



A Proposal for:

A Joint Stage One Adaptive Management Program for  
Existing Development in the Jordan Lake Watershed

December 15, 2009

As required by Session Law 2009-216, Stage 1 Adaptive Management Program For Existing Development, the following program elements are proposed by Chatham County, NC and the Town of Pittsboro, NC in a joint local government proposal.

**A. Public Education Program**

Purpose and Statement of Objectives – The purpose is to inform the public of the impacts of nutrient loading and measures that can be implemented to reduce nutrient loading from existing development. The objectives of Chatham County’s Water Quality Education Program is to provide educational materials (multi-media advertising, brochures, conference displays, presentations, workshops, watershed initiatives, etc.) and public participation opportunities (litter clean up, volunteer workdays, etc.) to inform and engage the general public about non-point source stormwater management issues. The key message will centered around nutrient loading and other pollutants of concern such as sediment and best management practices (BMP’s) to reduce pollutant loading into rivers, streams and waterways draining into Jordan Lake. Please see the attached watershed maps, Figures 1 and 2 and the attached stream list, Table 3.

Existing Program Elements in the Jordan Lake Watershed

1. Contributing partner in the Clean Water Education Partnership (CWEP), a regional water quality public education and participation program. In addition to professional television and radio spots, CWEP has provided educational materials, booth display, brochures, handouts such as the “mutt mitt” and bumper stickers and other water quality materials that the county has available and provides to the general public. Please see *Attachment A* meeting summary with CWEP program descriptions.

2. Contributing partner in the Chatham Conservation Partnership (CCP) which includes water quality education outreach to the public including but not limited to public education table top display for events, public school (elementary and middle school) educator training and networking, partnering with Central Carolina Community College on a natural resources education series and seminars. Please visit the wiki space for CCP program details: <http://chathamconservation.wikispaces.com/>
3. County participation in annual Jordan Lake Litter Clean-up Program.
4. County presentations to civic and business groups such as the Home Builders Association concerning stormwater management, buffers and other county ordinances. Please visit the Environmental Resources Division website listed below for presentations to view.
5. Town of Pittsboro participation in Robeson Creek Watershed Council activities performing research, retrofits, outreach and public education for water quality improvements in the Robeson Creek Watershed.
6. Other current public education items are as follows:
  - a. Educational booth at the Chatham County Fair
  - b. Brochures and pamphlets as hand-out materials at the front lobby
  - c. Environthon education at Perry Harrison Middle School and Woods Charter School.
  - d. Local non-profits developing water quality education or steward programs to develop, document, and recognize achievements in voluntary stormwater retrofits.
7. Placement of stormwater and water quality education materials and information on the Chatham County Environmental Resources Division website <http://www.chathamnc.org/Index.aspx?page=882>.
8. Distribution or placement of water quality educational materials through the CCP quarterly meetings, County Water Department, Chatham County Fair and other local events as identified and available.
9. Periodic newspaper articles or displays at point-of-purchase.
10. Signage at county and town parks concerning water quality, riparian buffers and stormwater management.
11. Joint County/Town of Chapel Hill/UNC Institute for the Environment Partnership in water quality education outreach for target groups to develop visually engaging, easy-to-use training materials to educate employees in two industry sectors about the hazards of stormwater runoff and water pollution associated with improper management practices. Target audience includes; restaurants, painting and cement contractors. Educational materials, brochures and direct contact are going be employed by June 2010.
12. Plan and provide short courses, workshops and seminars on water quality issues.

## **B. Mapping Program**

Not applicable. Neither Chatham County nor the Town of Pittsboro is an MS4 pursuant to the NPDES Phase 2 regulations and does not own or operate storm sewer systems or major outfalls. All outfalls are either private or state-owned (NCDOT). Therefore, no mapping of outfalls is proposed under Stage 1.

## **C. Identify and Remove Illegal Discharges**

Chatham County enacted a **Stormwater Ordinance** in December, 2008. Please see *Attachment B* or click on: <http://www.chathamnc.org/Index.aspx?page=440>.

This ordinance provides adequate legal authorities prohibiting illegal discharges and enforcement of illegal connections. Article 7, Illicit Discharges, includes the following sections:

1. Prohibited Discharges
2. Allowable Discharges
3. Illicit Connections
4. Spills and Accidental Discharges

The county stormwater ordinance does not include the following illicit discharge best management practices (BMP's): inspection program, staff training, public education and reporting. *Table 1* describes the BMP's Chatham County and the Town of Pittsboro will implement for illicit discharges.

The Town of Pittsboro will enact an Illicit Discharge ordinance in Year 2 of the program as described in *Table 1*.

## **D. Best Management Practices (BMP) Maintenance Program**

As described above, Chatham County enacted a Stormwater Ordinance in December, 2008. This ordinance requires that stormwater BMP's be designed, constructed and maintained in perpetuity by the owner or responsible party listed on the Operations and Maintenance Agreement. Article 5, Maintenance and Inspections includes the following sections:

1. Private Development
2. Public Development
3. Agreement Requirements
4. Construction of Stormwater Management BMP's and Drainage Infrastructure
5. Function of BMP as Intended
6. Right of Entry for Inspection
7. Periodic Inspections

Long term training of inspection staff and the general public has commenced and will continue via publication distribution, website information, workshops and classroom lecture series (Central Carolina Community College and NC State University) and field training as described in *Table 2*. Material sources for education include, but is not limited to: NC State University, Department of Biological and Agricultural Engineering, NC Agriculture Extension and Chatham County Soil and Water Conservation District.

The Town of Pittsboro will enact a stormwater ordinance in Year 3 as described in *Table 2*.

#### **E. Opportunities for Retrofits and Other Projects to Reduce Nutrient Loading**

Chatham County and the Town of Pittsboro have a combined/total population (2000 Census data) in the Jordan Lake watershed of 22,718. See the attached watershed map and census map, *Figures 1 and 2*. We have developed a list of all receiving waters in the watershed. Please see the attached **Jordan Lake Watershed Stream List**, *Table 3*. We will use this list to establish sub-watersheds and to manage water quality within these sub-watersheds.

The watershed population requires that a minimum of two (2) BMP retrofit sites be identified for potential retrofit activity per year in the watershed. BMP retrofits (existing and planned) will be shown on the **BMP Retrofit Planning Map** and will be documented on the BMP Retrofit Opportunity Table, *Table 4*. This map will be developed and submitted to DWQ during the DWQ review period.

The Town of Pittsboro currently has 7 retrofit BMP's designed and constructed in the Robeson Creek watershed. These nutrient reducing BMP's include bioretention, stream restoration, buffer enhancement and stormwater wetlands. Our understanding from telephone conversations with DWQ staff, Mike Randall and Jason Robinson is that if and when Stage 2 BMP retrofits are actually required, we can use these existing BMP's towards our nutrient reduction credit from the 2001 baseline datum. Therefore, we will inspect and maintain these BMP's to ensure they are operating properly for full nutrient credit in the future, if necessary.

The existing and any future structural BMP retrofits will be inspected and maintained by the Town of Pittsboro or Chatham County depending on the jurisdiction and using Operations and Maintenance Agreements, which will be developed for each BMP.

Chatham County and the Town of Pittsboro will begin to add to the **BMP Retrofit Planning Map** in Year 1 and will continue to do so at the required rate of at-least two (2) per year throughout the watershed.

*Table 4* is a template **BMP Retrofit Opportunity Table** for each existing and planned structural BMP retrofit.