

**RESOLUTION RECEIVING REPORT ON CARRBORO'S LOCAL STORMWATER PROGRAM AS  
REQUIRED BY JORDAN LAKE NEW DEVELOPMENT STORMWATER RULE**

**Resolution No. 10/2011-12**

WHEREAS, the North Carolina General Assembly, Environmental Management Commission and Division of Water Quality have adopted and are implementing rules to limit nitrogen and phosphorus inputs to Jordan Lake, and

WHEREAS, these Rules adopted for Jordan Lake require local governments to develop and enforce local ordinances to limit phosphorus and nitrogen from new development, and

WHEREAS, the Town of Carrboro and its citizens have been leaders over the years in protecting the environment in water quality, land use regulation, stream buffer protection, open space preservation, and stormwater management, and

WHEREAS, the Environmental Management Commission and Division of Water Quality will be reviewing Carrboro's draft ordinance and program to manage phosphorus and nitrogen from new development;

**HEREBY BE IT RESOLVED BY THE CARRBORO BOARD OF ALDERMEN THAT**

The Board accepts the staff report "Report on Draft Local Stormwater Program Required under Jordan New Development Stormwater Rule, 15A NCAC 2B. 0265"

The resolution is effective upon adoption.



## TOWN OF CARRBORO

NORTH CAROLINA

**TRANSMITTAL                      PLANNING DEPARTMENT****DELIVERED VIA:** ☒ *HAND* ☐ *MAIL* ☐ *FAX* ☐ *EMAIL***To:**                    **Matt Efird, Interim Town Manager  
Mayor and Board of Aldermen****From:**                **Patricia McGuire, Planning Director  
Randy Dodd, Environmental Planner****Cc:**                    **Martin Roupe, Development Review Administrator  
Henry Wells, Sungate Engineering****Date:**                **September 2, 2011****Subject:**            **Local Stormwater Program and LUO Ordinance Provisions to Comply with  
New Development Requirements of Jordan Lake Rules****Background and Summary**

Town staff continue to be involved in activities related to implementation of state rules passed to restore Jordan Lake. The North Carolina Environmental Management Commission (EMC) and DWQ adopted regulations in 2009 (15A NCAC 02B.0262-.0273 and Session Laws 2009-216 and 2009-484) to reduce nitrogen and phosphorus inputs to Jordan Lake. The Town has adopted regulations pertaining to stream buffers and fertilizer applications as required by these rules; stormwater management requirements for new and existing development and other actions are pending. This report includes an update on required Town compliance activities for treating stormwater from new development.

**Information and Expected Timeline of Actions**

Jordan Lake was impounded in 1983 by damming the Haw River near its confluence with the Deep River. It was created to provide flood control, water supply, protection of water quality downstream, fish and wildlife conservation, and recreation. The lake has had water quality issues from the beginning, with the North Carolina Environmental Management Commission declaring it as nutrient-sensitive waters (NSW) the same year it was impounded. Since that time, Jordan Lake has consistently rated as eutrophic or hyper-eutrophic, with excessive levels of nutrients present. The Jordan Lake Rules were adopted in 2009 to reduce the amount of pollution entering the lake. Preservation and protection of the lake is essential not only for aquatic life protection but because the lake serves as a water supply for several communities, and recreation area for more than one million visitors each year. The rules were developed over several years through a process that involved extensive meetings, public hearings and negotiations between residents,

environmental groups, local and state government agencies and other stakeholders in the watershed. Specific issues addressed by the rules include reducing pollution from wastewater discharges, and establishes standards for stormwater runoff from new and existing development, agriculture and fertilizer application. Detailed information about the rules, including a history of the strategy as well as the dam construction and lake, an implementation timeline, rule-making archives, and a stakeholder project, is available at <http://www.jordanlake.org>.

The most active areas of focus for Town staff with regard to the Jordan rules currently are planning efforts to identify retrofit opportunities to comply with the Existing Development provisions of the rule, and the drafting of ordinance provisions to address new development requirements in the rules. Information regarding efforts to comply with Existing Development requirements were presented in a June 21, 2011 agenda item. With regard to new development requirements under the rules, a draft ordinance has been prepared. The major purpose of the ordinance is to require new development to comply with rule requirements to limit nitrogen and phosphorus in stormwater runoff from new development to 2.2 lbs/ac/yr and 0.8 lbs/ac/yr respectively. DWQ also requires the Town to demonstrate that a program is in place to implement and enforce the ordinance. The process for ordinance review is: 1) receive feedback from NC Division of Water Quality staff this fall/winter; 2) hold a public hearing; 3) finalize the ordinance for NC Environmental Commission final review and approval in 2012. A compliance activity and timeline is provided in Table 1 for

**Table 1: Jordan New Development Rule Provisions and Timeline**

<u>Provision/Activity</u>	<u>Notes</u>	<u>Compliance Date</u>
<b>Jordan Rules Stormwater Management for New Development (Session Law 2009-484; 15A NCAC 02B.0265)</b>	The Town is required to adopt stormwater program (including ordinance) for new development to reduce nitrogen and phosphorus (N= 2.2 lbs/ac/yr; P= 0.82 lbs/ac/yr). Model Ordinance has been released.*	
	Draft ordinance prepared	Summer, 2011
	Deadline for submittal of local stormwater programs/draft ordinance to DWQ	September, 2011
	Public hearing on new Land Use Ordinance provisions scheduled	Winter/spring, 2012
	DWQ to bring recommendations on all local programs to EMC for final approval	May, 2012

\* Public road projects undertaken by local governments deemed compliant if meet riparian buffer rule requirements

## **Carrboro's Local Stormwater Program to Comply with Jordan Lake Rules**

The Jordan New Development Stormwater Rule, 15A NCAC 2B. 0265, sets out standards that Carrboro is required to incorporate into its local stormwater program. This model local stormwater program identifies specific information that Carrboro needs to submit to the NC Environmental Management Commission (EMC) for approval. This program document is divided into three parts: 1) information that the Commission will approve, 2) appendices containing specific supporting information that will change over time, and 3) supplemental information that will aid the North Carolina Division of Water Quality's (DWQ) review of program submittals. This document is based on a model program document developed by DWQ and a companion document containing guidance written to assist local governments and developers.

### **Carrboro's Program Information for EMC Approval**

**Proposed adoption timeline and effective date** – Carrboro intends to comply with the rule timeline requirements for the submittal, review, and adoption and implementation of local programs provided in Section 1-D of the supplemental program guidance. This schedule specifies that, assuming EMC approval of local programs in May 2012, local program implementation would begin no later than August, 2012. Beginning August, 2013, and annually, the Town will submit annual progress reports to the EMC. This date coincides with the due date for Jordan Stage 1 Existing Development annual reports.

**Other Stormwater Programs** – The rule requires adherence to certain other state stormwater regulations. Carrboro has implemented a state approved water supply watershed program for University Lake for over 20 years, and is a designated Phase II NPDES community. The Town intends to continue to implement these regulatory programs.

**Statement of Riparian Buffer Ordinance Compliance** - One aspect of development application review required by the rule is ensuring protection of riparian buffers, as discussed in Chapter 2-C.3. Carrboro affirms that the Town will carry out the review process spelled out in Item (15)(e) of the buffer rule and quoted in Chapter 2-C.3 of the Model Program Guidance. This review process is spelled out in Part III of Article XVI of the Town's Land Use Ordinance.

**State and Federal Entities Implementation** – The Town's program will enforce the requirements of its ordinance on buildings constructed by the State, as the Town is authorized to do by G.S. § 160A-392. The Town has no authority to enforce its ordinance on State projects other than buildings (such as roads constructed by NCDOT) or federal projects. The Town has sought to (and will continue to seek to) work with UNC-Chapel Hill to the maximum extent possible, and will do the same with similar entities as appropriate.

**Area of Applicability** – Include description of planning jurisdiction, responsibility for program in ETJ, any inter-jurisdictional agreement. The Town enforces its Land Use Ordinance within its corporate limits and its extraterritorial planning jurisdiction as set forth in Chapter 122 of the Session Laws of 1963. Pursuant to a Joint Planning Agreement entered into November 2, 1987 by the Town of Carrboro, the Town of Chapel Hill, and Orange County, as authorized by Chapter 233 of the 1987 Session Laws, Orange County has adopted Carrboro's Land Use Ordinance for the Carrboro Joint Planning Transition Area, and Carrboro enforces the ordinance within this area. Thus, the area within which the Town enforces its LUO comprises the Town, its ETJ, and its Joint Planning Transition Area, as shown on the map included in the Appendix.

**Minimum Qualifications of Stormwater Administrator** - The minimum qualifications of the personnel who will be responsible for implementing the program, including stormwater plan review and BMP inspection, are outlined below.

Stormwater Plan Review will be performed by a qualified professional currently certified by the North Carolina Cooperative Extension Service with the Town's contract engineering firm, Sungate Design Group.

BMP inspection will be performed by a person currently certified by the North Carolina Cooperative Extension Service to inspect SMPs. This includes certified staff in the Town's Planning Department and Sungate Design Group.

The Town will only accept stormwater development plans from persons licensed in North Carolina, performing services in their area of competence.

**Maintenance/Inspection Program** – Carrboro's intent regarding a program for ensuring maintenance of BMPs as outlined in Section 2-D (BMP maintenance) of the Model Program Guidance document, includes:

- BMP Owners will perform inspection and reporting requirements. The Town intends to require owner maintenance and inspection and reporting for all BMPs, as spelled out in Section 15-263.1 of the Town's LUO and the Town's BMP maintenance agreement. BMP inspectors are required to be currently certified through the North Carolina Cooperative Extension Service certification program.
- Local government inspection and oversight program, including frequency of local government inspections: The Town intends to inspect each BMP permitted under Section 15-263 for compliance with the Jordan Lake rules annually. The Town has developed checklists for each type of BMP for use by inspectors, and an annual report form, as detailed below.
- Financial surety for long-term function: the Town intends to require owner demonstration of financial surety for long-term function as spelled out in LUO Section 15-263.1 and the Town's BMP maintenance agreement that is required as part of the issuance of a land use permit.
- Database of practices installed: A database of existing permitted BMPs is available and included in the Town's electronic submittal. New BMPs permitted under the revised ordinance will also be tracked in this database.

**Forms in Administrative Manual** – Provide a listing of forms to be used in the permitting and compliance process.

Permitting Forms

Land Use Permit Application (Conditional Use, Special Use)

Sample Permit

Permit Application Checklist

Stormwater Review Checklist

Maintenance and Inspection Forms

Stormwater Structural BMP Operation and Maintenance Agreement  
BMP Annual Report Form

Inspection Checklists

Bioretention Maintenance Inspection Checklist  
Cistern Maintenance Inspection Checklist  
Dry Detention (above ground) Maintenance Inspection Checklist  
Dry Detention (below ground) Maintenance Inspection Checklist  
Infiltration Basin Maintenance Inspection Checklist  
Level Spreader Maintenance Inspection Checklist  
Proprietary Device Maintenance Inspection Checklist  
Sand Filter Maintenance Inspection Checklist  
Stormwater Wetland Maintenance Inspection Checklist  
Vegetated Swale Maintenance Inspection Checklist  
Wet Detention Maintenance Inspection Checklist

Maintenance Schedules

Bioretention Maintenance Schedule  
Cistern Maintenance Schedule  
Dry Detention (above ground) Maintenance Schedule  
Dry Detention (below ground) Maintenance Schedule  
Infiltration Basin Maintenance Schedule  
Level Spreader Maintenance Schedule  
Proprietary Device Maintenance Schedule  
Sand Filter Maintenance Schedule  
Stormwater Wetland Maintenance Schedule  
Vegetated Swale Maintenance Schedule  
Wet Detention Maintenance Schedule

**Ordinance** – Provide all sections of ordinance that will be necessary to implement the rule. This should include all subject areas covered by the model ordinance. Town response: proposed ordinance changes are provided in draft ordinance. See Appendix under “Ordinance Changes” for description of the changes.

**Nutrient Loading Accounting Tool** – The Town will use the Jordan/Falls Nutrient Load Accounting Tool provided in Appendix O of the Model Program Guidance for accounting for nutrient loading and BMP implementation to meet rule requirements.

### Appendix of Supporting Information

This appendix contains detailed supporting information that will be updated periodically. Future revisions to this information will not require EMC or DWQ Director approval.

#### Program Contacts and Professional Qualifications –

<b>Name</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>	<b>Qualifications</b>
Henry Wells	Sungate Design	919 859-2243	hwells@sungatedesign.com	PE; NCCES certified for plan review & maintenance & inspections
Charlie Musser	Sungate Design	919 859-2243	cmusser@sungatedesign.com	LA; NCCES certified for plan review & maintenance & inspections
Will Hines	Sungate Design	919 859-2243	whines@sungatedesign.com	PE; NCCES certified for plan review & maintenance & inspections
Bill Hamilton	Sungate Design	919 859-2243	bhamilton@sungatedesign.com	LA; NCCES certified for plan review & maintenance & inspections
Randy Dodd	Carrboro Planning	919 918-7326	rdodd@townofcarrboro.org	NCCES certified for plan review & maintenance & inspections
Mike Canova	Carrboro Inspections	919 918-7337	mcanova@townofcarrboro.org	NCCES certified for maintenance & inspections

**Stormwater Map** – Carrboro has an interactive online Zoning Map available at <http://gis01.ci.carrboro.nc.us/Zoning/index.html> that satisfies the above requirements. All of Carrboro's jurisdiction is well within the Jordan watershed boundaries, so these boundaries are not included.

**Forms** –Forms listed above under “Forms in Administrative Manual” will be attached to the submittal to the State.

#### Supplemental Information

Local governments are asked to provide the following supplemental information to aid the Division's review:

**Program Approval** – A report on the Town's draft local stormwater program and ordinance amendments needed to comply with the New Development provisions was provided to the Board of Aldermen on September 6. Once staff has received comments and further directions from staff of the NC DWQ, program and ordinance documents will be revised and scheduled for consideration and, as needed, action by Town advisory boards and the Board of Aldermen.

**Ordinance Changes** –The Town proposes to modify Sections 15-263 and 15-92 of the Carrboro Land Use Ordinance to comply with the New Development Rules. Section 15-263 deals with the Management of Stormwater, and Section 15-92 deals with Variances. Because the Carrboro Land Use Ordinance is a “unified development ordinance,” consolidating all local development requirements into a single ordinance, most of the provisions of the Model Ordinance are not necessary for Carrboro to implement the requirements of the New Development Rules. Administration and enforcement of the substantive requirements of the New Development Rules will occur in the same manner as other substantive requirements are administered and enforced.

**Land use planning** – State whether you have conducted a review of local ordinances to identify potential modifications that would 1) reflect improved growth management practices 2) allow developers adequate flexibility to utilize planning measures to reduce impervious surfaces and 3) reduce untreated nutrient loading rates from developments as discussed in Chapter 2-E - Land Use Planning. If such a review has been conducted, please provide a summary of your findings and any actions taken. Carrboro’s response: Review and consideration of Town ordinance provisions to identify potential modifications that would result in improved growth management practices, flexibility for development and impervious surface reduction is regular and ongoing. Examples from recent years include: establishment of stormwater quality requirements and particularly a goal (now standard) of 85 percent TSS removal (1999); alternative street standards/LID (2003); nutrient loads and other site design elements for day care uses within village mixed use developments (2009); water quality enhancements, energy efficiency, rainwater harvesting and other site and building elements in B-1(g)-CZ developments (draft 2011).

**Appeals Process** – While not strictly speaking an “appeal,” the Carrboro LUO does provide a process whereby a party who believes that the application of the provisions of Section 15-263 (which implement the substantive requirements of the New Development Rules) has prevented all reasonable use of his or her property may seek a variance from such requirements. See LUO Section 15-92. Persons who contend that, in issuing or denying a zoning permit, the Zoning Administrator has erroneously applied the stormwater requirements set forth in proposed Section 15-263 of the Land Use Ordinance may appeal the administrator’s decision to the board of adjustment (LUO Section 15-91) and from there to the Superior Court (LUO Section 15-116). If the alleged error is made in the context of a Special Use Permit issued or denied by the Board of Adjustment or a Conditional Use Permit issued or denied by the Board of Aldermen an appeal may be taken to the Superior Court as provided in LUO Section 15-116 and G.S. 160A-393.

**Exceeding Minimum Requirements** –Identify significant aspects of your proposed local program that go beyond the minimum requirements established in the rule, potentially including any of the following:

- New Development Definition
- Disturbance thresholds
- Loading rate targets
- Off-site thresholds
- If your jurisdiction is partly outside the Jordan watershed, whether you propose to apply the rule jurisdiction-wide
- Redevelopment - require treatment on redevelopment that does not increase built-upon area?

Carrboro Response: The Carrboro LUO is more stringent than is required by the Rules in that the LUO generally has a lower threshold for the applicability of the stormwater treatment provisions. Under the Rules, a development only becomes subject to the treatment requirements if it results in some increase in

built-upon area and involves the disturbance of at least one acre of land for single family and duplex residences and one-half acre for other types of development. Thus, a house or commercial development that completely covers a 15,000 square foot lot with impervious surface would not have to treat its stormwater. In contrast, the stormwater management requirements of the Carrboro LUO apply to any type of development that adds to the site more than 5,000 square feet of impervious surface. In addition, the Rules allow redevelopment without stormwater treatment of structures that existed as of December, 2001 so long as no additional impervious surface is created. The LUO applies the stormwater provisions to lots that have previously been developed in commercial or manufacturing districts, even if no additional impervious surface is created, so long as (i) such lots already contain at least 10,000 square feet of impervious surface, and (ii) the development of such lots exceeds the greater of the value of the improvements or \$100,000. Finally, to ensure that the LUO is always at least as restrictive as the Rules, Subsection 15-263(a)(8) provides that the stormwater treatment requirements of Section 15-263 apply to any situation in which a proposed new development disturbs one acre or more for single family and duplex residential property and recreational facilities, and one-half acre for commercial, industrial, institutional, multifamily residential, or local government property.

**Permitting Process** – Information about Carrboro's permitting process is available at <http://www.townofcarrboro.org/pzi/tocdevguide.htm>.

AN ORDINANCE AMENDING THE CARRBORO LAND USE ORDINANCE TO BRING  
THE ORDINANCE INTO COMPLIANCE WITH THE JORDAN RULES RELATING TO  
NEW DEVELOPMENT

THE BOARD OF ALDERMEN OF THE TOWN OF CARRBORO ORDAINS:

Section 1. Section 15-263 of the Carrboro Land Use Ordinance, entitled "Management of Stormwater," is amended to read as follows:

(a) The requirements of this section shall apply to developments to the extent provided in this subsection.

- (1) For purposes of this subsection, "impervious surface" means that portion of the development of a lot or tract that is covered by a surface or material that substantially or completely prevents rainwater from reaching and being absorbed into the underlying soil. Impervious surfaces include but are not limited to streets, driveways, sidewalks, parking lots, buildings, and other roofed, paved, or graveled areas. Wooden slatted decks and the water area of swimming pools are considered pervious, as are detention ponds and other ponds.
- (2) For purposes of this subsection, "net addition of impervious surface" shall be determined by subtracting the total square footage of impervious surface prior to commencement of construction authorized by a development permit from the total square footage of impervious that is proposed to be located on the development site when all construction authorized by the development permit (including all phases thereof) is completed. If the permit issuing authority reasonably concludes that a permit applicant is seeking or has sought separate permits (simultaneously or sequentially) for different components of what is demonstrably intended to be a single development in an attempt to stay below the impervious surface threshold that triggers the requirements set forth in this section, then the permit issuing authority shall treat such multiple applications as a single application for purposes of determining whether the requirements of this section are applicable.
- (3) All unsubdivided developments that involve a net addition of more than 5,000 square feet of impervious surface shall be subject to the requirements of this section, except that these requirements shall not apply if the total of the net addition of impervious surface area plus the previously existing impervious surface area on the lot does not exceed (i) six percent (6%) of the lot area within a B-5 or WM-3 zoning district, or (ii) for lots in all other zoning districts, the amount of impervious surface area permissible on lots within the C or WR zoning districts under subsection 15-266(b) of this part.
- (4) When land is subdivided, and the permit authorizing the subdivision does not itself authorize the net addition of more than 5,000 square feet of impervious surface to the tract to be subdivided, then the requirements of this section shall not be applicable to the subdivision. The applicability of the requirements of this

section to each of the individual lots so created shall then be determined as development permits are issued for each such lot.

- (5) When land is subdivided, and the permit authorizing the subdivision itself authorizes the net addition of more than 5,000 square feet of impervious surface to the tract to be subdivided (regardless of whether such impervious surface consists of a road or other facilities external to the lots so created, or buildings, parking lots, and other facilities constructed within the lots so created, or a combination of the two), then the subdivision shall comply with the requirements of this section. Furthermore, the stormwater management system that is installed to comply with the provisions of this section shall be required to take into account all the stormwater reasonably expected to be generated by the development (according to generally accepted engineering standards) when all subdivided lots five acres or less in size are fully developed. When such lots are subsequently developed, they shall be exempt from further review under the provisions of this section. However, any lot within such subdivision that is greater than five acres in size and that was not included in the stormwater calculations for purposes of designing a stormwater management system that satisfies the requirements of this section shall be required to comply with the requirements of this section at the time such lot is developed, if and to the extent required to do so under subsection (a)(3) of this section.
- (6) Notwithstanding the other provisions of this subsection, if (i) a lot is within a commercial district described in Section 15-136 or a manufacturing district described in 15-137, (ii) on the date that a development permit application is submitted and the fees paid the lot is already developed to the extent that the lot contains at least 10,000 square feet of impervious surface area, and (iii) the reasonably estimated cost of the redevelopment of the lot as proposed in the development permit application exceeds the greater of \$100,000, or fifty percent (50%) of the appraised value of the existing improvements on the lot, then the requirements of this section shall be applicable to such redevelopment. For purposes of this subdivision (a)(6), the terms "cost" and "appraised value" shall have the same meaning as provided in Subsection 15-125(c) of this chapter.
- (7) Notwithstanding the other provisions of this subsection, the requirements of this section shall apply to any development involving the reconstruction of a previously paved area comprising at least 10,000 square feet (repaving or resurfacing shall not be considered reconstruction).
- (8) Notwithstanding the other provisions of this subsection, the requirements of this section shall apply to all proposed new development disturbing one acre or more for single family and duplex residential property and recreational facilities, and one-half acre for commercial, industrial, institutional, multifamily residential, or local government property. For purposes of this subsection (a)(8) only:
  - a. Development means any land disturbing activity which adds to or changes the amount of impervious or partially impervious cover on a

land area or which otherwise decreases the infiltration of precipitation into the soil.

- b. New development means any development project that does not meet the definition of existing development set forth immediately below.
- c. Existing development means development, other than that associated with agricultural or forest management activities, that meets one of the following criteria: (i) it either is built or has established a vested right based on statutory or common law grounds as of the effective date of this section, or, for projects requiring a state permit, as of the applicable compliance date established in 15A NCAC 2B .0271(5) and (6); or (ii) it occurs after the effective date of this section but does not result in a net increase in impervious surface area.
- d. Land disturbing activity means any use of the land that results in a change in the natural cover or topography that may cause or contribute to sedimentation.

(b) Developments must install and maintain stormwater management systems that will control and treat runoff from the first one inch of rain as follows:

- (1) Draw down the treatment volume in accordance with the requirements of the North Carolina Division of Water Quality Best Management Practices (NC DWQ BMP) Manual.
- (2) Achieve an eighty-five percent (85%) average annual removal rate for Total Suspended Solids.

(c) Subject to subsections (d) and (f), developments must install and maintain stormwater management systems that ensure that the nutrient load contributed by the development is limited to not more than 2.2 pounds per acre per year of nitrogen and 0.82 pounds per acre per year of phosphorus.

(d) Subject to subsection (f), developments that (i) would otherwise be required under subsection (a) to comply with the stormwater treatment standards set forth in subsection (c), and (ii) involve the replacement or expansion of existing structures or improvements, shall have the option of either satisfying the requirements of subsection (c) of this section or achieving a thirty-five percent (35%) nitrogen and five percent (5%) phosphorous reduction in the loading rates for these nutrients when comparing the situation that exists on the date a completed application is submitted to the post redevelopment situation for the entire project site.

(e) The need for engineered stormwater controls to meet the nutrient loading rate standards set forth in subsections (c) and (d) shall be determined by using the loading calculation methods and other standards established by the Division of Water Quality as set forth in Sub-Item (4)(a) of 15A NCAC 2B.0265, including the current version of the Stormwater Best Management Practices Manual published by the Division.

(f) Developers shall have the option of offsetting part of their nitrogen and phosphorus loads by implementing or funding offsite management measures as follows:

- (1) Before using offsite offset options, a development shall attain a maximum nitrogen loading rate on-site of six pounds per acre per year for single-family detached and duplex residential development and ten pounds per acre per year for other development, including multi-family residential, commercial and industrial, and shall meet any requirement for engineered stormwater controls required by this Article..
- (2) Offsite offsetting measures shall achieve at least equivalent reductions in nitrogen and phosphorus loading to the remaining reduction needed onsite to comply with the loading rate standards set forth in subsection (c) of this section.
- (3) A developer may make offset payments to the N.C. Ecosystem Enhancement Program contingent upon acceptance of payments by that Program. A developer may use an offset option provided by the Town of Carrboro, or may propose other offset measures including providing the developer's own offsite offset or utilizing a private seller. All offset measures shall meet the requirements of 15A NCAC 02B.0273(2) through (4) and 15A NCAC 02B.0240.

(g) Developments shall be constructed and maintained so that their stormwater management systems meet the following minimum standards:

(1) The post-development discharge rates shall be less than or equal to the pre-development discharge rates for the 1-, 2-, 5-, 10-, and 25-year 24-hour design storms.

(2) For upstream properties, the 1% chance flood elevation may not be increased.

(h) The presumption established by this section is that, to satisfy the standards set forth herein, the applicant shall design and construct all stormwater management systems required by this section in accordance with the guidelines set forth in the Town of Carrboro Storm Drainage Design Manual (Appendix I to this chapter). However, the permit issuing authority may establish different requirements when it concludes, based upon (i) the information it receives in the consideration of the specific development proposal, and (ii) the recommendations of the public works director or the town engineer, that such deviations from the presumptive guidelines are necessary to satisfy the standards set forth in this section, or that the standards can still be met with such deviations and the deviations are otherwise warranted.

(i) Approval by the town of an applicant's stormwater management plans, and construction by the applicant of the stormwater management systems as shown in such plans, shall not relieve the applicant of the responsibility of complying with the standards set forth in this section. If at any time prior to two years following the issuance of a certificate of occupancy, for an unsubdivided development, or the approval of a final plat, for a subdivision, the town determines that the stormwater management systems planned to be installed or actually installed to meet the requirements of this section do not achieve that objective, the town may require the submission of revised plans and the installation of new, altered, or additional facilities to bring the development into compliance. Prior to issuance of a certificate of occupancy or approval of a final plat, the town may

require the applicant to post a performance bond or other sufficient surety to guarantee compliance with this section.

(j) Upon completion of construction of the stormwater management facilities, the permit recipient shall submit to the town "as built" plans for all such facilities in the form required by the town. Compliance with this requirement must occur prior to issuance of a certificate of occupancy, or prior to final plat approval (if applicable), unless adequate security is otherwise provided in accordance with the provisions of Sections 15-53 or 15-60.

(k) Proposed new development undertaken by the Town solely as a public road project shall be deemed compliant with the provisions of this section if it meets the buffer protection requirements of Part III of this Article. All other developments shall comply with both the requirements of this section and the provisions of Part III of this Article.

(l) Variances from the provisions of this section may only be granted in accordance with the requirements of Section 15-92, including subsection (l) of that section.

Section 2. Section 15-92 of the Land Use Ordinance is amended by adding a new subsection (l) to read as follows:

(l) If the board votes to grant a major variance from the provisions of Section 15-263, the board shall then prepare a preliminary record of the hearing and submit it to the Environmental Management Commission for review and approval. If the Commission approves the major variance or approves with conditions or stipulations added, then the Commission shall prepare a Commission decision which authorizes the board to issue a final decision which would include any conditions or stipulations added by the Commission. If the Commission denies the major variance, then the Commission shall prepare a Commission decision to be sent to the board. The board shall prepare a final decision denying the major variance. For all proposed major and minor variances from the provisions of Section 15-263, the town shall notify and allow a reasonable comment period for all other local governments having jurisdiction within the Jordan Lake Watershed Area and any local governments using Jordan Lake as a water supply for consumption. Appeals from a board decision on a major or minor variance request are made on certiorari to the local Superior Court. Appeals from the Commission decision on a major variance request are made on judicial review to Superior Court. For purposes of this subsection, a major variance is one that authorizes a relaxation by more than five percent of any requirement set forth in Section 15-263.

Section 3. Article XI of the Carrboro Land Use Ordinance is amended by adding Section 15-179.1 to read as follows (the substance of this section is transferred from pre-existing Subsection 15-263(b)(3)):

**Section 15-279.1 Day Care Uses Within Village Mixed Use Developments.**

All 22.000 (Day Care) uses that are located within the single family residential use areas of a village mixed use development shall install and maintain site development and/or building features to ensure that the environmental impact, including but not limited to storm water volume, nutrient loading, water use or greenhouse gas emissions, contributed by the development activity is managed

and/or reduced through a combination of features and practices that will result in an overall reduction in environmental impact from that which otherwise could reasonably be expected to occur in association with development of the 22.000 use. Specific performance measures that will be evaluated to determine whether the intent of this subsection has been met are as follows:

- (1) Open space, if practicable, is dedicated to either the homeowners association or the town, and
- (2) Storm water best management practices (BMPs) and associated grading and stabilization occur outside any primary conservation areas, and all runoff from the BMPs is discharged in a diffuse manner that insures that erosional rills will not be created as runoff enters and flows through conservation areas; and
- (3) Roof drainage is captured in sufficient quantity and in appropriately sized and sited devices to provide at a minimum for all on-site plantings, including but not be limited to screenings, vehicle accommodation areas, foundation plantings, garden beds, trees, shrubs, flowers, groundcover, and turf, and
- (4) Nutrient loads requirements ~~contributed by the daycare development are limited to 2.2 pounds per acre per year of nitrogen loading, and .82 pounds per acre per year of phosphorous loading. Such loads~~ may be met either (i) by storm water management structures or devices on the development site itself and/or (ii) the retrofitting of existing or construction of new BMPs elsewhere in the VMU development, and
- (5) Educational materials including, but not limited to on-site signage, brochures, and web postings on stormwater management practices are prepared and/or installed, and
- (6) Low Impact Development techniques are used to the extent practicable

Section 4. All provisions of any town ordinance in conflict with this ordinance are repealed.

Section 5. This ordinance shall become effective when it is adopted by the Carrboro Board of Aldermen and approved by the Environmental Management Commission s provided in 15A NCAC 2B.0265.