

Chapter 2 – Overall Stormwater Process and Requirements

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2.1 Introduction

Site plans within Wake County's planning jurisdiction must be reviewed and approved by the Watershed Management Program to ensure compliance with Articles [9](#), [10](#), [11](#), and [14](#) of the Unified Development Ordinance and applicable State and Federal regulations.

In addition, Wake County administers an urban stormwater ordinance adopted by the Town of Rolesville, the Town of Wendell, and the Town of Zebulon that focuses on water quality and prevention of downstream flooding impacts. The urban stormwater ordinance is a result of recommendations made by a Countywide Stormwater Task Force and approved by the Wake County Board of Commissioners in 2007. Note: This stormwater manual has been created for developments within in Wake County (non-municipal planning jurisdictions), although sedimentation and erosion control requirements in Chapter 5 are applicable to submittals in all jurisdictions. For stormwater process information specific to Rolesville, Wendell, or Zebulon, visit our [website](#) and review the appropriate local government ordinance.

The general stormwater process in Wake County may include all or a portion of the following steps:

- pre-submittal meeting (preferred)
- preliminary plan review
- construction/permitting plan review and approval
- preconstruction meeting
- permit issuance
- plat recordation and required documents
- permit completion; comply with conditions of approval
- post-construction maintenance

Prior to initiating an application, the applicant should be familiar with the *Wake County Unified Development Ordinance (UDO)* - [Article 9 Stormwater Management](#), [Article 10 Erosion and Sedimentation Control](#), [Article 11 Environmental Standards](#) and [Article 14 Flood Hazard Areas](#).

2.2 Submittal Checklists and Required Elements

Checklists are available to applicants and consultants to aid in the development and submittal of plans to Wake County by identifying major required and/or often overlooked components. However, they are not a substitute for understanding and meeting all requirements of the UDO or this manual. Checklists are living documents which may be updated over time, and applicants should ensure that they have downloaded the current version from the County's [website](#). Available submittal checklists are identified below for reference and will be updated based on changes to UDO and this manual.

Preliminary Plan Review

Preliminary Plan Submittal Checklist (Excluding Falls Lake)

Preliminary Plan Submittal Checklist (Falls Lake Only)

Construction/Permitting Plan Reviews

Construction Drawings (Combined erosion control, stormwater, floodplain)

Construction Drawing Submittal Checklist (Excluding Falls Lake)

Construction Drawing Submittal Checklist (Falls Lake Only)

Erosion Control (Only) Plan Submittal Checklist – Subdivision and Non-residential

Erosion Control (Only) – Single Family Residential Lot

Stormwater (Only) Plan Submittal Checklist (Excluding Falls Lake)

Stormwater (Only) Plan Submittal Checklist (Falls Lake Only)

Flood Study Submittal Checklist

HEC-RAS Submittal Checklist

HEC-RAS Figure 1 (visual guide)

Record Plats

Exempt Plat Submittal Checklist

Final Plat Submittal Checklist

Minor and Minor-Limited Plat Submittal Checklist

Permit Completion Items/Conditions of Approval

As-built Stormwater Control Measure (SCM) Checklist

SCM Specific Field Inspection Checklist

FEMA Elevation Certificate

Wake County Flood Certification Form

Stormwater Deviations

Stormwater Deviation Submittal Checklist

Post-Construction Stormwater

Stormwater Control Measure (SCM) Annual Inspection Form – Single Family Lot

Stormwater Control Measure (SCM) Annual Inspection Form – Subdivision and Non-Residential

2.3 Additional Resources for Submittals

In addition to County developed checklists, there are several resources online for use in developing plans to meet the requirements of the Wake County UDO. Each of these reference materials are required for any development project submitted for review, excepting lot-by-lot erosion control plans* and stormwater deviations (see Chapter 4).

- [United States Geological Survey \(USGS\) 7.5 Minute Quadrangle Map](#) – A legible copy of this map shall be provided with the project boundary clearly shown to scale. This map is required for surface water identification purposes and identification of potential buffered features. Note that this may now also be downloaded from the new NCDEQ mapping tool: [USGS Topo/NRCS Published Soil Survey Mapping Tool \(arcgis.com\)](#). If the DEQ mapping tool is used, ensure that the map is zoomed to the appropriate level to obtain the correct map. The USGS quadrangle and 1970 Soil Survey map will show at different levels.
- [Wake County 1970 NRCS Soil Survey Map](#) – A legible copy of this map shall be provided with the project boundary clearly shown to scale. This map is required for surface water identification purposes and identification of potential buffered features. Note that this may now also be downloaded from the new NCDEQ mapping tool: [USGS Topo/NRCS Published Soil Survey Mapping Tool \(arcgis.com\)](#). If the DEQ mapping tool is used, ensure that the map is zoomed to the appropriate level to obtain the correct map. The USGS quadrangle and 1970 Soil Survey map will show at different levels.
- [Web Soil Survey Map](#) - A legible copy of this map shall be provided with the project boundary clearly shown to scale. This map may be used to show soil classification and shall include a reference table that describes the hydrologic soil group classification. This map shall not be used for surface water identification purposes or identification of potential buffered features.
- [FEMA National Flood Insurance Program \(NFIP\) Flood Insurance Rate Map](#) – A legible copy of this map, including map number, map date shall be provided with the project boundary clearly shown to scale. The effective FEMA 100-year floodplain, with base flood elevations, if applicable, shall be shown on the plans. The copy of the map can be pulled from the actual FEMA Flood map, a FEMA FIRMette or a map export from the [North Carolina FRIS website](#).
- [National Oceanic and Atmospheric Administration \(NOAA\) Atlas 14 Point Precipitation Frequency Estimates](#) - Data shall be specific to the site location and include hydrographs. A legible copy of the printout from the Atlas 14 website shall be provided with the project boundary clearly shown to scale. Hydrographs shall be downloaded and presented graphically. Atlas 14 generally works best when opened in Google Chrome or Firefox web browsers.

**Note: While USGS Quad Maps and the Wake County 1970 NRCS Soil Survey Map are not required for lot by lot erosion control submittals that disturb less than 1 acre within a common plan of development,*

they are a required component of NCDEQ's [NCG01 General Construction Stormwater Permit](#). If these items are not provided with the lot-by-lot erosion control plan, then staff must identify on the approval letter that the plans are not NCG01 compliant and NCDEQ will require revisions to the County approved plan or submittal (to DEQ) of a separate compliant plan for review and approval before issuing NCG01 coverage.

2.4 Stormwater Impact Analysis (SIA)

A stormwater impact analysis (SIA) sealed by a North Carolina licensed design professional shall be provided with any development project submitted for review, excepting lot-by-lot erosion control plans and stormwater deviations. Stormwater impact analyses shall contain the following general components, as well as any site-specific information necessary to demonstrate compliance with County, State, and Federal requirements. SIAs should be revised as needed based on staff review comments and a complete, updated, and sealed version provided with any resubmittal for review. Erosion control compliance calculations may be included as a section of the SIA or may be submitted separately.

It is important for the SIA submitted to be organized well and structured to provide clear, concise summaries of compliance information with supporting documentation attached and easily referenced. The SIA shall include a table of contents, and numbered pages. Note that the information below is not required to be submitted in this order or a standardized format, if the applicable information is within the provided SIA.

1. General Project Information

- a. Project Name
- b. Parcel Identification Numbers (PINs)
- c. Parcel address(es) and/or cross street location information
- d. River Basin (Neuse or Cape Fear) and Watershed (ex: Black Creek, Crabtree Creek, etc.)
- e. Water Supply Watershed Area (ex: N/A or Falls Lake, Little River, etc.)
- f. General Site Information (topography, existing vegetation, soil types, land uses, etc.)
- g. Existing easements onsite (access, drainage, backwater, utility, etc.)

2. **Site History** – A brief site history shall be provided to include any previous/existing development and associated dates, as well as any existing stormwater control measures.

3. Project Description

- a. Type of proposed development (single family homes, etc.)
- b. Number of lots (existing and proposed)
- c. Changes in land use and drainage patterns onsite
- d. Summary of applicable regulations (ex: Neuse Nutrient strategy, Neuse Basin Riparian buffers, Water Supply Watershed Buffers, etc.)

4. Land Disturbance and Impervious Surfaces

- a. Total proposed land disturbance (acres AND square feet)
- b. Total existing impervious area (acres AND square feet)
- c. Proposed impervious area (acres AND square feet)
- d. Overall project density (%) – impervious area/project area
- e. Existing recorded maximum impervious limitations, if applicable

- f. For projects within the Neuse (outside of Falls Lake) and Cape Fear [refer to Section 3.3.2.1 of this manual for specific definitions of terms below]:
 - i. Existing impervious surface area
 - ii. Regulated impervious surface area
 - iii. New impervious surface area
 - iv. Net increase in impervious surface area
 - v. Cumulative impervious surface area

5. Streams, Buffers, and Wetlands

- a. Describe all streams (including [classifications](#)) or drainageways onsite, or within 100 feet of the project boundary, and their associated buffers (Neuse, Jordan, or Water Supply Watershed).
 - i. Reference any buffer determinations that have been obtained and their date
 - ii. For proposed Water Supply Watershed buffers, identify the type of feature, as well as the drainage area to the feature to justify the buffer described unless it has already been reviewed and platted. Reference [UDO Article 11](#).
- b. Describe any wetlands onsite. Refer to any State or Federal jurisdictional determinations, as applicable, and [iMaps](#) ESRI USGS National Map Basemap. Provide site specific wetland and/or geotechnical report as needed.
- c. Describe any proposed impacts to streams, buffers, or wetlands onsite. Refer to any State or Federal approvals, as applicable.
- d. Describe any drainage easements (existing or proposed, widths, etc.) for drainage features onsite.

6. Flood Hazard Areas

- a. Describe any flood hazard areas onsite including impoundments, or within 100 feet of the project boundary (FEMA, flood prone soils, backwater easements, etc.). Identify the appropriate base flood elevation (BFE) and regulatory flood protection elevation (RFPE), as applicable, as well as the method of determination.
- b. Describe and summarize any proposed impacts to these areas (Note: Wake County has stringent limits on impacts to flood prone areas – refer to [UDO Article 14](#) for allowed impacts).
- c. Describe any flood study permit submission that is part of the project. Identify general information, including whether major or minor, etc. Provide applicable permit number(s) for associated flood study(ies), once available.
- d. Reference any approved flood hazard soil redelineation for the site, and provide a copy of the redelineation in reference documentation.

- 7. **Methodologies and Compliance Conclusions** – Summarize methodologies for each calculation component and provide conclusions demonstrating how each required component has been met (includes proposed SCMs, nutrient mitigation payments, etc.). Include reference to supporting calculations and documentation as needed.

- a. *Target Curve number, if applicable (residential only)* – include required and provided volumes for treatment, or exemption (ex: recorded minor subdivision MISA of $\leq 15\%$ impervious). If SCMs are proposed to meet this requirement, identify and describe.
- b. *Nutrient Loading* – include target nutrient loading requirements, whether the project complies with low- or high-density stormwater designs (specify criteria), proposed SCMs, summary table of post-development nutrient loading (with and without SCMs), and identify any required nutrient mitigation payments.
- c. *Downstream Assessment* – include a tabular summary of pre-development, post-development without SCMs, and post-development with SCMs flows for each node.
- d. *Peak Flow* – include a table to summarize the pre-development, post-development without SCMs, and post-development with SCMs flow rates by drainage area/discharge point. If SCMs are proposed to meet this requirement, identify and describe.
- e. *Buffers* – include a narrative to demonstrate compliance with any applicable State Riparian buffers, Wake County Water Supply Watershed Buffers, or required Wake County drainage easements. If impacts to any buffers are proposed, reference and document the required State or County approvals or how an exemption has been met.
- f. *Flood hazard requirements* – include a narrative which summarizes any impacts to flood hazard areas (including road or driveway crossings) and the results of any required flood studies for the project.

8. Supporting Calculations and Drainage Area Maps

- a. Target Curve Number (for Residential Development) with Wake County Target Curve Number Module
- b. Wake County Hybrid Stormwater Tool
- c. Downstream Assessment, with exhibit of 10% point and all points of analysis
- d. Peak Flow Calculations, routing, and exhibits
- e. Maps/exhibits which delineate pre/post drainage areas and landcovers for each point of discharge. Data provided in exhibits should clearly match that provided in calculations.

9. Reference and Supplemental Documents*

- a. Atlas 14 precipitation data and hydrographs
- b. USGS Quad Map with site shown to scale
- c. Wake County 1970 NRCS Soil Survey Map with site shown to scale
- d. Stream and/or Buffer Determinations, as applicable
- e. Buffer Authorizations for impacts, including approved impact maps, as applicable**
- f. Pre-development drainage area maps to support widths of Water Supply Watershed Buffers, as applicable
- g. 401/404 approvals, including approved impact maps, as applicable**
- h. USACE jurisdictional determination for wetlands and surface waters, as applicable**
- i. NCDOT encroachments or other approvals, as applicable, for work in the NCDOT ROW**
- j. Temporary construction easements or encroachment agreements for offsite work**
- k. Written approvals for work within recorded easements, including utility or power easements**

- l. NCDEQ Dam safety approvals, as applicable**
- m. Web Soil Survey Map
- n. FIRM map panel with site shown to scale
- o. No-rise documentation, as applicable**
- p. Flood study, as applicable**
- q. Flood hazard soil redelineation/verification, as applicable

* These items are required for the SIA submittal to be considered complete.

** These items are recommended, but not required, as part of an SIA submitted with a preliminary plan.

They are required, if applicable to the project, to be submitted as part of the SIA at the time of construction drawing/permitting review.

2.5 Application Submittal

All applications shall be submitted online through the [Wake County Permit Portal](#). Instructions and tutorials may be found on the County's [website](#) to:

- Set up an account; an account is needed for the applicant and FRP / owner
- Apply for a permit (Land Disturbance, Stormwater or Flood)
- Submit additional information, revise plans, or pay invoices; and
- Get your issued permit and inspection results.

With the exception of individual lot erosion control permits and stormwater deviations, most applications for erosion control, stormwater, or flood hazard review and permitting will be submitted under a “parent” submittal. For example, a planning (PLG-) submittal or through a building permit submittal (residential or commercial).

The application and all required checklist items must be uploaded to the original/parent permit. Wake County staff will then create and invoice fees for required erosion control, stormwater, or flood hazard reviews or permits.

All review fees (including certification review fees) are required to be paid before the review cycle will begin for a submittal. Permit fees may be paid upfront but shall be paid prior to permit issuance.

2.6 Permit Approval and Issuance

Please read your approval letter carefully, as it will highlight any conditions of approval for your project. All regular subdivisions, individual residential lot disturbances, and non-residential development and redevelopment projects are required to obtain an erosion control and/or stormwater permit through Wake County if certain land disturbance thresholds are met. Disturbance thresholds are set by the type of project and the location of the project (i.e., Neuse River Basin, Falls Lake Watershed, etc.). The general process for permit issuance is as follows. Please refer to Section 4.2.2 of this manual for specifics on the process for “lot-by-lot” permits for residential lots within a common plan of development.

Following staff review and approval of permits for construction drawings, a pre-construction meeting must be scheduled and held prior to any land disturbance. Before a pre-construction meeting can be scheduled, these items must occur:

1. Once all project specific conditions of approval have been met, the applicant shall upload the final plan set (with permit numbers completed in the signature block). The plan reviewer shall verify and complete the signature block electronically, and these signed plans will be available on the Permit Portal.
2. One full size and two half-size (12” x 18”) hard copy sets of the approved and signed plans must be provided to the Watershed Management field consultant so that they may review before the preconstruction meeting.
3. Projects requiring [NCG01 \(General Construction Stormwater Permit\)](#) coverage must apply for and obtain this coverage from NCDEQ.
4. A copy of the NCG01 Certificate of Coverage must be uploaded to the associated land disturbance (SEC) permit through the [Wake County Permit Portal](#).
5. Materials needed to install the initial required sedimentation and erosion control measures to receive a Certificate of Compliance (including risers and skimmers), shall be obtained.

The site contractor(s) and a representative of the financially responsible party shall be present at the pre-construction meeting. The design engineer should also attend to address technical questions and stormwater completion.

At or before the pre-construction meeting, any outstanding permit fees for erosion control, flood, and/or stormwater permits must be paid. Permit fees may not be paid over the phone. The options for payment are:

1. Pay through the online [permit portal](#). Note that only billing contacts for the permit will be able to view and pay invoices through the portal.
2. Pay in person at the 7th floor of the [Wake County Office Building](#) via check or credit card.
3. Mail a check to:
Wake County Environmental Services
Suite 718
P.O. Box 550
Raleigh, NC 27602

Please ensure that if you mail in a check, you reference the permit(s) and/or invoice number(s) so that Customer Support Center staff can apply the payment correctly. Failure to do so may result in a delay in processing.

The preconstruction meetings for the land disturbance (SEC) permit and any stormwater (SWF) permit may be held separately. If there is an SEC permit associated with the project, the applicant need only request the preconstruction meeting for the SEC permit and Wake County staff will coordinate notification to post-construction stormwater staff.

Once your permits have been issued, you may begin to install the initial required erosion and sedimentation control measures only. Land disturbance and clearing should be limited to that necessary to install these measures (Phase 1 of the approved plans). After the initial erosion control measures have been installed per the approved plans, you must contact your field consultant to request a Certificate of Compliance inspection.

If the field consultant verifies that the initial erosion control measures have been installed with temporary stabilization per the approved plans including construction entrance, perimeter measures and required basins and conveyances, they will issue a Certificate of Compliance. Once the Certificate of Compliance has been received, the contractor may proceed with further disturbance and grading of the site. Note that the Certificate of Compliance must be issued prior to County approval of any building permit – either in the County jurisdiction or any municipal areas of the County subject to Article 10 of the UDO (reference [UDO 10-30-7\(D\)](#)). The municipal areas currently served by the County include: Garner (erosion control only), Morrisville (erosion control only), Research Triangle Park (RTP), Rolesville, Wendell, and Zebulon.

2.7 Plat Recordation and Required Documents

Some projects will require the installation of stormwater control measures, conveyances, or other stormwater improvements to demonstrate compliance with State and County regulations.

Conditions of approval related to these improvements may include but are not limited to:

- Recordation of a Stormwater Agreement
- Recordation of a Maintenance Agreement and Operation and Maintenance Plan (O&M)
 - OPTION 1: WC Maintenance Agreement and Custom O&M Plan
 - OPTION 2: State generated Maintenance Agreement including maintenance requirements
- Recordation of a Plat (see appropriate checklist for additional requirements)
 - Identifying any maximum impervious limitations for individual lots
 - Identifying required SCM access and maintenance, drainage, or backwater easements
 - Referencing the book and page of the required stormwater agreement, maintenance agreement and O&M plan
- As-built Certifications (stormwater control measures and conveyances and flood hazard crossings) and/or Impervious Surface Area surveys

An inspection will be conducted prior to plat approval to determine whether the project stormwater controls and conveyances have been installed. The Certificate of Compliance for a project must be issued prior to approval of the plat to record lots.

Note that if all stormwater improvements (including stormwater control measures and permanent conveyances) for a subdivision are not completed prior to plat recordation, a performance guarantee shall be required to be posted before County approval of the final plat. Non-residential developments shall record an exempt plat to address required stormwater easements and documentation. A recorded plat showing the stormwater measure(s) and associated access and maintenance easements is required. No Certificate of Occupancy (CO) shall be granted for a non-residential development until the stormwater improvements have been completed.

Completion of stormwater improvements includes removal of all temporary erosion control measures (including baffles and skimmer), permanent stabilization of the device, field inspection by Wake County staff and as built survey approval. Refer to [UDO 8-22](#) for Performance Guarantee requirements.

2.7.1 Procedure for Posting a Performance Guarantee

The general performance guarantee process is as follows:

1. The owner/developer shall contact the Wake County plan reviewer to indicate that stormwater improvements are not complete, and that a performance guarantee will be provided.
2. The owner/developer's engineer shall perform a field inspection and submit (via the County Permit Portal) an Engineer's Estimate of the cost to construct stormwater improvements. This estimate shall be itemized and sealed by the engineer. Both "hard" and "soft" costs should be detailed thoroughly in the estimate – including but not limited to installation, stabilization, engineering, project management, surveying, etc. *Note: The performance guarantee shall be 125% of the amount of the final approved Engineer's Estimate.*
3. The Watershed Management plan reviewer shall review the sealed estimate, and revisions may be required prior to acceptance and approval of the estimate.
4. The Watershed Management plan reviewer shall approve the amount of the financial guarantee and issue a memo documenting the amount of the required guarantee.
5. The owner/developer shall furnish the County with a draft financial guarantee for the approved amount.
 - a. The performance guarantee shall be in the form of a performance bond, letter of credit, cash, or cashiers/certified check.
 - b. Drafts of Letters of Credit or Bonds require additional review and approval through the County Attorney's Office. The draft shall be submitted to the Watershed Management plan reviewer to begin this process.
 - Irrevocable Letter of Credit Option: The letter of credit must be obtained from a bank doing business and having a location in Wake County. The expiration date on the letter of credit is to be at least one year from the date of execution. The letter of credit must be automatically renewed on an annual basis, until the Stormwater Certificate of Completion has been issued and the County authorizes release of the performance guarantee.
 - Bond Option: Documentation must be provided that names Wake County as having power of attorney. The bond shall be with a NC company. Annual proof of coverage shall be provided to Wake County.
 - c. A [Stormwater Improvements Performance Guarantee Agreement Form](#) shall be submitted with the Performance Guarantee. Item #24 in the agreement should have the name of an individual, not the LLC alone. *Note: As with any legal binding agreement, the Stormwater Improvements Performance Guarantee Agreement should be read over carefully before it is signed and notarized by the owner / developer. Changes to the typewritten text of the agreement are not permitted.*

6. The owner/developer shall furnish the County with the original Stormwater Performance Guarantee Agreement and financial surety.
7. Once all required signatures have been obtained and the original Stormwater Performance Guarantee and surety have been accepted by the County, the Watershed Management plan reviewer may approve the plat or issue a building permit (if no plat is required). Reference [UDO 9-31-1](#). Note that:
 - a. A Disclosure Statement will be required on the Final Plat.
 - b. Required Maintenance and Stormwater Agreement forms shall be submitted for review during the plat process. Once the plan reviewer has approved the agreements, the applicant may proceed to record the forms at the Register of Deeds. The agreements must be recorded prior to recording the plat mylars.
 - c. The recorded Book and Page numbers for the Stormwater and Maintenance agreements shall be referenced on the plat mylars.
8. Non-compliance
 - a. Failure to renew a letter of credit or bond will be considered a non-compliant permit condition.
 - b. Failure to complete the stormwater improvements by the date designated in the signed Performance Agreement will be considered a non-compliant permit condition.
 - c. A revised Cost Estimate, financial surety and Performance Guarantee will be required to bring the permit into compliance.
 - d. The County may review the agreement annually for consistency in Financial Responsible Owner, viability of financial surety, status of SCMs, etc.; non-compliance and/or changes in the FRO will required a new agreement (see section c above)

2.7.2 Procedure for Release of a Performance Guarantee

Once all of the required stormwater improvements have been completed and any required as-built certifications and other required documentation are received and accepted by County staff, the performance guarantee may be released.

The as-built certification process generally includes:

- The engineer's certification that improvements have been installed per approved plans and in accordance with all regulations;
- 3rd party inspection of the SCM and associated conveyances (may be performed by the certifying engineer); field inspection checklists are available at wake.gov/scm;
- Field inspection by Wake County post-construction stormwater staff;
- Review and approval of as-built documentation by Wake County plan review staff; and
- Verification of the recorded plat, easements, and recorded documents.

Refer to Section 2.8.2 of this manual for more information on the as-built certification process.

Once at least 50% of the required improvements have been made, the owner/developer may request for the performance guarantee to be reduced by the ratio of the completed improvements to the total required improvements. However, no more than one reduction shall be permitted prior to release of the full performance guarantee.

A revised Engineer's Estimate of the cost to complete the remaining stormwater improvements must be provided and accepted by Watershed Management staff prior to County approval to reduce the performance guarantee. This revised estimate shall be itemized and sealed by the engineer.

Note: The reduced performance guarantee shall be 125% of the amount of the revised approved Engineer's Estimate.

To document release of the performance guarantee, both the owner/developer and Watershed Management staff must sign the Release of Performance Guarantee form, which will be supplied to the Wake County Finance Department. The project is then ready for stormwater permit completion if all other conditions of approval have been met.

2.8 Permit Completion

2.8.1 Land Disturbance Permits

When all items listed below have been completed, the Financially Responsible Party shall contact the Watershed Management field consultant to request a Certificate of Completion inspection for the land disturbance permit.

- All conditions of the land disturbance permit have been met
- All proposed roads, utilities, or other infrastructure have been installed according to the approved plans
- Design engineer to provide approval of utility installation
- All temporary erosion and sedimentation control measures have been removed with approval of the Watershed Management field consultant
- All disturbed areas are stabilized with established permanent groundcover or impervious surfaces
- All conditions and requirements of any associated stormwater permit have been met, as outlined in Section 2.8.2
- All conditions and requirements of any associated flood permit have been met, including as-builts of any flood crossings, elevation certifications, or letters of map revision

Refer to Chapter 5, Erosion and Sedimentation Control, for more information regarding land disturbance permits and stabilization requirements.

Once the Certificate of Completion for the land disturbance permit has been obtained, the Financially Responsible Party may request termination of their General Construction Stormwater Permit (NCG01) from NCDEQ. Refer to "[How to Terminate a Certificate of Coverage](#)" at the NCDEQ website.

2.8.2 Stormwater Permits

The process outlined below applies to all stormwater permits other than stormwater deviations. For close out of stormwater permits associated with a stormwater deviation on a single-family residential lot, please refer to Section 4.4.2 of this manual.

The stormwater permit for a project cannot be closed out until all required conditions of its approval have been met. Required conditions of approval are identified within the project approval letter issued by the Watershed Management plan reviewer.

These include but are not limited to:

- Stormwater Agreement has been signed, notarized, and recorded with the Register of Deeds
- Operation and Maintenance Plan and Maintenance Agreement have been signed, notarized, and recorded with the Register of Deeds
- Plat has been recorded which shows all required easements and references the Stormwater and Operation and Maintenance Plan and Maintenance Agreements by book and page.
- As-built plans, third party inspection report and engineer's certification have been submitted, reviewed, and accepted by the Watershed Management plan reviewer
- As-built inspection has been approved by the Wake County field consultant
- Contact information has been provided for Homeowner's Association and/or management company responsible for maintenance of SCMs
- Provide copies of the O&M manual, construction plan and as built package to the HOA or property owner/manager

As-built plans are required to be submitted, along with an Engineer's Certification, to verify that all stormwater improvements have been completed in accordance with the approved plan and County regulations.

Refer to the [as-built checklist](#) for general submittal requirements. Sufficient information must be provided to ensure that:

- Target Curve Number Volume requirements have been met (*for residential projects only*)
- Peak Flow requirements have been met
- Required Nutrient treatment has been provided
- Assumptions of any downstream assessments have been met
- Stormwater control measures are installed per the approved plans (design vs. as-built elevations for water quality, 1-year, 10-year, and 100-year storms shall be provided on cross section)
- All Minimum Design Criteria have been met for each stormwater control measure
- County specific criteria (including well and septic setbacks) have been met for each stormwater control measure
- Required plantings/stabilization has been provided
- Stormwater conveyances and drainage facilities are installed per the approved plans and capture the required drainage areas

- All stormwater improvements (including drainage facilities and stormwater control measures) are located within the recorded stormwater access and maintenance or drainage easements
- All backwater from the stormwater system is contained within the recorded stormwater, drainage, or backwater easements
- Any other project specific requirements have been met

As-builts shall not be submitted for County review and approval until the stormwater control measures and all of their conveyances have been permanently stabilized.

When ready, the as-built submittal package and associated Engineer's Certification shall be uploaded to the stormwater permit through the [Wake County Permit Portal](#). If the submittal is complete, the Watershed Management plan reviewer shall request an as-built inspection be performed by the field consultant(s) and will begin the 10-day initial review cycle.

When the initial review is complete, the Watershed Management plan reviewer shall provide a Stormwater As-built Review Checklist to the responsible party and certifying engineer which either notes approval or rejection of the as-built submittal. If the as-built submittal is not approved, specific comments shall be provided which must be addressed before resubmittal through the Portal. Upon approval of the as built submittal, including inspection approval, the responsibility of the device transfers to the permanent owner, homeowners' association, etc.

Until the as-built package has been approved and accepted by Wake County staff, and the stormwater permit has been closed out, the developer will continue to be responsible for maintenance of all stormwater improvements and resolution of any non-compliant items identified.

2.8.3 Flood Certification and Flood Study Permits

To close out a flood certification permit or a flood study permit, all conditions of its approval must be met. These conditions will be clearly identified in the approval letter issued by the Wake County plan reviewer.

Flood certification permits may require elevation certificates to verify that structures have been built at or above the required elevation. These elevation certificates may be required before construction, during construction, and post-construction.

Flood studies which involve roadways, driveways, or other encroachments are required to provide an engineered study demonstrating no increase in the base flood elevation. In order to verify that those crossings or encroachments were constructed according to the approved design, an as-built survey will be required. The survey shall be submitted prior to final plat approval for subdivisions or prior to Certificate of Occupancy for non-residential projects or single family lots.

Any required elevation certificates, as-builts, or other condition of approval for a flood certification/permit or flood study should be uploaded to the associated flood permit through the [Wake County Permit Portal](#). This action will initiate staff review of the documents.

If the Watershed Management plan reviewer accepts the documentation provided and all conditions of approval have been met, the flood certification permit or flood study permit may be closed out.

2.9 Post-Construction Responsibilities

Stormwater improvements include not only any stormwater control measures, but also drainage facilities (ex: conveyances) and easements. All stormwater improvements are required to be maintained into perpetuity so that they continue to function and meet the purpose and requirements of the County's stormwater ordinance.

The developer/permit holder is responsible for initial construction and as-built of any stormwater improvements that are required as part of the permitted development. Once as-builts are accepted and the stormwater permit closed out, responsibility for SCMs and their conveyances and easements in new residential subdivisions will transfer to a property owners or homeowners association. Responsibility for maintenance passes automatically to new property owners upon the sale of the property(ies) as noted in the Stormwater Agreement recorded with the Register of Deeds. All owners should familiarize themselves with any Operations and Maintenance Plan and/or Maintenance Agreement for the measures for which they are responsible. It is important for owners of stormwater improvements to ensure that they have budgeted appropriately to pay for third party inspections as well as routine and future maintenance needs. Owners shall register in the [County Permit Portal](#) and notify the County when there are changes in the ownership of a stormwater control measure.

Note that the lot owner/homeowners association/property owners association is required to update the maintenance plans for stormwater control measures at least once every 10 years ([UDO 9-23-3\(B\)](#)). These updated plans shall be recorded with the Register of Deeds, and a copy uploaded to the associated permit record on the [Wake County Permit Portal](#).

Owners of stormwater control measures are required to submit an annual inspection report for each measure by June 30th of each year.

- Annual inspections for stormwater control measures that were installed as part of a stormwater deviation approval to increase the maximum impervious surface area (MISA) limitation on an individual lot are not required to be performed by a qualified professional. These inspections may be performed by the individual property owners. The exceptions to this are underground devices and permeable pavement, which both require a qualified professional to inspect and certify each year.
- All other annual inspections for stormwater control measures shall be performed by a qualified professional working within their area of competence. These professionals may include: a licensed North Carolina Professional Engineer, Surveyor, or Landscape Architect; soil scientist; aquatic biologist; or other person certified by the North Carolina Cooperative Extension Service for stormwater control measure inspection and maintenance.
- The inspection report(s) shall be submitted via the [Wake County Permit Portal](#) by uploading it to the associated stormwater permit.

- To upload documents to the Portal, owners and their representatives must register for an account and be linked to the appropriate permit(s) in the system. Please contact Watershed Management at watershedmanagement@wake.gov to request access to your permit case files (Subject Line: Add Case Contact).
- All inspection reports shall be on a form provided by or approved by Wake County. An example of an approved annual inspection report form may be found on the County website:
 - [Homeowner form \(stormwater deviation only – but not for use with underground measures or permeable pavement\)](#)
 - [Subdivision or Non-residential project form](#)

Wake County Watershed Management staff have the right to inspect sites to determine whether the stormwater improvements have been installed and are being properly maintained (Refer to [UDO Article 9, Part 6](#)). Failure to maintain improvements so that they continue to function is a violation of the County stormwater ordinance that is subject to fines and other enforcement activities.