

Technical Specification 009.01**SEDIMENTATION AND EROSION CONTROL****1.0 General**

- a) The intent of this specification is to provide guidance on all measures necessary for effective erosion and sedimentation control within the construction limits of the project, and for prevention of sediment laden runoff leaving the construction limits or entering ditches, streams or water impoundments.

2.0 Utility Contractor's responsibility

- a) The utility contractor agrees to meet all of the conditions of the NCDENR issued Sedimentation and Erosion Control Permit for land disturbing activities, and shall be responsible for prevention of damage to properties outside of the construction limits from siltation due to construction of the project.
- b) The utility contractor shall assume all responsibilities to the affected property owners for correction of damages which may occur. The utility contractor further agrees to assume all responsibilities for fines or damages assessed against the County by any regulatory agency or individual due to lack of proper erosion and sediment control during construction.
- c) The County reserves the right to withhold all submitted pay requests if erosion and sedimentation measures are not satisfactory. The County also reserves the right to withhold a portion of the Contractor's pay requests sufficient to pay any and all assessed fines as required.

3.0 Construction Sequence

- a) While the use of erosion and sedimentation control devices is especially important on areas of steep topography, easily erodible soils, and sites in close proximity to water courses throughout the construction period, the control measures shall be installed prior to the commencement of land clearing and shall be fully maintained and periodically inspected until final restoration and stabilization is completed. Unrestored cleared areas shall be kept to a minimum. Disturbed areas ahead of construction shall only be accomplished on those segments for the shortest practical distance as required for continual progress.
- b) Final restoration shall not be delayed until completion of the project but will be carried out in phases as the work proceeds. Under no circumstances will any areas be left unrestored for more than thirty (30) thirty calendar days without some form of stabilization until final restoration is complete.

4.0 Sedimentation Control Measures

- a) Sediment control devices or measures which may be required to prevent sedimentation of streams, water courses, or drainage structures are:

- Earth berms and/or diversion and intercept ditches
- Sediment traps
- Filter berms
- Filter inlets
- Silt fences - not to be placed in streams or ditches perpendicular to flow
- Check dams gravel filter
- Gravel construction exits

5.0 Erosion Control Measures

- a) Erosion control measures which may be required are:

- Earth slope protection
- Diagonal water breaks diversion berms
- Diversion channels
- Preservation of existing vegetation
- Storm inlet protection
- Stream crossings
- Energy dissipaters
- Matting of re-seeded areas

6.0 Detail Drawing and Additional Measures

- a) Sedimentation and erosion control details are shown in the plans for installation at locations designated or as otherwise required by the regulating agency or by direction of the County or Engineer as work proceeds. If significant sedimentation is occurring as a result of activity on the construction site, despite the application and maintenance of prescribed protective measures, the utility contractor shall be required to take additional protective measures.

7.0 Stream Protection

- a) Where construction activities are necessary in close proximity to streams and other waterways, they shall be performed in a manner that does not contribute to degradation of or blockage of the stream-flow. In order to prevent possible degradation or blockages, the utility contractor shall be required to:
- 1) Keep all construction debris, excavated materials, brush, rocks, refuse, and topsoil as far from these waterways as possible. Restrict machinery operation or stream crossings in waterways to the extent necessary for construction of utilities crossings.
 - 2) If construction work areas are necessary in a waterway, they shall be protected as indicated on the approved plans.
 - 3) If temporary roadways are essential for the construction activities, they shall be constructed of soils which are not highly erodible materials and must not span more than half way across the water course or wetland area at any one time unless otherwise approved by the Engineer.

These temporary roadways shall be entirely removed as soon as their requirement is met. **Work in these areas shall follow the requirements of the Corp of Engineers or CAMA permit or plans as applicable.**

8.0 Construction Access

- a) The travel of equipment to and from the construction areas shall be minimized not only to protect areas that will not be denuded, but also to prevent the spreading of sediment within and outside of the construction areas. Therefore, special construction equipment travel corridors will be established for this use and instructions shall be issued for their use. Use of these corridors shall be fully enforced. Other non-essential traffic will be restricted or discouraged. Indiscriminate and convenience traffic shall not be allowed.

9.0 Stockpile, Laydown, and Borrow Areas

- a) The utility contractor shall be responsible for selecting, obtaining, and maintaining all required stockpile, laydown, or borrow areas needed for the project. He is also required to design and incorporate all necessary sediment and erosion controls measures necessary to prevent erosion and runoff of sediment to adjacent areas.
- b) For County capital improvement (CIP) projects it is required that a fully executed copy of any and all agreements between the contractor and private property owners be provided to the County for the project file. The County is not, and shall not be, a party to any private agreements that the contractor enters into with a private property owner for stockpile, laydown, and borrow areas.
- c) The utility contractor is responsible for obtaining all necessary permits or approvals for these areas outside the construction limits.

10.0 Disposal of Excess Water from Excavations

- a) The utility contractor shall practice proper management of any excess water pumped from excavations to minimize the production and spreading of sediment. Pumped water shall be discharged onto stabilized surfaces and allowed to filter through existing vegetation if possible; otherwise, additional control measures may be necessary. If ditches are required to remove pumped water from construction excavations, they shall be given the same consideration as any other man-made waterway and shall be stabilized so as to not degrade and produce sediment.
- b) The utility contractor is responsible for understanding and complying with all conditions contained within a NCDOT encroachment permit for work in the public rights-of-way concerning the pumping of excess water from excavations and the use of drainage ditches in the rights-of-way.

11.0 Excavation and Backfill

- a) Excavations shall be closely controlled and all the material removed from them shall be selectively stockpiled in areas where a minimum of sediment will be generated and where other damage will not result from the piled material.
- b) Drainageways shall be protected at all times and the placement of material in drainageways for convenience shall not be allowed.
- c) Backfilling operations shall be performed in such a manner that remaining trees are not damaged. Temporary repaving shall be placed promptly after backfill operations are completed in improved areas.

12.0 Dust Control

- a) The utility contractor shall control dust throughout the project duration, within the project area, and at all other areas affected by the construction of the project. Dust control shall not be considered effective where the amount of dust creates a potential or actual unsafe condition, public nuisance or condition endangering the value, utility or appearance of any property.
- b) The utility contractor will not be directly compensated for any dust control measures necessary, as this work will be considered incidental to the work covered by the various contract items.

13.0 Removal of Sediment and Erosion Control Devices and Final Grading and Seeding

- a) After the construction phase is complete permanent vegetation of the areas that have been disturbed shall be re-established as rapidly as possible. If the completion of the construction activities do not coincide with a season in which permanent vegetation can be generated, an interim or temporary program is required. Once disturbed areas have been stabilized adequately, the utility contractor shall dismantle and remove sediment and erosion control devices used during construction and dress up and seed these areas.