

Guilford County



Storm Water Management Plan

Randleman Lake Watershed

Adopted January 18, 2001

Planning and Development Department

Guilford County
Stormwater Management Plan
Randleman Lake Watershed

Contact Information

Warren L. Simmons, P.E., P.L.S., Watershed Protection Engineer
Guilford County - Planning and Development Department
P.O. Box 3427
Greensboro, North Carolina 27402
Telephone: (336) 641-3784
Fax: (336) 641-6988
E-mail: wsimmon@co.guilford.nc.us

Introduction

In order to meet the requirements of the Randleman Lake Water Supply Watershed Protection Rules (Rules) 15A NCAC 2B .0251 (4)(a-f), Guilford County has developed a comprehensive stormwater management plan that will also serve as a stepping stone for complying with the federal stormwater requirements. As a Phase II unit of government under the permitting requirements of the EPA NPDES stormwater regulations, Guilford County must incorporate the following six minimum control measures into a stormwater management program:

- Public Education and Outreach
- Public Involvement/Participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Post-construction stormwater management
- Pollution Prevention / Good housekeeping

Some of these items must also be addressed in the stormwater plan requirements of the Randleman Rules, and where that is the case, a brief outline and relative time frame is given as to how this jurisdiction plans to accomplish the stated goal. Guilford County is committed to effectively managing stormwater quality issues related to the Randleman Rules and submits the following Stormwater Management Plan for your review.

NPDES Phase II Stormwater Programs

Over the past eight months the City of Greensboro has facilitated a small group discussion forum with the Phase II Stormwater Communities in Alamance, Guilford and Randolph County. The purpose of the Upper Cape Fear Storm Water Consortium is to educate the Phase II communities about the issue of stormwater management and how to coordinate meeting the Phase II requirements. Through evaluation of the Phase II requirements the majority of the Randleman Rules relating to stormwater management will be achieved by the communities when they are permitted as NPDES Phase II Programs. With that in mind the communities that have both Randleman requirements and NPDES requirements propose an overall goal of improved water quality protection

that will be achieved through a stepping stone approach to meeting both sets of requirements. The requirements of the Randleman Rules stated six minimum criteria to be included in the stormwater management plan. These criteria are addressed in the Stormwater Management Plan detailed below.

Piedmont Triad Regional Water Authority

The Piedmont Triad Regional Water Authority has facilitated several meetings between the affected jurisdictions in order to develop a coordinated approach to meeting the requirements of the Randleman Rules. A subcommittee was established to discuss the details of the Stormwater Management Plan (SWMP) components. This subcommittee has developed a multi-jurisdictional format for the SWMP and in the future will coordinate on the implementation of various requirements including identifying stormwater retrofits, planning for contiguous open space and stormwater education. Through these coordinated efforts the jurisdictions involved in the Randleman Rules are striving to create a system of compatible programs that ultimately will lead to a regional, holistic approach to stormwater management similar to the NPDES Phase I programs.

Plan Requirements and Components

Evaluation of Existing Land Use

Regulation: a) Evaluation of existing land use within Oak Hollow Lake subwatershed, High Point Lake subwatershed and Deep River 1 subwatershed in the Randleman Lake watershed with recommendations that show how overall built-upon area (for existing and future development) for each subwatershed can be minimized and high intensity land uses can be targeted away from surface waters and sensitive areas. Oak Hollow Lake subwatershed is defined as all land areas draining to Oak Hollow Lake. High Point Lake subwatershed is defined as all land areas draining to High Point Lake, East Deep River and West Fork Deep River from Oak Hollow Lake Dam. Deep River 1 subwatershed is defined as all land areas draining to the Deep River from High Point Lake Dam to Freeman Mill Dam. This evaluation shall be done by the local governments having jurisdiction in those watersheds, working in cooperation with the PTRWA.

Goal: To evaluate and possibly modify existing land use plans and development patterns to achieve better protection of water quality standards in the Randleman Lake Watershed.

Action Items:

Existing Programs-

- Continue to enforce regulations in Watershed Critical Area that are more stringent than the State's (e.g., Tiers 2 and 3 allow only 2.5% and 4.0% respectively for development without public sewer compared to State's 30%).
- Continue to regulate with Tier system that results in larger Watershed Critical Area and directs development further from reservoir.
- Continue to maintain close evaluation of soil for septic tank use in areas with marginal soil characteristics to limit development.
- Continue to prohibit any type of wastewater treatment facilities in Watershed Critical Area.
- Continue regulation that prohibits certain land uses, involving petroleum products and fertilizer, septic tank cleaning in Watershed Critical Area.
- Continue enforcement of subdivision ordinance.
- Continue floodplain administration program.
- Continue to participate in USDA programs for the Federal Farm Bill and the agricultural use of land.

Future Programs-

- Prepare and adopt land use plan for Southern Guilford County and Airport Area. (*Anticipated completion date: Southern Guilford County Plan – February, 2001; Airport Area Plan – August, 2001*)

- Develop agreement with neighboring jurisdictions on water and sewer service in sensitive areas to prevent high-density development. (*Anticipated completion date: By completion of dam*)

Coordinated Planning Efforts

Regulation: b) Coordination between all affected jurisdictions to encourage their development in the existing urban areas. The planning effort shall include provisions for areas of contiguous open space to be protected through conservation easements or other long-term protection measures and provisions to direct infrastructure growth towards existing urban development corridors rather than to rural lands;

Goal: To achieve greater watershed protection and program efficiency through regional coordination among the jurisdictions within the Randleman Lake Watershed.

Action Items:

Existing Programs-

- Continue to require in the development ordinance the dedication for drainageway and open space of 100-year floodplain for new developments.
- Continue to enforce current open space plan that requires dedication along drainageways and for open space and possible trail system.
- Coordinate with City of High Point on density averaging and/or transfer, directing more intense development further from reservoir.
- Adoption by the Board of Commissioners for Open Space Acquisition Program.
- Continue to participate in Intergovernmental Stormwater Focus Group.
- Continue to coordinate with Citizens for the Preservation of Open Space.

Future Programs-

- The nine jurisdictions effected by the Randleman Rules (High Point, Jamestown, Kernersville, Archdale, Randleman, Greensboro, Forsyth County, Guilford County and Randolph County) will participate in a multi-jurisdictional workgroup to explore the potential for coordinating planning efforts dealing with the topic of contiguous open space preservation. The workgroups will begin following the adoption of the Randleman Stormwater Management Plan by the EMC.
- Prepare an open space inventory of all lands currently dedicated and adopt goals for increasing open space. (*Anticipated completion date: Completed; Report and recommendations adopted by Board of County Commissioners July 20, 2000*)
- Possible purchase of site on the Natural Areas Inventory. (*Anticipated completion date: Evaluation within two years after completion of dam*)
- Coordinate with City of High Point, through the Guilford County Parks and Recreation Commission, a proposed 500 acre park in the Watershed Critical Area. (*Anticipated completion date: By completion of dam*)

- Prepare Guilford County Open Space Report. (*Anticipated completion date: Completed; Report and recommendations adopted by Board of County Commissioners July 20, 2000*)

Evaluation of Existing Ordinances

Regulation: c) Evaluation of existing ordinances, municipal programs (maintenance, street cleaning, etc.) and other local policies to identify opportunities for stormwater quality improvements including reducing the amount of built-upon area that is required for uses such as parking, building setbacks, road widths and cul-de-sacs. The evaluations shall consider development options such as multiple story buildings, mixed use to encourage pedestrian travel and mass transit and an identification of municipal activities and procedures that may be modified to allow for stormwater pollution prevention opportunities.

Goal: To identify opportunities to fine tune existing ordinances and policies so as to achieve better water quality in the Randleman Lake Watershed.

Action Items:

Existing Programs-

- Encourage use of “Rural Preservation District” that requires assigning a minimum of 50% open space and requires a trail/sidewalk system for pedestrian travel and permits less built-upon area and narrower streets.
- Encourage clustering on better land areas of site.
- Modify watershed manual to include alternative watershed protection devices such as, bio-filtration filters, sand filters, and created wetlands.
- Continue enforcement of current regulation to require a BMP for any development, low or high density, in Watershed Critical Area.
- Continue regulation that prohibits the issuance of a grading permit in the Watershed Critical Area until a watershed protection plan is approved.
- Continue requirement that all watershed protection devices must be installed, complete, and operational before a subdivision plat can be recorded or a commercial building can be occupied.
- Continue Watershed Critical Area regulation prohibiting land disturbance in stream buffers, slopes greater than 15%, drainageways carrying a flow of 17 cfs in 100-year storm.
- Continue Watershed Critical Area regulation limiting land disturbance to a percentage of usable land.
- Continue regulation that eliminates “grandfathered” status of existing built-upon area once new development is initiated.

Future Programs-

- Prepare an open space inventory of all lands currently dedicated and adopt goals for increasing open space. (*Anticipated completion date: Completed; Report and recommendations adopted by Board of County Commissioners July 20, 2000*)

- Evaluate existing regulations with regard to required parking, building setbacks, road widths, curb and gutter, and cul-de-sacs. (*Anticipated completion date: By January, 2002*)
- Evaluate existing development scoresheet for low-density development. (*Anticipated completion date: By January, 2002*)
- Prepare Guilford County Open Space Report. (*Anticipated completion date: Completed; Report and recommendations adopted by Board of County Commissioners July 20, 2000*)

Public Education Programs

Regulation: d) Implementation of watershed protection public education programs;

Goal: To educate the community about impacts of stormwater discharge on waterbodies and what is needed to reduce stormwater pollution in the Randleman Lake Watershed.

Action Items:

Existing Programs-

- Continue to hold periodic workshops with developers and engineers.
- Continue to hold annual Planning Board Training Sessions.
- Continue the involvement of the Advisory Board for Environmental Quality to inform the Commissioners on environmental issues.
- Continue to participate in Intergovernmental Stormwater Focus Group.
- Continue existing watershed protection program that contains public education aspects.
- Continue coordination with County Health Department and County Agricultural Extension involving educational material, such as septic tank maintenance, proper use of fertilizer, etc.
- Continue coordination with County Health Department regarding reporting of ground water quality, wastewater spills, septic tank failures, and water quality.
- Continue County programs regarding household hazardous waste collection, solid waste collection, scrap tire removal, and disposal of white goods.
- Participate in NC Clean 2000 program.

Future Programs-

- The nine jurisdictions effected by the Randleman Rules (High Point, Jamestown, Kernersville, Archdale, Randleman, Greensboro, Forsyth County, Guilford County and Randolph County) will explore the possibility of participating in a multi-jurisdictional intergovernmental agreement to meet the educational requirements of the Randleman Rules. The proposed intergovernmental agreement would allow the communities to financially contribute to the creation and dissemination of educational material that would educate the community about the effects of stormwater pollution on our limited water resources. The proposed intergovernmental agreement may identify the City of Greensboro Stormwater Management Division as the implementing agency for the Randleman Lake Stormwater Education Program. It is envisioned that over the next two years the Randleman Lake Stormwater Education Program will be developed by the participating communities and the intergovernmental agreements will follow. This education program is proposed to begin actively educating citizens approximately one year before the completion of the construction phase and the opening of the Randleman Lake.

- Update watershed protection, drainage, and floodplain development information bulletins. *(Anticipated completion date: By June, 2001)*
- Place quarterly information reports on County Web Page and newspapers. *(Anticipated completion date: Web page information began March, 2000 and process will be ongoing)*
- Participate in NCSU Water Quality Group Stormwater workshop for Upper Cape River Basin. *(Anticipated completion date: Completed June 8, 2000)*
- Distribute educational materials to school teachers and solicit their involvement in watershed program. *(Anticipated completion date: Program to begin one year prior to completion of dam)*
- Develop new educational brochures. *(Anticipated completion date: Program to begin one year prior to completion of dam)*

Identification and Removal of Illegal Discharges

Regulation: e) Identification and removal of illegal discharges;

Goal: To improve water quality through the identification and removal of illegal dischargers located in the Randleman Lake Watershed.

Action Items:

Existing Programs-

- Continue to coordinate with County Health Department regarding notification of hazardous waste spills and septic tank failures.
- Continue to inspect stormwater devices on an annual basis and include emphasis on illegal discharges.
- Continue regulation in Watershed Critical Area that above ground storage tanks have 100% spill containment and approval by the Planning Board is required for underground storage tanks holding fuel and chemicals.
- Continue regulation that prohibits certain land uses, involving petroleum products and fertilizer, septic tank cleaning in Watershed Critical Area.
- Continue prisoners roadside litter pickup program.
- Continue spill response program by County Health and Emergency Services
- Continue County Erosion control program to reduce construction sedimentation.
- Continue coordination with State Erosion control Program on County and State owned construction projects.
- Continue LUST (Leaking Underground Storage Tank) Program by County Health Department, which requires leak detection on new tanks and investigates reports of leaking tanks.
- Eliminate sewage treatment system discharges from Sumner School, Southern Elementary, Southern High School.

Future Programs-

- Based upon topographic maps and development plans, develop an outfall inventory map identifying drainage patterns and watershed protection devices. (*Anticipated completion date: Begin January, 2001 and to run through January, 2003*)
- Develop a procedure for staff to notify State and County officials to report illegal discharges. (*Anticipated completion date: By June, 2001*)
- Implement a hotline for public to report illegal discharges. (*Anticipated completion date: By completion of dam*)
- Develop informational brochure to advise public on illegal discharges. (*Anticipated completion date: To begin one year prior to completion of dam*)
- Draft and adopt an ordinance regulating illegal discharges. (*Anticipated completion date: By completion of dam*)
- Explore administrative/legal remedies to eliminate illegal discharges. (*Anticipated completion date: By completion of dam*)

- Identify sites that have illegal discharges and require the removal through enforcement action. (*Anticipated completion date: To begin with the completion of the dam and to be ongoing*)

Identification of Potential Stormwater Retrofit Locations

Regulation: f) Identification of suitable locations for potential stormwater retrofits (such as riparian areas) that could be funded by various sources.

Goal: To develop a process to identify and plan for stormwater retrofits in the Randleman Lake Watershed.

Action Items:

Existing Programs-

- Continue to enforce open space plan.
- Continue to support open space acquisition through Guilford County Open Space Report and with Citizens for the Preservation of Open Space.
- Continue past program for purchase or dedication of Watershed Critical Area Tier 1 & 2 lands.
- Implement construction of watershed protection devices for Guilford County school projects with Watershed Bond money.

Future Programs-

- Explore funding sources for stream restoration projects and wetland creation projects. (*Anticipated completion date: By completion of dam*)
- Coordinate with other jurisdictions and open space groups concerning the development of an inventory of possible stormwater retrofit sites. (*Anticipated completion date: By completion of dam*)