

SECTION 02270

SLOPE PROTECTION AND EROSION CONTROL

PART 1 - GENERAL

- 1.1 DESCRIPTION
 - A. This Section covers requirements for slope protection and erosion control.
 - B. CONTRACTOR shall provide positive measures to protect disturbed slopes and minimize erosion of existing and newly defined drainage ways.
 - C. CONTRACTOR shall provide ditch liner material and appurtenances at location shown on the Drawings and described herein.
 - D. Related work specified elsewhere:
 1. 02211 Rough Grading
 2. 02220 Excavating, Backfilling, Compaction
- 1.2 SUBMITTALS
 - A. Submit in accordance with requirements of Section 01300:
 1. Manufacturer certification that materials meet specification requirements.
 2. Drawing detailing the installation of ditch liners. (if applicable)
 3. Drawing detailing the installation of silt fencing.
- 1.3 JOB CONDITIONS
 - A. ENVIRONMENTAL REQUIREMENTS: In order to minimize the impact of the project on the surrounding environment, retain the maximum amount of topsoil. The steps subsequently outlined shall be followed.
 - B. SEQUENCING OF OPERATIONS: Sequence events as outlined below insofar as possible to minimize erosion.
 1. Prior to clearing and grubbing, the lower extremities of the work area shall be outlined with positively anchored filter fabric system or similar straw bale system.
 2. As soon as the work site is rough graded, seed the area with annual oats, rye grass or other suitable vegetation, which will grow rapidly.
- 1.4 FILTER FABRIC

- A. Fabric consisting of polyethylene or polypropylene fabric shall be incorporated with stakes and/or fencing to provide a silt fence trapping sediment.
- B. Filter fabric shall be "Mirafi 140" by Celanese or "Polyfilter-X" by Carthage Mills, or equal.

1.5 STRAW BALES

- A. Straw bales if used as an alternative, shall be bound together and neatly dressed so that they may be abuffed to each other. Once plugged with sediment, they shall be replaced. Use clean, thrashed stalks of oats, wheat or rye.

1.6 SILTING BASINS

- A. Provide silting basin(s) at the low end of the project in drainage swales to ensure that much of the fine sands are deposited into the basin prior to leaving the site.

1.7 DITCH LINERS

- A. Three dimensional structures of entangled nylon filaments bonded at the intersections.
- B. Resistant to chemical and environmental degradation.
- C. Mat shall be 18 mm in thickness and promote and maintain the integrity of the grass root system. Enkamat or equal.

1.8 GROUND FASTENERS

- A. Wire staples shall be steel, U-shaped and one inch wide. Machine made staples shall be on No. 11 gauge or heavier steel wire. Hand made staples shall be made from 13 inch lengths of No. 9 gauge or heavier steel wire. Length shall be sufficient to have a minimum penetration of 8 inches.
- B. Wood stakes not less than 12 inches in length and have a cross-sectional area of not less than 3/4 square inches.

1.9 RIPRAP

- A. Material shall conform to State Highway Department Standards.
- B. Material for ditch checks shall be of 6 to 12 inch stone.

1.10 SILT FENCE INSTALLATION

- A. Construct silt fence prior to clearing and grubbing or site grading.
- B. Follow approved installation sketch.
- C. Inspect once after (or during) each rainfall for effectiveness and modify as necessary to minimize silting outside of work site.

1.11 DITCH LINER INSTALLATION (if applicable)

- A. Sprigging operations shall be completed along the ditch line.
- B. Traverse check slots shall be cut at the ends of the liner and at 25' intervals along the ditch to a depth of 4 inches. Matting widths shall be as shown on the Drawings. Longitudinal shelves shall be cut 4 inches along the full length of the ditch for the mat edges to rest on.
- C. Overlap strips about 3 inches. The mat shall then be pinned down thoroughly and snugly in the transverse check slots and longitudinal shelves and at maximum intervals of 5 feet along the ditch. Where necessary, additional pins shall be used to hold the mat firmly in place. After the mat is firmly in place, the transverse check slots and longitudinal shelves shall be covered with soil and dressed. Additional sprigging shall be applied to these areas after dressing is complete.

1.12 RIPRAP INSTALLATION (If Applicable)

- A. Provide filter fabric material under all riprap. Place fabric in accordance with manufacturer recommendation.
- B. Riprap at ditch checks shall be placed over the fabric blanket in a layer 1.5 (or more) as thick as the larger stone dimension.
- C. Place in conformance with requirements of State Highway Department Standard Specifications.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION

N/A

END OF SECTION

