New Jersey Turnpike Authority
P.O. Box 5042, Woodbridge, NJ 07095

August 27, 2024

Document Change Announcement

2016 Standard Supplementary Specifications
Soil Stabilization Matting
DCA2024SS-08

Subject: Revisions to
Section 101 General Information, Subsection 101.01 Headings, Subsection 101.02 Definitions
Section 208 Temporary Soil Erosion And Dust Control, Subsection 208.01 Description
Subsection 208.02 Materials, Subsection 208.03 Methods of Construction, Subsection 208.05 Payment
Section 213 Regulated Material, Subsection 213.03 Methods of Construction
Section 703 Topsoiling, Subsection 703.03 Methods of Construction
Section 704 Seeding and Sodding, Subsection 704.02 Materials, Subsection 704.03 Methods of Construction
Section 706 Soil Stabilization Matting, Subsection 706.02 Materials
Subsection 706.03 Methods of Construction, Subsection 706.04 Measurement, Subsection 706.05 Payment
Section 919 Landscaping Materials, Subsection 919.10 Seed, Subsection 919.15 Emulsified Asphalt
Subsection 919.35 Soil Stabilization Matting

Description of Change:
This DCA contains changes to procedures and materials for slope erosion control. In addition, certain product types, as indicated in the DCA, must be tested through AASHTO's Product Evaluation and Audit Solutions program (formerly known as NTPEP) in order to be approved on the Authority's Qualified Products List (QPL). Products already approved on the QPL will have one (1) year from the date of this DCA to complete the required AASHTO testing if they have not already done so.

Notice to New Jersey Turnpike Authority Staff and Design Consultants
Effective immediately, all contracts currently in the design phase shall incorporate the revisions herein. For advertised contracts awaiting the opening of bids this revision shall be incorporated via addendum. Contact your New Jersey Turnpike Authority Project Manager for instruction.

The revisions may be accessed on the Authority's webpage: https://www.njta.com/doing-business/professional-services

Recommended By:

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NOTE: The following language is ADDED to the latest version of the 2016 Standard Supplementary Specifications.

SECTION 101 - GENERAL INFORMATION

[Include the following with all contracts:]

101.02 Definitions

(B) Terms

Add the following to the table:

AASHTO Product Evaluation and Audit Solutions	A program administered by AASHTO that combines the professional and physical resources of the AASHTO member departments in order to evaluate materials, products, and devices of common interest for use in highway and bridge construction. The primary goal of the program is to provide cost-effective evaluations by eliminating duplication of testing and auditing by States and duplication of effort by manufacturers that provide products for evaluation.

SECTION 208 – TEMPORARY SOIL EROSION AND DUST CONTROL

208.01 Description

Add the following:

A field meeting with the Authority maintenance district having jurisdiction shall be held prior to the placement of soil stabilization matting.

208.02 Materials

Add the following:

STRAW BLANKETING .....919.35(C)

BIODEGRADABLE POLYPROPYLENE MAT ....919.35 (D)

208.03 Method of Construction

The following is removed and replaced:

(B) SOIL STABILIZATION MATTING.

Soil Stabilization Matting shall be placed at locations designated by the Engineer.

208.05 Payment

Delete the fourth paragraph and replace with the following:

Payment for soil stabilization matting will be made in accordance with Section 706.

SECTION 213 – REGULATED MATERIAL

213.03 Methods of Construction

Add the following:

Restoration of soil erosion will be made in accordance with Section 208.

SECTION 703 - TOPSOILING

703.03 Methods of Construction

Delete the second and third paragraphs and replace them with the following:

Topsoil shall not be placed until the area to be topsoiled has been shaped and dressed. Shaping and dressing shall include grading to required lines and elevations, decompaction to a depth of six (6) inches, removal of stones two (2) inches or larger in any dimension, and the removal of all other debris such as wires, cables, loose tree roots, pieces of concrete, clods, lumps and other unsuitable material.

On slopes rated as 3H:1V or flatter if directed by the Engineer, a soil analysis shall be completed to ensure that the composition of the existing soil conforms to Subsection 919.07. If the existing soil does not conform with Subsection 919.07 then a layer of organic topsoil shall be placed in accordance with the procedures set forth in this subsection. The topsoil shall be well-graded to prevent erosion of the slope.

The topsoil shall be spread on the shaped and dressed surface in a uniform layer that will produce a compacted thickness of four to six (4-6) inches. Following initial grading, the topsoil shall be graded to fine particles using a Harley rake and hand-rakes. All surfaces shall then be compacted and free from any depressions that would collect water, conforming to the prescribed lines and grades, following the requirements set forth in the Standards for Soil Erosion and Sediment Control in New Jersey (2017) issued by the New Jersey Department of Agriculture. After shaping and grading, all trucks and other equipment shall be excluded from the topsoiled areas.

SECTION 704 – SEEDING AND SODDING

704.02 Materials.

Remove the following:

EMULSIFIED ASPHALT 919.15

704.03 Methods of Construction.

(A) SEEDING AND MULCHING.

Delete the second paragraph and replace with the following:

When the soil to be seeded has a pH value of less than 5.8, sufficient lime shall be evenly spread to increase the soil pH value to 6.5. The pounds of lime per acre required to raise the pH of an average five (5) inch layer shall be determined through a soil analysis. Placement of lime shall follow the Standard for Management of High Acid-Producing Soils, as stipulated in the Standards for Soil Erosion and Sediment Control in New Jersey (2017).

Delete the table in this Paragraph.

(2) Seeding Seasons.

Delete the first sentence in this subparagraph and replace with the following:

Seeding shall be completed within the dates as set forth in the Soil Erosion and Sediment Control Plan Certification from the local soil conservation district or in the Standards for Soil Erosion and Sediment Control in New Jersey (2017).

(3) Application.

Delete the first sentence in this subparagraph and replace with the following:

All seed mixtures shall be uniformly sown at a minimum rate as stipulated within the Soil Erosion and Sediment Control Plan Certification from the local soil conservation district or within the Standards for Soil Erosion and Sediment Control in New Jersey (2017).

(a) Hydraulic Method.

Add the following to the end of this Part:

On slopes rated at 2H:1V or flatter, a two-pass method shall be used. The first pass shall contain seed mixed with liquid fertilizer, followed by a separate pass containing a cover of hydro-mulch. The hydraulic method can be used in conjunction with other methods of erosion control, such as soil stabilization matting. Consideration should be given to areas where expedited germination is necessary to protect the integrity of the area (i.e., areas exposed to direct sunlight in the summer to prevent the seed from burning). Use of the hydraulic method may be used on slopes as directed by the Engineer. Care shall be taken to prevent slurry runoff into adjacent areas. When used in conjunction with erosion control matting, the seeding shall be placed and settled before the matting is applied to the slope. Hydroseeding shall not be conducted on slopes steeper than 2H:1V.

(4) Mulching.

Delete "or salt hay" from the first sentence in the second paragraph.

Delete the third and fifth paragraphs.

Delete the sixth and seventh paragraphs and replace with the following:

Fiber mulch shall be mixed with water and applied by hydraulic equipment. The fiber mulch shall be used as recommended by the manufacturer, except that no less than 400 pounds of the dry product shall be used per acre.

No mulch shall be placed in areas designated on the Plans to receive soil stabilization matting. All mulch shall be left in place and allowed to disintegrate.

(5) Care During Construction.

Delete this subparagraph and replace with the following:

The Contractor shall be responsible for a satisfactory growth of grass on all areas seeded under the Contract until final acceptance of the Contract. Any seeded area which, in the opinion of the Engineer, does not show 80% coverage, and/or has washouts or gullies, shall be reseeded by the Contractor, as directed and approved by the Engineer. Reseeding shall include the use of a slit seeder or equivalent and the placing of mulch after the new seed has been sown. The Contractor shall also remove any slide material which has been deposited on seeded areas.

(C) SODDING.

Delete the first paragraph and replace with the following:

Sod shall be placed immediately after the areas to be sodded have been topsoiled; limed; and fertilized in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey (2017). Sod shall be harvested, and within 36 hours delivered and placed. Sod shall be laid with staggered joints and pressed closely together. The ends of sod strips shall be matched, so that the ends and sides always lie flush with each other. Sod shall be pressed into the underlying soil by hand tamping and rolling. Then the sodded areas shall be thoroughly watered.

(D) MOWING.

Delete the last sentence of the first paragraph and replace with the following:

Unless specifically ordered by the Engineer, grass on slopes of ratio 2 horizontal to 1 vertical (2H:1V) or steeper shall not be mowed and may be stabilized using non-turf vegetative stabilization.

SECTION 706 - SOIL STABILIZATION MATTING

706.02 Materials

Add the following:

SOIL STABILIZATION MATTING, JUTE MESH ..... 919.35(A)
SOIL STABILIZATION MATTING, STRAW BLANKETING ..... 919.35(C)
SOIL STABILIZATION MATTING, BIODEGRADABLE POLYPROPYLENE ..... 919.35 (D)

A field meeting with the Authority maintenance district having jurisdiction shall be held prior to the placement of soil stabilization matting. The Soil Stabilization Matting shall be netless; when conditions warrant, the use of net matting shall be used with the approval of the Authority and in accordance with the manufacturer's recommendation.

706.03 Methods of Construction

Delete the fourth paragraph from this Subsection.

Delete the fifth and sixth paragraphs from this Subsection and replace with the following:

All soil stabilization matting shall be installed according to the manufacturer's specifications.

The Contractor shall lightly roll the matting into the soil surface to insure complete contact with the soil at all points. The edges of every matting strip shall be stapled so as to anchor the matting flush with the ground. The Contractor shall follow the manufacturer's installation requirements. If no anchoring requirements are provided, staples shall be spaced approximately twenty-four to thirty-six (24-36) inches on center except along overlapping edges where they shall be approximately twelve (12) inches on center. Staples may be spaced closer together on the top of the slope, at the discretion of the Engineer. Staples shall be driven at an angle of approximately 30 degrees from the perpendicular to grade and shall be driven flush with the surface of the matting. Care shall be taken so as not to form depressions or bulges in the surface of the matting. Edges of slots shall be secured by stapling ten (10) inches on center. The edges of matting strips, at channel intersections, where concentrated water flow is apt to enter from the sides shall be protected by laying a short length of matting at the foot of the entering waterway, abutting the main channel, and anchoring the ends in slots six (6) inches deep.

In areas with poor soil as defined in Subsection 703.03, the matting shall first be covered with a layer of fertilizer and lime before the second application of seeding can take place. The matting shall be left in place after the stand of grass is established only if the matting is certified 100% biodegradable. If the matting contains plastic material, it shall be removed after the root systems are established, as determined by the Engineer.

706.04 Measurement

Add the following:

For Soil Stabilization Matting that requires netting, the removal and disposal of netting will not be measured for payment.

[NOTE TO DESIGNER: ADDITIONAL QUANTITIES OF TEMPORARY SOIL STABILIZATION MATTING SHALL BE PLACED ON AN "IF AND WHERE DIRECTED" BASIS FOR THE PROTECTION OF SWALES, EDGE OF PAVEMENT RUNOFF, AND OTHER EXPOSED LOCATIONS.]

706.05 Payment

Add the following:

TEMPORARY SOIL STABILIZATION MATTING, BIODEGRADABLE POLYPROPYLENE.....SQUARE YARD
PERMANENT SOIL STABILIZATION MATTING, BIODEGRADABLE POLYPROPYLENE .....SQUARE YARD

Soil Stabilization Matting shall consist of either Straw Blanketing or Jute Mesh unless otherwise noted.

No separate payment will be made for the removal and disposal of netting of Soil Stabilization Matting that includes netting, but the costs thereof will be included in the unit price bid for the pay item.

NOTE: The following tracked changes indicate REVISIONS to the latest version of the 2016 Standard Supplementary Specifications.

SECTION 919 - LANDSCAPING MATERIALS

919.10 Seed

Add the following to the end of the first paragraph of this Subsection:

Seed mixes shall be amended to meet the requirements of the Standards for Soil Erosion and Sediment Control in New Jersey (2017) issued by New Jersey Department of Agriculture and shown on the Contract Documents.

Delete the third paragraph from this Subsection and replace with the following:

The grass seed used shall be the new crops seed and the mixtures to be used shall be consistent with the Standards for Soil Erosion and Sediment Control in New Jersey (2017) issued by New Jersey Department of Agriculture.

Add the following language to the end of this Subsection:

Wildflower seed mixtures shall be as follows:

Table 919-1 Wildflower Seed Mixture

Seed Type	Minimum Purity (%)	Minimum Germination (%)	Application Rate (Pounds/Acre)
Little Bluestem	90	60	15.0
Milkweed	90	60	5.0
Goldenrod	85	60	3.0
Nurse Grass (oats or annual~~)~~ rye)	90	60	1.0
Total			24.0

Table 919-2 Wildflower Seed Mixture for Steep Slopes

Seed Type	Minimum Purity (%)	Minimum Germination (%)	Application Rate (Pounds/Acre)
Black-eyed Susan	90	60	1.0
Lance-Leaved Coreopsis	90	65	4.0
Purple Coneflower	90	60	2.0
New England Aster	90	70	1.0
Butterfly Weed	90	50	.5
Tickseed Sunflower	90	50	.5
Ox-eyed Daisy	90	65	1.5
*Mixed Cosmos	90	75	5
Wild Bergamot	90	50	2

Table 919-2 Wildflower Seed Mixture for Steep Slopes			
Seed Type	**Minimum Purity (%)**	**Minimum Germination (%)**	**Application Rate (Pounds/Acre)**
Sweet Alyssum	**90**	**55**	**.5**
Sheep Fescue	**90**	**85**	**2**
Total			**20.0**

*Recommend Spring Seeding Only.

Table 919-3 Seed Mixture for Steep Slopes in Pinelands Areas			
Purity Grass Seed Mixture	**Minimum Purity (%)**	**Minimum Germination (%)**	**Percent of Total Weight of Mixture**
Festuca Longifolia - Hard Fesuce (broken down equally into 2 different varieties)	**90**	**85**	**40%**
Festuca Ovina - Sheep Fescue	**90**	**85**	**20%**
Lolium Perenne - Turf Type Perennial Grass	**95**	**90**	**15%**
Festuca Rubra SSP. Fallax - Chewings Fescue	**95**	**90**	**10%**
Aesclepias Tuberosa - Butterfly Weed	**90**	**50**	**5%**
Coreopsis Lanceolata - Lanced Leaved Coreopsis	**90**	**65**	**5%**
Andropogon Virginicus - Broomsedge	**85**	**60**	**2%**
Schizachyrium Scoparium - Little Bluestem	**90**	**60**	**2%**
Rudbeckia Hirta - Black Eyed Susan	**90**	**60**	**1%**
		TOTAL	**220lbs/acre**

Tags and/or identification slips clearly denoting all wildflower seeds in the mixture shall be supplied to the Engineer for approval, before sowing.

Straw mulch and binding shall be as specified in Subsection 919.13. Hay mulch shall not be utilized.

NOTE: The following language is ADDED to the latest version of the 2016 Standard Supplementary Specifications.

SECTION 919 - LANDSCAPING MATERIALS

919.15 Emulsified Asphalt

Delete this Subsection in its entirety.

919.35 Soil Stabilization Matting

Delete this Subsection in its entirety and replace it with the following:

Products submitted under this product type shall have AASHTO Product Evaluation and Audit Solutions test data in accordance with the submission cycles stated in AASHTO's Erosion Control Products (ECP) & Sediment Retention Devices (SRD) technical committee work plan.

Contractor shall not use any matting material that contains polypropylene or similar plastics, unless he can prove that no other alternatives are reasonably available. Such use of polypropylene matting shall be approved ahead of time by the Engineer.

(A) Jute Mesh

Jute Mesh shall be cloth of a uniform plain weave of undyed and unbleached single jute yarn, 48 inches in width plus or minus one inch and weighing an average of 1.2 pounds per linear yard of cloth with a tolerance of plus or minus 5 percent, with approximately 78 warp ends per width of cloth and 41 weft ends per linear yard of cloth. The yarn shall be of a loosely twisted construction having an average twist of not less than 1.6 turns per inch and shall not vary in thickness by more than one half its normal diameter. Jute mesh shall be 100% biodegradable.

(B) Excelsior Mat

Delete this Paragraph in its entirety.

(C) Straw Blanketing

Straw blanketing shall be comprised of 100% biodegradable jute straw. It shall have a field life of three (3) to twelve (12) months, and shall be selected based on the proposed slope inclination 3 horizontal to 1 vertical (3H:1V) or flatter.

(D) Biodegradable Polypropylene

Biodegradable Polypropylene matting material shall be comprised of 100% photodegradable polypropylene or other plastic material when authorized by the Authority. The Authority will consider material that contains polypropylene or other plastic materials only when the proposed slope inclination 3 horizontal to 1 vertical (3H:1V) or steeper and the Contractor proves that no other alternatives are reasonably available. When polypropylene or other plastic material is considered, the material should be photodegradable that contains an accelerant that will cause breakdown of the matting within 6 months and installed as per manufacturer's recommendation.

Table 919-4 Soil Stabilization Matting Properties for Biodegradable Polypropylene Matting

Index-Test Method	Value
Mass per Unit Area-ASTM D 6475	.08 -1 lbs/ SY
Ultimate Tensile Strength/Strain-MD-ASTM D 6818	> 130 lbs/ Ft/ <30%
Thickness-ASTM D 6525	> 0.25 in.

Table 919-4 Soil Stabilization Matting Properties for Biodegradable Polypropylene Matting	
Index-Test Method	**Value**
Light Penetration- ASTM D 6567	> 15 %
Water Absorption- ASTM D 1117 & ECTC-TASC 00197	>250%
Determination of Unvegetated RECP Ability to Protect Soil From Rain Splash and Runoff Under Bench Scale Conditions-ASTM D 7101	Soil Loss Ratio~~n~~ < 20%
Determination of Temporary Degradable RECP Performance in Encouraging Seed Germination and Plant Growth- ASTM D 7322	>550%