Greenville County Technical Specification for:

SC-12 PERIMETER CONTROL FOR SMALL SITES

1.0 Perimeter Control for Small Sites

1.1 Description

Perimeter Control for Small Sites is used as a temporary sediment control practice around the perimeter of relatively flat (slopes ≤ 5H:1V) small sites (less than 1 disturbed acre) and individual single lots where there will be soil disturbance due to construction activities. The maximum allowable slope length drainage to the Perimeter Control is 100 feet.

Perimeter Control prevents sediment from reaching streets and sidewalks as well existing vegetation and new sod on adjoining properties. Perimeter Control consists of a barrier supported by posts. Perimeter Control is applicable as a sediment control practice for sheet flow runoff conditions only. Do not use Perimeter Control for areas receiving concentrated flow.

1.2 Materials

Provide materials for Perimeter Control complying with the requirements of this Specification, on the Plans, or as approved by the Engineer.

Do not use straw bales, natural pine needle bales, leaf mulch, and or grass clippings as Perimeter Control. Provide Perimeter Control that exhibits the following properties:

- Machine produced by a manufacturer experienced in sediment control manufacturing.
- Materials are certified 100% weed free.
- When using Sediment Tubes for Perimeter Control, use Sediment Tubes meeting the *Sediment Tube Specifications*, except that the minimum diameter/height for Perimeter Control is 9-inches.
- When using compost as a filtering component for Perimeter Control, use Compost meeting the *Compost Specification*.
- When using compost as a filtering component for Perimeter Control, use a knitted netting material with 1/8 inch to 3/8 inch openings.
- Primary material or netting is stable to ultraviolet light or are treated with ultraviolet stabilizers.

Do not use straw, curled excelsior wood, or natural coconut rolled erosion control products (RECPs) that are rolled up to create a Perimeter Control.

If netting is used to contain a filter material, ensure the openings of the netting are of the proper size and are smaller than the filter material to ensure that the filter material is properly contained.

Table 1: Minimum Perimeter Control Performance Requirements

Physical Property*	Test Method	Required Value
Height or Diameter	Measured	9-inch Min.
Filtering Efficiency Performance	ASTM D7351 or Equivalent	80% Total Suspended Solids (TSS)
Primary Material or Netting Ultraviolet Stability (retained strength after 500 hrs of ultraviolet exposure)	ASTM D 4355	70%

1.2.2 Posts

Furnish steel posts meeting the following minimum physical requirements:

- Minimum length of five (5) feet.
- Composed of high strength steel with minimum yield strength of 50,000 psi.
- Standard "T" section with a nominal face width of 1.38 inches and nominal "T" length of 1.48 inches.
- Weighs 1.25 pounds per foot (± 8%).
- Painted with a water based baked enamel paint.

1.2.3 Wood Posts

Furnish wood posts meeting the following minimum physical requirements:

- Minimum length of four (4) feet.
- Rectangular in shape with a minimum measured dimension of 3/4 inch x 3/4 inch and a maximum measured dimension of 2 inches x 2 inches.

1.2.4 Quality Assurance

Provide Perimeter Control meeting the requirements of this Specification, or as approved by the Engineer.

At the time of delivery, provide the Engineer with the Perimeter Control packing list containing complete identification, including but not limited to the following:

- Manufacturer's name and location.
- Manufacturer's telephone number and fax number.
- Manufacturer's e-mail address and web address.
- Perimeter Control name, model, and/or serial number.
- Perimeter Control height, diameter, length, and weight.
- Certification that the Perimeter Control meets the physical and performance criteria of this Specification.

1.3 Construction Requirements

1.3.1 Site Preparation

Proper site preparation is essential to ensure Perimeter Control is in complete contact with the underlying soil or underlying surface or is installed in a manner where runoff cannot undermine the Perimeter Control. Remove all rocks, clods, vegetation, or other obstructions that would prevent the installed Perimeter Control from having direct contact with the underlying soil or surface.

1.3.2 Installation

1.3.2.1 General Installation

If requested by the Engineer, provide a manufacturer's representative on-site to oversee and approve the initial Perimeter Control installation. Provide a letter from the manufacturer approving the installation if requested by the Engineer.

Install Perimeter Control before major construction in an area is started.

Install Perimeter Control perpendicular to the direction of flow and at the proper distance from the toe of slopes to provide sediment storage and access for maintenance and cleanout.

Install Perimeter Control along sidewalks, on the bare lot side, to keep sediment from washing onto sidewalks and streets and into gutters and storm drains.

Install Perimeter Control to a minimum height of ***9*** inches above the ground.

When necessary, the height of the perimeter control above ground may be greater than ***9*** inches.

Install Perimeter Control in continuous lengths to avoid joints. When joints are necessary, lap the ends of adjacent Perimeter Control with a minimum six (6) inch overlap to prevent flow and sediment from passing through the field joint.

If trenching of Perimeter Control material is required, excavate a trench approximately six (6) inches wide and six (6) inches deep and place the Perimeter Control material into the six (6) inch deep trench, extending the remaining six (6) inches towards the upslope side of the trench. Backfill the trench with soil or gravel and compact.

Install Perimeter Control using wooden posts with a minimum measured dimension of 3/4 inch x 3/4 inch and a maximum measured dimension of 2 inches x 2 inches, or using steel posts (1.25 lbs/ linear foot) a minimum of 4 feet in length. Space posts or stakes on 6-foot centers and drive them into the ground to a depth of 2 feet or to the maximum extent practicable.

1.3.2.2 Sediment Tube Installation

When using Sediment Tubes for Perimeter Control ensure the minimum installed Sediment Tube height is **7** inches above the ground.

When laying the Perimeter Control on a soil surface is required such as the use of Sediment Tubes for Perimeter Control, construct a small U-shaped trench to a depth that is 20% of the perimeter control diameter/height. Lay the Perimeter Control flat in the U-shaped trench and compact the upstream Perimeter Control soil interface with the excavated soil.

Install the posts in the middle, or on the downstream third of the Perimeter Control, or install posts per the manufacturer's recommendation.

Perimeter Control weighing more than 18-pounds per foot do not require posts, trenching, or additional filter media. In areas where concentrated flow is experienced, backfill Perimeter Control weighing more than 18-pounds per foot with No. 5 or No. 57 filter media on the upstream side of the Perimeter Control to increase the contact area with the underlying soil or surface, increase filter size, slow down flow, capture more sediment, and reduce undercutting.

1.3.3 Delivery, Storage, and Handling

Follow the manufacturer's written storage and handling procedures for Perimeter Control labeling, shipment, and storage. Clearly show the Perimeter Control manufacturer or supplier name on product labels.

Store Perimeter Controls off the ground and cover them to adequately protect them from the following:

- Construction damage.
- Precipitation.
- Extended exposure to ultraviolet radiation including sunlight.
- On-site chemicals.
- Flames' including welding sparks.
- Excess temperatures.
- Other environmental conditions that can damage the physical properties.

1.3.4 Inspection and Maintenance

Inspect Perimeter Control after installation to ensure that no gaps exist under the Perimeter Control or between the joints of adjacent ends of sediment tubes.

Inspect Perimeter Control every seven (7) days and inspections are recommended within 24-hours after each rainfall event that produces ½-inches or more of precipitation until final stabilization is achieved. Check where runoff has eroded a channel beneath the Perimeter Control, or where the Perimeter Control has sagged or collapsed by overtopping. Repair rills, gullies, and undercutting near the Perimeter Control.

Remove sediment deposits that impair the sediment control capability of the Perimeter Control when the sediment reaches one-third of the height of the exposed Perimeter Control. Remove trapped sediment or stabilize on site. If a Perimeter Control or portion of Perimeter Control is located in an area where removing the sediment is not possible, install a second Perimeter Control, if necessary, at the direction of the Engineer. In this case, payment for both Perimeter Control and portions involved is made at the unit price for Perimeter Control.

Remove and/or replace installed Perimeter Control as required to adapt to changing construction site conditions. Review daily the location of Perimeter Control in area where construction activities have changed the natural contour and runoff pattern to ensure that the Perimeter Control is properly located for effectiveness. Install additional Perimeter Control as directed by the Engineer where deficiencies exist.

When the functional longevity of the Perimeter Control is exceeded as determined by the Engineer or manufacturer's representative, remove them from the site.

Remove Perimeter Control within 30 days after final stabilization is achieved or after temporary Best Management Practices (BMPs) are no longer needed. Permanently stabilize disturbed areas resulting from Perimeter Control removal. The Perimeter Control material remains the property of the contractor and may be used in other locations provided the materials meet the appropriate requirements contained in this Specification and/or on the Plans.

Gather and dispose Perimeter Control in regular means as non-hazardous, inert material. Before final stabilization, backfill all trenches, depressions, or other ground disturbances caused by the removal of Perimeter Control.

1.3.3 Acceptance

Obtain Engineer acceptance and approval of Perimeter Control installations. When requested by the Engineer, ensure that a manufacturer's representative is on-site to oversee and approve the initial installation of Perimeter Control. Obtain a letter from the manufacturer approving the installation when requested by the Engineer.