

SECTION 4 SOIL EROSION & SEDIMENTATION CONTROL

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4.01 General Requirements:

Temporary soil erosion and sedimentation control (S&E) measures shall be provided in accordance with the S&E plan approved by the Town of Apex. A letter of plan approval will be issued to permit the contractor to grade only enough as to install the S&E measures. Once the S&E measures are installed and found to be acceptable with the approved S&E plan, a certificate of compliance will be issued so the contractor can continue land disturbing activities on the applicable phase of the site. The S&E plan shall be in accordance with the NCDENR Erosion and Sediment Control Planning and Design manual (latest revisions) and the Town of Apex Standard Specifications and Standard Details. The CONTRACTOR/DEVELOPER should also be familiar with the Town of Apex S&E Ordinance. The approved S&E Plan shall be kept on site by the CONTRACTOR at all times while work is being performed. For projects greater than 1 acre, a copy of the NPDES Notice of Intent shall be maintained on site and adhered to.

All S&E measures shall be installed prior to clearing operations, and in no case shall an area, where work is completed, remain denuded for more than 21 calendar days. Ground cover shall be established in graded slopes and fills within 15 working days or 21 calendar days, whichever is shorter. S&E measures shall be coordinated with all other work on the project to ensure economical, effective, and continuous S&E throughout the construction and post construction period and to minimize siltation of streams, lakes, reservoirs, and other water impoundments, ground surfaces, roadways, or other properties.

Minimum design criteria for S&E devices shall be the following:

1. Required Volume – 3600 ft³ per disturbed acre.
2. Required Surface Area – Shall be based on the drainage area and the peak flow rate from a 25-year, 24-hour storm event (Q_{25}).

4.02 Construction Sequence and Schedule

The PROJECT ENGINEER will include a construction sequence schedule or work schedule that coordinates the timing of the land-disturbing activities and the installation of erosion and sedimentation control measures.

4.03 Seeding & Mulching:

Seeding and mulching shall be carried out immediately behind construction in accordance with the following specifications:

Shoulders, Side Ditches, Slopes (Max. 3:1)

<i>Date</i>	<i>Type</i>	<i>Planting/Acre</i>
Aug 15 - Nov 1	Tall Fescue	300 lbs.
Nov 1 - Mar 1	Tall Fescue & Abruzzi Rye	300 lbs.
Mar 1 - Apr 15	Tall Fescue	300 lbs.
Apr 15 - June 30	Hulled Common Bermuda grass	25 lbs.
July 15 - Aug 15	Tall Fescue and	35 lbs.
	*** Brown top Millet or	
	*** Sorghum-Sudan Hybrids	

SLOPES (3:1 to 2:1)

<i>Date</i>	<i>Type</i>	<i>Planting/Acre</i>
Mar 1 - June 1	Sericea Lespedeza (scarified) and	50 lbs.
Mar 1 - April 15	ADD Tall Fescue and	120 lbs.
Mar 1 - June 30	ADD Weeping Love grass or	10 lbs.
Mar 1 - June 30	ADD Hulled Common Bermuda Grass	25 lbs.
June 1 - Sep 1	*** Tall Fescue and	120 lbs.
	*** Brown top Millet or	35 lbs.
	*** Sorghum-Sudan Hybrids	30 lbs.
Sep 1 - Mar 1	Sericea Lespedeza (unhulled-unscarified) and	70 lbs.
	Tall Fescue	120 lbs.
Nov 1 - Mar 1	ADD Abruzzi Rye	25 lbs.

***Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing, otherwise fescue may be shaded out.

A Conservation Engineer or Soil Conservation Service shall be consulted for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible. Any variation from this list shall be pre-approved by the TOWN.

SEEDBED PREPARATION

1. Chisel compacted areas and spread topsoil 3 inches deep over adverse soil conditions, with stockpiled topsoil. Contractor shall reserve sufficient topsoil for seedbed preparation.
2. Rip the entire area to 6 inch depth.
3. Remove all loose rock, roots, and other obstructions leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer, and super-phosphate uniformly and mix with soil (see below*).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared 4 to 6 inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch immediately after seeding and anchor mulch.
8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand is less than 60% established, the entire area shall be reseeded according to specifications using the original lime, fertilizer and seeding rates.
9. Consult a Conservation Inspector on maintenance treatment and fertilization after permanent cover is established.

*Apply: Agricultural Limestone - 2 tons/acre (3 tons/acre in clay soils)
Fertilizer - 1,000 lb/acre - 10-10-10
Super-phosphate - 500 lb/acre - 20% analysis
Mulch - 2 tons/acre - small grain straw
Anchor - Asphalt Emulsion @ 300 gals/acre

4.04 Construction Entrances:

When possible, construction vehicles shall be afforded entrances and exits separate from the developed portions of the construction site to preserve the integrity of paving in such areas. Entrances and exits to such developed areas shall exhibit a sign or signs bearing the legend "NO CONSTRUCTION VEHICLES" and directing such traffic to the appropriate entrance per Apex Town Code, Section 19-121(b).

Gravel construction entrance pads shall be constructed at each point of construction access to the site, including residential lots. The gravel pads shall be maintained in such a manner as to prevent the deposition of mud and debris onto existing public roadways or properties adjacent to the site.

Gravel pads for construction sites other than single family lots shall be 50 feet long. The width shall be 20 feet as a minimum. Surge Stone or Railroad Ballast (nominal size of 2"-3"), shall be placed to a nominal depth of 12 inches for the first 15 feet and 6 inches for the remaining 35 feet. Gravel pads for individual single-family lots shall be 25 feet long and 12 feet minimum width. Washed stone shall be 6 inches thick.

Special Note: It shall be the developer's responsibility to see that the construction entrance pads are properly maintained so that mud is not tracked onto adjacent streets. In the event that the gravel construction entrances are not properly maintained, or are otherwise ineffective, the TOWN may issue a Notice of Violation, Stop Work Order, and/or assess a penalty which shall remain in effect until such time as the pads are restored and replenished and until any resulting mud and debris has been removed from the adjacent streets by the CONTRACTOR.