



**SPECIAL PROVISIONS
FOR
SCOUR PROTECTION**

**Allamakee County
BRFN-009-9(60)--39-03**

**Effective Date
June 18, 2013**

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120035.01 DESCRIPTION.

Work includes furnishing materials, labor, and equipment for the fabrication and construction of scour protection in accordance with these Specifications and applicable Drawings.

120035.02 MATERIALS.

A. Geotextile Filter Fabric.

1. Filter Fabric.

Filter fabric for fabrication of geotextile containers shall be pervious nonwoven sheet, consisting of long-chain synthetic polymers composed of at least 85% by weight polyolefins, polyesters, or polyamides. Sheets shall be formed into a stable network such that filaments or yarns retain their relative position to each other. Sheets shall be inert to chemicals commonly encountered in natural water, the soil conditions encountered at the site, and UV stabilized. The edges of sheets shall be selvaged or otherwise finished to prevent outer filaments or yarns from pulling away from the sheet.

2. Physical Properties.

Conformance of filter fabric shall be in accordance with ASTM D 4759. Filter fabric shall be sampled in accordance with ASTM D 4354 and tested to verify the following minimum physical properties and requirements:

Table 120035.02-1: Filter Fabric

Physical Properties	Unit	Test Method	Measure
Apparent Opening Size	U.S. Sieve	ASTM D 4751	#100
Grab Tensile Strength	lb	ASTM D 4632	380
Tensile Elongation	%	ASTM D 4632	50 (max.)
Burst Strength (Mullen)	psi	ASTM D 3786	740
CBR Puncture Strength	lb	ASTM D 6241	1000

Trapezoidal Tear Strength	lb	ASTM D 4533	140
Ultraviolet Resistance (500 Hours)	%	ASTM D 4355	70

3. Acceptable Products.

- a. The following products may be used for geotextile filter fabric:
- US Fabrics – US 380NW
 - Ten Cate Nicolon - Mirafi 1160N
 - Propex Geotextile Systems - Geotex 1701
- b. Listing of specific manufacturer’s products shall not be construed as product approval without certified tests. Actual physical properties of the products furnished must conform to the minimum physical properties specified under Article 120035.02, A, 2. In addition to the minimum physical properties listed, other properties (such as fabric weight and weave type) shall be considered by the manufacturer in providing a product that is appropriate for the actual container sizes and weight when full, native subgrade material, method of installation, and method of stone placement for the proper functioning of the filter.

4. Certified Test Reports.

Submit manufacturer’s certified test results to the Engineer showing actual test values of the filter fabric physical properties.

5. Sewn Seams.

Submit details for sewn seams. Details shall address, but not be limited to, thread type, thread tension (sewing device), stitch density and type, overlap, and number of rows and type of chainstitch. Also submit laboratory test reports evaluating the load-transfer capability of the proposed seams in accordance with ASTM D 4884.

B. Fill Material for Geotextile Containers.

Fill material for geotextile containers shall be Cover Aggregate conforming to the gradation requirements for Gradations No. 19, 20, or 21 in the Aggregate Gradation Table – English of the Standard Specifications.

C. Class B Revetment.

Meet the requirement of Section 4130 of the Standard Specifications.

120035.03 CONSTRUCTION.

A. Surveying.

Prior to commencing construction of the scour protection, Contractor shall provide Engineer a written plan for construction surveying to ensure that dimensions of the scour protection comply with the drawings and that actual thicknesses, dimensions, and limits of the subgrade preparation and in-place scour protection are accurately documented.

B. Subgrade Preparation.

The surface to receive the geotextile containers shall be prepared by locating and removing obstructions or debris. at the bed within the scour protection footprint.

C. Geotextile Containers.

1. General.

Geotextile containers shall be filled and placed over the prepared subgrade as indicated on the drawings.

2. Protection.

Work shall be sequenced so that geotextile containers are not exposed to direct sunlight more than 7 days prior to being placed and fully covered by Class B Revetment Stone. During periods of shipment and storage, geotextile fabric shall be protected from direct sunlight, ultra-violet rays, and high temperatures and in accordance with any other

instructions of the manufacturer. During shipment and storage, geotextile containers and unpackaged rolls and/or sheets shall be protected with temporary opaque coverings.

D. Revetment.

Place Class B Revetment according to Section 2507 of the Standard Specifications.

120035.04 METHOD OF MEASUREMENT.

- A. The item "Class B Revetment" shall be measured according to Article 2507.04, B of the Standard Specifications.
- B. The item "Geotextile Containers" shall be measured by the cubic yard to the nearest cubic yard. Only material placed according to the contract documents will be measured.

120035.05 BASIS OF PAYMENT.

- A. Payment for the item "Class B Revetment" will be per Article 2507.05 of the Standard Specifications.
- B. Payment for the item "Geotextile Containers" shall be at the contract unit price per cubic yard and shall be full compensation for all work, including furnishing and placing the filter fabric and cover aggregate fill material, preparing the subgrade and for furnishing all equipment, tools and labor necessary to complete the work according to the contract documents.