Erosion and Sediment Control

Approved Products List

Approval Procedures
2007

NDOR
Nebraska
Department of Roads

1500 Hwy 2 PO Box 94759
Lincoln NE 68509-4759

Roadside Stabilization Unit

Ronald Poe, CPESC

Highway Environmental Program Manager

(402) 479-4499

rpoe@dor.state.ne.us

Alison Krohn, RLA

Landscape Architect

(402) 479-3642

alisonkrohn@dor.state.ne.us

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Approved Products List Submittal Procedures

Each January, the Roadside Stabilization Unit at the Nebraska Department of Roads *(NDOR)* will review and update the Specifications in this manual for erosion control products being used on our construction projects.

All new or altered products must be reviewed and approved by the Roadside Stabilization Unit prior to use. This process involves reviewing product data sheets, test results, and material samples and can include bench scale grow tests to see how plant roots and/or stems interact with the various products.

NDOR recognizes that new products can become available throughout the year. Any new products that are approved after the January 1 deadline can be included on the Approved Products List by Addendum. All Addendums will be published on the NDOR website along with the current Approved Products List Manual.

NDOR requires the following information to be supplied for product review:

1. A completed NDOR New Products Evaluation Form *(available on NDOR website)*.
2. A representative sample of the product to be reviewed. Two product samples of approximately 1 square yard *(9 square feet)* in size or larger are required for all Rolled Erosion Control Products.
3. Product specifications, literature, recommended installation procedures, installation references, field performance data, National Transportation Product Evaluation Program testing data, independent laboratory test data, and a list of all other State agencies that have testing in progress, completed tests, and/or have approved the product.

Products passing lab tests are **not** guaranteed a place on the NDOR Approved Products List *(APL)*. All NDOR standards must be met. NDOR reserves the right to place products in the appropriate category on the APL and to make changes, additions, or deletions to the Approved Products List, as needed. Any product deemed environmentally incompatible will not be placed on the APL.

For products to be placed on the Approved Products List in their appropriate category, the three items mentioned above must be submitted. NDOR reserves the right to remove a product from the list when the lab results or field performance proves to be unsatisfactory. The manufacturer will be notified prior to a product being removed. The most recent APL at the time of the project letting will remain in effect for the life of the project, however, any new products added to the APL after the letting will also be allowed.

Rolled Erosion Control Products

NDOR defines "Rolled Erosion Control Products" *(RECPs)* as blankets or mats that are delivered to the site in rolls or strips with a minimum thickness of 0.25 inch. RECPs are divided into two classes and further broken down into various types. The first class, Class 1, of products is composed primarily of biodegradable materials with a functional longevity of up to three years. The second class, Class 2, is for categorizing permanent non-degradable synthetic turf reinforcement mats based upon their abilities to handle different hydraulic conditions. Class 2 products may contain biodegradable components; however, the product must be tested with only the permanent portions. Tables "A" and "B" show instances in which these products are typically used. The requirements listed below, as well as those in Tables "C" through "F", must be met in order for a Rolled Erosion Control Product to be considered for the Approved Products List.

General Specifications

All Rolled Erosion Control Products shall be tested for physical and performance characteristics and have published data from the National Transportation Product Evaluation Program prior to being listed on the Approved Products List. Within 18 months, large scale testing must be conducted for a product to remain on the APL. See Page 3 for details of Interim Acceptance.

Full-scale testing of Minimum Permissible Shear Stress and Slope Erosion Protection tests must be performed at a pre-approved testing facility. Currently, the labs approved for testing are:

- Texas Transportation Institute, College Station, Texas
- Colorado State University, Fort Collins, Colorado
- San Diego State University, San Diego, California
- Utah State University, Logan, Utah
- Erosion Lab, Rice Lake, Wisconsin

Testing Reports to NDOR shall include, but are not limited to:

- Site Conditions
- Material Type and Installation
- Test Procedures and Data Collection
- Analysis and Data Interpretation
  - Revised Universal Soil Loss Index Number
  - Shear Stresses for Channels
  - Channel Velocity
  - Slope Energy
  - Manning's Resistance Coefficient at all flows
- Summary of Test Results
  - Cover Management *(C)* Factor according to the Revised Universal Soil Loss Equation *(RUSLE)* from the USDA-ARS Agricultural Handbook 703 for slopes
  - Shear at 0.5 inches of soil loss
  - Conclusions and Recommendations

Minimum Permissible Shear Stress

Minimum Permissible Shear Stress is the minimum shear stress that a Rolled Erosion Control Product must be able to sustain when placed on a bare soil channel while maintaining a specified level of performance. Results from a pre-approved independent laboratory using ASTM D 6460 or other NDOR approved large scale testing will be accepted. Failure is defined as the loss of ½" of soil in the channel. All approved products must meet the Minimum Permissible Shear Stress requirements for the particular category that they are assigned.

Slope Erosion Protection

Slope Erosion Protection is defined as the ability of an RECP to protect a slope from soil loss due to rainfall splash or sheet flow. Results from a pre-approved independent laboratory using ASTM D 6459, 6460, or other NDOR approved large-scale testing will be accepted. Failure will be defined by soil loss exceeding the Cover Management *(C)* Factor of the Revised Universal Soil Loss Equation *(RUSLE)* in accordance with the particular product's class and type as outlined in Table "E".

Vegetation Establishment

Vegetation Establishment is a measurement of a product's ability to provide a minimum density of vegetative growth. The vegetation establishment tests will be conducted in-house by the Roadside Stabilization Unit using the following testing procedure. Failure will be defined as a vegetation density less than 80% when compared to the control plots.

Three test plots shall be constructed a minimum of eight inches in diameter by six inches deep with a means of drainage and filled with commercial topsoil. The controls and the test plots will all be seeded with either wheat or oats at a rate of approximately 1 lb/100 sf. The first control plot will have mulch applied to a depth of cover of 0.125 inch. The second control will have a random Rolled Erosion Control Product cover that is currently on the Approved Products List. The third test plot will contain the material being tested. The three test plots will have the RECPs properly anchored over the topsoil. All test plots will be watered on equal intervals and documented.

Results will be documented after a 14-day growing period with a full count in a representative section of each of the control and test plots. The test will have three repetitions with the final results being an average of the three.

Most Rolled Erosion Control Products shall be tested with the seed placed in the top 0.50 inch of the soil in the control and test plots. The RECP shall be secured so that it simulates the manufacturer's recommendations for product anchoring.

Interim Acceptance

New or altered Rolled Erosion Control Products that exhibit physical properties similar to existing products on the Approved Products List and meet the standards for physical properties as outlined in Tables "C" and "D" may be granted interim acceptance status for a period of up to 18 months. Prior to interim acceptance, all new or altered RECPs shall be tested and have a published report from the National Transportation Product Evaluation Program. By the end of the18 months all large scale physical and performance testing shall be completed and all data received by NDOR's Roadside Stabilization Unit. Upon receipt of the testing data, all RECPs with Interim Acceptance must receive approval by the Roadside Development Unit to remain on the Approved Products List. Failure to submit the required data within the allotted time frame can result in the removal of the product from the APL.

NDOR reserves the right to test or temporarily approve new products or techniques on an interim basis to test the viability of the product or technique for Nebraska. All testing data will be required for final acceptance of the new product or technique to be placed on the APL.

Recertification

For Rolled Erosion Control Products to remain on the Approved Products List, recertification will be required every three years. Recertification will consist of submitting the following information:

- An updated New Products Evaluation Form
- A new sample, approximately 1 square yard or larger in size for RECPs, and a representative sample for all other erosion control products
- All updated literature, testing reports, or other data related to the product

Any product found to not meet the current minimum NDOR standards shall be removed from the Approved Products List. A removed product may be reclassified on the Approved Products List upon receipt of updated physical properties data and performance data as per NDOR standards.

Random Sampling of Products

Once a product is listed on the Approved Products List, random sampling may be conducted by NDOR for comparison with the samples originally submitted to the state for approval. Inconsistencies can result in a letter of concern to the manufacturer or the product being removed from the Approved Products List until the product has been recertified and re-approved for use by NDOR.

Modification to an Approved Product

The product quality or composition may not be altered in any way once the Rolled Erosion Control Product has been placed on the Approved Products List. Any product that has been modified since its inclusion on the Approved Products List must be retested and resubmitted before the modified product may be utilized on NDOR projects. Changes made to a product without proper notice to NDOR will result in the product's immediate removal from the Approved Products List.

Installation Instructions and Procedures

Both the product and its installation determine the effectiveness of the Rolled Erosion Control Product. The installation procedures shall ensure that the RECP will remain in contact with the soil for its period of functional longevity or until such a time as full growth of the vegetation occurs. Installation instructions and procedures must accompany all requests for product approval for the APL. NDOR takes into account all manufacturer's recommendations, as well as, all current industry standards in developing our standard installation details.

Table A
Slope Erosion Control Usage Chart

Type of Erosion Control	Slope Steepness																	
	6:1 or Flatter			4:1			3:1			2.5:1			2:1			1:1		
	Slope Length			Slope Length			Slope Length			Slope Length			Slope Length			Slope Length		
	0-30’	30-60’	60’+	0-30’	30-60’	60’+	0-30’	30-60’	60’+	0-30’	30-60’	60’+	0-30’	30-60’	60’+	0-30’	30-60’	60’+
Seed with properly anchored mulch	━	━	━	━	━	━	━	━										
Sod	━	━	━	━	━	━	━	━										
Slope protection mulch	┅	┅	┅	┅	┅	┅	━	━	━									
Class 1 – Type A Slope Protection Netting	┅	┅	┅	┅	┅	┅	━	━	━									
Class I – Type B Lt. Wt. Quick Degrading Erosion Control Blanket	━	━	━	━	━	━	━											
Class 1 – Type C Lt. Wt. Single Net Erosion Control Blanket	┅	┅	┅	┅	┅	┅	━	━	━									
Class 1 – Type D Lt. Wt. Double Net Erosion Control Blanket	┅	┅	┅	┅	┅	┅	┅	┅	━	━	━	━	━	━				
Class 1 – Type E Med Wt. Double Net Erosion Control Blanket	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	━	━	━	━	━			
Class 1 – Type F Heavy Duty Erosion Control Blanket	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	━	━	━	━

━━━ Designates instances where a particular Erosion Control Type will be used.

┅┅┅ Designates instances where a particular Erosion Control Type can be used.

Rill and gully erosion on sideslopes is the primary concern when designing slope erosion control. When unprotected, the slopes will erode. Rills and gullies provide channels that further concentrate runoff and greatly increase the rate at which sediment is removed from the slopes. Once formed, they can become costly to correct and dangerous for our maintenance crews. Seeding and Mulching is the primary method of slope erosion control. However, RECPs are used based upon aesthetic considerations, severity of the slopes, length of the slopes, and soil types, as well as cost.

Table B
Ditch and Channel Erosion Control Usage Chart

Type of Erosion Control	Ditch Grade																	
	<1%			1% - 3%			3% - 5%			5% - 7%			7% - 10%			>10%		
	Maximum Length			Maximum Length			Maximum Length			Maximum Length			Maximum Length			Maximum Length		
	<300’	600’	900’+	<300’	600’	900’+	<300’	600’	900’+	<300’	600’	900’+	<300’	600’	900’+	<300’	600’	900’+
Seed with Properly Anchored Mulch	━	━	━	━														
Sod	━	━	━	━														
Class 1 – Type C Lt. Wt. Single Net Erosion Control Blanket	━	━	━	━														
Class 1 – Type D Lt. Wt. Double Net Erosion Control Blanket	┅	┅	┅	━	━													
Class 1 – Type E Med. Wt. Double Net Erosion Control Blanket	┅	┅	┅	┅	━	━												
Class 1 – Type F Heavy Duty Erosion Control Blanket	┅	┅	┅	┅	┅	━	━	━										
Class 2 – Type A Turf Reinforcement Mat	┅	┅	┅	┅	┅	┅	┅	━	━	━								
Class 2 – Type B Turf Reinforcement Mat	┅	┅	┅	┅	┅	┅	┅	┅	━	━	━	━						
Class 2 – Type C Turf Reinforcement Mat	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	━	━	━	━	━			
Cellular Confinement	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	┅	━	━	━	

━ Designates instances where a particular Erosion Control Type will be used.

┅ Designates instances where a particular Erosion Control Type can be used.

Ditches and channels on the right-of-way carry water from the roadway, the sideslopes, as well as runoff from adjacent properties. The energy created during times of flow, based upon channel length and grade, soil type, and vegetative cover will affect the channel. The concentrated water can create gullies, some of which may continue up gradient and deepen enough to destabilize the sideslope and threaten the roadway. In many instances, grasses, once established, can be sufficient to stabilize the ditch. However, as the lengths and grades become greater, the ditches require synthetic reinforcement of the grass to maintain the ditch. The overall philosophy of ditch and channel erosion control is to find the most economical solution over the long term while minimizing the amount of erosion occurring on the Right-of-Way.

Table C

Product Type	Product Description	Material Composition	Functional Longevity	Blanket Size		Acceptable Matrix Fill Material	Mass Per Unit Area ASTM D6475	Minimum Size of Net Openings	Minimum Light Penetration ASTM D6567
				Minimum Roll Width	Minimum Thickness ASTM D 6525				
Class 1 – Degradable Blankets									
A	Slope Protection Netting	A photodegradable black synthetic mesh.	24 Months	6.5' (2.0 m)	N/A	N/A	2.2 lbs./ 1000 sf	0.75"x0.75"	N/A
B	Lt. Wt. Quick Degrading Erosion Control Blanket	Processed degradable natural and/or polymer fibers mechanically bound together by a single rapidly degrading, synthetic or natural fiber netting.	3 Months	4.0'	0.25" (6.35 mm)	Straw or Excelsior	0.40 lbs/sy	0.50"x0.50" (12.7 mm x 12.7 mm)	10%
C	Lt. Wt. Single Net Erosion Control Blanket	Processed degradable natural fibers mechanically bound together by a single degradable, synthetic or natural fiber netting.	12 Months	6.5' (2.0 m)	0.25" (6.35 mm)	Straw or Excelsior	0.50 lbs/sy (0.25 kg/sm)	0.50"x0.50" (12.7 mm x 12.7 mm)	7%
D	Lt. Wt. Double Net Erosion Control Blanket	Processed degradable natural fibers mechanically bound together between two degradable, synthetic or natural fiber nettings.	12 Months	6.5' (2.0 m)	0.25" (6.35 mm)	Straw or Excelsior	0.50 lbs/sy (0.27 kg/sm)	0.50"x0.50" (12.7 mm x 12.7 mm)	7%
E	Med. Wt. Double Net Erosion Control Blanket	An erosion control blanket composed of degradable natural fibers and/or processed slow degrading natural fibers mechanically bound together between two slow degrading synthetic or natural fiber nettings to form a continuous matrix. A minimum of 60% of the matrix. A minimum of 60% of the matrix must consist of fibers proven to last a minimum of 24 months.	24 Months	6.5' (2.0 m)	0.25" (6.35 mm)	Straw/ Coconut, Excelsior, or Coconut Fibers	0.50lbs/sy (0.27 kg/sm)	0.50"x0.50" (12.7 mm x 12.7 mm)	7%
F	Heavy Duty Erosion Control Blanket	An erosion control blanket composed of degradable natural fibers and/or processed slow degrading natural fibers mechanically bound together between two slow degrading synthetic or natural fiber nettings to form a continuous matrix.	36 Months	6.5' (2.0 m)	0.25" (6.35 mm)	Coconut Fibers	0.50 lbs/sy (0.27 kg/sm)	0.50"x0.50" (12.7 mm x 12.7 mm)	7%

The information in this table has been derived from information obtained from the Erosion Control Technology Council and from the characteristics of products currently on the NDOR Approved Products List. All values must be within 10% of the minimums shown on the table to be considered for approval on the APL.

Table D
Rolled Erosion Control Product Physical Properties Specification Chart

Product Type	Product Description	Material Composition	Size of Net Openings	Blanket Size		Acceptable Matrix Fill Material	Mass Per Unit Area (ASTM D6566)	Strength Testing (ASTM D 6818)	
				Minimum Roll Width	Minimum Thickness ASTM D 6525			MD Tensile MD Elongation	TD Tensile TD Elongation
Class 2 – Long-Term Non-degradable Channel Applications									
A	Turf Reinforcement Mat	Turf Reinforcement Mat (TRB) – A rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a permanent, three-dimensional matrix of sufficient thickness. TRMs, which may be supplemented with degradable components in Class 2A, are designed to impact immediate erosion protection, enhance vegetation establishment and provide long-term functionality by permanently reinforcing vegetation during and after maturation. **Class 2, Type C TRMs must provide sufficient thickness, strength and void space to permit soil filling and/or soil retention and promote the development of vegetation within the matrix.**	0.50"x0.50" (12.7mm x 12.7mm)	6.5' (2.00 m)	0.25 inches (6.35 mm)	Excelsior, Coconut, or Polymer fibers.	10 oz/sy (340 g/m^2)	125 lbs/ft (1.82kN/m)	125 lbs/ft (1.82kN/m)
B	Turf Reinforcement Mat		0.50"x0.50" (12.7mm x 12.7mm)	6.5' (2.00 m)	0.50 inches (6.35 mm)	100% UV Stabilized Polypropylene Fibers	10 oz/sy (340 g/m^2)	150 lbs/ft (2.19 kN/m)	150 lbs/ft (2.19kN/m)
C	Turf Reinforcement Mat		0.50"x0.50" (12.7mm x 12.7mm)	6.5' (2.00 m)	0.50 inches (12.7 mm)	100% UV Stabilized Polypropylene Fibers	14 oz/sy (475 g/m^2)	175 lbs/ft (2.55 kN/m)	175 lbs/ft (2.55kN/m)

The information in this table has been derived from information obtained from the Erosion Control Technology Council and from the characteristics of products currently on the NDOR Approved Products List. All values must be derived from testing the permanent portions of the TRM only and be within 10% of the minimums shown on the table to be considered for approval on the APL.

Table E
Rolled Erosion Control Product Performance Specification Chart

Product Type	Product Description	Material Composition	Functional Longevity	Slope Application		Channel Application	Minimum Tensile Strength ASTM D 5035
				Maximum Gradient	"C" Factor	Permissible Shear Stress (Unvegetated)	
Class 1 – Degradable Blankets							
A	Slope Protection Netting	A photodegradable synthetic mesh or woven biodegradable natural fiber netting.	12 Months	3:1	N/A	N/A	N/A
B	Lt. Wt. Quick Degrading Blanket	Processed degradable natural and/or polymer fibers mechanically bound together by a single rapidly degrading, synthetic or natural fiber netting.	3 Months	3:1	≤0.15@3:1	N/A	N/A
C	Lt. Wt. Single Net Erosion Control Blanket	Processed degradable natural and/or polymer fibers mechanically bound together by a single degradable synthetic or natural fiber netting.	12 Months	3:1	≤0.15@3:1	N/A	N/A
D	Lt. Wt. Double Net Erosion Control Blanket	Processed degradable natural and/or polymer fibers mechanically bound together between two degradable synthetic or natural fiber nettings.	12 Months	2:1	≤0.20@2:1	1.75 lbs/sf (84 Pa)	75 lbs/ft (1.09 kN/m)
E	Med. Wt. Double Net Erosion Control Blanket	An erosion control blanket composed of processed slow degrading natural or polymer fibers mechanically bound together between two slow degrading synthetic or natural fiber nettings to form a continuous matric.	24 Months	1.5:1	≤0.25@1.5:1	2.00 lbs/sf (96 Pa)	100 lbs/ft (1.45 kN/m)
F	Heavy Duty Erosion Control Blanket	An erosion control blanket composed of processed slow degrading natural or polymer fibers mechanically bound together between two slow degrading synthetic or natural fiber nettings to form a continuous matrix or an open weave textile composed of processed slow degrading natural or polymer yarns or twines woven into a continuous matrix.	36 Months	1:1	≤0.25@1:1	2.25 lbs/sf (108Pa)	100 lbs/ft (1.82 kNm)

Table F
Rolled Erosion Control Product Performance Specification Chart

Product Type	Product Description	Material Composition	UV Stability @ 1000 Hours ASTM D 4355	Minimum Light Penetration ASTM D 6567	Maximum Permissible Shear Stress (Vegetated)	Flexibility ASTM D 6575
Class 2 – Long-term Non-degradable Channel Applications						
A	Turf Reinforcement Mat	Turf Reinforcement Mat (TRM) – A rolled erosion control composed of non-degradable synthetic fibers, filaments, nets, wire mesh, and/or other elements, processed into a permanent three-dimensional matrix of sufficient thickness. TRMs, which may be supplemented with degradable components, are designed to impart immediate erosion protection, enhance vegetation establishment and provide long-term functionality by permanently reinforcing vegetation during and after maturation. **Turf reinforcement mats provide sufficient thickness, strength and void space to permit soil filling and/or retention and the development of vegetation within the matrix.**	80%	20%	6.0 lbs/sf (288Pa)	0.026 in-lbs
B	Turf Reinforcement Mat		80%	20%	8.0 lbs/sf (384 Pa)	0.026 in-lbs
C	Turf Reinforcement Mat		80%	20%	10.0 lbs/sf (480 Pa)	0.640 in-lbs

The information in these tables has been derived from information obtained from the Erosion Control Technology Council and from the characteristics of products currently on the NDOR Approved Products List. All values must be within 10% of the minimums shown on the table to be considered for approval on the APL.

Open-Weave Textiles

Open-weave Textiles *(OWT)* are degradable Rolled Erosion Control Products consisting of processed yarns woven into a two-dimensional matrix. The construction of these materials enables them to provide erosion control with or without a mulch layer. The OWTs are often used in situations where higher strength and longevity is required, such as on steeper slopes in various sandhills applications.

Rolled Erosion Control Product Specification Chart

Product Type	Product Description	Material Composition	Weigh/Unit Area ASTM D 3776	Minimum Thickness ASTM D 1777	Minimum Percent of Open Area	Permissible Shear Stress	"C" Factor
Class 3 Open-weave Textile							
A	Open-weave Textile	A temporary degradable RECP composed of processed natural or polymer yarns woven into a matrix, used to provide erosion control and facilitate vegetation establishment.	11 oz/sy	0.30 Inches	65%	3.0 lbs/sf	0.003 in-lbs
B	Open-weave Textile		20 oz/sy	0.30 Inches	45%	4.4 lbs/sf	0.003 in-lbs
C	Open-weave Textile		26 oz/sy	0.30 Inches	35%	4.6 lbs/sf	0.002 in-lbs

Erosion Control Staples

Erosion Control Staples are used in conjunction with the various Erosion Control Mats. The Staples are to be installed in accordance with the NDOR standard and special plans.

Type "1"

The Type "1" device is a staple, six inches in length. This staple is typically used to anchor Class 1 blankets according to NDOR standard plans and manufacturer's recommendations on backslopes and foreslopes in all soil types except sand. This staple may be used in sand or channel applications when an additional one-third of the quantity of staples is installed to anchor the Erosion Control Mat.

Type "2"

The Type "2" device is a staple eight to ten inches in length. This staple is the standard for anchoring Erosion Control Mats in sand and channel applications.

Type "3"

The Type "3" device is a biodegradable staple as determined by ASTM D 5338-92 and shall be a minimum of six inches in length. It is typically used in urban situations. The Type 3 devices must have a functional longevity of a minimum of 90 days, be environmentally safe, and have no potential for soil or water contamination.

Silt Fence

Silt Fences are products intended to intercept, pond, and filter sediment-laden runoff prior to it leaving a construction site. They generally consist of geotextile fabrics or woven biodegradable fibers and are attached to either wood or steel posts.

The Nebraska Department of Roads lists on the Approved Products List the acceptable products and their manufacturers for use on our projects. To be considered for inclusion on the APL, the manufacturer or distributor must submit the required items according to the Approved Products List Submittal Procedures outlined on Page 3 of this manual.

Each shipment shall be accompanied by a certification of conformance to these specifications. The shipment must be identified by a ticket or label securely affixed to the fabric rolls. The ticket or label must list the following information:

- Name of manufacturer or supplier
- Brand name and style
- Roll width in inches/centimeters
- Roll length in yards/meters

Prior to installation, the fabric shall be protected from damage due to ultraviolet light and moisture by either wrappers or inside storage.

Silt Fences are divided into four types *(Low Profile, Low Porosity, High Porosity, and Coir)*. Product acceptance shall be based on compliance with the following requirements:

Low Profile

The fabric material shall be a woven geotextile fabric, 36 inches wide, meeting or exceeding the following minimum specifications:

Physical Properties	Test Method	Requirement
Mass/Unit Area	ASTM D 5261	3.0 oz/sy
Grab Tensile Strength	ASTM D 4632	120 x 100 lbs
Grab Elongation	ASTM D 4632	8%
Apparent Opening Size	ASTM D 4751	#30 sieve
UV Resistance, Strength Retentions	ASTM D 4355	80% after 500 Hours

Low Porosity

The fabric material shall be a woven geotextile fabric, a minimum of 42 inches wide, meeting or exceeding the following minimum specifications:

Physical Properties	Test Method	Requirement
Mass/Unit Area	ASTM D 5261	3.0 oz/sy
Grab Tensile Strength	ASTM D 4632	120 x 100 lbs
Grab Elongation	ASTM D 4632	8%
Apparent Opening Size		#30 sieve
UV Resistance, Strength Retentions	ASTM D 4355	80% after 500 Hours

High Porosity

The fabric material shall be a woven geotextile fabric, a minimum of 42” wide. It can be “Tennis Court Windscreen” or another approved geotextile fabric meeting or exceeding the following specifications:

Physical Properties	Test Method	Requirement
Mass/Unit Area	ASTM D 5261	3.0 oz/sy
Grab Tensile Strength	ASTM D 4632	125 x 80 lbs
Grab Elongation	ASTM D 4632	15 x 9%
Open Area	ASTM D 6567	50%
UV Resistance, Strength Retentions	ASTM D 4355	80% after 500 Hours

Coir

The fabric material shall be 100% coconut fiber material woven into a mat with a functional longevity of at least three years. The fabric shall be a minimum of 36” wide.

Physical Properties	Test Method	Requirement
Mass/Unit Area	ASTM D 5261	2.5 lbs./sy
Grab Tensile Strength	ASTM D 4632	445 x 180 lbs
Grab Elongation	ASTM D 4632	44 x 36%
Trapezoidal Tear Strength	ASTM D 4533	270 x 110 lbs

Erosion Checks

Erosion Checks – All Types

Erosion Checks all types are biodegradable barriers, typically used in the permanent channel or ditch stabilization. They can be used as a stand-alone item or in conjunction with an Erosion Control mat being specified for a particular ditch or channel. These items are typically hay or straw bales, however, other harvested materials, such as cornstalks and sedges, can be used with approval in certain situations. A sample plan designation would be “Erosion Checks – Type 2A” (2 = erosion control mat classification, A = erosion control mat type).

Erosion Checks – Type “Synthetic”

Synthetic Erosion Checks are barriers, typically used as temporary controls for ditch and channel stabilization during construction.

These items are designed so that they may be relocated throughout projects as needed to control silt.

Erosion Checks – Type “Wattle”

Wattle Erosion Checks are biodegradable barriers, twelve inches in diameter, typically composed of straw or excelsior as a fill material and held together with a degradable net. These barriers can be installed in low flow ditches, ditches with grades up to three percent, or on contours of longer sideslopes.

Erosion Checks – Type “Coir”

Coir Erosion Checks are biodegradable barriers, twelve inches in diameter, typically composed of coconut fibers as a fill material and held together with a degradable net. These barriers can be installed in ditches with grades up to three percent, on contours of longer sideslopes, and along stream banks.

Erosion Checks – Type “Low Profile”

Low Profile Erosion Checks are a biodegradable barrier with a quick degrading net. They are six inches in diameter with a fill material that is typically straw or excelsior. This type of barrier is typically used across medians in a series to slow water on longer stretches of grades up to three percent.

** Erosion Checks that are associated with a particular Rolled Erosion Control Product are labeled with the same classification as the RECP.

Inlet Protection Devices

Inlet Protection Devices are products intended to intercept, pond and filter sediment-laden runoff prior to entering a stormwater structure.

Area Inlet Sediment Filter

The Area Inlet Sediment Filter is a device designed to fit over or around Area Inlets. Typically, they consist of a geotextile fabric used in conjunction with a frame. These filters are left in place and periodically cleaned out for the life of the project. The frames are considered reusable from project to project, however, all fabric needs to be replaced.

Curb Inlet Sediment Filter

Curb Inlet Sediment Filters are strictly used during construction of the roadway only. They need to be removed and cleaned out prior to traffic being allowed on the street. These filters are used to pond and filter sediment-laden runoff prior to entering the curb inlets. The filters are log shaped, made of synthetic or biodegradable materials, and are installed either upstream or in front of the curb inlets.

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