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POSITION STATEMENT: Low-Flow Design Alternatives for Wastewater Systems

PURSUANT TO: Session Law 2013-413, 2013 Legislative Session

SOURCE: Nancy Deal, Onsite Water Protection Branch Head

ISSUE: Amendments to Rule 15A NCAC 18A .1949(b)

DISCUSSION AND RATIONALE:

Session law 2013-413, effective August 23, 2013, allows for an exemption to the Daily Flow for Design set forth in Table No. 1 of Rule .1949(b) if flow reduction can be achieved through engineering design utilizing low-flow fixtures and low-flow technologies. Such a flow reduction design is required to be “prepared, sealed, and signed” by a properly licensed professional engineer. This new law further provides that the Department (DHHS) and Commission (for Public Health) may establish lower limits on reduced flow rates “as necessary to ensure wastewater system integrity and protect public health, safety, and welfare.” The law provides that State review is not required pursuant to Rule .1938(e) if the proposed daily design flows for wastewater systems are calculated to be less than 3000 gallons per day. Further, the Commission is required to amend Rule .1949 (b) consistent with the Session Law and the amended rule is to be “substantively identical” to the Law’s provisions.

The relevant section of this Session Law in its entirety is as follows:

PROVIDE FOR LOW-FLOW DESIGN ALTERNATIVES FOR WASTEWATER SYSTEMS

SECTION 34.(a) 15A NCAC 18A .1949(b) (Sewage Flow Rates for Design Units). – Until the effective date of the revised permanent rule that the Commission is required to adopt pursuant to Section 34(c) of this act, the Commission, the Department, and any other political subdivision of the State shall implement 15A NCAC 18A .1949(b) (Sewage Flow Rates for Design Units) as provided in Section 34(b) of this act.

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SECTION 34.(b) Implementation. – Notwithstanding the Daily Flow for Design rates listed in Table No. 1 of 15A NCAC 18A .1949(b) (Sewage Flow Rates for Design Units), a wastewater system shall be exempt from the Daily Flow for Design, and any other design flow standards that are established by the Department of Health and Human Services or the Commission for Public Health provided flow rates that are less than those listed in Table No. 1 of 15A NCAC 18A .1949(b) (Sewage Flow Rates for Design Units) can be achieved through engineering design that utilizes low-flow fixtures and low-flow technologies and the design is prepared, sealed, and signed by a professional engineer licensed pursuant to Chapter 89C of the General Statutes. The Department and Commission may establish lower limits on reduced flow rates as necessary to ensure wastewater system integrity and protect public health, safety, and welfare. Proposed daily design flows for wastewater systems that are calculated to be less than 3,000 total gallons per day shall not require State review pursuant to 15A NCAC 18A .1938(e).

SECTION 34.(c) Additional Rule-Making Authority. – The Commission shall adopt a rule to amend 15A NCAC 18A .1949(b) (Sewage Flow Rates for Design Units) consistent with Section 34(b) of this act. Notwithstanding G.S. 150B-19(4), the rule adopted by the Commission pursuant to this section shall be substantively identical to the provisions of Section 34(b) of this act. Rules adopted pursuant to this section are not subject to G.S. 150B-21.8 through G.S. 150B-21.14. Rules adopted pursuant to this section shall become effective as provided in G.S. 150B-21.3(b1) as though 10 or more written objections had been received as provided by G.S. 150B-21.3(b2).

SECTION 34.(d) Sunset. – Section 34(b) of this act expires on the date that rules adopted pursuant to Section 34(c) of this act become effective.

The enactment of this Law raises questions regarding its implementation. It also affects other requirements and allowances in statute and rule pertaining to design flow and state review. Discussions are underway between the Section and the Attorney General's office and legal uncertainty around the new language remains. The information below is intended to offer limited guidance pending further clarification.

RESPONSE/INTERPRETATION:

Questions

1. Is the health department now required to act on applications submitted which utilize this new alternative for calculating design flow?

Response: Yes. However, in considering alternative design flow the following conditions must all be met:

- a. Proposed flows are less than those listed for an establishment in Table No. 1, Rule .1949(b);
- b. Reduction shall be based on engineering design that utilizes low-flow fixtures and low-flow technologies;
- c. The design is prepared, sealed and signed by a professional engineer licensed pursuant to Chapter 89C of the General Statutes; and
- d. The proposed flow complies with any reduced limits that may be established by the Department or Commission as necessary to ensure wastewater system integrity and protect public health, safety, and welfare.

2. Is a State review required for systems with design flows initially determined to be over 3000 gallons per day [by Table No. 1 of Rule .1949(b)] but then designed under 3000 gallons per day by the engineer based upon use of low-flow fixtures and low-flow technologies?

Response: No.

3. Can the local health department request a State review of a system as described in question #2?

Response: Yes. Although the new law states that proposed systems described in #2 do not require State review, it does not prohibit the health department from requesting State review.

4. Are Rules .1949(c)(1) and (2) still applicable as alternate means by which a flow reduction may be sought? If so, is State Review required when these subparagraphs are used when the system has a design flow over 3000 gallons per day by Table No. 1 and the calculated reduced flow rate is less than 3000 gallons per day?

Response: In accordance with Rule .1949(c)(1), a flow reduction may be granted based upon documented data from that facility or a comparable facility. State Review would still be required if the initial computation of design flow is greater than 3000 gallons per day prior to a justified reduction pursuant to this subparagraph.

This new statute appears to essentially supersede Rule .1949(c)(2) which previously provided for flow reductions based upon use of water-conserving fixtures.

5. Have the lower limits on reduced flow rates been established by the Department and Commission pursuant to this Statute?

Response: No. The Department will initiate the process to establish lower limits by working with the Public Health Commission to include lower limits in the rules. It is unclear how much latitude the Department and the Commission will have in establishing the lower limits since the legislation requires the rules to be “substantively identical” to the provisions of Section 34(b) of the act. Section 34(b) calls for the lower limits to be set “as necessary to ensure wastewater system integrity and protect public health, safety, and welfare.”

6. How should health departments respond to these reduced design flows for the various establishments in Table No. 1 of Rule .1949(b) until lower limits have been established by the Department and Commission?

Response: Until limits are formally established by the Department and Commission through the rule making process, the Department will provide recommendations for lower design flow limits consistent with previously justified practices and documented reductions based on use of water-conserving fixtures.

It is not anticipated that reductions of greater than 50% will be requested. Counties may request State review of flow reduction proposals for any particular project. Such reviews will be limited to review of the proposed flow reduction unless broader review is specifically requested by the local health department.

7. Does the reduced flow apply to pretreatment system design in addition to the drainfield?

Response: This must be addressed by the designer on a project-specific basis. The normal standard of practice is to base pretreatment system components on unreduced flows since the total wastewater constituent load remains unreduced when based solely on the use of water-conserving fixtures. The design should also consider the increased constituent concentrations expected due to use of low-flow fixtures.

8. Do flow reductions allowed pursuant to the Session Law apply to residential systems?

Response: No. They only apply to establishments listed in Table No. 1 of Rule .1949(b). Design flow for dwelling units is described in Rule .1949(a) and thus not subject to the reductions prescribed in the Session Law.

9. Do flow reductions allowed pursuant to this Session Law apply to industrial process wastewater systems (including the removal of requirements for State review of systems with design flow less than 3000 gallons per day)?

Response: No. The flow reductions apply only to establishments listed in Table No. 1 of Rule .1949(b). The requirement for State review of industrial process wastewater systems remains as described in G.S. 130A-336(c) and Rule .1938(f).

NOTE: Position statements are policy documents intended to clarify how to interpret or enforce a law or rule. They are not enforceable on their own, but are intended to promote uniform interpretation and enforcement of the underlying law or rule.