



# Stormwater Design Executive Summary

## TOWN OF HOLLY SPRINGS ENGINEERING DEPARTMENT

<b>Project Information</b>		
Project Name:		
Phase, if applicable:		
Previous Project Name <i>if applicable:</i>		
PIN:		
Project Contact Person:		
Phone Number:		
Email:		
<b>Site Information / Overview</b>		
Total Site Acreage:		acres
Watershed Name:	<input type="checkbox"/> Neuse River Basin	<input type="checkbox"/> Cape Fear River Basin
Tributary Name:	(Creek Name(s))	
Total Site Impervious Area (Existing):		
Total Site Impervious Area (Proposed):		
Site Percent Impervious Area (Existing):		
Site Percent Impervious Area (Proposed):		
<b>Stormwater Summary Tables</b>		

Please note: That each drainage area must meet the quantity and quality requirements.

### A. Peak Discharge Summary

Peak Discharge Rate Table for Pre-Development Conditions						
Sub-Shed	CN	C	Area (acres)	$t_c$ (min.)	$Q_1$ (CFS)	$Q_{100}$ (CFS)
1.						
2.						
3.						
4.						
5.						
Total:						

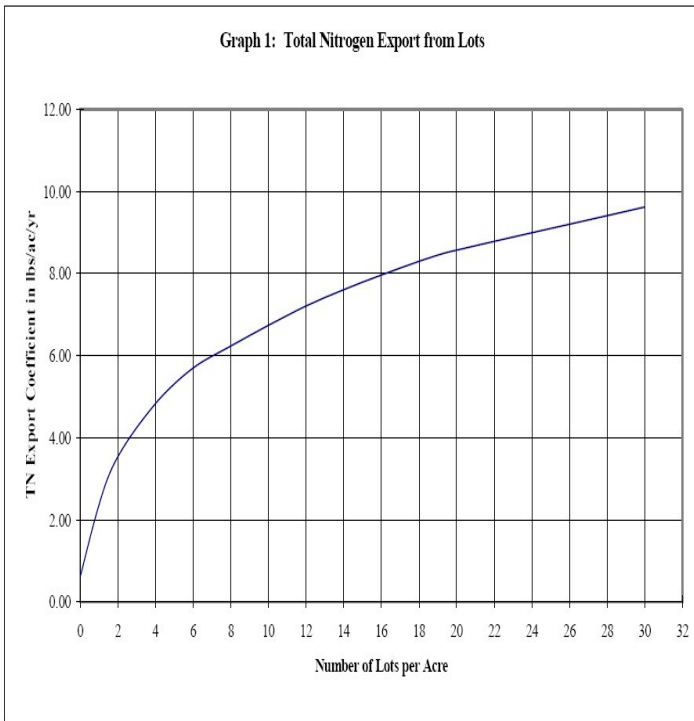
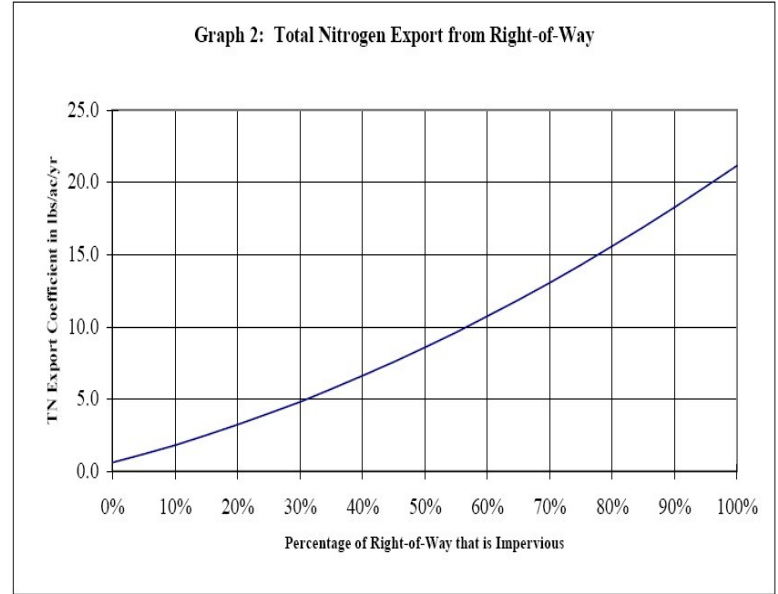
Peak Discharge Rate Table for Post-Development Conditions						
Sub-Shed	CN	C	Area (acres)	$t_c$ (min.)	$Q_1$ (CFS)	$Q_{100}$ (CFS)
1.						
2.						
3.						
4.						
5.						
Total:						

Drawdown calculations for the First Flush Volume and the 1-year storm are not required for the Preliminary Stormwater Report and Calculations. However, designer shall take note that these requirements exist and should be factored into the overall stormwater management design.

### B. Total Nitrogen (TN) Export Summary

#### Method 1 (Residential Subdivisions with Unknown Building Footprints)

Pre-Developed Nitrogen Export Summary Table			
Type of Land Cover	Area (acres)	TN Export Coefficient (lbs/ac/yr)	TN Export from Use (lbs/yr)
Existing Forestland		1.7	
Existing Pasture		4.4	
Existing Residential		7.5	
Existing Cropland		13.6	
Existing Commercial/Industrial		13	
<b>Total:</b>			
<b>Nitrogen Loading Rate (lbs/ac/yr)</b>			



Post-Developed (after BMP reductions) Nitrogen Export Summary Table					
Type of Land Cover	Area (acres)	TN Export Coefficient (lbs/ac/yr)	BMP TN Removal Rate (%)	TN Removal from Use (lbs/yr)	TN export from site (Total TN-TN Removal)
Permanently Protected Undisturbed Open Space		0.6			
Permanently Protected Managed Open Space		1.2			
Lots (use Graph 1)					
Right-of-Way (use Graph 2)					
<b>Total:</b>					
<b>Nitrogen Loading Rate (lbs/ac/yr)</b>					



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### Method 2 (Sites with Known Impervious)

Pre-Developed Nitrogen Export Summary Table			
Type of Land Cover	Area (acres)	TN Export Coefficient (lbs/ac/yr)	TN Export from Use (lbs/yr)
Existing Forestland		1.7	
Existing Pasture		4.4	
Existing Residential		7.5	
Existing Cropland		13.6	
Existing Commercial/Industrial		13	
<b>Total:</b>			
Nitrogen Loading Rate (lbs/ac/yr)			

Post-Developed (after BMP reductions) Nitrogen Export Summary Table					
Type of Land Cover	Area (acres)	TN Export Coefficient (lbs/ac/yr)	BMP TN Removal Rate (%)	TN Removal from Use (lbs/yr)	TN export from site (Total TN-TN Removal)
Permanently Protected Undisturbed Open Space		0.6			
Permanently Protected Managed Open Space		1.2			
Impervious		21.2			
<b>Total:</b>					
Nitrogen Loading Rate (lbs/ac/yr)					

### 85% Total Suspended Solids (TSS) Removal Summary

Provide brief description of how 85% TSS removal is being achieved:



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### C. Storm Drainage Conveyance Summary

Design engineer shall complete the tables below (or attach tables containing the identical information and layout) for each storm drainage system analyzed. If site conditions require analysis beyond 25-year rainfall event (such as an arterial crossing), then designer shall include additional tables as needed.

#### Structure Summary (10 Year Event)

Structure ID	Structure Type (Town Standard #)	Rational 'C'	Rainfall Intensity 'i <sub>10</sub> ' (in/hr)	Drainage Area (acres)	Surface Flow In (cfs)	Total Flow Out (cfs)	Inv.Out (feet)	Rim (feet)	HGL (feet)	HGL In Pipe? (Yes/No)

#### Structure Summary (25 Year Event)

Structure ID	Structure Type (Town Standard #)	Rational 'C'	Rainfall Intensity 'i <sub>25</sub> ' (in/hr)	Drainage Area (acres)	Surface Flow In (cfs)	Total Flow Out (cfs)	Inv.Out (feet)	Rim (feet)	HGL (feet)	Freeboard To Rim (feet)

#### Storm Drainage Piping Summary

U.S. Structure ID	D.S. Structure ID	Pipe Length (feet)	Pipe Diam. (inches)	Slope (ft/ft)	Velocity	Q10 cfs	Q25 9cfs	Qother (cfs)	Pipe Capacity Tc, l, a	U.S. Inv. (fee)	D.S. Inv. (feet)	HGL vp (feet)	HGL vp (14 (feet)



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### D. Individual BMP Summary

BMP ID	Type of Device	Sub-basin ID	Drainage Area  (acres)	Pre-treatment Provided  (Y / N)	TSS Removal %	TN Removal %	Peak Attenuation  (Y / N)	Volume Capacity Above Normal Pool  (cubic ft)	Infiltration		Easement Provided  (Y / N)	O&M Provided  (Y / N)
									Required (Y / N)	Testing Performed (Y / N)		

Include additional BMP information if appropriate: