# 2. North Carolina's Stormwater Requirements

## 2.1. Overview

North Carolina's Division of Water Quality (DWQ) under the authority of the Environmental Management Commission (EMC) has developed a variety of stormwater programs to protect the waters of the State. The primary strategy for these programs is to minimize impervious surfaces and to treat stormwater runoff using BMPs. BMPs in this manual, if appropriately applied, receive credit towards meeting the requirements of these programs.

The following sections provide a summary of North Carolina's various stormwater programs. ***These sections are general in nature and are intended only to provide an overview of the requirements that could potentially affect BMP selection and design, not as a substitute for the engineer to read, understand and apply the rules.***

Tables 2-2, 2-3a, and 2-3b summarize the basic design requirements for all of the stormwater programs in the State. ***The summaries and tables are not intended to provide a comprehensive account of all the requirements for a given program. Remember to consult the permitting authority (DWQ or local government, depending on the program) and/or the relevant statute or rule for specific program requirements***.

North Carolina Statutes can be found on the NC General Assembly's website: http://www.ncga.state.nc.us/Legislation/Legislation.html

Additionally, Figures 2-1 and 2-2 in this section show a map delineating the applicable areas of the various stormwater programs throughout the State, and a map showing the DWQ Regions (including contact information), respectively.

## 2.2. NPDES Stormwater Program (Phases I and II)

Specific North Carolina stormwater legislation for Session Law 2006-246 can be found at: http://h2o.enr.state.nc.us/su/documents/SL2006-246.pdf

In 1972, the National Pollutant Discharge Elimination System (NPDES) program was established under the authority of the Clean Water Act. Phase I of the NPDES stormwater program was established in 1990. It required NPDES permit coverage for municipalities that had populations of 100,000 or more. In North Carolina, there are six permitted local governments that have municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more (Raleigh, Durham, Fayetteville, Charlotte, Winston-Salem, Greensboro). Each subject local government was required to develop and implement a stormwater management program that includes public education, illicit discharge detection and elimination, construction and post-construction programs, pollution prevention and good housekeeping programs storm sewer system and land use mapping, and analytical monitoring.

Under Session Law 2006-246, the Phase II program builds upon the existing Phase I program by requiring certain smaller communities (<100,000) and public entities that own and operate an MS4 to apply and obtain an NPDES permit for stormwater discharges. The session law defines the communities that are required to obtain a Phase II permit, the process for including new communities, and the general requirements for compliance with a Phase II permit. Each community that is subject to Phase I and Phase II is required to meet the following six minimum measures:

- Public education and outreach on stormwater impacts.
- Public involvement/participation.
- Illicit discharge detection and elimination.
- Construction site stormwater runoff control.
- Post-construction stormwater management in new development and redevelopment.
- Pollution prevention/good housekeeping for municipal operations.

It is a "Post-construction stormwater management in new development and redevelopment" requirement that subject communities must adopt ordinances that could require the use of structural BMPs to meet stormwater quality objectives. Both Phase I and II communities are free to adopt more stringent requirements, but there are minimum standards for post-construction stormwater management that are given below.

The local communities are responsible for the implementation of the Post-construction stormwater management in new development and redevelopment under their jurisdictions, and all plan approvals should be submitted to the appropriate local authorities. Development in the extra-jurisdictional area and MSI's of each municipality (1-3 miles around municipal boundaries, depending on population) is also subject to the minimum requirements for post-construction listed above.

Development and redevelopment projects in Phase II counties still must apply to the Division of Water Quality for a State Stormwater permit.

The requirements for post-construction stormwater management apply to developments (or redevelopments) in which the total land disturbance is one acre or more. The NPDES program classifies development into two categories: low-density and high-density. Both categories of projects require a permit. Project design requirements are shown in Section 9 of S.L. 2006-246. Exclusions from Post-Construction Practices are shown in Section 8.

## 2.3. Nutrient Management Programs

Legislation for Nutrient Management Programs can be found at: http://ncrules.state.nc.us/ncac.asp?folderName=%5CTitle%2015A%20-%20Environment%20and%20Natural%20Resources%5CChapter%2002%20-%20Environmental%20Management

### 2.3.1. Neuse River Basin (15A NCAC 2B .0235)

The Neuse River Basin Nutrient Sensitive Waters Management Strategy (or Neuse Stormwater Program) targets nitrogen pollution in stormwater runoff as specified in 15A NCAC 2B .0235. The Neuse Stormwater Program affects the 15 most populous communities in the Neuse River basin: Cary, Durham, Garner, Goldsboro, Havelock, Kinston, New Bern, Raleigh, Smithfield, Wilson, Durham County, Johnston County, Orange County, Wake County, and Wayne County. New development in these communities must meet the requirements listed below (although local communities are free to adopt more stringent requirements).

For the purposes of the Neuse Stormwater Program, new development shall be defined as to include the following:

- Any activity that disturbs greater than one acre of land in order to establish, expand or modify a single family or duplex residential development or a recreational facility.
- Any activity that disturbs greater than one-half an acre of land in order to establish, expand or modify a multifamily residential development or a commercial, industrial or institutional facility.
- New development does not include agriculture, mining, or forestry activities. Land disturbance is defined as grubbing, stump removal, and/or grading.

The computed post-development nitrogen load (see Section 3 for information on how to calculate nutrient loads) must be reduced to 3.6 lb/ac/yr. This can be done by installing nitrogen-reducing BMPs that receive credit by reducing the total nitrogen export by a certain percentage (depending on the BMP), and/or through offset payments to the Ecosystem Enhancement Program (EEP). Contact DWQ or EEP for information regarding nitrogen buy-down options.

In addition to the nutrient reduction requirements, there must also be no net increase in peak flow leaving the site from the predevelopment conditions for the 1-year, 24-hour storm.

### 2.3.2. Tar-Pamlico River Basin (15A NCAC 2B .0258)

The Tar-Pamlico River Basin Nutrient Sensitive Waters Management Strategy (or Tar-Pamlico Stormwater Program) targets both nitrogen and phosphorus pollution in stormwater runoff as specified in 15A NCAC 2B .0258. The Tar-Pamlico Stormwater Program affects the 11 most populous communities in the Tar-Pamlico River basin: Greenville, Henderson, Oxford, Rocky Mount, Tarboro, Washington, Beaufort County, Edgecombe County, Franklin County, Nash County, and Pitt County. New development in these communities must meet the requirements listed below (although local communities are free to adopt more stringent requirements).

For the purposes of the Tar-Pamlico Stormwater Program, new development shall be defined as to include the following:

- Any activity that disturbs greater than one acre of land to establish, expand, or replace a single family or duplex residential development or recreational facility. For individual single family residential lots of record that are not part of a larger common plan of development or sale, the activity must also result in greater than ten percent built-upon area.
- Any activity that disturbs greater than one-half an acre of land to establish, expand, or replace a multifamily residential development or a commercial, industrial or institutional facility.
- Projects meeting the above criteria that replace or expand existing structures or improvements and that do *not* result in a net increase in built-upon area shall not be required to treat stormwater runoff for nitrogen or phosphorus removal.
- Projects meeting the above criteria that replace or expand existing structures or improvements and that result in a net increase in built-upon area shall achieve a 30 percent reduction in nitrogen loading and no increase in phosphorus loading relative to the previous development.
- Land disturbance is defined as grubbing, stump removal, grading, or removal of structures. New development shall not include agriculture (including intensive livestock operations), mining, or forestry activities.

The computed post-development nitrogen and phosphorus loads (see Section 3.3 for information on how to calculate nutrient loads) must be reduced to 4.0 lb/ac/yr and 0.4 lb/ac/yr, respectively. This can be done by either installing nutrient-reducing BMPs, on- or offsite, that receive credit by reducing the total nutrient export by a certain percentage (depending on the BMP), and/or through offset payments to the Ecosystem Enhancement Program (EEP). Contact the local community for information regarding off-site treatment options and DWQ or EEP for information regarding nutrient buy-down options.

In addition to the nutrient reduction requirements, there must also be no net increase in peak flow leaving the site from the predevelopment conditions for the 1-year, 24-hour storm.

## 2.4. State Stormwater Program 15A NCAC 2H .1000, Session Law 2008-211

Specific legislation for 15A NCAC 2H .1000 and Session Law 2008-211 can be found at: http://www.ncleg.net/Sessions/2007/Bills/Senate/PDF/S1967v4.pdf and http://ncrules.state.nc.us/ncac.asp?folderName=%5CTitle%2015A%20-%20Environment%20and%20Natural%20Resources%5CChapter%2002%20-%20Environmental%20Management, respectively.

### 2.4.1. Coastal Counties (Session Law 2008-211)

The State Stormwater Program is administered by the DWQ Regional Offices (see Figure 2-2 for DWQ Regional Office information). Any development in the 20 coastal counties that requires a CAMA major permit or a Sedimentation/Erosion Control Plan must obtain a stormwater management permit. In addition, **non-residential development** activities that add more than 10,000 square feet of built upon area (regardless of the amount of land disturbed) must also obtain a stormwater management permit.

Permits must be obtained from either of the two regional offices (Washington or Wilmington) that serve the 20 coastal counties. The counties served by the Wilmington regional office include: Brunswick*, Carteret, New Hanover*, Onslow*, and Pender*. The counties served by the Washington regional office include: Beaufort, Bertie, Camden, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, Pamlico, Pasquotank, Perquimans, Tyrrell, and Washington. **Brunswick, New Hanover, Onslow, and a portion of Pender are regulated under Phase II as described in Session Law 2006-246 and Section 2.2 above. The applicability of Phase II rules within certain counties or certain municipal areas within a county may change in the future. It is recommended that the Regional Office or Customer Service Center is contacted to verify what rules your project is subject to.*

The State Stormwater Program in the Coastal Counties is comprised of three main categories: development that drains to class SA or ORW waters, development that drains to non-SA or non-ORW waters, and provisions for Limited Residential Development . SA waters are the highest quality designation for salt waters and correspond primarily to waters that have shell fishing as a designated use. Non-SA waters include lower class saltwaters (e.g. SB and SC.) and all classes of freshwaters. More information on ORW waters is found below in section 2.4.2.

#### 2.4.1.1. SA and ORW Waters in Coastal Counties

Projects shall meet the requirements for SA waters if the development is within one-half mile of and drain to SA waters or unnamed tributaries of SA waters. Projects shall meet the requirements for ORW waters if the development is within 575 feet of the mean high waterline area of ORW. The areas that are designated as SA Waters and ORW are shown in Figure 2-1. For such development, there are two options: low density and high density. See Section 2.(b) of the Session Law for specific requirements.

As of October, 2008, the new low density thresholds and control requirements for high density projects are the same as those that are now in place in Brunswick, New Hanover, and Onslow counties as a result of the Phase 2 Session Law.

#### 2.4.1.2. Non-SA Waters in Coastal Counties

For development in the coastal counties that does not drain to SA waters, there are two options: low density and high density. Specific requirements for each are shown in Section 2.(b)(3) of the Session Law.

#### 2.4.1.3. Requirements for Limited Residential Development in Coastal Counties

In 2008, Session Law 2008-211 required that for Limited Residential Developments a one-time non-renewable stormwater management permit shall be obtained. Residential projects that meet the following criteria must apply for this permit:

- within one-half mile of and draining to SA waters; and
- have built-upon area greater than 12% *and* more than 10,000 square feet of built-upon area.
- These projects do not fall under the requirements of the previously mentioned stormwater management permit (Sections 2.4.1.1 and 2.4.1.2).

Stormwater runoff shall be managed using the one of more of the practices shown in Section 2.(c) of the Session Law.

### 2.4.2. High Quality Waters (15A NCAC 2H .1006) and Outstanding Resource Waters (15A NCAC 2H .1007) Outside the 20 Coastal Counties

The Legislation for HQW and ORW Waters can be found at:
http://ncrules.state.nc.us/ncac.asp?folderName=%5CTitle%2015A%20-%20Environment%20and%20Natural%20Resources%5CChapter%2002%20-%20Environmental%20Management

The State has designated that certain bodies of water in North Carolina should be considered High Quality Waters (HQW) and Outstanding Resource Waters because of the high natural resource value of these waters. As such, DWQ is tasked with providing protection for these waters through stormwater management strategies. The areas outside the 20 Coastal Counties designated as HQW and ORW are shown in Figure 2-1. If development occurs in these areas and requires a Sedimentation/Erosion Control Plan, a permit must be obtained from the appropriate DWQ Regional Office. The minimum requirements for the permit are shown in the rules, although more stringent measures may be required on a case-by-case basis.

Note: Projects within the 20 Coastal Counties that are affected by HQW requirements or are within 575 feet from the mean high waterline area of ORW waters are addressed above in section 2.4.2.

For proposed projects affected by HQW and ORW requirements outside the 20 Coastal Counties, there are two options for development: low density and high density. The rules show the design requirements for each..

## 2.5. Water Supply Watershed Protection Program (15A NCAC 2B .0212-.0216)

Legislation for 15A NCAC 2B .0212-.0216 can be found at: http://ncrules.state.nc.us/ncac.asp?folderName=%5CTitle%2015A%20-%20Environment%20and%20Natural%20Resources%5CChapter%2002%20-%20Environmental%20Management

As the name implies, the water supply watershed protection program is designed to protect the surface water supply sources of the State. The water supply watersheds are delineated in Figure 2-1, and within this program there are several categories of protection. The program designates the water supply (WS) watersheds as WS-I (most stringent stormwater requirements), WS-II, WS-III, and WS-IV (least stringent requirements). For WS-II, WS-III, and WS-IV, there are also separate requirements for the area directly adjacent to the water supply intake point (known as the "critical area").

For each of these categories, development must meet stormwater requirements. The local community governments have the authority to implement this program and have adopted these requirements by ordinance. The requirements for the water supply program are summarized in Table 2-1; additional requirements and development options may apply.

**Table 2-1**
Water Supply Watershed Protection Program – Minimum Design Requirements

| Water Supply Classification | Low-density Threshold | Low-density Design Requirements | High-density Design Requirements |
|---|---|---|---|
| **WS-I** | N/A | No development permitted | No development permitted |
| **WS-II (Critical Area)** | 6% built-upon area or one single-family residential development per 2 acres | Stormwater runoff from development transported by vegetated conveyances to the maximum extent practicable. | Control runoff from the first inch of rainfall. New development density not to exceed 24% built-upon area. |
| **WS-II (Balance of Watershed)** | 12% built-upon area or one single-family residential development per acre | Stormwater runoff from development transported by vegetated conveyances to the maximum extent practicable. | Control runoff from the first inch of rainfall. New development density not to exceed 30% built-upon area. |
| **WS-III (Critical Area)** | 12% built-upon area or one single-family residential development per acre | Stormwater runoff from development transported by vegetated conveyances to the maximum extent practicable. | Control runoff from the first inch of rainfall. New development density not to exceed 30% built-upon area. |
| **WS-III (Balance of Watershed)** | 24% built-upon area or two single-family residential developments per acre | Stormwater runoff from development transported by vegetated conveyances to the maximum extent practicable. | Control runoff from the first inch of rainfall. New development density not to exceed 50% built-upon area. |
| **WS-IV (Critical Area)** | 24% built-upon area or two single-family residential developments per acre | Stormwater runoff from development transported by vegetated conveyances to the maximum extent practicable. | Control runoff from the first inch of rainfall. New development density not to exceed 50% built-upon area. |
| **WS-IV (Protected Area)** | 24% built-upon area or two single-family residential development per acre | Stormwater runoff from development transported by vegetated conveyances to the maximum extent practicable. | Control runoff from the first inch of rainfall. New development density not to exceed 70% built-upon area. |

## 2.6. Randleman Lake Water Supply Watershed Program (15A NCAC 2B .0251)

North Carolina Administrative Code 15A NCAC 2B .0251 can be found at: http://ncrules.state.nc.us/ncac.asp?folderName=%5CTitle%2015A%20-%20Environment%20and%20Natural%20Resources%5CChapter%2002%20-%20Environmental%20Management

The Randleman Lake Water Supply Watershed Program applies to the upper and lower portions of the Randleman Lake Watershed. The upper portion of the watershed is defined as those waters and lands of the Deep River watershed that drain to the Oakdale-Cotton Mill Dam. The lower portion of the watershed is comprised of those waters and lands of the Deep River upstream and draining to the Randleman Lake Dam, and from the Oakdale-Cotton Mill Dam to the Randleman Dam.

### 2.6.1. Lower Portion

- Stormwater control requirements for development in the Lower Portion are described in rule.

### 2.6.2. Upper Portion

Development in the upper portion of the Randleman watershed must meet the State's rules for a WS-IV classification as described 15A NCAC 2B .0104, .0202, and .0216. The primary stormwater management requirements that affect BMP design are found in section .0216. These requirements are summarized in Section 2.5 of this document and described in rule.

## 2.7. 401 Water Quality Certifications

Section 401 of the Clean Water Act delegates authority to the states to issue a 401 Water Quality Certification for all projects that require a Federal Section 404 Permit due to impacts to wetlands or waters of the State. A 401 Water Quality Certification is also required to impact isolated wetlands, which are not covered under Section 404. The 401 Certification is verification by the Division of Water Quality that a given project will not degrade waters of the State or otherwise violate water quality standards. The stormwater requirements associated with receiving a 401 Certification can be found on the Division of Water Quality's web site at: http://h2o.enr.state.nc.us/ncwetlands/rd_wetlands_certifications.htm.

## 2.8. Universal Stormwater Management Program

Legislation for the USMP Program (15A NCAC 2H .0102) can be found at: http://ncrules.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-

%20environmental%20management/subchapter%20h/15a%20ncac%2002h%20.1020.html

The voluntary Universal Stormwater Management Program (USMP) enables local governments to administer state stormwater programs within their jurisdiction while providing more effective environmental protections. It went into effect January 1, 2007. The USMP represents a new approach to stormwater management in North Carolina by allowing local governments to adopt and implement a single, simplified set of stormwater rules within their jurisdiction. The objective of this program is to eliminate confusion that can be created by overlapping requirements of different stormwater pollution prevention programs. This program also incorporates the latest research regarding the most effective control and treatment of stormwater pollution. The USMP program meets the requirements of Session Law 2008-211.

The USMP is available to local governments that adopt an ordinance that both complies with the rule, and receives approval from the Environmental Management Commission. For those entities that adopt the program, the rule outlines requirements that apply to development and redevelopment activities that meet defined thresholds. The USMP rule requires stormwater controls, such as the detention of stormwater to settle solids and modify its force and volume, for projects that meet or exceed the thresholds. In areas where stormwater drains to shellfish harvesting waters, measures must be taken to control fecal coliform and new or expanded outfalls are prohibited.

For more information about the USMP and the text of the rule, go to the Division of Water Quality's Web site, http://h2o.enr.state.nc.us/su/usmp.htm.

## 2.9. Protection of Threatened and Endangered Species and the Site Specific Water Quality Management Plan for the Goose Creek Watershed (15A NCAC 2B .0600)

Legislation for 15A NCAC 2B .0600 can be found at:
http://ncrules.state.nc.us/ncac.asp?folderName=%5CTitle%2015A%20-%20Environment%20and%20Natural%20Resources%5CChapter%2002%20-%20Environmental%20Management

Several watersheds have additional measures to ensure the protection of endangered species. For example, new development activities are subject to more stringent requirements as a result of an Administrative Law Judge ruling and Environmental Management Commission (EMC) decisions relating to the protection of the Carolina Heelsplitter, an endangered species. These include (but are not limited to):

- Goose Creek Watershed
- Sixmile Creek Watershed
- Waxhaw Creek Watershed

The Division of Water Quality may identify other watersheds with threatened and endangered species in the future. Contact the Central Office of the Division of Water Quality regarding specific requirements.

### 2.9.1. Goose Creek Watershed (15A NCAC 2B .0601-.0609)

The Site Specific Water Quality Management Plan for the Goose Creek Watershed (15A NCAC 2B .0601-.0609) requires that in the Goose Creek Watershed:

- No new wastewater discharges or expansions are permitted.
- Any new development activity that disturbs one acre or more of land and increases impervious surface must control and treat the difference in stormwater runoff from pre-development and post-development conditions for the one year, 24-hour storm with structural controls that meet rule requirements.
- No activity that results in a direct or indirect discharge is allowed if it causes toxicity to the Carolina heelsplitter, with special attention to ammonia inputs.
- For new activities, undisturbed riparian buffers are required within 200 feet of waterbodies within the 100-year flood plain and within 100-feet of waterbodies not within the 100-year floodplain. The floodplain is delineated by the North Carolina Floodplain Mapping Program in the Division of Emergency Management.
- A chart that describes activities in the buffer areas that are exempt or potentially allowable with Division of Water Quality approval is included in the rules.

## 2.10. Impervious Vehicular Parking Legislation (Session Law 2008-198)

The specific Legislation for Session Law 2008-198 can be found at:
http://www.ncleg.net/Sessions/2007/Bills/Senate/PDF/S845v4.pdf

In 2008, legislation was adopted (Article 4A of S.L. 2008-198) that placed limitations on the percent impervious areas for vehicular parking lots in certain regions of the state. The legislation affected parking areas over one acre in size for local building permits issued on or after April 1, 2009. The legislation only applied to areas of the state that are not now under some state or federally-mandated stormwater program, such as Phase II, Water Supply, HQW or coastal counties stormwater.

This statute requires that no more than eighty percent (80%) of the surface area of the vehicular surface area may be impervious surface. Impervious surface is defined as any material that prevents the natural infiltration of water into the soil. Vegetated areas within the vehicular surface area will count towards the percentage of pervious surfaces. Permeable pavements such as permeable concrete, permeable asphalt, permeable interlocking concrete pavers, concrete grid pavers, and plastic reinforced grid systems can be used for credit toward the 20% requirement.

The DWQ Stormwater BMP manual does not recommend acceptance of permeable paving systems for stormwater credit in most areas of the central and western parts of the state. However, the DWQ has prepared Technical Requirements and Guidance for permeable pavement systems that all apply in all areas of the state covered by this statute. See Appendix A.

The new statute also provides an alternative compliance method of treating the first two inches of runoff from at least 20% of the vehicular service area in an appropriately sized bioretention area. The statute specifies that the bioretention area must be designed in accordance with standards established by the Department. DWQ has provided technical specifications for bioretention regulated by State and Federal requirements in Chapter 12 of this manual. Technical specifications may be different for bioretention cells for areas of the state which must only comply with the provisions of Session Law 2008-198. See Appendix A.

For more details and examples of what areas can and cannot be counted towards the 20% permeable requirement, please see the DWQ Stormwater Permitting Unit's website: http://h2o.enr.state.nc.us/su/parkingspaces.htm.

**Figure 2-1**
Stormwater Programs in North Carolina (6/2009)

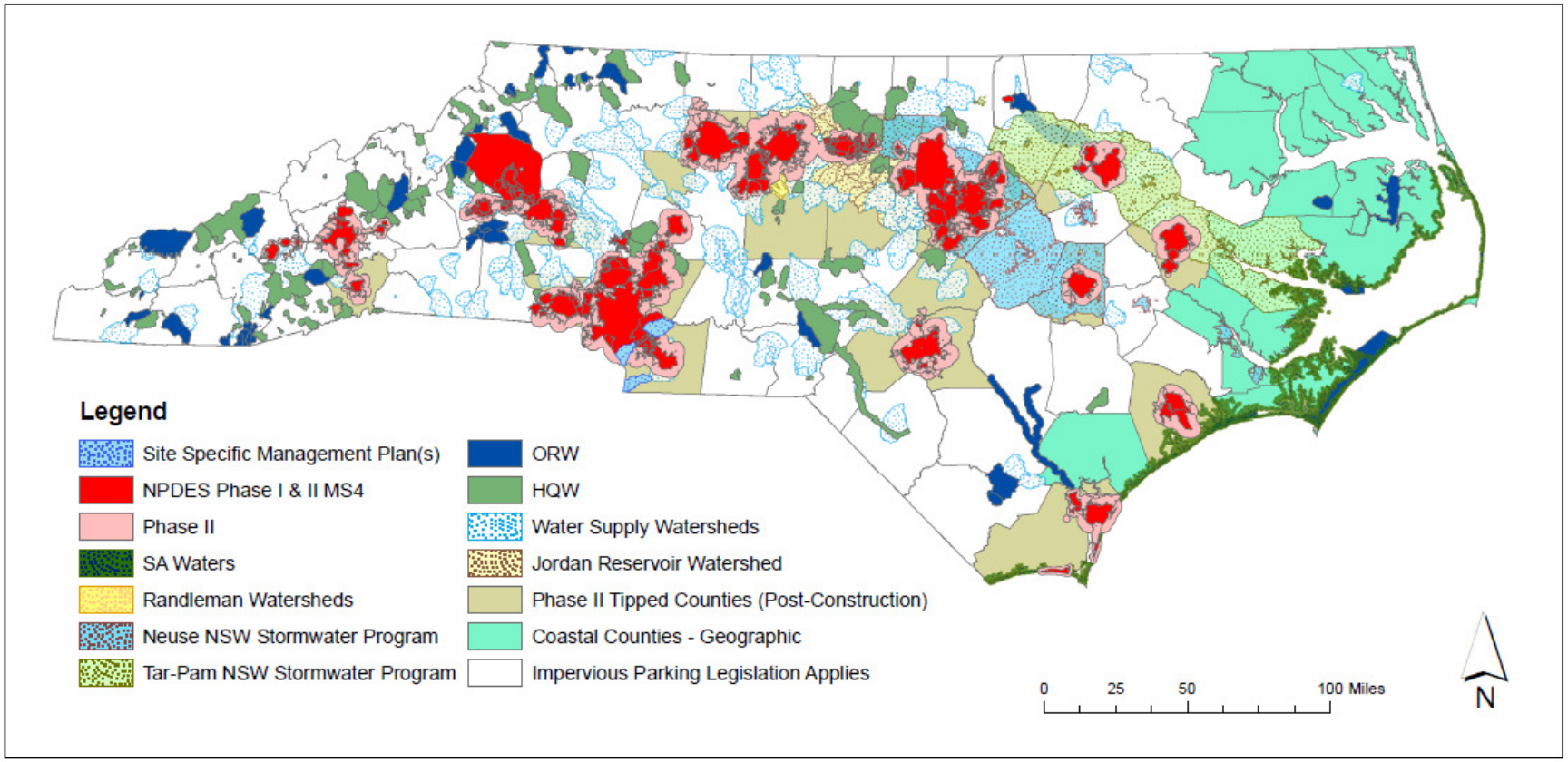
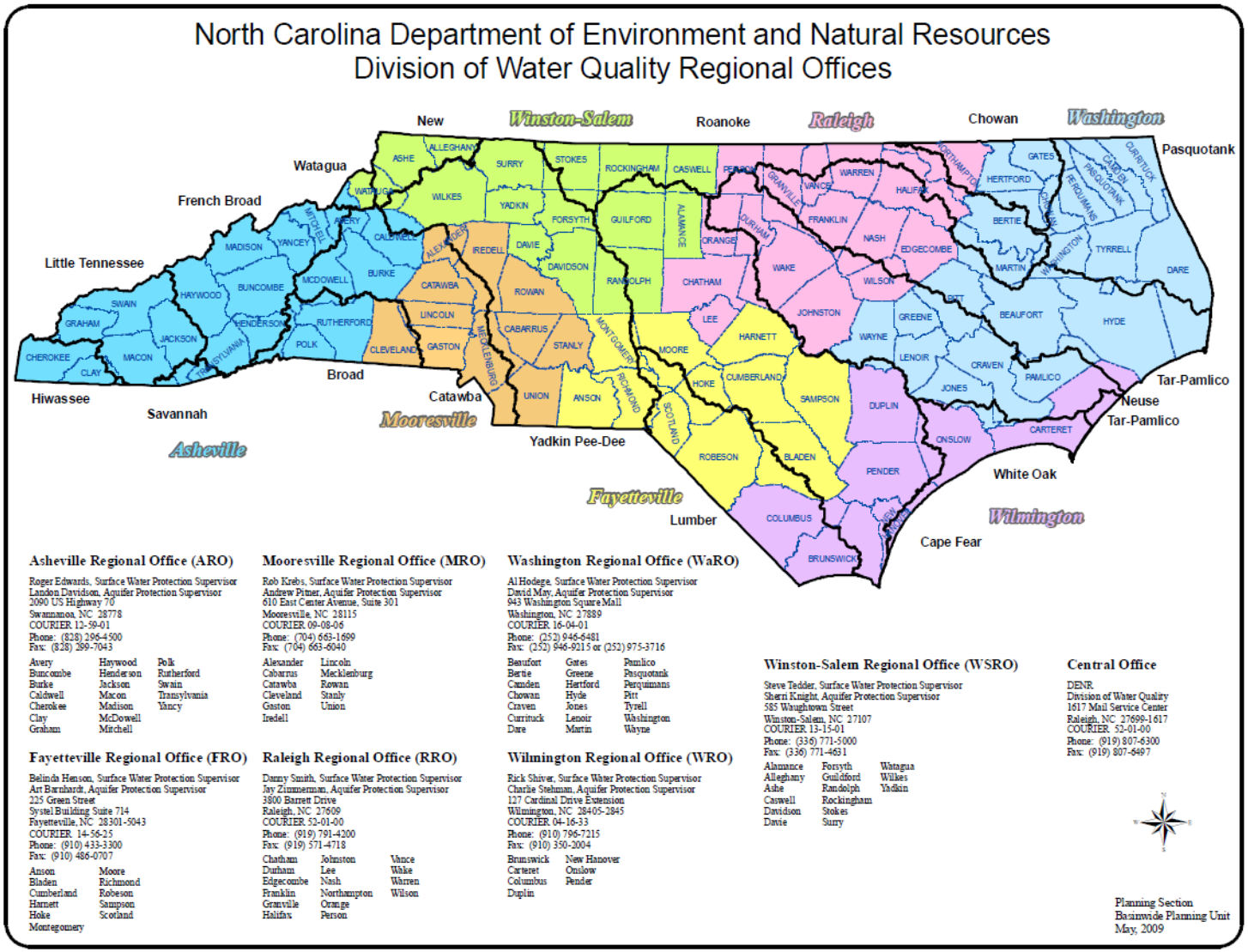


**Figure 2-2**


North Carolina Department of Environment and Natural Resources
Division of Water Quality Regional Offices
New
Winston-Salem
Roanoke
Raleigh
Chowan
Washington
Pasquotank
Watagua
French Broad
Little Tennessee
Hiwassee
Savannah
Asheville
Broad
Catawba
Mooresville
Yadkin Pee-Dee
Fayetteville
Lumber
Cape Fear
White Oak
Wilmington
Neuse
Tar-Pamlico
Tar-Pamlico
ASHE
ALLEGHANY
WATAUGA
WILKES
SURRY
STOKES
ROCKINGHAM
CASWELL
PERSON
YADKIN
FORSYTH
GUILFORD
ALAMANCE
ORANGE
DURHAM
GRANVILLE
VANCE
WARREN
FRANKLIN
NASH
HALIFAX
NORTHAMPTON
GATES
HERTFORD
CHOWAN
PERQUIMANS
PASQUOTANK
CAMDEN
CURRITUCK
BERTIE
MARTIN
TYRRELL
DARE
WASHINGTON
EDGECOMBE
WILSON
WAKE
CHATHAM
RANDOLPH
DAVIDSON
DAVIE
IREDELL
ALEXANDER
CALDWELL
AVERY
MITCHELL
MADISON
YANCEY
BUNCOMBE
MCDOWELL
BURKE
CATAWBA
ROWAN
LINCOLN
CABARRUS
STANLY
MONTGOMERY
RICHMOND
MOORE
LEE
HARNETT
JOHNSTON
SAMPSON
DUPLIN
ONSLOW
JONES
PITT
GREENE
LENOIR
WAYNE
CRAVEN
PAMLICO
BEAUFORT
HYDE
CARTERET
PENDER
BLADEN
COLUMBUS
BRUNSWICK
ROBESON
SCOTLAND
HOKE
CUMBERLAND
UNION
ANSON
MECKLENBURG
GASTON
CLEVELAND
RUTHERFORD
POLK
HENDERSON
TRANSYLVANIA
HAYWOOD
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Camden Hertford Perquimans
Chowan Hyde Pitt
Craven Jones Tyrell
Currituck Lenoir Washington
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Raleigh Regional Office (RRO)
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3800 Barrett Drive
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Chatham Johnston Vance
Durham Lee Wake
Edgecombe Nash Warren
Franklin Northampton Wilson
Granville Orange
Halifax Person
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Phone: (910) 796-7215
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Applicable Stormwater Requirements for Sites that Drain to Saltwaters

| **Requirement**<br>- Based on Classification | **State S/W**<br>20 Coastal Counties | **SA**<br>(1/2 Mile and Draining To) | **ORW**<br>(Within 575′ MHW Line) | **Neuse NSW** | **Tar-Pamlico NSW** | **Phase II** | **USMP** |
|---|---|---|---|---|---|---|---|
| *Permitting Authority* | DWQ – RO | DWQ – RO | DWQ – RO | Local Gov't | Local Gov't | Note 13 | Local Gov't |
| Low Density Maximum BUA **(1)** | 24% | 12% | 12% | N/A | N/A | 24% | Note 12 |
| High Density Maximum BUA **(2)** | No Max | No Max | 25% | N/A | N/A | No Max | |
| Low Density Setback/Buffer | 50′ (Note 14) | 50′ (Note 14) | 50′ (Note 14) | 50′ RB | 50′ RB | 30′ | 30′ * |
| High Density Setback/Buffer | 50′ (Note 14) | 50′ (Note 14) | 50′ (Note 14) | 50′ RB | 50′ RB | 30′ | |
| S/W Control Req. for High Density **(3)** | 1.5″ | Note 15 | Note 15 | Peak Reduc. | Peak Reduc. | 1″ (Note 16) | 1.5″ R/O |
| TSS removal Requirement | 85% | 85% | 85% | N/A | N/A | 85% | 85% |
| Stormwater Drawdown Requirement **(4)** | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 |
| Vegetated Conv. For Low Density **(5)** | Yes | Yes | Yes | N/A | N/A | Yes | N/A |
| Deed/Property Restrictions Required **(6)** | Yes | Yes | Yes | N/A | N/A | Yes | Yes |
| Infiltration Systems Required for S/W Control | | Note 8 | | | | | |
| No New or Expanded Stormwater Discharges **(9)** | | Applies | | | | | |
| Nitogen Loading Limits **(10)(11)** | | | | Yes | Yes | Note 10, 11 | Note 10, 11 |
| Phosphorus Loading Limits **(11)** | | | | No | Yes | Note 11 | Note 11 |

**BUA –** Built-upon area, **DWQ-RO** – Division of Water Quality – Regional Office, **NSW -** Nutrient Sensitive Waters, **ORW** – Outstanding Resource Waters, **RB** – Riparian Buffer, **R/O –** Runoff, **SA –** Saltwater "A" Classification (Shellfishing), **S/W –** Stormwater, **TSS** – Total Suspended Solids, **USMP** – Universal Stormwater Management Program, **HQW** – High Quality Waters

## Footnotes for Table 2-2

**(1)** Low-density limits are represented in the table in terms of maximum built upon area percentage. In addition, a two-dwelling-units-per-acre limit may be used in lieu of this percentage.
**(2)** High-density limits are represented in maximum built upon area percentages only. No dwelling-unit-per-acre limits apply.
**(3)** Stormwater Control Requirement: 1.5-inch storm. For SA and ORW waters see Note 15.. For the Neuse and Tar-Pamlico stormwater programs (Peak Reduc.), there shall be no increase in peak flow leaving the site from the predevelopment conditions for the 1-year, 24-hour storm.
**(4)** Drawdown Requirement: Runoff volume drawdown time varies between programs but must be a minimum of 24-48 hours (depending on the program), but not more than 120 hours; may differ based on BMP selected.
**(5)** The low-density option requires the use of vegetated conveyances to the maximum extent practicable and shall not have a discrete collection system.
**(6)** Where applicable, deed or property restrictions and protective covenants are required by the locally issued permit and incorporated by the development to ensure that that subsequent development activities maintain the development (or redevelopment) consistent with the approved plans. For the 20 Coastal Counties and Phase II projects, this must be recorded prior to issuance of a certification of occupancy.
**(7)** Cluster development is defined in 15A NCAC 02B .0202 (16) as the following: "the grouping of buildings in order to conserve land resources and provide for innovation in the design of the project including minimizing stormwater runoff impacts."
**(8)** For 20 Coastal Counties must meet requirements of Section 2.(b)(1)(c) of SL 2008-211.
**(9)** No new or expanded stormwater discharges are allowed for projects draining to shellfishing waters.
**(10)** The Neuse stormwater nutrient loading limits specified in 15A NCAC 2B .0235 apply in the applicable affected local governments within the Neuse River Basin.
**(11)** The Tar-Pamlico stormwater nutrient loading limits specified in 15A NCAC 2B .0258 apply in the applicable affected local governments within the Tar-Pamlico River Basin.
**(12)** No Low/High density designations for USMP; No maximum BUA, *except* if within 575' of SA waters, maximum BUA is 36%.
**(13)** DWQ-RO or Local government (see http://h2o.enr.state.nc.us/su/msi_maps.htm)
***** Neuse and Tar-Pamlico setbacks are a 50-foot riparian buffer.
**(14)** 50' vegetated buffer for new development. 30' vegetated buffer for redevelopment.
**(15)** The greater of: 1.5" R/O; or Pre/Post Difference for the 1-year, 24-hour storm.
**(16)** In the 20 Coastal Counties, as local government's Phase II NPDES permits are renewed the post-construction requirements will be updated to meet those in 2008-211.

**Table 2-3a**
Water Supply Watershed Requirements for Sites that Drain to **Freshwaters**

| **Requirement** (Based on Classification) | **WS-II CA** | **WS-II BW** | **WS-III CA** | **WS-III BW** | **WS-IV CA** | **WS-IV PA** |
|---|---|---|---|---|---|---|
| *Permitting Authority* | Local Gov't | Local Gov't | Local Gov't | Local Gov't | Local Gov't | Local Gov't |
| Low Density Max. Built Upon Area (BUA) **(1)** | 6% | 12% | 12% | 24% | 24% | 24% |
| High Density Max BUA **(2)** | 24% | 30% | 30% | 50% | 50% | 70% |
| Low Density Setback | 30′ | 30′ | 30′ | 30′ | 30′ | 30′ |
| High Density Setback | 100′ | 100′ | 100′ | 100′ | 100′ | 100′ |
| S/W Control Req. for High Density **(3)** | 1″ R/O | 1″ R/O | 1″ R/O | 1″ R/O | 1″ R/O | 1″ R/O |
| TSS Removal Requirement | 85% | 85% | 85% | 85% | 85% | 85% |
| Stormwater Drawdown **(4)** | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 |
| Vegetated Conv, for Low Density **(5)** | Yes | Yes | Yes | Yes | Yes | Yes |
| Deed/Property Restrictions Required **(6)** | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster Dev. Allowed **(7)** | Yes | Yes | Yes | Yes | Yes | Yes |
| 10/70 Provision Allowed **(8)** | No | Yes | No | Yes | No | Yes |
| NSW Load Limits **(10)** | | | | | | |

**CA** – Critical Area, **BW** – Balance of Watershed, **HQW** – High Quality Waters, **ORW** – Outstanding Resource Waters, **NSW** – Nutrient Sensitive Waters, **PA** – Protected Area, **Randle** – Randleman Reservoir Watershed, **RB** – Riparian Buffer, **RO** – Runoff, **TSS** – Total Suspended Solids, **WS** – Water Supply watershed, **USMP** – Universal Stormwater Management Program

**Table 2-3b**
Applicable Stormwater Requirements for Sites that Drain to **Freshwaters**

| **Requirement** (Based on Classification) | **HQW or ORW** | **USMP** | **Neuse NSW** | **Tar-Pamlico NSW** | **Randle Upper Portion** | **Randle Lower CA** | **Randle Lower PA** | **Phase II** | **State SW Coastal Counties** | **Goose Creek** |
|---|---|---|---|---|---|---|---|---|---|---|
| *Permitting Authority* | DWQ – RO | Local Gov't | Local Gov't | Local Gov't | Local Gov't | Local Gov't | Local Gov't | Local Gov't | DWQ - RO | Local Gov't & DWQ |
| Low Density Max. Built Upon Area (BUA) **(1)** | 12% | Note 11 | N/A | N/A | 24% | 6% | 12% | 24% | 24% | Note 16 |
| High Density Max BUA **(2)** | None | | N/A | N/A | 70% | 30% | 50% | None | None | |
| Low Density Setback | 30′ | 30′ | 50′ RB | 50′ RB | 50′ RB | 50′ RB | 50′ RB | 30′ | 50′ (Note 13) | 100′/200′ RB (Note 14) |
| High Density Setback | None | | 50′ RB | 50′ RB | 50′ RB | 100′ | 100′ | 30′ | 50′ (Note 13) | 100′/200′ RB (Note 14) |
| S/W Control Req. for High Density **(3)** | 1″ R/O | 1″ R/O | Peak reduc. | Peak reduc. | 1″ R/O | 1″ R/O | 1″ R/O | 1″ R/O | 1.5″ R/O | Note 15 |
| TSS Removal Requirement | 85% | 85% | None | None | 85% | 85% | 85% | 85% | 85% | 85% |
| Stormwater Drawdown **(4)** | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 | Note 4 |
| Vegetated Conv, for Low Density **(5)** | Yes | N/A | N/A | N/A | Yes | Yes | Yes | Yes | Yes | N/A |
| Deed/Property Restrictions Required **(6)** | Yes | Yes | N/A | N/A | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster Dev. Allowed **(7)** | Yes | Yes | N/A | N/A | Yes | Yes | Yes | Yes | Yes | Yes |
| 10/70 Provision Allowed **(8)** | No | N/A | N/A | N/A | Yes | No | Yes | No | N/A | No |
| NSW Load Limits **(10)** | | Note 10 | Yes | Yes | | | | | | |

**CA** – Critical Area, **BW** – Balance of Watershed, **HQW** – High Quality Waters, **ORW** – Outstanding Resource Waters, **NSW** – Nutrient Sensitive Waters, **PA** – Protected Area, **Randle** – Randleman Reservoir Watershed, **RB** – Riparian Buffer, **RO** – Runoff, **TSS** – Total Suspended Solids, **WS** – Water Supply watershed, **USMP** – Universal Stormwater Management Program

## Footnotes for Table 2-3a & b

**(1)** Low-density limits are represented in the table in terms of maximum built upon area percentages. In addition, the following dwelling unit per acre limits may be used in lieu of these percentages:

- 6% BUA is equivalent to 1 dwelling unit per every two acres.
- 12% BUA is equivalent to 1 dwelling unit per acre.
- 24% BUA is equivalent to 2 dwelling units per acre.

**(2)** High-density limits are represented in maximum built upon area percentages only. No dwelling-unit-per-acre limits apply.
**(3)** Stormwater Control Requirement: The '1" R/O' requirement as specified in the table corresponds to capturing the runoff from a 1-inch storm. For the Neuse and Tar-Pamlico stormwater programs (Peak Reduc.), there shall be no increase in peak flow leaving the site from the predevelopment conditions for the 1-year, 24-hour storm.
**(4)** Drawdown Requirement: Runoff volume drawdown time varies between programs but must be a minimum of 24-48 hours (depending on the program), but not more than 120 hours; may differ based on BMP selected.
**(5)** The low-density option requires the use of vegetated conveyances to the maximum extent practicable and shall not have a discrete collection system.
**(6)** Where applicable, deed/property restrictions and protective covenants are required by the locally issued permit and incorporated by the development to ensure that that subsequent development activities maintain the development (or redevelopment) consistent with the approved plans. For the 20 Coastal Counties& Phase II Projects, this must be recorded prior to issuance of a certificate of occupancy.
**(7)** Cluster development is defined in 15A NCAC 02B .0202 (16) as the following: "the grouping of buildings in order to conserve land resources and provide for innovation in the design of the project including minimizing stormwater runoff impacts."
**(8)** The "10/70 Provision" is defined in 15A NCAC 02B .0214 , .0215, and .0216 . In general, it allows a local community to set aside 10% of each jurisdiction's portion of the watershed outside the critical area to be developed up to 70% BUA in the water supply watershed. In 1995, the 5/70 provision was changed to the 10/70 provision. This change was optional, and some local governments chose to retain the 5/70 provision.
**(9)** This provision allows projects to be classified as low density for built-upon areas up to 36%, provided that no curb and gutter is used.
**(10)** The Neuse stormwater nutrient loading limits specified in 15A NCAC 2B .0235 apply in the applicable affected local governments within the Neuse River Basin. The Tar-Pamlico stormwater nutrient loading limits specified in 15A NCAC 2B .0258 apply in the applicable affected local governments within the Tar-Pamlico River Basin.
**(11)** No Low/High density designations for USMP; No maximum BUA.
**(12)** Local government or DWQ Central Office (see http://h2o.enr.state.nc.us/su/msi_maps.htm)
* Neuse and Tar-Pamlico setbacks are a 50-foot riparian buffer.
**(13)** 50' vegetated buffer for new development. 30' vegetated buffer for redevelopment.
(**14)** For new activities, undisturbed riparian buffers are required within 200 feet of waterbodies within the 100-year flood plain and within 100-feet of waterbodies not within the 100-year floodplain. The floodplain is delineated by the North Carolina Floodplain Mapping Program in the Division of Emergency Management. The floodplain can be found online at www.ncfloodmaps.com.
**(15)** Control and treat the difference in the stormwater runoff from the predevelopment and post-development conditions for the one-year, 24-hour storm, with structural stormwater controls.
**(16)** No Low/High density designations for Goose Creek. BMPs that promote infiltration are required.

## 2.11. Administrative Information about Obtaining Stormwater Permits

The following sections contain information regarding common administrative questions for the permit issuance process.

### 2.11.1. Corporation and LLC Requirements for Stormwater Permit Ownership

NCAC 2H.1003 (e) specifies the entities eligible to sign stormwater permit applications. Permits will be written only to one of the following entities:

1. The property owner only. (Leasees are not allowed to place deed restrictions on a property.)
2. Jointly to the property owner and the leasee. In this case, both the leasee and the property owner must sign Operation and Maintenance agreements. The lease agreement between the parties should indicate that while the leasee occupies the building, the leasee is responsible for complying with the stormwater permit. Once the building is vacated, permit compliance falls back to the landowner.

A corporation, Limited Liability Corporation (LLC) or partnership must be registered with the NC Secretary of State to do business in North Carolina in order to be issued a stormwater permit.

1. Corporation: A principal executive officer of at least the level of Vice President must sign the application.
2. LLC: There are two types of LLCs, and the Articles of Incorporation should specify the type of LLC. If neither the Articles of Incorporation nor the latest copy of the Annual Report on file with the North Carolina Secretary of State (NCSOS) (http://www.secretary.state.nc.us/corporations/) contains a list of the managers and/or members, or if the name of the person on the application does not appear on the Annual Report, documentation of that person's status must be provided. Suitable documentation would be the minutes of a recent meeting (within the last year) wherein the officers, managers and/or members are listed.
    a. Two types:
        i. Manager managed: Only the designated manager may sign the application. If
        ii. Member managed: Any of the current members are authorized to sign the application
    b. Using an agent of either a manager managed or member managed LLC: An agent's signature on the application can be accepted only if a signed letter from the appropriate individual (for example the sole proprietor, general partner, president, vice president, manager, or member/manager) is provided, authorizing the agent to sign the application on behalf of the proprietor, corporation, LLC, or partnership.
    c. If the manager or member of a corporation or LLC is another corporation or LLC: Apply the same logic as previously discussed. Determine the member corporation, or the managing or member LLC, and determine the name of the president, vice president, manager or member-manager, following the same guidance as previously described. The permit is written to the president, vice president, manager or member manager of

the parent corporation or LLC, designated as the manager or member manager of the applicant.

**2.11.2. Master Development Plans**

Projects such as phased neighborhoods that are part of a Master Plan of development are permitted with the Master Plan in mind. The permittee will need to determine if the project will be overall low density with treatment for higher density areas near surface waters or high density. To determine the density level, calculate the total amount of BUA within the entire project (including high density portions) and divide it by the site area, excluding coastal wetlands as determined by CAMA and any areas below Mean High Water. For projects in the coastal counties that will be reviewed under the 1995 rules, the site area is determined using the Wetlands Policy and Example Calculation guidance.

A permit for the Master Plan is written to limit the overall density, to spell out the maximum built-upon area for each proposed tract, to spell out the type of development being proposed for each tract, and to determine what tracts may be high density and will require an engineered BMP to be permitted for that tract at a future date.

In addition to the basic requirements for plans listed in Section .1003(g) of the Stormwater rules, the Master Plan must show all individual tract boundaries, identified as residential, commercial, multifamily, recreational, amenity, clubhouse, etc., all main roads, all proposed treatment methods, and set a maximum BUA allocation for each tract. Each tract must have a unique identifying marker or name.

Where a permit is issued for the Master Plan, as the plans for each development tract are finalized, the applicant need only submit a "Plan Revision" (no fee or modification) for each tract demonstrating that the development within that tract contains no more than the permitted amount of built-upon area, and that the type of development is maintained, i.e., subdivision, multi-family, apartment, recreation facility, etc. The plans to submit include a dimensioned layout plan and a proposed grading plan.

Due to market fluctuations, revisions to the Master Plan can be permitted, however, each time a change is desired, a permit modification and a separate additional application fee are required.

On overall low density Master plans, identify the areas of known or potential high density development, such as multi-family areas, commercial areas, recreational facilities, and any area with a piped collection system.

Assign identifiers to each tract, delineate each tract boundary and list each tract's site area, built-upon area and percent BUA in tabular format on the plan. Show all major access roads. The BUA associated with interior roads that are part of a future tract will be counted as part of the BUA assigned to that tract. If utilizing high density, delineate the drainage area for each proposed treatment device. Additionally, if the project is low density and utilizes curb outlet swales, or other LID devices, the drainage area for each swale or device must be delineated.

### 2.11.3. Widening Existing Public Roads by Project Developer (not NCDOT)

For high density projects where an existing public road is being widened by the developer for turn lanes, the right-of-way area and the turn lane pavement area should be included in sizing the BMP to the maximum extent practicable.

If the widening is being done by the NCDOT in the 20 Coastal Counties contact the Regional Office for specific requirements.

### 2.11.4. Jurisdictional Wetlands Policy

Many permit applications with wetlands present are not able to submit a signed wetlands delineation map from the Army Corps of Engineers (ACOE) due to a backlog of requests for delineations. The application may only contain a delineation map that is not signed, or a note on the plans saying that no wetlands exist on the site.

Per the new Coastal Stormwater Rules (Session Law 2008-211), no CAMA-jurisdictional wetlands areas may be included in the calculations to determine the built upon area percentage. All other wetlands can be included in the calculations. Previously, portions of wetlands were included in the calculations to determine the built upon area percentage per DWQ Policy (October 5, 2006).

September 28, 2007 Changes:

1. 2.2: Corrected the volume and peak flow requirements.
2. 2.2: Clarified the drawdown requirements specified in the Administrative Code and Session Law 2006-246 (Phase II).
3. Table 2-2: Updated this table summarizing the stormwater requirements for sites that drain to saltwaters.
4. Table 2-3: Updated this table summarizing the stormwater requirements for sites that drain to freshwaters.

June 6, 2009 Changes:

1. Added information that Local Authorities are responsible for implementation.
2. Added updated information on the new Coastal Rules (Session Law 2008-211).
3. Added Administrative information about Obtaining Stormwater Permits (section 2.10).
4. Added new Figure 2-1, Map of State Stormwater Programs.
5. Added reference to new Impervious Parking Legislation.
6. Added reference to Jordan Lake Rules.
7. Created separate 2 tables (2-3a and 2-3b) for Requirements for Sites that Drain to Freshwaters.
8. Added information about Master Development Plans , Widening Existing Public Roads by Project Developer, Corporation and LLC Requirements for Stormwater Permit Ownership.
9. Added references to rules online.