County of Durham

Engineering Department
Stormwater and Erosion Control Division
120 E. Parrish Street, Law Bldg., 1st Floor
Durham, North Carolina 27701
(919)560-0735 Fax: (919)560-0740

Design Professional's Signature, Seal, & Date

Stormwater and Erosion Control Division Site Plan and Preliminary Plat Submittal Checklist

For each review submittal the entire study must be submitted. This includes re-submittals. Partial study packages will not be reviewed. Incomplete Stormwater Site Plan Submittals will be returned with NO REVIEW PERFORMED. Contact Stormwater and Erosion Control Division concerning redevelopment, expansion or projects which result in a decrease in impervious area for modified submittal requirements. This submittal checklist is to be submitted with each plan submittal.

I. PROJECT INFORMATION

Project Name: _____ Phase: _____

Previous Project Name, if applicable: _____

PIN: _____ Tax Map Number _____ Planning Case Number: _____

Owner _____ Phone Number _____

Owner Address _____

Project Comment Contact Person: _____ Phone number ( ) _____

Fax number: ( ) _____ Company Name: _____

II. REQUIRED ITEMS CHECKLIST

The following checklist outlines submittal requirements. Initial in the space provided to indicate the following submittal requirements have been met and supporting documentation is attached.

A. General Requirements

Applicant's initials

_____ a. Stormwater Impact Analysis (SIA) including narrative report and drainage calculations sealed and signed by North Carolina Professional Engineer.

_____ b. Jordan Lake (Cape Fear) / Falls Lake (Upper Neuse Basin) / Lower Neuse Basin (circle one).
(If Jordan Lake is circled completion of **Section D.** below is required)
(If Falls Lake (Upper Neuse Basin) is circled completion of **Section D.** below is required)
(If Lower Neuse Basin is circled completion of **Section F.** below is required)

_____ c. INSIDE / OUTSIDE (circle one) Water Supply Watershed.
(If INSIDE Water Supply Watershed completion of **Section G.** below is required)

_____ d. Show ALL Riparian Stream Buffers on the plan. Diffuse flow into stream buffers is required.(Complete **Section C** where required)

_____ e. Floodplain located on site: Yes / No (circle one). A copy of floodplain map with site boundary shown is required and the 100-year floodplain with base flood elevations (if applicable) must be shown on the site plan.

B. Stormwater Rule Requirements

_____ a. Durham County Soils map with site boundary shown.

_____ b. USGS 7.5 Minute Quadrangle with site boundary shown.

_____ c. Introduction narrative describing the site conditions in pre- and post-development conditions including a description of site improvement changes.

_____ d. Drainage area map including:

___ Site area delineated, scale and north arrow.

___ Sub-basins delineated for pre- and post-development conditions with area in acres indicated.

___ Analysis points clearly identified and labeled.

___ Segmented TR-55 time of concentration flow paths showing each segment.

_____ e. Methodologies and procedures described.

_____ f. Site plan or grading plan identifying pre- and post-development drainage patterns.

_____ g. Pre- and post-development times of concentration calculated using the TR-55 segmented approach.

_____ h. Calculations for the pre- and post-development discharges for the 1-, 2- and 10-year 24-hour storm using TR-55, TR-20, HEC-HMS, HEC-1 or Rational Method. The discharge point for these calculations is the property boundary.

_____ i. Summary of Results provided in the following format (see Example below).

BASIN NAME	***Pre-Developed 1-year discharge***	***Post--Developed 1-year discharge***	***Pre-Developed 2-year discharge***	***Post-Developed 2-year discharge***	***Pre-Developed 10-year discharge***	***Post-Developed 10-year discharge***	***Detention Required (Yes/No)***

_____ j. Conclusion providing detailed findings.

_____ k. BMP (s) provided (as per NCDWQ BMP Manual) (indicate quantity):

_____

___ Not required

_____ l. BMP benefits: ___control 1-, 2- and 10-year discharge

___Other _____

___Not required

_____ m. Report from NCDWQ Approved Accounting Tool

C. Riparian Stream Buffers

_____ a. A copy of the Durham County Soils map and the USGS 7.5 Minute Quadrangle with the site indicated has been provided. Diffuse flow into buffers is required.

_____ b. All Durham County stream buffers are shown on the plan for intermittent and perennial streams shown on the Durham County Soils map or the USGS 7.5 Minute Quad. Diffuse flow into buffers is required

_____ c. NCDENR documentation for approval of buffer impacts provided.

_____ d. Stream delineations (Cape Fear / Neuse Basin). If in Neuse Basin, provide NCDENR Division of Water Quality documentation. If in Cape Fear Basin, provide report as required by Section 14-153(b)(3) (i) of the County Stormwater Ordinance.

D. Jordan Lake Requirements

Note: If a single family, detached and duplex residential development, or recreational facility disturbs ≤ 1 acre or a multi-residential development or a commercial, industrial, or institutional facility disturbs ≤ 0.5 acres then all items below are N/A.

_____ a. Pre- and post-development nitrogen / phosphorus calculations using NCDWQ approved accounting tool.

_____ b. Offsite reduction calculations (if necessary). Site plan will not be approved until payment is verified in the form of a receipt.

_____ c. Redevelopment calculation nutrient loading (if necessary).

E. Falls Lake (Upper Neuse) Requirements

Note: If a single family, detached and duplex residential development, or recreational facility disturbs ≤ 0.5 acre or a multi-residential development or a commercial, industrial, or institutional facility disturbs ≤ 12,000 square feet then all items below are N/A.

_____ d. Pre- and post-development nitrogen / phosphorus calculations using NCDWQ approved accounting tool.

_____ e. Offsite reduction calculations (if necessary). Site plan will not be approved until payment is verified in the form of a receipt.

_____ f. Redevelopment calculation nutrient loading (if necessary).

F. Lower Neuse Basin Requirements

Note: If a single family, detached and duplex residential development, or recreational facility disturbs ≤ 1 acre or a multi-residential development or a commercial, industrial, or institutional facility disturbs ≤ 0.5 acres then all items below are N/A.

_____ g. Pre- and post-development nitrogen calculations using Durham County Nitrogen Calculation Tables.

_____ h. Nitrogen buy-down calculations (if necessary). Site plan will not be approved until payment is verified in the form of a receipt.

G. Water Supply Watershed Requirements

_____ a. Indicate the water supply watershed overlay district(s) the project is located. (Circle all that apply) (F/J-A, F/J-B, E-A, E-B, M/LR-A, M/LR-B)

_____ b. Provided BMP for 85% TSS removal or **narrative** explaining why it is not provided

_____

_____

_____ c. BMP provided:

___Other _____

___ Not required

_____ d. BMP benefits: ___85% TSS Removal ___Other _____

___Not required

Jordan Lake Developer Nutrient Reporting Form

(Note: A separate form is available for Neuse, Tar-Pamlico, and Falls Lake reporting.)

Please complete and submit the following information to the local government permitting your development project to characterize it and assess the need to purchase nutrient offsets. Contact and rule implementation information can be found online at http://portal.ncdenr.org/web/wq/ps/nps/nutrientoffsetintro.

PROJECT INFORMATION *(for Jordan Lake)*									
Applicant Name:									
Project Name:									
Project Address *(if available):* Street:			City/Town:				County:		
Date: (*mo/d/yr)*		**Project Location :**	**Lat:** *(decimal degrees)*		**Long:** *(decimal degrees)*				
Is this Redevelopment? ☐ - Yes ☐ - No		**Development Type** *(Please check all that apply)*							
Impervious Cover (%): *(Pre-Construction)*		☐ Commercial	☐ Industrial	☐ Institutional	☐ Mixed-Use	☐ Duplex Residential	☐ Single Fam. Residential	☐ Multi-Fam. Residential	
Impervious Cover (%): *(Post-Construction)*									

JORDAN WATERSHED INFORMATION			
Small Watershed ID (6 digits): *(See next page or online map.)*		**New Development Load Requirements** *(See individual rules for a full description of nutrient requirements.)*	
Jordan Subwatershed *(Please check one)*		Loading Rate Targets Nitrogen (N) & Phosphorus (P)	Offsite Thresholds
☐	Haw River	3.8 N lb/ac/yr 1.43 P lb/ac/yr	6 N lbs/ac Residential; 10 N lbs/ac Commercial *(must meet all onsite treatment requirements)*
☐	Upper New Hope	2.2 N lb/ac/yr 0.82 P lb/ac/yr	
☐	Lower New Hope	4.4 N lb/ac/yr 0.78 P lb/ac/yr	

NUTRIENT OFFSET REQUEST *(Must meet the offsite thresholds – see above)*

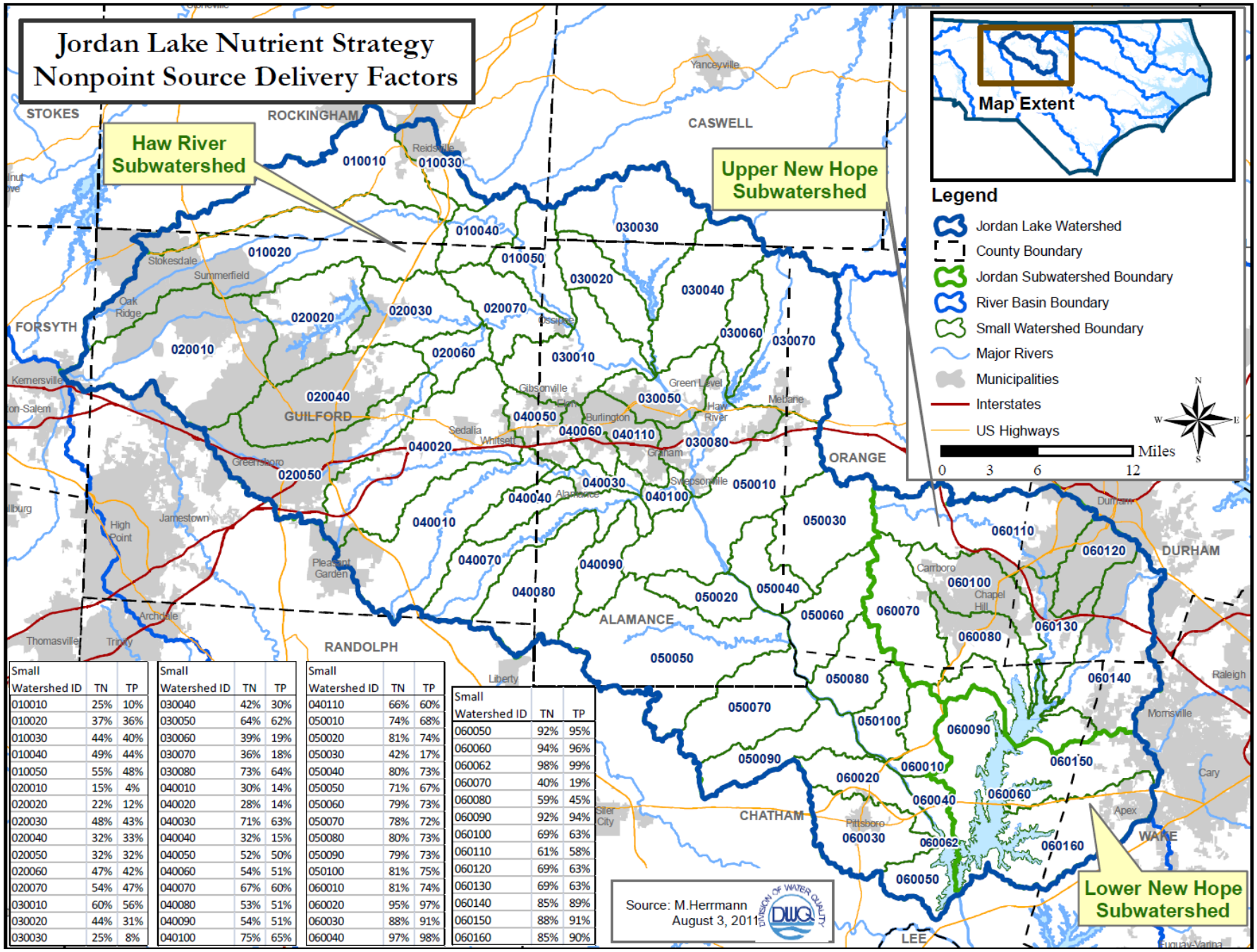
Nitrogen Loading / Offset Needs

(A) Untreated Loading Rate (lbs/ac/yr)	(B) Treated Loading Rate (lbs/ac/yr)	(C) Loading Rate Target (lbs/ac/yr)	(D) Reduction Need (lbs/ac/yr) B - C	(E) Project Size (ac)	(F) Offset Duration (yrs)	(G) Delivery Factor (%)	(H) State Buy Down Amount (lbs) D * E * F * G	*(I) (Where Applicable)* Local Gov't Buy Down Amount (lbs)
					30			

Phosphorus Loading / Offset Needs

(A) Untreated Load Rate (lbs/ac/yr)	(B) Treated Load Rate (lbs/ac/yr)	(C) Loading Rate Target (lbs/ac/yr)	(D) Reduction Need (lbs/ac/yr) B - C	(E) Project Size (ac)	(F) Offset Duration (yrs)	(G) Delivery Factor (%)	(H) State Buy Down Amount (lbs) D * E * F * G	*(I) (Where Applicable)* Local Gov't Buy Down Amount (lbs)
					30			

Authorizing Local Government Name:			
Staff Name:			
Staff Email:		**Phone:**	



Small Watershed ID	TN	TP
010010	25%	10%
010020	37%	36%
010030	44%	40%
010040	49%	44%
010050	55%	48%
020010	15%	4%
020020	22%	12%
020030	48%	43%
020040	32%	33%
020050	32%	32%
020060	47%	42%
020070	54%	47%
030010	60%	56%
030020	44%	31%
030030	25%	8%

Small Watershed ID	TN	TP
030040	42%	30%
030050	64%	62%
030060	39%	19%
030070	36%	18%
030080	73%	64%
040010	30%	14%
040020	28%	14%
040030	71%	63%
040040	32%	15%
040050	52%	50%
040060	54%	51%
040070	67%	60%
040080	53%	51%
040090	54%	51%
040100	75%	65%

Small Watershed ID	TN	TP
040110	66%	60%
050010	74%	68%
050020	81%	74%
050030	42%	17%
050040	80%	73%
050050	71%	67%
050060	79%	73%
050070	78%	72%
050080	80%	73%
050090	79%	73%
050100	81%	75%
060010	81%	74%
060020	95%	97%
060030	88%	91%
060040	97%	98%

Small Watershed ID	TN	TP
060050	92%	95%
060060	94%	96%
060062	98%	99%
060070	40%	19%
060080	59%	45%
060090	92%	94%
060100	69%	63%
060110	61%	58%
060120	69%	63%
060130	69%	63%
060140	85%	89%
060150	88%	91%
060160	85%	90%

Neuse, Tar-Pamlico, and Falls Lake Developer Nutrient Reporting Form

(Note: A separate form is available for Jordan Lake Watershed reporting.)

Please complete and submit the following information to the local government permitting your development project to characterize it and assess the need to purchase nutrient offsets. Contact and rule implementation information can be found online at http://portal.ncdenr.org/web/wq/ps/nps/nutrientoffsetintro.

PROJECT INFORMATION *(for use in Neuse, Tar-Pamlico, or Falls Lake)*

Applicant Name :			
Project Name:			
Project Address *(if available):* Street:	City/Town:		County:
Date: *(mo/d/yr)*	**Project Location:**	**Lat:** *(decimal degrees)*	**Long:** *(decimal degrees)*

Is this Redevelopment? ☐ - Yes ☐ - No		**Development Type** *(Please check all that apply)*					
Impervious Cover (%): *(Pre-Construction)*		☐	Commercial	☐	Mixed-Use	☐	Single Fam. Residential
Impervious Cover (%): *(Post-Construction)*		☐	Industrial	☐	Duplex Residential	☐	Multi-Fam. Residential
		☐	Institutional				

WATERSHED INFORMATION

12- Digit Watershed ID: *(See online map)*

Nutrient Strategy *(Please check one)*

Neuse HUC	Tar-Pamlico HUC	Falls Lake Sub-Area
☐ 03020201 (below Falls)	☐ 03020101	☐ Upper Falls
☐ 03020202	☐ 03020102	☐ Lower Falls
☐ 03020203	☐ 03020103	
☐ 03020204	☐ 03020104	

New Development Load Requirements *(See individual rules for a full description of nutrient requirements.)*

Nutrient Strategy	Loading Rate Targets Nitrogen (N) and Phosphorus (P)	Offsite Thresholds
Neuse	3.6 N lb/ac/yr; No P goal	6 N lbs/ac – Residential; 10 N lbs/ac Commercial
Tar Pam	4.0 N lb/ac/yr; 0.4 P lb/ac/yr	
Falls	2.2 N lb/ac/yr; 0.33 P lb/ac/yr	30% of N & P reduction need onsite for projects less than one acre; 50% of N & P reduction need onsite for projects over one acre

NUTRIENT OFFSET REQUEST *(Must meet the offsite thresholds – see above)*

Nitrogen Loading / Offset Needs

(A) Untreated Loading Rate (lbs/ac/yr)	(B) Treated Loading Rate (lbs/ac/yr)	(C) Loading Rate Target (lbs/ac/yr)	(D) Reduction Need (lbs/ac/yr) B - C	(E) Project Size (ac)	(F) Offset Duration (yrs)	(G) State Buy Down Amount (lbs) D * E * F	(H) *(Where Applicable)* Local Gov't Buy Down Amount (lbs)
					30		

Phosphorus Loading / Offset Needs *(For the Tar-Pam Basin and Falls Watershed areas)*

(A) Untreated Loading Rate (lbs/ac/yr)	(B) Treated Loading Rate (lbs/ac/yr)	(C) Load Rate Target (lbs/ac/yr)	(D) Reduction Need (lbs/ac/yr) B - C	(E) Project Size (ac)	(F) Offset Duration (yrs)	(G) State Buy Down Amount (lbs) D * E * F	(H) *(Where Applicable)* Local Gov't Buy Down Amount (lbs)
					30		

Authorizing Local Government Name:			
Staff Name:			
Staff Email:		**Phone:**	