

1 Make the following Section a part of the Standard Specifications:

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3 **"SECTION 618 – SOIL REINFORCEMENT AND POROUS PAVING SYSTEM**

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5 **618.01 Description.** This section describes constructing a vegetated shoulder
6 along the roadway using a polymer soil reinforcement system.

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8 **618.02 Materials.**

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10 Selected Material for Planting Soil 203

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12 Hydro-Mulch Seeding 641

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14 Aggregate for Untreated Base 703.06

15
16 Geotextiles for Permeable Separator Applications 716.02

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18 **(A) Polymer Soil Reinforcement and Porous Paving System:** The
19 polymer soil reinforcement and porous paving system shall have the following
20 characteristics:

21
22 1. Base Materials:

- 23 a. The material shall be up to 100 percent recycled
24 polyethylene.
25 b. The Carbon Black content shall be 1.5 to 2.0 percent by
26 weight, through the addition of a carrier with ASTM D 1693.

27
28 2. Performance Properties:

- 29 a. The empty unit minimum crush strength at 70 degrees F
30 shall be 420 psi.
31 b. The flexural modulus at 70 degrees F shall be 35,000 psi.
32 c. The unit minimum deflection without breakage when units
33 supported at 40 inches centers at 70 degrees F shall be 1.0
34 inches.
35 d. The wall compressive strength (simulated tire area loaded)
36 shall be 420 psi when tested using circular plate, 6.5 inches
37 in diameter, and loaded to failure.
38 e. The equivalent elastic stiffness shall be 48,000 pound-
39 square inches when tested using simply supported porous
40 pavement unit loaded to 1 inch deflection.
41 f. The joint shear strength shall be 20,000 pound-force when
42 tested using direct shear of tabular connection using
43 special apparatus.

44
45 3. Dimensions:

- 46 a. The nominal product width shall be 40 inches.

- b. The nominal product length shall be 20 inches.
- c. The nominal product area shall be 5.3 feet squared.
- d. The nominal product depth shall be 1.2 inches minimum.
- e. The top open area per unit shall be 88 percent minimum.
- f. The units shall have an interlocking system along its edges.

618.03 Construction.

(A) Excavating. Excavate to required depth, remove unsuitable material, and compact subgrade to firm, even surface in accordance with Subsection 203.03(A)(4) – Subexcavation.

(B) Permeable Separator. A single layer of permeable separator geotextile fabric shall be placed along the bottom and sides of the aggregate base layer, prior to installation of the aggregate base course.

(C) Bed Course. Use aggregate for untreated base conforming to Subsection 703.06 – Aggregate for Untreated Base, as bed course material. Place bed course material a minimum of 6 inches in depth. Compact with three passes of lightweight mechanical tamper, roller, or vibratory system.

(D) Soil Reinforcement. Install the Polymer Soil Reinforcement and Porous Pavement System over the aggregate base course in accordance with the product manufacturer’s specifications and instructions.

(E) Planting Soil. Fill in the voids of the Polymer Soil Reinforcement/Porous Pavement System with planting soil in accordance with Section 203.

(F) Grassing. Apply grass to the installed planting soil with hydro-mulch seeding in accordance with Section 641.

618.04 Measurement. The Engineer will measure the soil reinforced vegetated shoulder on a per square yard basis as specified in the proposal.

618.05 Payment. The Engineer will pay for the accepted quantities of soil reinforced vegetated shoulder at the contract unit price per square yard as specified in the proposal.

Payment will be full compensation for the work prescribed in this section and contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

92	Pay Item	Pay Unit
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94	Vegetated Shoulder, Geosystems Geoblock or Approved Equal	Square Yard
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96	The Engineer will pay for Selected Material for Planting Soil under Section	
97	203 – Excavation and Embankment.	
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99	The Engineer will pay for Aggregate Base Course under Section 304 –	
100	Aggregate Base Course.	
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102	The Engineer will pay for Hydro-Mulch Seeding under Section 641 – Hydro-	
103	Mulch Seeding.	
104		
105	The Engineer will not pay for the Permeable Separator Geotextile	
106	separately, and it shall be considered incidental to this section.”	
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109		
110	END OF SECTION	