher DO in the effluent then receiving stream and 1.5 mg/l lower BOD in the effluent then the receiving stream.
c. "Sag" means a reduction in the existing DO in the background surface receiving water to which treated wastewater will be discharged. Sag is typically related to nutrient elements within treated wastewater, which may promote the growth of oxygen-consuming micro-organisms, increasing the BOD, which at elevated levels may reduce DO in the background surface water body.	The applicant shall demonstrate: ... (B) When the receiving stream has naturally occurring low dissolved oxygen levels, the proposed discharge complies with G.S. 143-215.1(c7); (C) When the receiving stream does not have naturally occurring low dissolved oxygen levels, the proposed discharge does not reduce the dissolved oxygen levels of the receiving stream more than 0.1 mg/l below the approved modeled in-stream dissolved oxygen level for the receiving stream at total permitted capacity for all discharges to such receiving stream. The applicant shall use a model utilized elsewhere in USEPA Region 4, such as the Streeter-Phelps model used in the State of Alabama, and the selected model shall be approved by the Director as suitable for the particular discharge and receiving stream.	See 02B .0206 (g)(7)(B) and (C) Not included as a definition, however aligned language with 143-215.1(c7).
(2) Criteria for permitting. –		

Session Law Language	Rule Language	Explanation/ Crosswalk
a. Applicants shall be required to demonstrate, through an analysis comparing the limits of the NPDES permit to the characteristics of the receiving water, that a proposed discharge meets criteria for a low-risk discharge as defined in this subsection. When a discharge is determined to be low-risk, the applicant shall demonstrate using simple modeling of the applicant's choosing, provided that the model chosen is utilized elsewhere in USEPA Region 4, such as the Streeter-Phelps model used in the State of Alabama, to show that the Sag, if any, in the DO of the receiving water will not exceed 0.1mg/l.	The applicant shall demonstrate: (A) The proposed discharge meets the requirements in Subparagraphs (g)(1), (2), (3), and (4) of this Rule; (B) When the receiving stream has naturally occurring low dissolved oxygen levels, the proposed discharge complies with G.S. 143-215.1(c7); (C) When the receiving stream does not have naturally occurring low dissolved oxygen levels, the proposed discharge does not reduce the dissolved oxygen levels of the receiving stream more than 0.1 mg/l below the approved modeled in-stream dissolved oxygen level for the receiving stream at total permitted capacity for all discharges to such receiving stream. The applicant shall use a model utilized elsewhere in USEPA Region 4, such as the Streeter-Phelps model used in the State of Alabama, and the selected model shall be approved by the Director as suitable for the particular discharge and receiving stream.	See 02B .0206 (g)(7) Language updated in response to EPA comments regarding model selection. See second response under 1.c.
b. Discharges to low flow or zero flow receiving waters shall be subject to the following conditions: 1. The receiving waters fall within any of the following categories: I. The 7Q10 or 32Q2 flow statistics are estimated to be zero by the USGS.	If the 7Q10 flow and the 30Q2 flow of the receiving streams are both estimated to be zero, then the following shall apply to new or expanded domestic wastewater discharges of oxygen consuming waste	See 02B .0206 (g). For definitions of 7Q10 and 30Q2, see 02B .0206 (a)(2) and (3). For who defines these flows, see 02B .0206 (j).
II. The drainage area of the discharge point is less than 5 square miles as specified by the USGS on-line tools or other methodology that meets the standard of care for such work.	-	Not included as this is already allowed under existing language in 02B .0206 [see Paragraph (f) in 02B . 0206] or under 02B .0206 (g)
III. The 7Q10 flow is estimated to be less than 1 cubic foot per second by the USGS.	-	Not included as this is already allowed under existing language in 02B .0206 [see Paragraph (f) in 02B .0206]

Session Law Language	Rule Language	Explanation/ Crosswalk
2. The proposed flow for any wastewater discharge shall be the lesser of the following: I. No more than one-tenth of the flow generated by the one-year, 24-hour storm event given the drainage area and calculated using the rational method. The rational method shall be used to calculate the peak runoff for the one-year, 24-hour precipitation event in cubic feet per second. The peak runoff shall then be divided by 10 and multiplied by 646,272 to convert the result to gallons per day of allowable discharge at the point studied. II. Two million gallons per day.	The proposed permitted flow for the wastewater discharge shall be lesser of: (A) No more than one-tenth of the flow generated by the one-year, 24-hour storm event based on the drainage area of the receiving stream at the discharge location and calculated using the rational method. The rational method shall be used to calculate the peak runoff for the one-year, 24-hour precipitation event in cubic feet per second. The peak runoff shall then be divided by 10 and multiplied by 646,272 to convert the result to gallons per day of allowable discharge at the point studied; or (B) No more than two million gallons per day.	See 02B .0206 (g)(1); clarified that the discharge does not have to equal 2 MGD, rather is up to 2 MGD.
3. All discharges shall be directed to buffer systems that utilize low-energy methodologies to function as a buffer between the discharge and the receiving waters. Buffer systems shall consist of one of the following: I. High-rate infiltration basins that may include engineered materials to achieve high rates of infiltration, which engineered materials shall have an ASTM gradation of a fine to coarse grain sand, and angular to maintain structural integrity of the slope. II. Constructed free-surface wetlands having a hydraulic residence time of 14 days. III. Other suitable technologies that provide a physical or hydraulic residence time buffer, or both, between the discharge and the receiving waters.	All wastewater discharges shall be directed to a system that utilizes low-energy methodologies prior to discharging to receiving streams at non-erosive velocities, such as: (A) An infiltration system, which may include engineered materials to achieve higher rates of infiltration. Engineered materials shall have an ASTM gradation of fine to coarse grain sand and shall be angular to maintain structural integrity of the slope; (B) Constructed free-surface wetland with a hydraulic residence time of at least 14 days; or (C) Other technologies that meet the standard of practice for NC Licensed Professional Engineers for such devices that provide a hydraulic residence time of at least 14 days.	See 02B .0206 (g)(2). • Language was updated. • Removed “buffer systems” and “high-rate infiltration basin” as those terms have specific criteria per other rules that conflict with the criteria outlined in this rule. • Incorporated language re PE’s from 4. below
4. Discharge to areas that are 50 feet upland of the receiving waters or wetlands at a non-erosive velocity equal to or less than 2 feet per second through an appropriately designed energy dissipater, or other applicable designs, that meet the standard of practice for professional engineers for such devices.	-	Language not included as unnecessary to specify 50-foot for a PE designed system. Requirement for non-erosive velocity is included in 02B .0206 (g)(2) and 02B .0206 (g)(3) as noted above and below. Requirement for energy dissipator is included in 02B .0206 (g)(2) as noted above.

Session Law Language	Rule Language	Explanation/ Crosswalk
5. Utilize more than one outfall to the receiving stream so that no one outfall exceeds 1 cubic foot per second based on the average daily flow of the discharge. Discharges from buffer systems shall be allowed to be placed at increments along a stream or receiving waters at no less than 50 linear feet.	Wastewater discharges to the receiving streams shall not exceed one cubic foot per second based on the average daily flow of the discharge. Wastewater discharges from multiple outfalls shall be at least 50 linear feet apart along the receiving streams.	See 02B .0206 (g)(3).
6. No discharge shall be permitted to classified shellfish waters (SA), tidal waters (SC), water supply waters (WS), or outstanding resource waters (ORW). Discharges to unnamed tributaries of classified shellfish waters, however, shall be authorized in compliance with requirements of this section and only when a low-risk situation is present. Discharges to nutrient sensitive waters (NSW) may require additional modeling and allocation of flow and will be at the discretion of the Department.	(4) No wastewater discharges shall be allowed to Class SA, SB, SC, WS-I, WS-II, WS-III, WS-IV, WS-V, ORW or HQW waters. (5) For wastewater discharges to NSW waters, the Director may require additional modeling by the applicant. Additional allocation of flow shall be at the discretion of the Director.	See 02B .0206 (g)(4) and (g)(5). • Added Class SB waters • Listed each water supply water individually • Added HQW waters as SA, WS-I and WS-II are HQW waters • Did not include language re UTs to SA waters as those are Class C waters [see 15A NCAC 02B .0301 (f)(1)(A)].

Session Law Language	Rule Language	Explanation/ Crosswalk
7. The following effluent limits shall generally apply except where (i) the applicant and Department agree to more stringent limits or (ii) complex modeling conducted pursuant to sub-sub-subdivision 8. of this sub-subdivision demonstrates that Sag in the DO content of the receiving water of 0.1 mg/l or less will occur and water quality standards are protected: I. Biological oxygen demand (BOD₅) shall not exceed 5.0 mg/l monthly average. II. NH₃, 0.5 mg/l monthly average, 1.0 mg/l daily maximum. III. Total nitrogen shall not exceed 4.0 mg/l monthly average. IV. Total phosphorus, 1.0 mg/l monthly average, 2.0 mg/l daily maximum. V. Fecal coliforms, 14 colonies/100ml or less. VI. Dissolved oxygen, 7.0 mg/l or greater. VII. Total suspended solids, 5.0 mg/l monthly average, 8mg/l daily maximum. VIII. Nitrate, 1.0 mg/l monthly average, 2.0 mg/l daily maximum.	In addition to any other effluent limits for any other parameters to ensure the permit does not violate any EPA-approved NC water quality standards, the following effluent limits shall apply: (A) Biological oxygen demand (BOD₅) shall not exceed 5.0 mg/l monthly average; (B) NH₃, 0.5 mg/l monthly average, 1.0 mg/l daily maximum; (C) Total nitrogen shall not exceed 4.0 mg/l monthly average; (D) Total phosphorus, 1.0 mg/l monthly average, 2.0 mg/l daily maximum; (E) Fecal coliforms, 14 colonies/100ml or less; (F) Dissolved oxygen, 7.0 mg/l or greater; (G) Total suspended solids, 5.0 mg/l monthly average, 8mg/l daily maximum; and (H) Nitrate, 1.0 mg/l monthly average, 2.0 mg/l daily maximum. The Director may impose different effluent limits than those set forth in Parts (A) through (F) in Subparagraph (g)(6) of this Rule to ensure that the permit does not violate any EPA-approved NC water quality standards.	See 02B .0206 (g)(6). Language updated in response to EPA comments regarding establishing WQBELs. See all responses under 1.c.
8. If an applicant proposes less stringent effluent limits than those set forth in sub-sub-subdivision 7. of this sub-subdivision, the applicant shall conduct more complex modeling using any model accepted elsewhere in USEPA Region 4 that the applicant elects to use to confirm that a Sag in the DO content of the receiving water of 0.1 mg/l or less will occur and water quality standards are protected.	If an applicant requests less stringent effluent limits than those set forth in Subparagraph (g)(6) of this Rule, then the applicant shall conduct more complex modeling. The applicant shall use a model accepted elsewhere in USEPA Region 4 that is approved by the Director as suitable for the particular discharge and receiving stream. The modeling must demonstrate the requirement in Part (g)(7)(B) or (g)(7)(C) of this Rule, whichever is applicable, is met, and all EPA-approved NC water quality standards are protected.	See 02B .0206 (g)(8).
9. The Department shall not require an applicant to obtain mapping data from the USGS as part of an application. In lieu, an engineer of record licensed in the State of North Carolina may prepare required mapping utilizing either USGS maps or other maps approved by the Department.	Applicants shall provide either: (A) Mapping data from USGS; or (B) Mapping data prepared by an engineer of record licensed in the state of NC utilizing either USGS mapping data or other maps approved for use by the Director.	See 02B .0206 (g)(9) Clarified that applicants may send in USGS map or another map.

Session Law Language	Rule Language	Explanation/ Crosswalk
10. Within 30 days of the filing of an application for a wastewater discharge subject to this section, the Department shall (i) determine whether or not the application is complete and notify the applicant accordingly and (ii) if the Department determines an application is incomplete, specify all such deficiencies in the notice to the applicant. The applicant may file an amended application or supplemental information to cure the deficiencies identified by the Department for the Department's review. If the Department fails to issue a notice as to whether or not the application is complete within the requisite 30-day period, the application shall be deemed complete. Within 180 days of the filing of a completed application, the Commission shall either grant or deny the permit. If the Commission fails to act in the requisite time frame, ten percent (10%) of the application fee shall be returned to the applicant for each working day beyond the 180-day period.	If an application is submitted in accordance with 15A NCAC 02B .0206 (g), then the following shall also apply: (A) Within 30 days of the filing of an application for a wastewater discharge subject to 15A NCAC 02B .0206 (g), the Director shall determine whether or not the application is complete and notify the applicant accordingly. (B) If the Director determines an application is incomplete, the Director shall specify all such deficiencies in the notice to the applicant. (C) The applicant may file an amended application or supplemental information within 60 days to cure the deficiencies identified by the Director for the Director 's review.	See 02H .0107 (b)(3). Language updated in response to EPA comments regarding application review. See comments under 1.b.