

# WET POND SCM DESIGN CHECKLIST

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

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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"/>	1-Year event
<input type="checkbox"/>	10-Year event
<input type="checkbox"/>	100-Year event
<input type="checkbox"/>	Other [_____]
<input type="checkbox"/>	Other [_____]

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- 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 Wet Pond. 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>Side Slopes of SCM:</b> Vegetated side slopes are no steeper than 3:1.
<input type="checkbox"/>	<b>Excess Flows:</b> SCM includes an overflow/bypass device for inflow volumes in excess of treatment volume or, if applicable, peak attenuation volume (calculations provided in Stormwater Development Analysis).
<input type="checkbox"/>	Description of Overflow/Bypass: _____
<input type="checkbox"/>	Emergency Outlet Elevation: _____ ft
<input type="checkbox"/>	Emergency Spillway Width: _____ ft
<input type="checkbox"/>	Emergency Spillway Side Slopes: _____ : 1
<input type="checkbox"/>	Emergency Spillway Slope: _____ %
<input type="checkbox"/>	Depth of Flow: _____ in

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<input type="checkbox"/>	<b>Freeboard:</b> Minimum 0.5 ft freeboard required for 100-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.
<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>
<input type="checkbox"/>	<b>Dam Embankment:</b> The dam top width is at least 10-ft with face slopes no steeper than 3:1. Material, compaction, and other appropriate geotechnical specifications for the construction of the dam embankment have been provided. Appropriate permanent turf grass stabilization has been specified for the entire dam.  Note: Trees, shrubs, and clumping grass are prohibited on <b>ALL</b> dams.
<input type="checkbox"/>	<b>Principal Spillway:</b> Riser and principal spillway pipe is reinforced concrete.
<input type="checkbox"/>	Appropriate seepage control elements have been provided.
<input type="checkbox"/>	A surface baffle, trash rack, or similar device has been specified for the riser top and intakes (as applicable).
<input type="checkbox"/>	Anti-floatation calculations and details have been included with the design of the riser structure.
<input type="checkbox"/>	<b>Erosion Protection:</b> The SCM inlets and outlet have been designed to protect areas downstream of the discharge points from erosion resulting from peak flows for the 10-year storm event.

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Specific Wet Pond Design Criteria	
<input type="checkbox"/>	<b>Design Sizing:</b> The main pool surface area and volume of the wet pond has been sized using either the Hydraulic Retention Time (HRT) Method of the SA/DA and Average Depth Method.
<input type="checkbox"/>	Design Method:
<input type="checkbox"/>	Main Pool Surface Area Required:        sf
<input type="checkbox"/>	Main Pool Surface Area Provided:        sf
<input type="checkbox"/>	SA/DA Ratio (as applicable):
<input type="checkbox"/>	<b>Main Pool Depth:</b> Average depth of the main pool is between 3-8 feet below the permanent pool elevation.
<input type="checkbox"/>	Main Pool Average Depth:        ft
<input type="checkbox"/>	The forebay and main pool have a minimum sediment storage depth of 6 inches, excluded from the average depth calculation.
<input type="checkbox"/>	<b>Location of Inlet(s) and Outlets:</b> The inlet(s) and riser/outlet structures have been positioned to avoid the short circuiting of pond flows. A flow length to pond width ratio (L:W) is at least 3:1.
<input type="checkbox"/>	Length to Width Ratio:
<input type="checkbox"/>	<b>Forebay:</b> Forebays have been provided at all inlets to the wet pond and are configured for energy dissipation.
<input type="checkbox"/>	Forebay Volume Percentage:        %
<input type="checkbox"/>	The forebay entrance is deeper than the forebay exit.
<input type="checkbox"/>	There is nonerosive flow velocity over/through the structure that separates the main pool and forebay.
<input type="checkbox"/>	<b>Vegetated Shelf:</b> The main pool has a vegetated shelf around its perimeter. The width must be at least 6 feet with a 6:1 slope or shallower. The shelf must be planted with a minimum of 3 diverse species of herbaceous, native vegetation at a minimum density of 50 plants per 200 square feet of shelf area.
<input type="checkbox"/>	Vegetated Shelf Width:        ft
<input type="checkbox"/>	Vegetated Shelf Slope:        : 1
<input type="checkbox"/>	Number of Plant Species:
<input type="checkbox"/>	<b>Drawdown Time:</b> The design volume draws down to the permanent pool level between 2-5 days.
<input type="checkbox"/>	Drawdown Time:        days
<input type="checkbox"/>	The rate of drawdown for maintenance is non-erosive and no more than one foot per week.
<input type="checkbox"/>	<b>Protection of Receiving Stream:</b> Wet pond has been designed such that the runoff from the one-year, 24-hour storm has minimal hydrologic impacts to the receiving channel.

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<input type="checkbox"/>	<b>Trash Rack:</b> A trash rack or similar structure has been provided to prevent large debris from entering the outlet system.
<input type="checkbox"/>	<b>Fountains (as applicable):</b> Documentation has been provided demonstrating that the fountain will not resuspend sediment or cause erosion in the pond.

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.

### III. PROFESSIONAL CERTIFICATION

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

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

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

Professional Seal:

