

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
SECTION 303—EARTHWORK

January 7, 2005

SECTION 303—EARTHWORK of the Specifications is amended as follows:

Section 303.03-Erosion and Siltation Control is replaced by the following:

Erosion and siltation shall be controlled through the use of the devices and methods specified herein or as is otherwise necessary. The Department reserves the right to require other temporary measures not specifically described herein to correct an erosion or siltation condition.

Erosion and siltation control devices and measures shall be maintained in a functional condition at all times. Temporary and permanent erosion and siltation control measures shall be inspected after each rainfall and at least daily during periods of prolonged rainfall. Deficiencies shall be immediately corrected. The Contractor shall make a daily review of the location of silt fences and filter barriers to ensure that they are properly located for effectiveness. Where deficiencies exist, corrections shall be made immediately as approved or directed by the Engineer.

When erosion and siltation control devices and measures and methods function by using wet storage, sediments shall be removed when the wet storage volume has been reduced by 50 percent. Sediments shall be removed from dewatering basins when the excavated volume has been reduced by 50 percent. Sediments shall be removed from all other erosion and siltation control devices and measures and methods when capacity, height or depth has been reduced by 50 percent. Removed sediment shall be disposed of in accordance with Section 106.04. Sediment deposits remaining in place after the device is no longer required shall be dressed to conform with the existing grade, prepared, and seeded in accordance with the requirements of Section 603.

Geotextile fabric that has decomposed or becomes ineffective and is still needed shall be replaced. In addition, temporary erosion and sediment control devices except brush silt barriers shall be removed within 30 days after final site stabilization or after the temporary devices are no longer needed as determined by the Engineer.

- (a) **Earth Berms and Slope Drains:** The top of earthwork shall be shaped to permit runoff of rainwater. Temporary earth berms shall be constructed and compacted along the top edges of embankments to intercept runoff water. Temporary slope drains shall be provided to intercept runoff and adequately secured to prevent movement. Slope drains may be flexible or rigid but shall be capable of being readily shortened or extended. A portable flume shall be provided at the entrance to temporary slope drains.
- (b) **Incremental Seeding:** Cut and fill slopes shall be shaped and topsoiled where specified. Seed and mulch shall be applied in accordance with the requirements of Section 603 as the work progresses in the following sequence:
 1. Slopes whose vertical height is 20 feet or greater shall be seeded in three equal increments of height. Slopes whose vertical height is more than 75 feet shall be seeded in 25-foot increments.
 2. Slopes whose vertical height is less than 20 but more than 5 feet shall be seeded in two equal increments.
 3. Slopes whose vertical height is 5 feet or less may be seeded in one operation.

Seeding operations in all earth or land-disturbed areas where grading or grubbing operations have occurred shall be initiated within 48 hours after attaining the appropriate grading increment or upon suspension of grading operations for an anticipated duration of greater than 15 days or upon completion of grading operations for a specific area.

- (c) **Check Dams:** As an initial item of work, required check dams shall be constructed at 25-foot intervals, unless otherwise shown on the plans, below the outfall end of drainage structures.

Synthetic checkdams recorded in the Department's Approved Products List may be substituted for Standard EC-4, Rock Check Dams, Type II with the approval of the Engineer at no additional cost to the Department. Synthetic checkdams shall be installed in accordance with the manufacturer's recommendation.

- (d) **Baled Straw Silt Barriers:** Baled straw silt barriers may be substituted for temporary filter barriers with the approval of the Engineer in noncritical areas, such as pavement areas and rock locations where filter barriers cannot be installed in accordance with the plans and specifications, and locations where the Engineer determines that streams and water beds will not be affected.

- (e) **Temporary Silt Fences, Geotextile Fabric Silt Barriers, and Filter Barriers:**

1. **Temporary silt fences:** Fences shall be erected at locations shown on the plans or determined by the Engineer. Geotextile fabric used for silt fences shall be provided and posts shall not be spaced more than 6 feet apart. Posts shall be uniformly installed with an inclination toward the potential silt load area of at least 2 but not more than 20 degrees. Attaching fabric to existing trees will not be permitted.

Fabric shall be firmly secured to the post or wire fence. The bottom of the fabric shall be entrenched in the ground in a minimum 6-inch by 6-inch trench. Temporary silt fence may also be entrenched using a slicing method with a minimum of 8 inches sliced into the ground. Fabric may be spliced only at support posts and with an overlap of at least 6 inches. The top shall be installed with a 1-inch tuck or reinforced top end section. The height of the finished fence shall be a nominal 29 inches.

2. **Geotextile fabric silt barriers:** Existing fences or brush barriers used along the downhill side of the toe of fills shall have geotextile fabric attached at specified locations as shown on the plans. The bottom of the fabric shall be entrenched in the ground in a minimum 6-inch by 6-inch trench and the top shall be installed with a 1-inch tuck or reinforced top end section. Temporary fabric silt barriers may also be entrenched using a slicing method with a minimum of 8 inches sliced into the ground.

Brush barriers shall be installed prior to any major earth-disturbing activity and trimmed sufficiently to prevent tearing or puncturing fabric. Fabric shall be fastened securely to the brush barrier or existing fence. A 6-inch overlap of fabric for vertical and horizontal splicing shall be maintained and tightly sealed.

3. **Temporary filter barriers:** Barriers shall consist of geotextile fabric and shall be securely fastened to wood or metal supports that are spaced at not more than 3-foot intervals and driven at least 12 inches into the ground. At least three supports shall be used. The bottom of the fabric shall be entrenched in the existing ground in a minimum 4-inch by 4-inch trench.

Temporary filter barriers may also be entrenched using a slicing method with a minimum of 6 inches sliced into the ground. The top of the fabric shall be installed

with a 1-inch tuck or reinforced top end section. The height of the finished temporary filter barrier shall be a nominal 15 inches.

Temporary filter barriers shall be installed at temporary locations where construction changes the earth contour and drainage runoff as directed or approved by the Engineer

After removal and disposal of the temporary silt fence, geotextile fabric silt barrier, and temporary filter barrier, the area shall be dressed and stabilized with a permanent vegetative cover or other approved permanent stabilization practice approved by the Engineer.

- (f) **Sediment Traps and Sediment Basins:** Sediment traps are required if stormwater runoff from less than three acres flows across a disturbed area of 10,000 square feet or more. Sediment basins are required if stormwater runoff from three or more acres flows across a disturbed area of 10,000 square feet or more. Once a sediment trap or basin is constructed the dam and all outfall areas shall be stabilized immediately.

Section 303.04(h) Embankments is amended to replace the twelfth paragraph with the following:

When geotextile for embankment stabilization is required it shall be placed as shown on the plans. Geotextile shall be spliced by sewing double stitched seams with stitching spaced $\frac{1}{4}$ inch to $\frac{1}{2}$ inch apart or as shown on the plans.

Section 303.04 (h) Embankments is amended to replace the eighteenth paragraph with the following:

Field density determinations will be performed in accordance with AASHTO T191, modified to include material sizes used in the laboratory determination of density, with a portable nuclear field density testing device or by other approved methods. When a nuclear device is used, density determinations for embankment material will be related to the density of the same material tested in accordance with VTM 1 or VTM 12 and a control strip will not be required.

Section 303.06 (a) 4. Minor Structure Excavation is amended to replace the third paragraph with the following:

If embankment is placed prior to installation of a minor structure, excavation of the embankment area will not be measured for payment unless the Contract requires placement of the embankment prior to the installation of the minor structure.

Section 303.06(e) - Erosion Control Items is amended as follows:

Section 303.06(e) 4. is replaced by the following:

4. **Check dams** will be paid for at the contract unit price per each. This price shall include furnishing, excavating, constructing, maintaining, and removing check dams when no longer required.

Synthetic checkdams may be substituted for Type II Rock Checkdams (Standard EC-4) at no additional cost to the Department.

Section 303.06(e) 5. Temporary silt fences is amended to replace the last sentence with the following:

This price shall include furnishing, installing, and maintaining the silt fence, including wire reinforcement and posts; removing and disposing of these materials and dressing and stabilizing the area.

Section 303.06(e) 6. Geotextile fabric is amended to replace the last sentence with the following:

This price shall include the trimming the brush barrier; furnishing, installing, maintaining, removing the fabric and dressing and stabilizing the area.

Section 303.06(e) 7. Temporary filter barriers is amended to replace the next to the last sentence with the following:

This price shall include furnishing, installing, and maintaining the filter barrier, including filter barrier material and posts; removing, disposing of these materials and dressing and stabilizing the area.

Section 303.06(e) 12. Sediment basins is replaced with the following:

Sediment traps and basins will be measured in cubic yards of sediment basin excavation and will be paid for at the contract unit price per cubic yard. This price shall include excavation, maintenance, and backfill or removing to original ground when no longer needed.

Section 303.06(e) Erosion Control Items is amended to add the following:

16. **Dewatering basin** will be measured and paid for at the contract unit price per each. This price shall include furnishing, installing, maintaining, and when no longer required, removing the dewatering basin, backfill and site restoration.

Section 303.06 Measurement and Payment is amended to add the following pay items:

Pay Item	Pay Unit
Dewatering basin	Each

Section 303.06 Measurement and Payment is amended to delete the following pay item:

Pay Item	Pay Unit
Silt settlement basin	Each