



## TOWN OF SPRING LAKE STORMWATER LOW DENSITY SUPPLEMENT FORM

A low density project is one that meets the appropriate criteria for built upon area and transports stormwater runoff primarily through vegetated conveyances. Low density projects should not have a discrete stormwater collection system as defined by 15A NCAC 2H .1002(18). Low density requirements and density factors can be found in, 15A NCAC 2H .1000, Session Law 2006-246 and the State of North Carolina Stormwater Design Manual. Curb and gutter systems are allowed provided they meet the requirements in 15A NCAC 2H .1008(g).

### I. PROJECT INFORMATION

Project Name:		
Contact Person		Phone
Number of Lots	Allowable Built Upon Area Per Lot	
Number of Dwelling Units Per Acre		
Low Density Development (check one): <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <input type="checkbox"/> Without Curb and Gutter         </div> <div style="text-align: center;"> <input type="checkbox"/> With Curb and Gutter - Outlet to Swale         </div> <div style="text-align: center;"> <input type="checkbox"/> With Curb and Gutter – Outlet to Vegetated Area         </div> </div>		

**\*If lot sizes are not uniform, attach a table indicating the number of lots, lot sizes and allowable built upon area for each lot. The attachment must include the project name, phase, page numbers and provide area subtotals and totals. BUA shall be shown in units of square feet.**

**\*\*(Phase II Post-Construction [non-SA] only)**

### II. BUILT UPON AREA

Refer to the Town of Spring Lake's forms and applications website for specific language that must be recorded in the deed restrictions for all subdivided projects. (<http://www.townofspringlake.com/documents.html>)

Total Project Area (sqft)*	
Existing Impervious Surface (sqft)	
Proposed Impervious Surface (sqft)	
Percentage of Total Impervious Surface (sqft)**	
*If total project area is less than half an acre the project is exempt from stormwater permit requirements per 15A NCAC 02H.1020 **If Percentage is 24% or greater the project will be classified as high density development and additional requirements will be applied.	

### III. DESIGN INFORMATION

Complete the following table. If additional space is needed the information should be provided in the same format as Table 1 and attached to this form.

Rainfall intensity data can be found in Appendix 8.03 of the State of North Carolina Erosion and Sediment Control Planning and Design Manual or at <http://hdsc.nws.noaa.gov/hdsc/pfds/>

Table 1. Swale design information based on the **10-year storm**.

Swale No.	Drainage Area (ac)	Impervious Area (ac)	Grassed Area (ac)	C	Q (cfs)	Slope (%)	V <sub>allow</sub> (fps)	V <sub>actual</sub> (fps)	Flow Depth (ft)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

### IV. REQUIRED ITEMS CHECKLIST

The following checklist outlines design requirements per the North Carolina Administrative Code Section 15A NCAC 2H .1000, NCDENR BMP Manual (2007), Session Law 2006-246, and Session Law 2008-211.

Please indicate the page or plan sheet numbers where the supporting documentation can be found. **An incomplete submittal package will result in a request for additional information. This will delay final review and approval of the project.** Initial in the space provided to indicate that the following requirements have been met and supporting documentation is provided as necessary. If the applicant has designated an agent on the Stormwater Management Permit Application Form, the agent may initial below. **If any item is not met, then justification must be attached.** *Only complete items n through p for projects with curb outlets.*

Initials Sheet No.

- \_\_\_\_\_ a. For HQW or ORW projects outside the 20 coastal counties: A 30 foot wide vegetative buffer is provided adjacent to surface waters.
- \_\_\_\_\_ b. For Phase II Post-Construction projects: All built upon area is located at least 30 feet landward of all perennial and intermittent surface waters.
- \_\_\_\_\_ c. Deed restriction language as required shall be recorded as a restrictive covenant. A copy of the recorded document shall be provided to the Town of Spring Lake within 30 days of platting and prior to the sale of any lots.
- \_\_\_\_\_ d. Built upon area calculations are provided for the overall project and all lots.
- \_\_\_\_\_ e. Project conforms to low density requirements within the ORW AEC. (if applicable per 15A NCAC 2H .1007)
- \_\_\_\_\_ f. Side slopes of swales are no steeper than 3:1; *or no steeper than 5:1 for curb outlet swales.*
- \_\_\_\_\_ g. Longitudinal slope of swales is no greater than 5%; *for non-curb outlet projects*, calculations for shear stress and velocity are provided if slope is greater than 5%.
- \_\_\_\_\_ h. At a minimum, swales are designed to carry the 10 year storm velocity at a non-erosive rate.
- \_\_\_\_\_ i. Swales discharging to wetlands are designed to flow into and through the wetlands at a non-erosive velocity (for this flow requirement into wetlands, non-erosive is velocity  $\leq 2$  ft/s).
- \_\_\_\_\_ j. Swale detail and permanent vegetation is specified on the plans.
- \_\_\_\_\_ k. Swale detail provided on plans; includes grass type(s) for permanent vegetative cover.
- \_\_\_\_\_ l. Swales are located in recorded drainage easements.
- \_\_\_\_\_ m.<sup>†</sup> Length of swale or vegetated area is at least 100 feet for each curb outlet.
- \_\_\_\_\_ n.<sup>†</sup> The system takes into account the run-off at ultimate built-out potential from all surfaces draining to the system (delineate drainage area for each swale).
- \_\_\_\_\_ o.<sup>†</sup> Curb outlets direct flow to a swale or vegetated area.

<sup>†</sup> Only complete these items for projects with curb outlets.

## V. SWALE SYSTEM MAINTENANCE REQUIREMENTS

1. Mowing will be accomplished as needed according to the season. Grass height will not exceed six inches at any time; and grass will not be mowed too close to the ground or “scalped”.
2. Swales will be inspected monthly or after every runoff producing rainfall event for sediment build-up, erosion, and trash accumulation.

3. Accumulated sediment and trash will be removed as necessary. Swales will be reseeded or sodded following sediment removal.
4. Eroded areas of the swales will be repaired and reseeded. Swales will be revegetated as needed and in a timely manner based on the monthly inspections. Side slopes must be maintained at the permitted slope.
5. Catch basins, curb cuts, velocity reduction devices, and piping will be inspected monthly or after every significant runoff producing rainfall event. Trash and debris will be cleared away from grates, curb cuts, velocity reduction devices and piping.
6. Swales will not be altered, piped, or filled in without approval from the Town of Spring Lake Stormwater Division.

I acknowledge and agree by my signature below that I am responsible for the performance of the six maintenance procedures listed above. I agree to notify the Town of Spring Lake of any problems with the system or prior to any changes to the system or responsible party.

Print Name and Title: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Note:** *The legally responsible party should not be a homeowners association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.*

I, \_\_\_\_\_, a Notary Public for the State of \_\_\_\_\_, County of \_\_\_\_\_, do hereby certify that \_\_\_\_\_ personally appeared before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and acknowledge the due execution of the forgoing swale maintenance requirements. Witness my hand and official seal,

\_\_\_\_\_

Notary signature

SEAL

My commission expires \_\_\_\_\_