

# TREATMENT SWALE SCM DESIGN CHECKLIST

**Stormwater Management Division  
c/o Development Services Department**

One Exchange Plaza, 4<sup>th</sup> Floor  
Raleigh, NC 27601  
Telephone (919) 996-3773

## I. PROJECT INFORMATION

Project Name: \_\_\_\_\_ Phase: \_\_\_\_\_  
 Project Address: \_\_\_\_\_ Disturbed Area (sf): \_\_\_\_\_  
 PIN: \_\_\_\_\_ Case #: \_\_\_\_\_ Submittal Date: \_\_\_\_\_  
 Previous Permit numbers (if applicable): \_\_\_\_\_  
 Zoning District: \_\_\_\_\_  
 Legal Name of Owner: \_\_\_\_\_  
 Owner Contact: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Owner Address: \_\_\_\_\_  
 Design Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Design Contact Email: \_\_\_\_\_  
 The regulatory drainage basin in which the site is located: \_\_\_\_\_  
 The water supply watershed in which the site is located: \_\_\_\_\_

Function of Facility [check all that apply]:	
<input type="checkbox"/>	Nutrient (Total Nitrogen) Reduction
<input type="checkbox"/>	Green Stormwater Infrastructure
<input type="checkbox"/>	TSS Reduction
<input type="checkbox"/>	Peak Flow Rate Attenuation
<input type="checkbox"/>	<input type="checkbox"/> 1-Year event
<input type="checkbox"/>	<input type="checkbox"/> 10-Year event
<input type="checkbox"/>	<input type="checkbox"/> 100-Year event
<input type="checkbox"/>	<input type="checkbox"/> Other [ _____ ]
<input type="checkbox"/>	<input type="checkbox"/> Other [ _____ ]

## TREATMENT SWALE SCM DESIGN CHECKLIST

- II. **SUBMITTAL REQUIREMENTS** - See COR Stormwater Management Design Manual Chapter 5 for additional guidance. This completed checklist shall be submitted to the City of Raleigh with any proposed Treatment Swale. All files shall also be submitted electronically via CD or flash drive.

Routed flows and water surface elevations (WSE) at SCM [as applicable]:			
Storm Event	Inflow	Outflow	WSE
1-Year			
10-Year			
100-Year			
____-Year			
Peak flow rates at immediate point of analysis to which the SCM drains:			
Condition	1-year	10-year	____-year
Pre-development			
Post-development			

General Design Criteria	
<input type="checkbox"/>	<b>Sizing:</b> The design volume of the SCM accounts for the runoff at full build-out from all surfaces draining to it (calculations provided in Stormwater Development Analysis).
<input type="checkbox"/>	Design Storm Volume:                      cf
<input type="checkbox"/>	<b>Freeboard:</b> Minimum 0.5 ft freeboard required for 10-year storm.
<input type="checkbox"/>	Freeboard provided:                      ft
<input type="checkbox"/>	<b>Dewatering:</b> SCM has a method to draw down any standing water to facilitate maintenance and inspection.
<input type="checkbox"/>	<b>Clean Out After Construction:</b> SCM impacted by sedimentation and erosion control during the construction phase shall be cleaned out and converted to its approved design state.
<input type="checkbox"/>	<b>Maintenance Access:</b> SCM has been provided with adequate access per City standards.
<input type="checkbox"/>	<b>Easements (except for SCMs located on single family residential lots):</b> Includes maintenance access, entire SCM footprint, and an additional 10 ft or more around the SCM.
<input type="checkbox"/>	<b>Single Family Residential Lots:</b> Plats for residential lots that contain an SCM shall include the location of SCM, typical detail of SCM, and note that the SCM on the property is required to meet stormwater regulations and that the property owner may be subject to enforcement actions if the SCM is removed, relocated, or altered without prior approval.

## TREATMENT SWALE SCM DESIGN CHECKLIST

<input type="checkbox"/>	<b>Operation and Maintenance (O&amp;M) Agreement.</b>
<input type="checkbox"/>	<b>Operation and Maintenance (O&amp;M) Plan.</b>
<input type="checkbox"/>	<i>Operation and Maintenance (O&amp;M) Manual Submittal Checklist.</i>

Specific Treatment Swale Design Criteria	
<input type="checkbox"/>	<b>Swale Shape:</b> The swale is trapezoidal with a maximum bottom width of 6 feet.
<input type="checkbox"/>	Bottom Width: _____ ft
<input type="checkbox"/>	<b>Side Slopes:</b> The side slopes have been designed with a 3H:1V maximum slope.
<input type="checkbox"/>	<b>Slope and Length:</b> The swale has been designed to achieve a flow depth of 6 inches or less during the 0.75 inch per hour storm with a minimum hydraulic retention time of 4 minutes. The longitudinal slope shall not exceed 7%.
<input type="checkbox"/>	Flow Depth: _____ in
<input type="checkbox"/>	Longitudinal Slope: _____ %
<input type="checkbox"/>	<b>Conveyance:</b> The swale has been designed to non-erosively pass the 10-year storm.
<input type="checkbox"/>	<b>Seasonal High Water Table:</b> The depth to the Seasonal High Water Table (SHWT) is at least 1 foot.
<input type="checkbox"/>	<b>Inundation Mapping:</b> The 100-year storm water surface elevation is shown on the plans.
<input type="checkbox"/>	<b>Grass Specification:</b> The grass species has been specified to be non-clumping, deep-rooted, managed at an average of 6 inches (not to be cut lower than 4 inches), and able to withstand a velocity of 4 feet per second.
<input type="checkbox"/>	Grass Species: _____

The SCM Plan Submittal shall also include the following elements:	
<input type="checkbox"/>	A plan view of the SCM, with grading and appropriate critical spot shots, has been provided.
<input type="checkbox"/>	A profile (showing all relevant component elevations and WSEs) through the riser, dam, and outlet structure/outfall has been provided.
<input type="checkbox"/>	Details of other required SCM elements have been provided.
<input type="checkbox"/>	All supporting design calculations (including all applicable site design calculations and drainage area exhibits) have been provided.

## TREATMENT SWALE SCM DESIGN CHECKLIST

### III. PROFESSIONAL CERTIFICATION

Name: \_\_\_\_\_

Contact Email: \_\_\_\_\_

Contact Phone Number: \_\_\_\_\_

Professional Seal:



FOR REVIEW ONLY