Executive Summary To the Report of Proceedings on Proposed Rules For the B. Everett Jordan Reservoir Water Supply Nutrient Strategy For the May 8, 2008 Meeting of the NC Environmental Management Commission

The potential for excess nutrients was recognized when the B. Everett Jordan Reservoir was proposed in 1945. The reservoir was approved by Congress in 1963. After years of construction delay due to projected water quality concerns, the lake was impounded in 1983. It was designated a Nutrient Sensitive Water (NSW) that same year by the Environmental Management Commission. The lake has consistently tested as eutrophic or hyper-eutrophic since then. In 2002, the Division of Water Quality determined that the Upper New Hope Creek Arm no longer met its designated uses due to exceedences of the chlorophyll *a* standard, and in 2006 made the same determination for the rest of the lake. The Haw River arm was also impaired in 2006 for pH exceedences. Both parameters are indicative of excessive nutrients. These impairments place the reservoir on North Carolina's list of impaired waters under Section 303(d) of the federal Clean Water Act.

Key legislation that directs the commission to address Jordan Reservoir's impairment is included in the sweeping Clean Water Responsibility Act of 1997, S.L. 1997-458, often referred to as HB 515. It included requirements to set concentration limits on wastewater facilities discharging to NSWs. The follow-up SL 1998-212 allowed the commission to grant a compliance extension if a facility chose to develop a calibrated nutrient response model for the water body and adhere to the results. The Act also required the commission to set restoration goals for NSWs, requiring steady progress distributed among point sources and nonpoint sources in a fair, reasonable, and proportional manner relative to their contributions. In 2005, the General Assembly also enacted SL 2005-190 that directed the EMC to adopt permanent rules to establish and implement nutrient management strategies to protect drinking water supply reservoirs. In addition to state legislative requirements, the determination that the reservoir is impaired set into motion the Clean Water Act requirements to set and enforce nutrient load reduction limits, known as a total maximum daily load (TMDL).

During 2003-2004 division staff conducted a 1 ½ year, 22-meeting stakeholder process to apply the reservoir model to seek a consensus on lake nutrient loading goals, discharger allocation methods, and a conceptual nonpoint source strategy¹. In 2005, staff solicited public comment on a rules framework and brought draft rules before the EMC's Water Quality Committee. In January 2006, the committee directed staff to conduct additional stakeholder meetings, which continued thru 2006. A TMDL for the entire reservoir was approved by the EPA in August 2007¹.

The strategy is designed around separate nitrogen and phosphorus percentage reduction goals for each of the three arms of Jordan Reservoir. The proposed set of rules is a comprehensive effort to address nutrient sources to Jordan Reservoir to meet the goals¹. The rules address point source discharges and nutrient runoff from agriculture, existing development, and new development, including from state and federal government-controlled lands. In addition, they require protection and of existing vegetated riparian buffers and sound fertilizer management.

Pursuant to the commission's authorization and notice in the North Carolina Register, the division held three public hearings and provided a 90-day written comment period from June 15 through September 15, 2007 on the proposed set of rules. Approximately 400 people attended the hearings,

¹ Report or other supporting document(s) available on DWQ's Jordan nutrient strategy website, at <u>http://h2o.enr.state.nc.us/nps/JordanNutrientStrategy.htm</u>.

150 of whom spoke. Staff received more than 7,000 documents, postcards, and emails providing written comment¹. A detailed, 80-page commenter-indexed summary of all public comments along with staff replies is provided as Appendix D of the Report of Proceedings.

In general, lake users, watershed residents, and several local governments voiced strong support for the rules, while many local governments and development interests expressed strong objections. Objectors questioned the impairment determination, data used for the lake model and modeling process, the need for rules in general and for new and existing development stormwater rules in particular, and the state's ability to guarantee success. They raised concerns over the costs associated with the stormwater and wastewater rules, projected higher costs than those estimated by the division, and projected substantial economic impact to Piedmont Triad communities. Several commenters questioned the commission's statutory authority to impose various requirements, including requiring local ordinances. Equity concerns were numerous. Many felt that the Haw communities would pay for the benefit of New Hope communities who withdraw water from the lake, or that the regional nature of benefits should compel the N.C. General Assembly to fund restoration actions. People frequently commented that adaptive management should mean implementing less costly measures first and evaluating the effects before contemplating costlier actions.

Supporters of the rules cited a longstanding need for restoring the lake, federal and state mandates, a steadily eroding quality of their lake use experience, the regional importance of the lake, and the collateral benefits to numerous degraded streams in the watershed from the proposed rules. They attached urgency to the lake's restoration need given the rapidly growing nature of watershed communities. They called for holding point source dischargers to the original 2011 compliance date given the key role of wastewater discharges and the ample notice already provided to the discharge community. They believed that waiting for Phase II stormwater controls to play out before considering the need for dealing with existing development ignored the fact that Phase II does not address existing development and that the lake is impaired now as a result of existing land uses. They observed that division cost estimates reflect only part of a full and fair cost/benefit assessment and an avoidable, worst-case representation of costs for the Existing Development requirements, since the Existing Development Rule provides great latitude to use alternative nutrient-reducing practices.

The Hearing Officers reviewed the public comments and deliberated extensively over the course of 14 meetings from August 2007 to April 2008. Given the level of concern over strategy foundation issues, the Hearing Officers closely reviewed the set of issues raised, and reached several conclusions. They accept the validity of the chlorophyll a data, the impairment determination and the modeling conclusions. They also accept the need to establish separate reduction goals for the three arms of the lake and the percentage reduction goals established by the reservoir modeling. They recognize that without the reservoir model and proposed rules, under the Clean Water Responsibility Act wastewater dischargers in the Haw subwatershed would have been subject to very similar nitrogen concentration limits by 2003. They affirm that the commission is acting within its statutory authority in proposing these rules. The Hearing Officers also reached several conclusions on strategy design issues. They agree that a set of rules and management actions that address existing developed lands and new development as well as agriculture and point sources is needed to address the lake's impairment. They support reductions that equate to the percentage goals from each source relative to its baseline loading. They recognize the value of offset and trading options included in the rules, and have added the option of market-based trading throughout the rules. They recognize the concerns over new costs potentially imposed on local governments by this set of rules, while they emphasize that the division's original cost estimates are considered an avoidable worst-case scenario, and

recommend that the commission endorse a resolution to the General Assembly to request funding for local governments and the division to assist in the implementation of several rules.

After due consideration, the Hearing Officers have retained the basic content of all rules as taken to public comment. They generally sought to maximize options to make the rules as cost-effective and bearable as possible. Key changes to the rules include the following:

- Rule .0266 Existing Development Stormwater: Recognizing the uncertainties in planning activities well into the future to meet this rule, revisions include that local governments would meet half of their reductions in 10 years, or propose an alternative along with supporting technical analysis. After 10 years, local governments provide a plan for meeting the remainder of their reduction needs. A monitoring option to target high-loading catchments is added. Additional alternative practices are identified, such as source control of pet waste and fertilizer, stormwater capture and reuse, stream and buffer restoration, and use of private credit generators.
- Rule .0270 Wastewater Discharges: Based on review of the Clean Water Responsibility Act, the compliance date for nitrogen is revised from 2016 to the fifth full calendar year after the effective date, or to be 2014 if the rule becomes effective in 2009.
- Rule .0267 Buffer Protection: To reduce the burden on local governments, responsibility for implementing the rule is shifted to the division for projects performed by state and federal entities, multiple jurisdictions, local units of government, forestry and agricultural operations, areas where no local buffers programs currently exist, and for appeals of local decisions.
- Rule .0271 State and Federal Entities Stormwater: Recognizing the unique challenges facing linear public infrastructure projects, new DOT road projects will be deemed compliant if they meet the treatment requirements of the buffer protection rule. Requirements for DOT existing roadways are simplified to require a minimum of 500 pounds of nitrogen reduction per 5-year period.
- Rule .0265 New Development Stormwater: Paralleling the DOT requirements, new local government road projects are deemed compliant if they meet the buffer protection rule treatment requirements.
- Rule .0264 Agriculture: The compliance timeframe is extended from 'five to eight years' to 'six to nine years', and a threshold of 20 unconfined swine is added to the existing 150 confined swine threshold, recognizing the potential water quality impacts of "free-range" swine operations.
- Rule .0263 Nutrient Management: The compliance date and hired-applicator threshold are tightened from five to three years and ten to five acres, respectively. Consultants are removed from the rule, while phosphorus compliance is added to the land application of residuals and septage.

Given the extent of concern and misunderstanding over costs conveyed in public comments, staff revisited estimates made in the original Fiscal Analysis. Staff's resulting revisions are provided as Appendix E of the Report of Proceedings. A key revision is an *annual* cost *range* for Existing Development in lieu of the earlier worst-case, full compliance cost projection. The original Existing Development estimate represented a worst-case projection of the full cost of rule compliance based on the assumed use of structural stormwater retrofits only, as well as purchasing all the land required for them. This led to the widespread impression that costs will in fact be at least this great. The rule, on the other hand, allows for and identifies a wide range of load-reducing practices and a flexible compliance deadline. Overall, staff expects the rule to be significantly less costly to implement than the worst case would suggest, and the revision to an annual estimate reflects the likelihood that various factors will increasingly influence this developing technical and policy area in the coming years.