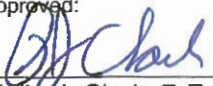


To: SUPERSEDED BY EI 09-035 EFFECTIVE 9/02/10 MODIFIED BY EI 08-013 EFFECTIVE 9/4/08		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 06-004
Title: REVISIONS TO STANDARD SPECIFICATIONS §209 EROSION AND SEDIMENT CONTROL AND §713-07 ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS			
Distribution: ☒ Manufacturers (18) ☒ Local Govt. (31) ☒ Agencies (32) ☐ Surveyors (33) ☒ Consultants (34) ☒ Contractors (39)		Approved:  Philip J. Clark, P.E. Deputy Chief Engineer, Design 02/28/06 Date	

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of 09/07/2006.
- This EI supersedes EI 04-023 and modifies EI 02-037.
- Revised specification will be incorporated into a future revision of the Standard Specifications.

PURPOSE:

This EI issues revisions to §209-SOIL EROSION AND SEDIMENT CONTROL and §713-07 ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS of the Standard Specifications.

TECHNICAL INFORMATION:

- EI 06-005 Design Guidance for Standard Specification for §209 Erosion and Sediment Control and §713-07 Rolled Erosion Control Products and Soil Stabilizers is being issued concurrently with this EI.
- Add pay items to §209:
 1. 209.190201, Rolled Erosion Control Product, Class II, Type B, Intermediate.
 2. 209.190301, Rolled Erosion Control Product, Class II, Type C, Intermediate.
 3. 209.1904, Rolled Erosion Control Product, Class II, Type D, Intermediate.
 4. 209.200101, Turf Reinforcement Mats, Class III, Type A, Permanent.
 5. 209.200201, Turf Reinforcement Mats, Class III, Type B, Permanent.
 6. 209.200301, Turf Reinforcement Mats, Class III, Type C, Permanent.
 7. 209.200401, Turf Reinforcement Mats, Class III, Type D, Permanent.
 8. 209.2103, Soil Stabilizer, Class IV, Type C.
- Disapprove the following pay items – 209.1902, 209.1903, 209.2001, 209.2002, 209.2003, and 209.2004.

IMPLEMENTATION:

- The Design Quality Assurance Bureau (DQAB) will insert the attached shelf notes for §713-07 and §209 into contract proposals beginning with projects submitted for the letting of 09/07/2006 containing any of the following pay items – 209.18xx, 209.19xx, 209.20xx, 209.21xx.

TRANSMITTED MATERIALS:

This EI transmits revised specifications for §713-07 ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS and modifies Pay Items in § 209.

BACKGROUND:

The revisions to §713-07 ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS result from changes made to conform to national testing and terminology.

CONTACT:

Direct questions regarding this Engineering Instruction to Gary Glath in the Landscape Architecture Section at 518/457-4460 (e-mail: gglath@dot.state.ny.us).

SOIL EROSION AND SEDIMENT CONTROL

Make the following changes to Section 209 of the Standard Specifications as modified by EI 02-037.

Delete §209-3.12 in its entirety and **replace** it with the following:

209-3.12 Rolled Erosion Control Products and Soil Stabilizers. The time and method of placement shall be as specified in the contract documents and/or according to Manufacturer's recommendations.

For areas at final grade, all loose stones, clods, sticks, or other undesirable material shall be removed in accordance with the manufacturer's recommendations or as specified elsewhere in the contract documents. In addition, those areas at final grade shall be scarified to a minimum depth of 25 mm immediately prior to installation, unless topsoil is being placed and the erosion control material will be installed within 2 work days of topsoil placement.

A. Rolled Erosion Control Products.

1. Class II, Type A, Jute Mesh. Jute mesh shall be placed without stretching on the freshly prepared surface so that it lays loosely on the soil and in contact with the soil at all points; and then it shall be rolled or tamped firmly into the soil surface. The upper end of each roll shall be turned down and buried to a depth of 150 mm with the soil firmly tamped against it. Unless otherwise specified in the contract documents, check slots shall be constructed at 15-m intervals down the slope. The construction procedure shall consist of placing a fold of material 150 mm vertically into the ground and tamping soil firmly against it. Jute mesh shall be placed so that all edges shall have a minimum overlap of 150 mm. The ends of rolls shall be placed with the upgrade section on top. Jute mesh shall be held tightly to the soil by anchors driven firmly into the ground. Anchors shall be spaced not more than 1 m apart on the sides and along the centerline of all drainage ways. Jute mesh ends and check slots shall have anchors spaced at 300 mm intervals.

2. Class I and Other Class II, Rolled Erosion Control Products. These products shall be placed and firmly anchored as stated in the manufacturer's instructions.

3. Class III Turf Reinforcement Mat (TRM). Class III-Type A and B TRMs shall be completely filled with topsoil immediately after installation. Class III-Type C and D TRMs, which contain a composite, do not need to be filled with topsoil unless recommended by the manufacturer.

To prevent initial soil loss Class III TRM mats Type A and B shall be covered with one of the following materials during installation. (These materials will be paid for separately.)

For Slope application:

1. Class IV-Soil Stabilizer
2. An approved RECP (Class I or II)
3. Mulch

For Channels:

1. An approved RECP (Class I or II)

B. Class IV Soil Stabilizers. These materials shall be applied as recommended by the Manufacturer. Type A & B are intended to be applied with hydroseeding equipment. Type B may also be placed through dry spreading. When dry spreading method is used, the Contractor shall apply the material uniformly. Where applied, Type A shall be minimum of 6 mm thick. When Type A is used in conjunction with turf establishment, seeds must be sown separately and prior to the application of the soil stabilizer.

SOIL EROSION AND SEDIMENT CONTROL

Under §209-5

Delete the following items:

209.1902, Rolled Erosion Control Products, Class II Type B, Intermediate	Square Meter
209.1903, Rolled Erosion Control Products, Class II Type C, Intermediate	Square Meter
209.2001, Rolled Erosion Control Products, Class III Type A, Permanent	Square Meter
209.2002, Rolled Erosion Control Products, Class III Type B, Permanent	Square Meter
209.2003, Rolled Erosion Control Products, Class III Type C, Permanent	Square Meter
209.2004, Rolled Erosion Control Products, Class III Type D, Permanent	Square Meter

Insert the following Pay Item Numbers:

209.190201, Rolled Erosion Control Products, Class II Type B, Intermediate	Square Meter
209.190301, Rolled Erosion Control Products, Class II Type C, Intermediate	Square Meter
209.1904, Rolled Erosion Control Product, Class II, Type D, Intermediate	Square Meter
209.200101, Turf Reinforcement Mats, Class III Type A, Permanent	Square Meter
209.200201, Turf Reinforcement Mats, Class III Type B, Permanent	Square Meter
209.200301, Turf Reinforcement Mats, Class III Type C, Permanent	Square Meter
209.200401, Turf Reinforcement Mats, Class III Type D, Permanent	Square Meter
209.2103, Soil Stabilizers, Class IV Type C	Square Meter

ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS

Make the following changes to §713-07 of the Standard Specifications of January 2, 2002, as modified by EI 04-023.

Delete "§713-07" its entirety and **replace** it with the following:

713-07-ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS

SCOPE. This specification covers the material requirements for Rolled Erosion Control Products and Soil Stabilizers.

MATERIAL REQUIREMENTS

Class I (Short-Term) Light-duty, organic, or synthetic erosion control products.

Type A. Products for use where the slopes do not exceed 1:4. No minimum shear stress is required. The product shall be capable of withstanding moderate foot traffic without tearing or puncturing.

Type B. Products for use on slopes 1:3 and flatter. No minimum shear stress is required.

Type C. Products for use on slopes 1:3 or flatter, or in channels. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 70 Pa at 13 mm soil loss.

Class II (Intermediate) Erosion control products.

Type A. Jute Mesh. For use on slopes 1:2 or flatter. Jute mesh shall be of a uniform, open, plain weave of undyed and unbleached, single-jute yarn. Jute mesh shall be woven as follows:

- Approximately 55 warp ends per meter width.
- Approximately 37 weft ends per linear meter.
- Mass of jute mesh shall average $0.5 (\pm 5\%) \text{ kg/m}^2$.

Type B. Organic or nonorganic products for use on slopes 1:2 or flatter.

Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 50 Pa at 13 mm soil loss.

Type C. Products made entirely of organic materials. For use on slopes 1:2 or flatter. Only 100% organic materials are allowed. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 50 Pa at 13 mm soil loss.

Type D. Organic or nonorganic products for use on slopes 1:2 or flatter or in channels. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 95 Pa at 13 mm soil loss.

Class III (Permanent) Nondegradable synthetic products-Turf Reinforcement Mat (TRM) [fibers, filaments, or nettings] which may be supplemented with natural or fiber components[composite].

Type A. A TRM for use on slopes 1:2 or flatter or in channels. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 95 Pa at 13 mm soil loss.

ROLLED EROSION CONTROL PRODUCTS AND SOIL STABILIZERS

Type B. A TRM mat for use on slopes 1:2 or flatter or in channels. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 150 Pa at 13 mm soil loss.

Type C. A TRM mat (which includes a composite) for slopes 1:1 or flatter or in channels. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 110 Pa at 13 mm soil loss.

Type D. A TRM mat (which includes a composite) for slopes 1:1 or flatter or in channels. Products shall have the ability to protect soil from hydraulically induced shear stresses under bench scale conditions for at least 150 Pa at 13 mm soil loss.

Class IV Soil Stabilizers. Soil stabilizers are short-term duration, erosion control products. When used alone, they shall be used on slopes 1:2 or flatter. They shall not be used in channels.

Type A. A cementitious soil binder which is added to wood cellulose fiber mulch, a Bonded Fiber Matrix (BFM). Intended to form a thick, heavy-bodied crust or mat-like barrier that controls water, and wind induced erosion. BFMs last up to six months and require a cure time up to 48 hours, without rain, to develop intimate soil contact.

Type B. A polyacrylamide (PAM) and calcium solution intended to reduce the erodibility of bare soils during construction activities or to enhance the performance of mulching on permanent slopes. Soil stabilizers, Type B, shall bond soil particles and shall effectively increase the soil particle size to 1.0 mm or larger. Soil stabilizers, Type B shall reduce the movement of soil through chemical bonding, increase the particle size thus making silt fence more effective, and increase the water absorption of the soil.

Type C. A soil binder made up of wood fibers, interlocking fibers, polymers and hydro-colloid tackifiers, a Flexible Growth Medium (FGM). Intended to form a thick, heavy-bodied crust or mat-like barrier that controls water, and wind induced erosion. FGMs last up to a year and require no cure time to develop intimate soil contact.

Type A, B and C soil stabilizers may be used alone and are approved for use with Class III, Types A and B TRMs where those products are used on slope applications.

BASIS OF APPROVAL. Application for approval shall be submitted to the Landscape Architecture Section by the manufacturer, accompanied by twelve (150 mm x 150 mm) samples of the product along with lab testing of the product by the National Transportation Product Evaluation Program (NTPEP), and a certification that the product conforms to this specification.

Upon approval by the Landscape Architecture Section, the product will be placed on the Department's Approved List.

BASIS OF ACCEPTANCE. Materials will be accepted on the basis of the product appearing on the Approved List and a material certification that the product is the same as the one appearing on the Approved List and that it conforms to this specification.