

4 EROSION & SEDIMENTATION CONTROL

(last revised 7/1/14)

4.1 INTRODUCTION

The following section has been established to assist developers and engineers with the design, construction and maintenance of required erosion and sedimentation controls.

4.2 LAND DISTURBANCE PERMIT REQUIRED

NCDENR has delegated responsibility for administering the Sedimentation Control Program pursuant to the NC Sedimentation Pollution Control Act of 1974 (SPCA) to the Town of Wake Forest. All land disturbances within the jurisdiction of the Town of Wake Forest must comply with the following requirements.

Prior to commencing construction all approvals including plan approval and all permits and encroachments shall be obtained. Site grading only may be performed upon issuance of a Land Disturbance Permit from the Town of Wake Forest. All other construction must await the issuance of all remaining permits.

4.2.1 APPLICABILITY

- A. A **Land Disturbance Permit** shall be required for all land-disturbing activities of **½ acre (21,780 sf)** or more in accordance with Section 15.7.2 of the Town of Wake Forest Unified Development Ordinance.
- B. Single family lots being graded/built by the same builder/developer at the same time within the same subdivision, whether they are contiguous or noncontiguous, must obtain a Land Disturbance Permit if the total disturbance is ½ acre (21,780 sf) or greater.

4.2.2 STANDARDS

- A. All land disturbing activities shall comply with the Town of Wake Forest Unified Development Ordinance, Section 12.3, “Erosion and Sedimentation Control Regulations” and the standards in this section.
- B. All erosion and sediment control measures shall be designed in accordance with the North Carolina Erosion and Sediment Control Planning and Design Manual and the NCDENR Stormwater Best Management Practices Manual. These manuals contains valuable information and tools for developing plans to minimize soil erosion and prevent sedimentation pollution associated with land-disturbing activities, and are available online at:
<http://portal.ncdenr.org/web/lr/publications>
<http://portal.ncdenr.org/web/lr/bmp-manual>
- C. All land disturbing activities shall comply with the National Pollutant Discharge Elimination System (NPDES) requirements NCDENR General Permit NCG01000 for Construction Activities.

4.2.3 LAND DISTURBANCE PERMIT

- A. No person may initiate any land-disturbing activity on ½ acre or more before the following have been completed and approved by the Town of Wake Forest Engineering Department. Additional information is available online at:
http://www.wakeforestnc.gov/residents-engineering_erosionandsedimentcontrol.aspx

1. **Land Disturbing (E&SC) Permit Application** located at the end of this Section.
2. **Plan Checklist**
3. **Financially Responsible Owner (FRO) Form**
4. **Application Fee**
5. **E&SC Calculations**
6. **Stormwater Calculations**
7. **Deed**
8. **NCDENR DWR/ COE permit, as applicable**
9. **NC DOT Encroachment/Driveway permit, as applicable**
10. **Erosion and Sedimentation Control Plan** sealed by a NC registered Professional Engineer or Landscape Architect
11. **Vicinity map** showing the location of the site. The scale of the map shall be adequate to show the area in question with reasonable depiction of streets to determine the exact location of the site. The scale shall be no less than 1"=400'.
12. **USGS Quadrangle map** with the site location depicted on the map.
13. **NRCS Wake County Soil Survey** with the site location clearly depicted on the map.
14. **Drainage Area Map.** The drainage area contributing to the system being designed and the drainage sub-area contributing to each inlet point shall be clearly identified.

4.2.4 EROSION CONTROL DETAILS

Town of Wake Forest Concrete Washout Pit, Standard Detail 9.76, is herein made part of this section by reference and should be utilized in conjunction with the North Carolina Erosion and Sediment Control Planning and Design Manual.

4.3 GENERAL REQUIREMENTS

4.3.1 LAND DISTURBANCE PERMIT NOTES

- A. A Land Disturbance Permit is required for projects over 0.50 acre. If multiple lots with land disturbance over 0.50 acre total are either contiguous or non-contiguous in the same subdivision, being taken down by the same builder/Owner, a Land Disturbing Permit is required. The cost of the plan review and permit shall be determined according to the Town's Comprehensive List of Fees and Charges.
- B. If additional acreage is added to an existing permit, revised forms, plans, and any additional fees must be submitted.
- C. If ownership of a property has changed a revised Financial Responsibility Ownership (FRO) form must be submitted.
- D. If a property is taken over by the bank, the bank shall contact the Town and repair all erosion control measures to Town/NCDENR standards. They shall also submit a new Financial Responsibility Ownership (FRO) form.
- E. If a project is not complete within two years, the plans must be renewed at the renewal cost established in the Town's Comprehensive List of Fees and Charges. A

revised set of plans may be submitted if acreage has already been developed and a certificate of occupancy has been issued.

- F. An **erosion preconstruction meeting** must be held with the Town of Wake Forest prior to start of any work, including installation of erosion control measures, demolition, cutting trees, and grubbing. Contractor to contact Town of Wake Forest Engineering at 919.435.9443 to set up a meeting. All plans must be signed and copies returned back to the Town one week prior to preconstruction meeting.
- G. The Financial Responsibility Owner, general contractor, grading company, and erosion control installer must be present at the preconstruction meeting.
- H. The **Land Disturbance Permit** and NPDES general stormwater permit will be given out at this meeting.
- I. After the preconstruction meeting is held, the Contractor can **install initial erosion control measures only**. This includes but is not limited to construction entrance, silt fence, perimeter diversion ditch, check dams (rock or waddle type), tree protection fence, existing inlet protection, skimmer sediment basins, and sediment traps. Clear only as necessary to install these measures.
- J. Cutting trees prior to issuing the permit will not be allowed.
- K. Contractor is responsible for E&SC weekly installation and maintenance log including dates of temporary/permanent ground cover, a rain gage, copy of Town of Wake Forest signed plans onsite, revised signed plans, NPDES log, and construction box must be present and easily accessible onsite.
- L. Once measures are installed, **Contractor/Financial Responsibility Owner shall call the Town of Wake Forest for an initial inspection**. If site passes inspection, a certificate of compliance will be issued. The Contractor can then begin clearing, grubbing, and grading.
- M. Contractor to maintain access road for emergencies at all times.
- N. Phase project to leave as little ground open as possible.
- O. Temporarily seed, straw and tack or hydroseed within 7-14 days of any phase of grading, including slopes. Seed basins and ditches immediately after construction. Refer to seeding schedule chart in Section 12.3.3.E of the UDO.
- P. **Prior to removal of temporary measures**, Town must approve removal. All areas draining to temporary measure must have 75% permanent ground cover.
- Q. Town construction inspector will evaluate the site at least once a month. A copy of the inspection form will be emailed to the Financially Responsible Owner. The weekly erosion log and NPDES log must be onsite and available for review.
- R. If the site is found out of compliance a Notice of Violation will be issued giving the Contractor/ Financially Responsible Owner 10 working days to remedy the problem. If the situation is not resolved within that time period, a fine may be issued according to the Town's Comprehensive List of Fees and Charges.
- S. If sediment leaves the site a fine may be issued according to the Town's Comprehensive List of Fees and Charges. If sediment enters a buffer, stream, or wetland, NCDENR Division of Energy, Mineral and Land Resources will be notified and may issue fines.
- T. Call the Town upon completion for a **final erosion inspection**. A punch list may be generated addressing any remaining items. There must be 75% groundcover on the entire site prior to a certificate of occupancy. If the site is found to be in

compliance an **erosion certificate of completion** will be issued.

4.3.2 CONSTRUCTION SEQUENCING

- A. A **Preconstruction meeting** must be held prior to installation of measures and construction. Contact Town of Wake Forest Engineering Department at 919.435.9443 to set up a meeting. The Land Disturbing Permit will be issued at the meeting, NPDES stormwater permit and plan review.
- B. Cutting trees prior to issuing the permit will not be allowed.
- C. Installation of initial measures only (silt fence, construction entrance, tree protection fence and sediment basins) must be installed first. No grading or grubbing may take place other than to install the measures.
- D. Initial inspection conducted by Town. Please call for inspection 919.435.9531 prior to clearing, grubbing or grading. A certificate of compliance will be issued upon approval of initial measures.
- E. Grading may now begin. No mass grading is allowed. Please follow the phased sequence of construction outlined on the plans. If the plans need revision, please notify the Town and design Engineer prior to starting work. If work is conducted that is not shown on the approved set of plans, it may result in an NOV or fine/violation.
- F. Installation of roads for safe access must be established prior to construction of buildings for emergency access purposes.
- G. Owner is responsible for inspecting measures weekly and within 24 hours after every 1/2" of rainfall. A rain gage must be onsite along with a copy of the signed plans per the NPDES Stormwater Permit. A designated subcontractor may be in charge of inspections but must still have proper NCDOT Erosion Level I/II Certification Training.
- H. An additional erosion measure self inspection must be conducted outlining installation and maintenance of erosion control measures including seeding operations. A chart will be provided for the Owner/Representative to fill out on a daily basis including date of installation, maintenance and repair. This chart will also include a location to put turbidity levels in NTU's at all outlet points. This chart must be kept onsite at all times.
- I. Monthly inspections will be conducted by the Town (at a minimum). The Town will give the Owner a copy of the inspection report and notify them of any issues that the site may have.
- J. If an NOV is issued, the site issues will need to be addressed as per the NOV (Notice of Violation) letter but no later than ten calendar days. If the NOV is not addressed, fines may be issued according to the Town's Comprehensive List of Fees and Charges.
- K. If three NOV's are issued on one construction site to the same Owner/Contractor, a stop work order will be issued and re-education/training must be conducted and verification of training must be presented to the Town prior to re-starting work.
- L. Any mud tracked into the street must be cleaned up immediately. If the mud/dirt is not addressed in a timely manner, the Contractor will be assessed a fine according to the Town's Comprehensive List of Fees and Charges.
- M. If sediment leaves the site into a water course, natural area, or wetland an automatic fine will be issued according to the Town's Comprehensive List of Fees and

Charges. In addition, NCDENR will be automatically notified and additional fines may be assessed.

- N. Grading prior to issuing the permit or without a permit will result in a fine according to the Town's Comprehensive List of Fees and Charges, plus any additional permit review fees.
- O. Seed the project as work progresses within 14 calendar days of any phase of grading and within 10 days of final completion.
- P. Upon completion the project must be 85% built out to accept erosion control, streets, stormwater, etc., and have 75% permanent grass coverage. A final inspection will be conducted where a punchlist may be generated to aid the Contractor in project close out.
- Q. Final PE certified As-Built must be submitted to the Town for stormwater pipes (invert and top elevations, pipe length, and pipe slope), private and public basins, level spreaders, stormwater facilities, greenways/trails, recorded easements, NCDOT acceptance, roadway cores, soil compaction tests, maintenance and operation agreements, etc. See Appendix B, Section 2.
- R. A Certificate of Completion will be issued at final project close out when all paperwork has been received and all measures installed/removed as per plan. This certificate will close out the erosion control permit. A temporary certificate of occupancy may be permitted prior to the final certificate of completion. The bond will be released upon issuance of certificate of completion for the erosion control permit.

4.4 FEES AND INSPECTIONS

4.4.1 FEES

- A. Fees for the administration of the Town's erosion and sedimentation control regulations are due upon initial submittal of construction plans. Any resubmittal of a Land Disturbance Permit application shall require the same permit fees as were paid in the original application. Any renewal of a Land Disturbance Permit for a project that is under construction but not completed within two (2) years of the original Land Disturbance Permit issuance shall require fees to be paid based upon the Town's Comprehensive List of Fees and Charges.

4.4.2 INSPECTIONS

- A. Agents and officials of the Town will monthly (at a minimum) inspect land-disturbing activities to ensure compliance with the Act, this ordinance, or rules or orders adopted or issued pursuant to this article, and to determine whether the measures required in the Plan are effective in controlling erosion and sedimentation resulting from land-disturbing activity. Notice of the right to inspect shall be included in the certificate of approval of each Plan.
- B. The Town has the power to conduct such investigations as it may reasonably deem necessary to carry out its duties as prescribed in this article, and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigating and inspecting the sites of any land-disturbing activity. No person may refuse entry or access to any authorized representative or agent for the Town who requests entry for purposes of inspections, and presents appropriate credentials, nor may any person obstruct, hamper, or interfere with any such representatives while in the process of carrying out their official duties.

- C. A Certificate of Compliance for Preliminary Soil Erosion and Sedimentation Control must be issued indicating that initial soil erosion and sedimentation controls have been installed. This certificate must be issued prior to the approval by the Town of an application for building construction in the Town, in any of the incorporated areas of the Town, or extraterritorial jurisdictional areas of the Town subject to the erosion and sedimentation control regulations of this article.
- D. A Certificate of Completion must be issued when inspections indicate that all conditions of the approved land disturbance permit are met and all disturbed areas are stabilized with permanent ground cover, permanent armor, or impervious surface. All proposed roads, utilities, permanent erosion control devices, and other infrastructure has been installed as per approved plans. All temporary sediment control devices required by the approved plan are removed.
- E. Once a Certification of Completion is issued on an approved plan involving a proposed public road dedication and a petition for North Carolina Department of Transportation acceptance is submitted to Administrator, notification must be mailed to the North Carolina Division of Highways District 1 Office detailing that the project has been issued a Certification of Completion. This notification should describe the project in detail with publicly dedicated streets described by name and approximate length.
- F. Any land disturbing activity will be the responsibility of the individual building lot owners, and failure to control project against off site damage as documented by the Town's authorized representative will be deemed a violation of the erosion and sedimentation control regulations of this article.
 - 1. A driveway with a minimum 10 foot wide by 30 foot long (with filter fabric underneath) gravel construction pad or equal will be required, in addition to the installation of silt fence on the low sides of the lot and tree protection around the remaining sides, for each building lot when the initial footing inspection is conducted by the Engineering Construction Inspectors.
 - 2. For single family residential lots, the construction entrance shall be a minimum of 12 feet wide by 30 feet long with filter fabric underneath that meets ASTM D 4632 standards and has a 200 pound grab tensile strength.
 - 3. The Town of Wake Forest Department of Engineering will approve the type of silt fence that will be accepted.
 - 4. Seeding and mulching of any applicable disturbed area is required. Areas within 25 feet of the edge of pavement or gravel of the road must be stabilized before the issuance of a Certificate of Occupancy. Each lot must have 75% germinated seed coverage prior to a CO and have positive drainage on all sides.
 - 5. Any erosion or stormwater issues on individual lots will be the responsibility of the builder for a one year period after house is sold.
- G. The Town may require written statements, or the filing of reports under oath, with respect to pertinent questions relating to land-disturbing activity.
- H. If through inspections the Town determines that significant erosion or sedimentation is occurring as a result of land-disturbing activity, despite application and maintenance of protective measures, the person conducting the land-disturbing activity will be required by the Administrator to take additional protective action.

4.5 VIOLATION FEE LIST

Fees for violations shall be assessed according the Town's Comprehensive List of Fees and Charges.

4.6 LAND DISTURBING (E&SC) PERMIT APPLICATION, CHECKLIST & FRO

As described in Section 4.2.3, the following Land Disturbing (E&SC) Permit Application Plan Checklist, and Financially Responsible Owner (FRO) Form shall be used for all projects with the jurisdiction of the Town of Wake Forest.