



Fee Paid \_\_\_\_\_  
 Date Paid \_\_\_\_\_  
 Permit No. \_\_\_\_\_  
 Approval Date \_\_\_\_\_

## Stormwater Permit Application

### 1. Project/Site Information

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

Project Address: \_\_\_\_\_ City/Town: \_\_\_\_\_

PIN#: \_\_\_\_\_ Township: \_\_\_\_\_

Latitude \_\_\_\_\_ Longitude: \_\_\_\_\_

Project description: \_\_\_\_\_

Total Site Area (ac.): \_\_\_\_\_ Total Disturbed Area (ac.): \_\_\_\_\_  
 (Entire Lot Area for New Developments or Disturbed Area for Redevelopments)

Watershed Classification: \_\_\_\_\_ Upper or Lower Falls Lake Watershed \_\_\_\_\_

Subdivisions: Number of Lots \_\_\_\_\_ Lot Density \_\_\_\_\_ Max Density Allowed \_\_\_\_\_

Existing B.U.A. (s.f. or ac.): \_\_\_\_\_ B.U.A. Removed (s.f. or ac.): \_\_\_\_\_

Proposed B.U.A. (s.f. or ac.): \_\_\_\_\_ Future B.U.A (s.f. or ac.): \_\_\_\_\_

Total B.U.A. (s.f. or ac.): \_\_\_\_\_ % of Site Maximum BUA % Allowed \_\_\_\_\_  
 (Watershed Classification or Zoning)

Low or High Density Project \_\_\_\_\_ Maximum B.U.A. Allowed by SCM Design: \_\_\_\_\_  
 (High Density may require all BUA to be treated) (Based on the SCM design calculations)

### 2. Design Professional Information

Name: \_\_\_\_\_ NC License # \_\_\_\_\_

Company: \_\_\_\_\_

Company Address: \_\_\_\_\_

Office Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

I \_\_\_\_\_, attest that this Stormwater Permit Application has been reviewed by me and is accurate, complete, and consistent with the information in the engineering plans, calculations, and other supporting documentation to the best of my knowledge.

Design Professional Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### 3. Owner/Developer Information

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

Owner Company: \_\_\_\_\_

Owner Company Address: \_\_\_\_\_

Office Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Owner/Developer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

4. The following is required if the single-family, duplex residential, or recreational development/redevelopment cumulatively disturbs more than one-half acre and is not part of a larger common plan of development or sale; or if the commercial, industrial, institutional, multifamily residential or local government development/redevelopment cumulatively disturbs more than 12,000 square feet and is not part of a larger common plan of development or sale. **(Complete section 4a or 4b, as applicable and section 4c)**

Note: All nutrient calculations shall be made using the latest edition of the Jordan/Falls Lake Stormwater Nutrient Load Accounting Tool found at: <http://portal.ncdenr.org/web/jordanlake/implementation-guidance-archive>.

a. Nutrient Calculations for Redevelopments

- Redevelopment is any development on previously-developed land. Redevelopment of structures or improvements that would replace or expand structures or improvements that existed as of December 2006, the end of the baseline period, and that **would not** result in a net increase in built-upon area shall not be required to meet the nutrient loading targets or high-density requirements except to the extent that the developer shall provide stormwater control at least equal to the previous development.
- Redevelopment is any development on previously-developed land. Redevelopment of structures or improvements that would replace or expand structures or improvements and **would** result in a net increase in built-upon area shall have the option of meeting one of the following loading standards for the entire project site: (Indicate the loading standard used by checking the box to the left)

Nitrogen and phosphorus loads contributed by the proposed development shall not exceed the following unit-area mass loading rates: 2.2 and 0.33 pounds per acre per year for nitrogen and phosphorus, respectively.

A reduction of 40 and 77 percent in average annual mass loads of nitrogen and phosphorus from the entire project site from a baseline of 2006.

Redevelopment Nutrient Calculation Summary (all calculations shall be in lbs/acre/year)

Existing Nitrogen Loading	_____	Proposed Nitrogen Loading	_____
Existing Phosphorus Loading	_____	Proposed Phosphorus Loading	_____
% Nitrogen Reduction Onsite:	_____	% Nitrogen Reduction Offsite	_____
% Phosphorus Reduction Onsite:	_____	% Phosphorus Reduction Offsite	_____

**Nutrient Management SCM Required?**      **Yes**                      **No**

**Type of Stormwater Control Measure Used** \_\_\_\_\_ (Bioretention, Wet Pond, Etc.)

b. Nutrient Calculations for New Developments

Nitrogen and phosphorus loads contributed by the proposed new development shall not exceed the following unit-area mass loading rates: 2.2 and 0.33 pounds per acre per year for nitrogen and phosphorus, respectively.

Existing Nitrogen Loading	_____	Proposed Nitrogen Loading	_____
Existing Phosphorus Loading	_____	Proposed Phosphorus Loading	_____
% Nitrogen Reduction Onsite:	_____	% Nitrogen Reduction Offsite	_____
% Phosphorus Reduction Onsite:	_____	% Phosphorus Reduction Offsite	_____

**Nutrient Management Stormwater Control Measure Required?**       **Yes**                       **No**

**Type of Stormwater Control Measure Used** \_\_\_\_\_ (Bioretention, Wet Pond, Etc.)

c. Peak Runoff Calculations for New Developments or Redevelopments

Provide bound signed and sealed hydrology calculations performed by a design professional indicating the development shall not result in a net increase in peak flow leaving the site from predevelopment conditions for the one-year, 24-hour storm event. Rational method or SCS Unit Hydrograph methods are acceptable.

- Provide a pre-developed and post-developed drainage basin plan including any offsite drainage areas that drain to the SCM, if applicable. The labeling of the drainage basins (name and areas) shall be consistent with the hydrology calculations. **The plan shall be 11" x 17" or larger depending on the site characteristics.**
- NRCS Curve Number (CN) or Rational (C) runoff coefficient calculations for existing and proposed site conditions. Provide detailed calculations for composite coefficients, a description of ground cover, hydrologic group, and areas.
- Time of concentration (Tc) calculations and flow paths for existing and proposed site conditions. The Tc method used in the calculations should be appropriate for the drainage basin characteristics.
- Precipitation data for the site taken from NOAA Atlas 14 Precipitation Frequency Data Server. (The coordinates used should be as close as possible to the actual site location)
- Provide a color copy of USGS Topographic Map with site boundary shown and labeled of sufficient scale to identify the entire project area and the closest surface waters. (Note: Blue line streams shown on this map require stream buffers.)
- Provide a color copy of USDA SCS Soil Survey map with site boundary shown and labeled.
- Calculations shall be permanently bound to prevent separation.
- Peak Runoff Calculation Summary

Basin No. \_\_\_\_\_ Predeveloped Runoff Rate \_\_\_\_\_ cfs | Post-Developed Runoff Rate \_\_\_\_\_ cfs

Basin No. \_\_\_\_\_ Predeveloped Runoff Rate \_\_\_\_\_ cfs | Post-Developed Runoff Rate \_\_\_\_\_ cfs

Basin No. \_\_\_\_\_ Predeveloped Runoff Rate \_\_\_\_\_ cfs | Post-Developed Runoff Rate \_\_\_\_\_ cfs

Basin No. \_\_\_\_\_ Predeveloped Runoff Rate \_\_\_\_\_ cfs | Post-Developed Runoff Rate \_\_\_\_\_ cfs

**Total** \_\_\_\_\_ **cfs** \_\_\_\_\_ **cfs**  
(2 dec. places) (2 dec. places)

**Peak Management Stormwater Control Measure Required?**     **Yes**         **No**

**Type of Peak Stormwater Control Measure Used** \_\_\_\_\_ (Bioretention, Wetland, Etc.)

d. Stormwater Plan requirements for Developments **without** a SCM:

- Minimum 18"x24" plan size at an appropriate scale.
- Project owner and project designer contact information.
- Address of property, County Property Identification Number, and lot number from plat if applicable.
- Vicinity map.
- North Arrow.
- Appropriate scale.
- Appropriate legend identifying features shown on the plan or all improvements properly labeled.
- Property boundaries and adjacent intersecting property boundaries.
- Show ownership information for the proposed development site and all properties contiguous to the site.
- Proposed limits of disturbance and label the area.
- Existing and proposed ground cover (existing woods, lawn, driveway, sidewalk, patio, deck, etc.)
- Note the existing BUA, demolished BUA, proposed BUA, total BUA and total BUA as percentage of total site.
- Label the proposed BUA areas in the plan view to correspond to the areas used in the Nutrient calculations spreadsheet..
- Label the water-supply watershed classification (WS-III, WS-IV, etc.).
- Label if the site is in the upper or lower Falls Lake Basin.
- Show extents of all wetlands, if applicable. Make statement on plans if no wetlands are present on the property.
- If surface waters (intermittent, perennial, lakes, ponds, and estuaries) are present, show riparian stream buffers measured from the top of bank. (Zone 1: 30-foot Undisturbed Buffer and Zone 2: 20-foot Vegetated Buffer in accordance with 15A NCAC 02B.0233.
- **Buffer Impact Authorization**
- Show floodways and floodplains (as applicable). Identify and label 100-year Base Flood Elevations (BFEs) where available. If a floodplain impacts are proposed, contact the Floodplain Administrator for additional requirements. If a floodplain exists and no impacts are proposed, then make a statement on the plans that no impacts to the existing floodplain are proposed along with the FIRM Panel Number and date. If no floodplain or floodway areas are located on the property, then make a statement on the plans that no floodplain is present on the property along with FIRM Panel Number and date.
- Existing and proposed site topography (use of aerial topographic information is acceptable if no SCM is proposed).

5. If Section 4 requires a Stormwater Control Measure (SCM), then the applicant shall provide the following:
- a. Stormwater Management Plan and Details
    - 24"x36" plan size at an appropriate scale. Larger or smaller plans sizes will not be accepted.
    - Project owner and project designer contact information.
    - Address of property, County Property Identification Number, and lot number from plat if applicable.
    - Vicinity map.
    - North Arrow.
    - Appropriate scale
    - Benchmark information
    - Appropriate legend identifying features and layers on the plan.
    - Property boundaries and adjacent intersecting property boundaries.
    - Show ownership information for the proposed development site and all properties contiguous to the site.
    - Note existing and proposed land use(s) for the proposed site development area.
    - Note existing land use(s) for all off-site areas.
    - Proposed limits of disturbance and label the area.
    - Existing and proposed ground cover (existing woods, lawn, driveway, sidewalk, patio, deck, etc.)
    - The Stormwater Plan and SCM must be designed for the ultimate built-out potential from all surfaces draining to the SCM, including any off-site drainage.
    - Note the existing BUA, demolished BUA, proposed BUA, future BUA, total BUA and total BUA as a percentage of the total site, maximum BUA allowed by SCM design, and maximum allowed by watershed classification as applicable.
    - Label the proposed BUA areas in the plan view to correspond to the areas used in the Nutrient calculations spreadsheet.
    - Designated water-supply watershed classification (WS-III, WS-IV, etc.).
    - Provide soil names and hydrologic group classification.
    - Surface waters (intermittent, perennial, lakes, ponds, and estuaries). Make statement on plans if no streams are present on the property.
    - Provide name of the downstream stream receiving runoff from this proposed development. If the site drains to an unnamed tributary, then label as "Site drains to an unnamed tributary of "Named Creek".
    - Existing wetlands, as applicable. Make statement on plans if no wetlands are present on the property.
    - Show floodways and floodplains (as applicable). Identify and label 100-year Base Flood Elevations (BFEs) where available. If floodplain impacts are proposed, contact the Floodplain Administrator for additional requirements. If a floodplain exists and no impacts are proposed, then make a statement on the plans that no impacts to the existing floodplain are proposed along with the FIRM Panel Number and date. If no floodplain or floodway areas are located on the property, then make a statement on the plans that no floodplain is present on the property along with FIRM Panel Number and date.
    - Note if site drains to a 303(d) listed stream identified by the North Carolina Division of Water Quality. (see NC DWQ Website for more information <http://portal.ncdenr.org/web/wq/ps/mtu/assessment>)

- Existing and proposed site topography (field topographic survey by a registered land surveyor) showing existing and proposed drainage patterns. (Note: utilize a contour interval appropriate for the site conditions, typically 2-ft unless specific site conditions dictate a smaller or larger interval). LIDAR and other GIS topographic data should not be used for final engineering designs (NCBELS, 2009).
- Existing and proposed utilities.
- Existing, Proposed, and Temporary Easements.
- Provide a 15 foot wide Stormwater Control Structure and Access Easement from a public right-of-way to the SCM, over the entire SCM and extended 10 feet beyond the SCM, and a minimum of 20 feet wide over all of the stormwater runoff conveyances discharging into the SCM. Additional easement width may be required for deep stormwater pipes.
- Label proposed stormwater drainage system including but not limited to storm drainage inlets, catch basins, junction boxes, storm drainage pipes, natural vegetated conveyances, infiltration areas, swales, energy dissipaters, and/or structural stormwater SCMs/controls such as wet ponds, as may be applicable. A 10-year storm event shall be used in designing the stormwater conveyance systems unless otherwise dictated by other regulatory agencies.
- Details sufficient to ensure the proper construction of proposed permanent structural stormwater SCMs/controls, as applicable.
- All SCMs that utilize a dam to impound runoff shall, at a minimum, have a primary spillway system with capacity to pass a flow resulting from a 10-year storm event, have an emergency spillway system with capacity to pass a flow resulting from a 50-year storm event while providing 1-foot of freeboard, and pass the flow resulting from a 100-year storm event without overtopping the dam.
- All SCMs that utilize a dam shall be designed and constructed to prevent the development of instability due to excessive seepage forces, uplift forces, or loss of materials in the embankment, abutments, spillway areas, or foundation.
- Identify and show where runoff discharges from the proposed development site (including outflows from SCMs, where applicable) with appropriate connections into a downstream receiving municipal drainage system and/or drainage ways. Note that the point(s) of discharge from the proposed development site must not contribute to erosion or other degradation of the receiving municipal drainage system or drainage way during a 1-year storm event.
- Design Certification of permanent Stormwater Control Measures, where applicable.

I, (Insert Name of the Licensed Design Professional), to the best of my knowledge, certify that the stormwater control measure(s) as shown on this plan has been designed in accordance with the requirements of the (Name of Local Jurisdiction) and North Carolina Division of Water Quality Stormwater Best Management Practices Manual (latest edition), as applicable. I also certify that other applicable local, state, and federal permits have been applied for and/or received.

Signature of Licensed Professional \_\_\_\_\_

Seal

Date \_\_\_\_\_

- Provide the following note: “Annual maintenance inspection and report required – The owner of a permitted Stormwater Control Measure (SCM) shall annually submit a maintenance and inspection report for each SCM to the Stormwater Administrator. Annual inspections shall begin within one year of the as-built certification by the Engineer of Record”.
- Provide the following note: “The developer or his agent shall contact the City of Creedmoor when the stormwater control measure(s) are constructed and about to become operational so a final inspection can be performed to determine compliance with the approved plan”.
- Provide the following note: “Prior to a Certificate of Occupancy, the Engineer of Record shall certify that the completed project is in accordance with the approved stormwater management plans and designs and shall submit an as-built plan for all SCMs and runoff conveyances after final construction is completed.
- Provide a NCDENR Dam Hazard Classification exemption letter or a Dam Safety permit if required by NCDENR. Any proposed water impounding structure (dam) should be designed in accordance with NC Dam Safety standards, and if required, shall be reviewed and approved by the NCDENR – Dam Safety Office. See NCDENR Dam Safety Website <http://portal.ncdenr.org/web/lr/dams>
- Provide copies of any applicable local, state, and federal permits/permits relating to stormwater or grading/filling. (Note: this would include Army Corps 404 and NCDENR DWQ 401 permits for work in regulated waters/wetlands, State Dam Safety permits, floodplain development permits, and FEMA No Rise/CLOMR as applicable)
- Sealed and certified plan set: All plan sheets shall be signed and sealed by a licensed professional engineer or landscape architect (to the extent allowed by applicable law).

b. Stormwater Management Calculations

- All SCMs shall be designed in accordance with the latest edition of NCDENR’s “Stormwater Best Management Practices Manual” (Design Manual).
- The SCM shall take into account the runoff at the ultimate built-out potential from all surfaces draining to the SCM including any off-site drainage.
- Stormwater SCMs shall be designed to control and treat the runoff generated from all surfaces by one inch of rainfall. The treatment volume shall be drawn down pursuant to standards specific to each SCM as provided in the design manual.
- Hydrology and hydraulic calculations indicating the new development does not result in a net increase in peak flow leaving the site from predevelopment conditions for the one-year, 24-hour storm event.
- Hydrologic and hydraulic calculations with hydraulic grade line, drainage areas to each inlet identified, and construction details of proposed storm drainage systems. Recommend the site storm drainage system be designed to convey runoff from the development from a 10-year storm without surcharging the drainage system.
- Provide calculations indicating the stormwater SCM can safely pass larger storm events.
- Hydrologic and hydraulic calculations and procedures used to design the permanent structural stormwater SCMs/controls.

- Provide the following geotechnical documentation.
  - For wet detention ponds, bioretention cells, stormwater wetlands, infiltration devices, underground treatment devices (sand filters, etc.) and permeable pavements provide a seasonal high water table determination with elevations corresponding to the site survey.
  - Wet detention ponds and stormwater wetlands - Provide documentation indicating the suitability of the onsite soils to be used for the dam embankment and the soils located in the body of the pond have a minimum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec or specify a construction procedure/specification to ensure the pond will hold water or provide a specification for a liner should the onsite soils not meet the minimum infiltration rate.
- Calculations shall be permanently bound to prevent separation.

c. Operation and Maintenance Manual

- Prior to plan approval; provide a signed and notarized NCDENR Operation and Maintenance Manual.

The Operation & Maintenance Manual shall include the operation and maintenance actions that shall be taken, specific quantitative criteria used for determining when those actions shall be taken, and who is responsible for those actions. The plan must clearly indicate the steps that shall be taken and who shall be responsible for restoring the stormwater system to design specifications if a failure occurs and must include an acknowledgment by the responsible party.

d. Operation, Maintenance and Easement Agreement

- Prior to the conveyance or transfer of any lot or building site to be served by a engineered stormwater control pursuant to this ordinance, and prior to issuance of any permit for development if the lot or building site is required to be served by an engineered stormwater control pursuant to this ordinance, the applicant or owner of the site must (1) have prepared by a licensed surveyor a plat depicting the access to the SCM which plat shall be reviewed and approved by the jurisdiction prior to recording and which shall reference the Stormwater Covenants and Easement Agreement described below; and (2) execute a binding agreement prepared by the jurisdiction specifying the owner's and subsequent owners' installation and maintenance obligations, granting the jurisdiction a perpetual easement for inspections and other access, and containing such other requirements as may be required by law, rule, ordinance, or the underlying jurisdiction (the "Stormwater Covenants and Easement Agreement"). The Stormwater Covenants and Easement Agreement shall be binding on all subsequent owners of the site, portions of the site, and lots or parcels served by the engineered stormwater control. Until the transference of all property, sites, or lots served by the engineered stormwater control, the original owner or applicant shall have primary responsibility for carrying out the provisions of the Stormwater Covenants and Easement Agreement.
- The Stormwater Covenants and Easement Agreement shall require the owner or owners to maintain, repair and, if necessary, reconstruct the engineered stormwater control, and shall state the terms, conditions, and schedule of maintenance for the engineered stormwater control. In addition, it shall grant (name of local government) a right of entry in the event that the Stormwater Administrator has reason to believe it has become necessary to inspect, monitor, maintain, repair, or reconstruct the engineered stormwater control; however, in no case shall the right of entry, of itself, confer an obligation on (name of local government) to assume responsibility for the engineered stormwater control.

- The applicable Stormwater Covenants and Easement Agreement pertaining to every engineered stormwater control shall be approved by the stormwater administrator prior to issuance of any permit for development, shall be referenced on a plat depicting the engineered stormwater facility and access thereto or, if applicable, on a final subdivision plat, and shall be recorded with the county Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching principles. In the case of a subdivision requiring final plat approval, a Stormwater Covenants and Easement Agreement may be approved without a recorded plat upon approval of the stormwater administrator so long as the Stormwater Covenants and Easement Agreement adequately describes the easement area and the description is replaced with a surveyed description upon final plat approval. The following disclosure statement shall appear on all plats and deeds recorded for property developed under the provisions of the ordinance:
  - i. The Owner is responsible for maintaining the permanent engineered stormwater control labeled as the “Insert name of the SCM as it appears on plat.” as directed by the government office having jurisdiction for watershed protection.
  - ii. This property is located in a stormwater management protection area and/or public water supply watershed, development restrictions apply.
  - iii. The Government office having jurisdiction for watershed protection and their assigns will have the right to access the stormwater control measure labeled as “Insert name of SCM as it appears on plat.” for inspections and maintenance enforcement.
- Stormwater Covenants and Easement Agreement and Plat must be properly filed and recorded with the appropriate Register of Deeds prior to plan approval.
- See the local ordinance for special requirements if the entity owning and maintaining the SCM is a homeowners’ association, property owners’ association, or similar entity.

e. Performance Security for Installation and Maintenance

The local jurisdiction may, at its discretion, require prior to plan approval the submittal of a performance security or bond with surety, cash escrow, letter of credit or other acceptable legal arrangement prior to issuance of a permit in order to ensure that the engineered stormwater controls are (1) installed by the permit holder as required by the approved stormwater management plan, and/or (2) maintained by the owner as required by the Stormwater Covenants and Easement Agreement.

Installation

- Applicant shall submit an Engineer’s estimate or Contractor’s bid for review and approval. Once the amount is approved, the Applicant can proceed with obtaining the performance security from the Bank. The amount of an installation performance security shall be the total estimated construction cost of the SCMs and stormwater conveyances approved under the permit, plus 25%.

Maintenance

- The amount of a maintenance performance security shall be the present value of an annuity of perpetual duration based on a reasonable estimate of the annual cost of inspection, operation and maintenance of the SCMs approved under the permit, at a discount rate that reflects the jurisdiction’s cost of borrowing minus a reasonable estimate of long-term inflation.

6. Developments that pursue Partial Offset of Nutrient Control Offsite

- All offset measures permitted shall meet the requirements of 15A NCAC 02B .0282 and 15A NCAC 02B .0240.
- Development subject to this division shall attain nitrogen and phosphorus loading rate reductions onsite that meet the following criteria prior to using an offsite offset measure:
  - 30 percent or more reduction in both nitrogen and phosphorus loading from the untreated conditions for any single-family, detached and duplex residential development disturbing one-half acre but less than one acre.
  - 50 percent or more reduction in both nitrogen and phosphorus loading from the untreated conditions for any single-family, detached and duplex residential development disturbing more than one acre.
  - 30 percent or more reduction in both nitrogen and phosphorus loading from the untreated condition for other development, including multi-family residential, commercial and industrial development disturbing 12,000 square feet but less than one acre.
  - 50 percent or more reduction in both nitrogen and phosphorus loading from the untreated condition for other development, including multi-family residential, commercial and industrial development disturbing more than one acre.
  - 30 percent or more reduction in both nitrogen and phosphorus loading from the untreated condition for proposed redevelopment activities in a designated downtown area that would replace or expand structures or improvements that existed as of December 2006.
- The Development can offset the required nutrient load either onsite or offsite or seek a third-party offset provider such as the NC Ecosystem Enhancement Program (EEP) or a private nutrient bank to meet nutrient loading requirements. If the third party provider option is pursued, then the developer provides the nutrient offset bank with the local government's authorization letter with the amount of offset required for the project and watershed in which it is located.
- Once the nutrient loading calculations are approved; submit the NCDENR Neuse and Falls Lake Developer Nutrient Reporting Form to the local jurisdiction for approval and issuance of an authorization letter to the developer. The form can be downloaded from NCDENR at the following link <http://portal.ncdenr.org/web/wq/ps/nps/nutrientoffsetpayment>
- Prior to plan approval; provide the jurisdiction with a payment receipt from the Third Party Nutrient Bank.

7. The following is required prior to Final Stormwater Approval and prior to a Certificate of Occupancy

- Upon completion of a project, and before a certificate of occupancy shall be granted, the Engineer of Record shall certify that the completed project is in accordance with the approved stormwater management plans and designs, and shall submit actual "as built" plans for all stormwater management facilities or practices after final construction is completed.
- The as-built plans shall show the final design specifications for all stormwater management facilities and practices and the field location, size, depth, and planted vegetation of all measures, controls, and devices, as installed. The Engineer of Record for the stormwater management measures and plans shall certify, under seal, that the as-built stormwater measures, controls, and devices are in compliance with the approved stormwater management plans and designs and with the requirements of this ordinance. A final inspection and approval by the Stormwater Administrator shall occur before the release of any performance securities.

- Engineer's Construction Certification of the Stormwater SCM. Place this Certification on the Stormwater Management Plan and Stormwater Detail Sheet(s).

I, (Insert Name of the Licensed Design Professional), certify that the stormwater facility labeled as (Identify the Stormwater Facility) and conveyances discharging into the stormwater facility as shown on this plan were inspected during construction, were constructed in substantial conformance with the approved plans and specifications, has its full design volume, and is functioning as designed.

Signature of Licensed Professional \_\_\_\_\_ Seal

Date \_\_\_\_\_

For infiltration type SCM's, copy of hydraulic conductivity test report of the in-situ media/soils (minimum of 2 tests or 1/1,000sf of filter media whichever is greater) of the constructed infiltration SCM.

Final inspection of the site and stormwater management SCMs/controls scheduled with and completed by the Stormwater Administrator.

8. Stormwater Submittal Requirements:

- Contact the City of Creedmoor Stormwater Administrator, Randy Cahoon, AICP CZO at [rcagoon@cityofcreedmoor.org](mailto:rcagoon@cityofcreedmoor.org) to confirm the process for payment of the Stormwater Review Fee. See fee and rate schedule at [www.cityofcreedmoor.org/index.aspx?page=57](http://www.cityofcreedmoor.org/index.aspx?page=57).
- Stormwater Permit Application (All non-exempt projects are required to complete Sections 1-4. Complete Section 5 if a Stormwater SCM is required. Complete Section 6 if Partial Offsite Nutrient Control is proposed.)
- Email one copy to Randy Cahoon, AICP CZO at [rcagoon@cityofcreedmoor.org](mailto:rcagoon@cityofcreedmoor.org) **AND** mail a hardcopy to the stormwater review engineer: Mr. Kelway Howard, PE, Stimmel Associates, PA, 601 N. Trade Street, Suite 200, Winston-Salem, NC 27101.

9. The following items are required to be submitted and approved prior to the issuance of any permit for construction:

- A completed and signed stormwater application.
- Nutrient and Peak Flow calculation approval if a SCM isn't required.
- Stormwater Management Plan approval if a SCM if required.
- Operation and Maintenance Manual approval if a SCM is required.
- Receipt of payment of Partial Offsite Nutrient Control, if applicable.
- Construction and/or Maintenance Bond, if a SCM is required.
- Recorded Operation, Maintenance, and Easement Agreement with plat.
- NCDENR Dam Hazard Classification indicating an exemption or Dam Safety Permit, if applicable.
- Floodplain Development Permit including FEMA No Rise or CLMOR approval, if applicable.
- Army Corps 404 and NCDENR DWQ 401 Water Quality Certification Permits, if applicable.
- Approval of any stormwater related variances, if applicable.

## Change Log

### Version 1.0 – 10/22/2013

- Original Document

### Version 2.0 –

- Reduced the number of hydraulic conductivity test reports required for final stormwater approval.
- Section #1, revised requested BUA categories, added the request for latitude and longitude of the project site.
- Revised % reduction onsite to include both N and P on the second page.
- Increased min width of stormwater control easement from 10 feet to 15 feet.
- All site stormwater conveyances used to convey runoff to the SCM's are required to be included in the construction performance surety.
- Require a Stormwater Control Structure and Access Easement over all conveyances discharging into the SCM.
- Payment of stormwater fee required prior to review of stormwater application in section 8.
- Require a hardcopy of the submittal.
- Revised the Construction Certification to comply with 15A NCAC 02H .1008(j).
- Revised the Operation and Maintenance required to comply with 15A NCAC 02H .1008(i).
- Correct download link to nutrient accounting tool spreadsheet.
- Require bound calculations.
- Change BMP term to SCM.
- Added stormwater plan requirements for developments without SCM.
- Clarified minimum spillway design requirements for SCMs that utilize a dam to impound runoff.
- Added a certification and as-built note for the stormwater plan.
- Clarify that stormwater plan shall contemplate the ultimate build-out of the proposed development.

### Version 3.0 – Amber W.

- Removed all language referring to other counties
- Added Creedmoor logo
- Changed version and date in footer
- Removed “Critical Area” per Randy C. and spelled out “Upper” and “Lower” Falls Lake Watershed
- Removed “Tar-Pamlico”
- Changed “**Peak Stormwater Control Measure Used?**” to “**Type of Peak Stormwater Control Measure Used.**”

