

GENERAL ASSEMBLY OF NORTH CAROLINA
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HOUSE PRINCIPAL CLERK

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HOUSE BILL DRH10261-RI-15

Short Title: Discharge of Highly Treated Wastewater. (Public)

Sponsors: Representative Arp.

Referred to:

1 A BILL TO BE ENTITLED
2 AN ACT TO AUTHORIZE DISCHARGES FROM WASTEWATER TREATMENT
3 SYSTEMS THAT MEET SPECIFIED EFFLUENT LIMITATIONS TO CERTAIN
4 SURFACE WATERS.

5 The General Assembly of North Carolina enacts:

6 **SECTION 1.(a)** G.S. 143-215.1 is amended by adding a new subsection to read:

7 "(c8) Permitted Discharges of Highly Treated Domestic Wastewater. –

8 (1) Subject only to the limitations set forth in subdivision (2) of this subsection,
9 the Department shall authorize permitted discharges of highly treated
10 domestic wastewater to surface waters of the State, including wetlands,
11 perennial streams, and unnamed tributaries of named and classified streams
12 where the 7Q10 flow or 30Q2 flow of the receiving waterbody is estimated to
13 be low flow or zero flow, as determined by the United States Geological
14 Survey, from wastewater treatment systems capable of meeting the following
15 water quality-based effluent limitations:

- 16 a. Biological oxygen demand (BOD₅), 5mg/L.
17 b. NH₃, 0.5mg/L monthly average, 1.0 mg/L daily maximum.
18 c. Total nitrogen, 4mg/L monthly average.
19 d. Total phosphorus, 1.0mg/L monthly average, 2.0mg/L daily
20 maximum.
21 e. Fecal coliforms, 14 colonies/100mL.
22 f. Dissolved oxygen, 6mg/L, or 1mg/L more than the BOD₅
23 concentration.
24 g. Turbidity, 1 Nephelometric Turbidity Units.
25 h. Total suspended solids, 5mg/L monthly average.
26 i. Nitrate, 1mg/L monthly average.

27 (2) In addition to the requirements set forth in subdivision (1) of this subsection,
28 only the following requirements shall apply to wastewater discharges to be
29 authorized pursuant to this subsection:

- 30 a. No discharge shall be permitted to classified shellfish waters or
31 outstanding resource waters. Discharges to unnamed tributaries of
32 classified shellfish waters, however, shall be authorized in compliance
33 with the requirements of this section.
34 b. The limitation of flow for any wastewater discharge shall be no more
35 than one-tenth of the flow generated by the one-year, 24-hour storm
36 event given the drainage area and calculated using the rational method.



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- 1 The rational method shall be used to calculate the peak runoff for the
2 one-year 24-hour precipitation event in cubic foot per second. The
3 peak runoff shall then be divided by 10 and multiplied by 646,272 to
4 convert the result to gallons per day of allowable discharge at the point
5 studied.
- 6 c. Discharges shall be limited based on the ability of the receiving waters
7 to hydraulically accept the proposed flow, as demonstrated by being
8 equal to or less than one-tenth of the flow using the rational method.
- 9 d. All discharges shall be directed to buffer systems that utilize
10 low-energy methodologies to function as a buffer between the
11 discharge and the receiving waters. Buffer systems shall:
- 12 1. Consist of one of the following: (i) high-rate infiltration basins
13 that utilize engineered materials to achieve high rates of
14 infiltration, which engineered materials shall have an ASTM
15 gradation of a clean washed coarse grained sand; (ii)
16 constructed free surface wetlands having a hydraulic residence
17 time of 14 days; and (iii) other suitable technologies that
18 provide a physical or hydraulic residence time buffer, or both,
19 between the discharge and the receiving waters.
- 20 2. Discharge to areas that are 50 feet upland of the receiving
21 waters or wetlands at a non-erosive velocity equal to or less
22 than 2 feet per second through an appropriately designed
23 energy dissipater, or other applicable designs, that meet the
24 standard of practice for professional engineers for such
25 devices.
- 26 3. Divide the subsequent outfall to the receiving stream so that no
27 one particular outfall exceeds 1 cubic foot per second based on
28 the average daily flow of the discharge. Discharges from buffer
29 systems shall be allowed to be placed at increments along a
30 stream or receiving waters at a distance of no less than 50 linear
31 feet.
- 32 (3) For purposes of this subsection, the following definitions apply:
- 33 a. 7Q10 flow. – A method to calculate the minimum average flow of a
34 receiving water for a period of seven consecutive days that has an
35 average recurrence of once in 10 years.
- 36 b. 30Q2 flow. – A method to calculate the minimum average flow of a
37 receiving water for a period of 30 consecutive days that has an average
38 recurrence of once in two years.
- 39 c. Highly treated domestic wastewater. – Wastewater effluent from
40 treatment systems that receive flows from sources of domestic
41 wastewater that meet the effluent standards as set forth in subdivision
42 (1) of this subsection.
- 43 d. Rational method. – The method of computing storm drainage flow
44 rates (Q) by use of the formula $Q = CIA$. For purposes of this
45 sub-subdivision, the following definitions apply:
- 46 1. C. – The rational coefficient describing the stormwater runoff
47 characteristics of the drainage.
- 48 2. I. – The rainfall intensity for the one-year, 24-hour
49 precipitation event given by the National Oceanic and
50 Atmospheric Administration through its online precipitation

- 1 data server or other appropriate sources in units of inches per
- 2 hour.
- 3 3. A. – The catchment area tributary to the point being studied as
- 4 further defined using methodologies that meet the standard of
- 5 practice for such work, including, but not limited to web-based
- 6 data and tools provided by the United States Geological Survey
- 7 or by other analysis using topographic data that follows the
- 8 standard of practice for such work by licensed professional
- 9 engineers in units of acres.
- 10 (4) Once an applicant has submitted data to demonstrate the proposed discharge
- 11 will meet the requirements of subdivisions (1) and (2) of this subsection,
- 12 signed and sealed by a professional engineer licensed in accordance with the
- 13 provisions of Chapter 89C of the General Statutes, the application shall be
- 14 deemed complete for the purposes of review by the Department."

15 **SECTION 1.(b)** If rules are required in order to implement the requirements of this
16 act, the Department of Environmental Quality shall adopt temporary rules no later than 60 days
17 after this act becomes law. Any temporary rules adopted in accordance with this section shall
18 remain in effect until permanent rules that replace the temporary rules become effective. Rules
19 adopted pursuant to this section shall not, however, impose additional requirements on permitting
20 of the discharge of highly treated domestic wastewater over that established under
21 G.S. 143-215.1(c8), as enacted by subsection (a) of this section.

22 **SECTION 2.** This act is effective when it becomes law. G.S. 143-215.1(c8), as
23 enacted by Section 1 of this act, applies to permits for new or expanded wastewater discharge
24 facilities issued on or after that date.