

**15A NCAC 02B .0278 FALLS WATER SUPPLY NUTRIENT STRATEGY: STORMWATER MANAGEMENT FOR EXISTING DEVELOPMENT**

This Rule establishes a staged, adaptive approach by which municipalities and counties shall contribute to achieving the nonpoint source loading objectives of the Falls Reservoir nutrient strategy by reducing or otherwise offsetting nutrient contributions from existing development. It provides local governments three years to develop programs that propose Stage I load reduction actions to the Division and requires local governments to begin and track measures to reduce nutrient loads from existing developed lands within their jurisdiction by January 15, 2014, as specified in Item (7). Local governments shall submit for approval and implement Stage II load reduction programs by January 15, 2021 and submit revised load reductions programs every five years thereafter. The following is the watershed stormwater strategy, as prefaced in Rule 15A NCAC 02B .0275, for existing development in the Falls watershed:

- (1) **PURPOSE.** The purposes of this Rule are as follows:
  - (a) To achieve and maintain the nonpoint source nitrogen and phosphorus percentage reduction objectives established for Falls Reservoir in Rule 15A NCAC 02B .0275 on nutrient loading from existing development in the Falls watershed relative to the baseline period defined in that rule. Existing development is defined in Rule 15A NCAC 02B .0276; and
  - (b) To protect the water supply, aquatic life, and recreational uses of Falls Reservoir.
- (2) **APPLICABILITY.** This Rule shall apply to municipalities and counties in the Falls watershed as identified in Rule 15A NCAC 02B .0275.
- (3) **STAGED AND ADAPTIVE IMPLEMENTATION REQUIREMENTS.** Local governments shall employ the following staged and adaptive implementation program. All local governments subject to this Rule shall develop load-reducing programs for submission to and approval by the Commission that include the following staged elements and meet the associated minimum standards for each stage of implementation:
  - (a) In Stage I, a local government subject to this Rule shall implement a load reduction program that provides estimates of, and plans for offsetting by calendar year 2020, nutrient loading increases from lands developed subsequent to the baseline period and not subject to the requirements of the local government's Falls Lake new development stormwater program. For these post-baseline existing developed lands, the current loading rate shall be compared to the loading rate for these lands prior to development for the acres involved, and the difference shall constitute the load reduction need in annual mass load, in pounds per year. Alternatively, a local government may assume uniform pre-development loading rates of 2.89 pounds/acre/year N and 0.63 pounds/acre/year P for these lands. The local government shall achieve this Stage I load reduction by calendar year 2020. This Stage I program shall meet the criteria defined in Item (4) of this Rule;
  - (b) By January 15, 2021 and every five years thereafter, a local government located in the Upper Falls Watershed shall submit and begin implementing a Stage II load reduction program that meets the following requirements:
    - (i) If a local government achieves the Stage I reduction objectives described in this Item, a local government's initial Stage II load reduction program shall, at the local government's election, either (A) achieve additional annual reductions in nitrogen and phosphorus loads from existing development greater than or equal to the average annual additional reductions achieved in the last seven years of Stage I or (B) provide for an annual expenditure that equals or exceeds the average annual amount the local government has spent to achieve nutrient reductions from existing development during the last seven years of Stage I. A local government's expenditures shall include all local government funds, including any state and federal grant funds used to achieve nutrient reductions from existing developed lands. The cost of achieving reductions from municipal wastewater treatment plants shall not be included in calculating a local government's expenditures. Notwithstanding this requirement, the EMC may approve an initial Stage II load reduction program based on a lower annual level of reduction or a lower annual level of expenditure if the local government demonstrates that continuing the prior annual level of reduction or annual level of expenditure is not reasonable or cost-effective given the reductions that will be achieved, or the expenditure would cause serious financial hardship to the local government;

- (ii) If Stage I reduction objectives are not achieved, a local government's initial Stage II load reduction program shall, at the local government's election, either (A) achieve additional annual reductions in nitrogen and phosphorus loads from existing development greater than or equal to the average annual additional reductions achieved in the highest three years of implementation of Stage I or (B) provide for an annual expenditure that equals or exceeds the average annual amount the local government has spent to achieve nutrient reductions from existing development during the highest three years of implementation of Stage I. Annual expenditures shall be calculated in accordance with Sub-Item (3)(b)(i) of this Item;
  - (iii) Subsequent five year programs shall be designed to achieve the Stage II percent load reduction goals from existing developed lands in a local government's jurisdiction, shall include timeframes for achieving these goals and shall meet the requirements of Item (4) of this Rule;
- (4) **ELEMENTS OF LOAD REDUCTION PROGRAMS.** A local government's Stage I and Stage II load reduction program shall address the following elements:
  - (a) Jurisdictions in the Eno River and Little River subwatersheds shall, as a part of their Stage I load reduction programs, begin and continuously implement a program to reduce loading from discharging sand filters and malfunctioning septic systems discharging into waters of the State within those jurisdictions and subwatersheds;
  - (b) Jurisdictions within any Falls subwatershed in which chlorophyll a levels have exceeded 40 micrograms/liter in more than seventy-five percent of the monitoring events in any calendar year shall, as part of their Stage I load reduction programs, begin and continuously implement a program to reduce nutrient loading into the waters of the State within those jurisdictions and that subwatersheds;
  - (c) The total amount of nutrient loading reductions in Stage I is not increased for local jurisdictions by the requirements to add specific program components to address loading from malfunctioning septic systems and discharging sand filters or high nutrient loading levels pursuant to Sub-Items (4)(a) and (b) of this Item;
  - (d) In preparation for implementation of their Stage I and Stage II load reduction programs, local governments shall develop inventories and characterize load reduction potential to the extent that accounting methods allow of the following by January 2013:
    - (i) Wastewater collection systems;
    - (ii) Discharging sand filter systems, including availability of or potential for central sewer connection;
    - (iii) Properly functioning and malfunctioning septic systems;
    - (iv) Restoration opportunities in utility corridors;
    - (v) Fertilizer management plans for local government-owned lands;
    - (vi) Structural stormwater practices, including intended purpose, condition, potential for greater nutrient control; and
    - (vii) Wetlands and riparian buffers including potential for restoration opportunities;
  - (e) A local government's load reduction need shall be based on the developed lands that fall within its general police powers and within the Falls watershed;
  - (f) The load reduction need shall not include lands under state or federal control, and a county shall not include lands within its jurisdictional boundaries that are under municipal police powers;
  - (g) Nitrogen and phosphorus loading from existing development, including loading from onsite wastewater treatment systems to the extent that accounting methods allow, shall be calculated by applying the accounting tool described in Sub-Item (7)(a) and shall quantify baseline loads of nitrogen and phosphorus to surface waters in the local government's jurisdiction as well as loading changes post-baseline. It shall also calculate target nitrogen and phosphorus loads and corresponding load reduction needs;
  - (h) The Commission shall recognize reduction credit for early implementation of policies and practices implemented after January 1, 2007 and before timeframes required by this Rule, to reduce runoff and discharge of nitrogen and phosphorus per Session Law 2009-486. The load reduction program shall identify specific load-reducing practices implemented to date

subsequent to the baseline period and for which the local government is seeking credit. It shall estimate load reductions for these practices and their anticipated duration using methods provided for in Sub-Item (5)(a);

- (i) The program shall include a proposed implementation schedule that includes annual implementation expectations. The load reduction program shall identify the types of activities the local government intends to implement and types of existing development affected, a prioritization of practices, magnitude of reductions it expects to achieve from each, and the costs and efficiencies of each activity to the extent information is available. The program shall identify the duration of anticipated loading reductions, and may seek activities that provide long-term reductions;
- (j) The load reduction program shall identify anticipated funding mechanisms or sources and discuss steps take or planned to secure such funding;
- (k) The program shall address the extent of load reduction opportunities intended from the following types of lands:
  - (i) Lands owned or otherwise controlled by the local government;
  - (ii) Each land use type of privately owned existing development including projected redevelopment, on which the local government's load reduction need is based as described in this Item; and
  - (iii) Lands other than those on which the local government's load reduction need is based as described in this Item, including lands both within and outside its jurisdiction and including the use of interlocal agreements and private third party sellers;
- (l) The program shall address the extent of load reduction proposed from the following stormwater and ecosystem restoration activities:
  - (i) Bioretention;
  - (ii) Constructed wetland;
  - (iii) Sand filter;
  - (iv) Filter strip;
  - (v) Grassed swale;
  - (vi) Infiltration device;
  - (vii) Extended dry detention;
  - (viii) Rainwater harvesting system;
  - (ix) Treatment of redevelopment;
  - (x) Overtreatment of new development;
  - (xi) Removal of impervious surface;
  - (xii) Retrofitting treatment into existing stormwater ponds;
  - (xiii) Off-line regional treatment systems;
  - (xiv) Wetland or riparian buffer restoration; and
  - (xv) Reforestation with conservation easement or other protective covenant;
- (m) The program shall evaluate the load reduction potential from the following wastewater activities:
  - (i) Creation of surplus relative to an allocation established in Rule 15A NCAC 02B .0279;
  - (ii) Expansion of surplus allocation through regionalization;
  - (iii) Connection of discharging sand filters and malfunctioning septic systems to central sewer or replacement with permitted non-discharge alternatives;
  - (iv) Removal of illegal discharges; and
  - (v) Improvement of wastewater collection systems;
- (n) A local government may propose in its load reduction program the use of the following measures in addition to items listed in (l) and (m), or may propose other measures for which it can provide accounting methods acceptable to the Division:
  - (i) Redirecting runoff away from impervious surfaces;
  - (ii) Soil amendments;
  - (iii) Stream restoration;
  - (iv) Improved street sweeping; and

- (v) Source control, such as pet waste and fertilizer ordinances;
- (o) The program shall include evaluation of load reduction potential relative to the following factors:
  - (i) Extent of physical opportunities for installation;
  - (ii) Landowner acceptance;
  - (iii) Incentive and education options for improving landowner acceptance;
  - (iv) Existing and potential funding sources and magnitudes;
  - (v) Practice cost-effectiveness (e.g., cost per pound of nutrient removed);
  - (vi) Increase in per capita cost of a local government's stormwater management program to implement the program;
  - (vii) Implementation rate without the use of eminent domain; and
  - (viii) Need for and projected role of eminent domain;
- (5) The Commission shall approve a Stage I load reduction program if it is consistent with Items (3) and (4) of this Rule. The Commission shall Approve a Stage II load reduction program if it is consistent with Items (3) and (4) of this Rule unless the Commission finds that the local governments can, through the implementation of reasonable and cost-effective measures not included in the proposed program, meet the Stage II nutrient load reductions required by this Rule by a date earlier than that proposed by the local government. If the Commission finds that there are additional or alternative reasonable and cost-effective measures, the Commission may require the local government to modify its proposed program to include such measures to achieve the required reductions by the earlier date. If the Commission requires such modifications, the local government shall submit a modified program within two months. The Division shall recommend that the Commission approve or disapprove the modified program within three months after receiving the modified program. In determining whether additional or alternative load reduction measures are reasonable and cost effective, the Commission shall consider factors identified in Sub-Item (4)(o) of this Rule. The Commission shall not require additional or alternative measures that would require a local government to:
  - (a) Install or require installation of a new stormwater collection system in an area of existing development unless the area is being redeveloped;
  - (b) Acquire developed private property; or
  - (c) Reduce or require the reduction of impervious surfaces within an area of existing development unless the area is being redeveloped.
- (6) A municipality shall have the option of working with the county or counties in which it falls, or with another municipality or municipalities within the same subwatershed, to jointly meet the loading targets from all lands within their combined jurisdictions within a subwatershed. A local government may utilize private or third party sellers. All reductions involving trading with other parties shall meet the requirements of Rule 15A NCAC 02B .0282.
- (7) **RULE IMPLEMENTATION.** This Rule shall be implemented as follows:
  - (a) By July 2013, the Division shall submit a Stage I model local program to the Commission for approval that embodies the criteria described in Items (3)(a) and (4) of this Rule. The Division shall work in cooperation with subject local governments and other watershed interests in developing this model program, which shall include the following:
    - (i) Model local ordinances as applicable;
    - (ii) Methods to quantify load reduction requirements and resulting load reduction assignments for individual local governments;
    - (iii) Methods to account for discharging sand filters, malfunctioning septic systems, and leaking collection systems; and
    - (iv) Methods to account for load reduction credits from various activities;
  - (b) Within six months after the Commission's approval of the Stage I model local program, subject local governments shall submit load reduction programs that meet or exceed the requirements of Items (3) and (4) of this Rule to the Division for review and preliminary approval and shall begin implementation and tracking of measures to reduce nutrient loads from existing developed lands within their jurisdictions;
  - (c) Within 20 months of the Commission's approval of the Stage I model local program, the Division shall provide recommendations to the Commission on existing development load reduction programs. The Commission shall either approve the programs or require changes

based on the standards set out in Item (4) of this Rule. Should the Commission require changes, the applicable local government shall have two months to submit revisions, and the Division shall provide follow-up recommendations to the Commission within two months after receiving revisions;

- (d) Within three months after the Commission's approval of a Stage I local existing development load reduction program, the local government shall complete adoption of and begin implementation of its existing development Stage I load reduction program;
- (e) Upon implementation of the programs required under Item (4) of this Rule, local governments shall provide annual reports to the Division documenting their progress in implementing those requirements within three months following each anniversary of program implementation date until such time the Commission determines they are no longer needed to ensure maintenance of reductions or that standards are protected. Annual reports shall include accounting of total annual expenditures, including local government funds and any state and federal grants used toward load reductions achieved from existing developed lands. Local governments shall indefinitely maintain and ensure performance of implemented load-reducing measures;
- (f) By January 15, 2021 and every five years thereafter until accounting determines that assigned load reductions have been achieved, standards are met in the lake, or the Commission takes other actions per Rule 15A NCAC 02B .0275, local governments located in the upper Falls watershed as defined in Item (3) of Rule 15A NCAC 02B .0275 shall submit and begin implementation of a Stage II load reduction program or program revision to the Division. Within nine months after submittal, the Division shall make recommendations to the Commission on approval of these programs. The Commission shall either approve the programs or require changes based on the standards set out in this Rule. If the Commission require changes, the applicable local governments shall submit revisions within two months, and the Division shall provide follow-up recommendations to the Commission within three months after receiving revisions. Upon program approval, local governments shall revise implementation as necessary based on the approved program;
- (g) A local government may, at any time after commencing implementation of its load reduction program, submit program revisions to the Division for approval based on identification of more cost-effective strategies or other factors not originally recognized;
- (h) Once either load reductions are achieved per annual reporting or water quality standards are met in the lake per Rule 15A NCAC 02B .0275, local governments shall submit programs to ensure no load increases and shall report annually per Sub-Item (e) on compliance with no increases and take additional actions as necessary;
- (i) At least every five years after the effective date, the Division shall review the accounting methods stipulated under Sub-Item (7)(a) to determine the need for revisions to those methods and to loading reductions assigned using those methods. Its review shall include values subject to change over time independent of changes resulting from implementation of this Rule, such as untreated export rates that may change with changes in atmospheric deposition. It shall also review values subject to refinement, such as nutrient removal efficiencies.

*History Note:* Authority G.S. 143-214.1; 143-214.5; 143-214.7; 143-214.12; 143-214.21; 143-215.3(a)(1); 143-215.6A; 143-215.6B; 143-215.6C; 143-215.8B; 143B-282(c); 143B-282(d); S.L. 2005-190; S.L. 2006-259; S.L. 2009-337;  
Eff. January 15, 2011 (this permanent rule replaces the temporary rule approved by the RRC on December 16, 2010).