

SECTION 02075

GEOTEXTILES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Materials and procedures for installing geotextiles of the type(s) shown on the drawings, and at other locations as directed by the Engineer.

1.2 RELATED SECTIONS

- A. Section 01571: Temporary Environmental Controls.

1.3 REFERENCES

- A. AASHTO M 288: Geotextile Specifications for Highway Applications
- B. ASTM D 4791: Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
- C. UDOT Minimum Sampling and Testing Guide

1.4 SUBMITTALS

- A. Submit prior to use: Manufacturer's certificate that each fabric complies with requirements of this Section.

1.5 SAMPLING AND TESTING

- A. Follow UDOT Minimum Sampling and Testing Guide requirements.
- B. Prior to shipment, test each individual shipment and lot of geotextile, and send testing reports with the shipment to the job site. Clearly label all rolls as being part of the same production run certified as meeting all material requirements.

1.6 PACKAGING, SHIPPING, AND STORING

- A. Protect the geotextile from direct sunlight, chemicals, mud, dirt and debris during shipment and storage. Replace at the Contractor's sole expense, any geotextile damaged or deteriorated during shipping, storage or construction.
- B. Labeling and Tagging:
 - 1. Identify each package by a tag or label securely affixed to the outside of the roll on at least one end.
 - 2. Provide the following required information on the tag:
 - a. Name of the geotextile manufacturer
 - b. Brand name of the product, width, length, and package weight of geotextile
 - c. Orange UDOT Certification sticker

1.7 ACCEPTANCE

- A. Department rejects geotextile at installation if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transport, handling or storage.
- B. Non-compliance with UDOT Minimum Sampling and Testing Guide requirements will be a basis for rejection.

PART 2 PRODUCTS

2.1 SILT FENCE GEOTEXTILE

- A. Refer to Section 01571.

2.2 EROSION CONTROL GEOTEXTILE

- A. Furnish as specified in AASHTO M 288.

2.3 DRAINAGE GEOTEXTILE

- A. Furnish non-woven drainage geotextile as specified in AASHTO M 288 with in-situ soil designations as shown on the drawings or as indicated by the Engineer.
- B. Notify Engineer if soil conditions are different than shown on the drawings.

2.4 SEPARATION GEOTEXTILE

- A. Furnish Class II fabric as specified in AASHTO M 288, with Apparent Opening Size of 0.22 mm maximum average roll value.

2.5 STABILIZATION GEOTEXTILE

- A. Furnish Class II fabric as specified in AASHTO M 288, with Apparent Opening Size of 0.25 mm maximum average roll value.

2.6 WEED BARRIER GEOTEXTILE

- A. Furnish non-woven weed barrier geotextile with elongation less than 50 percent for all weed barrier applications as specified in AASHTO M 288.

2.7 POSTS FOR SILT FENCE

- A. Refer to Section 01571.

PART 3 EXECUTION

3.1 GENERAL

- A. Place geotextile on areas that are smooth, and free of projections or depressions. Do not drag the geotextile across the subgrade. Roll geotextile out as smoothly as possible in the direction of vehicle travel.
- B. Do not operate construction equipment or traffic directly on geotextile.
- C. When placed for construction, cover the geotextile with indicated cover material as soon as possible. Do not leave uncovered for more than five days.
- D. Place cover material on the geotextile in a manner that the geotextile is not torn, punctured, or shifted. Use a minimum 6 inches thick cover layer, or twice the maximum aggregate size, whichever is thicker. Do not end-dump cover material directly on the geotextile, except as a starter course.
- E. Limit construction vehicles in size and mass so rutting in the initial layer above the geotextile is not more than 3 inches deep, or half the layer thickness, whichever is the lesser. Turning of vehicles on the first layer is not permitted.

3.2 INSTALLING SILT FENCE GEOTEXTILE

- A. Refer to Section 01571.

3.3 INSTALLING EROSION CONTROL GEOTEXTILE

- A. Install at locations shown on the drawings.
- B. Unless otherwise specified, overlap the geotextile a minimum of 2 feet at all longitudinal and transverse joints, or sew the geotextile. For sewing requirements, refer to this Section, article 3.8, Sewing.
- C. If overlapped, place the geotextile so that the upstream sheet overlaps the downstream sheets.
- D. For placement on slopes, overlap each sheet over the next downhill sheet.
- E. Anchor the geotextile using key trenches or aprons at the crests and toes of the slope.
- F. Pins, usually 18 inches in length may be helpful in securing the geotextile during installation.
- G. Repair: Place patch over damaged area and extend 3 feet beyond the perimeter of the tear or damage.

3.4 INSTALLING DRAINAGE GEOTEXTILE FOR SUBSURFACE DRAINAGE

- A. Excavate trench to size and depth indicated.
- B. Cut geotextile to width required and place in trench. Prevent damage to geotextile.
- C. Overlap geotextile 12 inches or the full width of the trench, whichever is less, at the top of the trench.
- D. Overlap successive sheets of geotextile a minimum of 12 inches in the direction of flow.
- E. Place fill beginning with the sheet(s) overlapped above subsequent sheet(s), to hold geotextile in place.

- F. Repair any damage to geotextile by placing patches extending 3 feet in all directions beyond the damaged area.

3.5 INSTALLING SEPARATION GEOTEXTILE

- A. Install for pavement sections or other applications at locations shown on the drawings.
- B. Unless otherwise specified, overlap the geotextile a minimum of 1 foot at all longitudinal and transverse joints, or sew the geotextile. For sewing requirements, refer to this Section, article 3.8, Sewing.
- C. Repair: Place patch over damaged area and extend 3 feet beyond the perimeter of the tear or damage.
- D. Place fill, beginning with the sheet(s) overlapped above subsequent sheet(s), to hold geotextile in place.
- E. Pins, usually 18 inches in length, may be helpful in securing the geotextile during installation.

3.6 INSTALLING STABILIZATION GEOTEXTILE

- A. Install Stabilization Geotextile at locations shown on the drawings, or as designated by the Engineer.
- B. Unless otherwise specified, overlap the geotextile a minimum of 2 feet at all longitudinal and transverse joints, or sew the geotextile. For sewing requirements, refer to this Section, article 3.8, Sewing.
- C. For placement on slopes, overlap each sheet over the next downhill sheet.
- D. Repair: Place patch over damaged area and extend 3 feet beyond the perimeter of the tear or damage.
- E. Place fill, beginning with the sheet(s) overlapped above subsequent sheet(s), to hold geotextile in place.
- F. Pins, usually 18 inches long, may be helpful in securing the geotextile during installation.

3.7 INSTALLING WEED BARRIER GEOTEXTILE

- A. Preparation:
 - 1. Remove sharp objects, large stones and undesirable vegetation.
 - 2. If placing geotextile over an existing bed, cut an “X” over each plant and push geotextile under plant base. If placing over a new bed, roll geotextile over soil and cut an “X” for each plant hole. Fold excess geotextile under and cover with specified landscaping materials.

- B. Surface Cover: Provide a minimum of 4 inches of cover on all areas on the geotextile unless otherwise specified by Engineer. If using large landscape rock, increase thickness of cover material over geotextile up to three times the diameter of the largest rock material based on Engineer’s recommendations. Do not leave any portion of geotextile exposed to direct sunlight.

- C. Repair: Repair immediately if damaged. Remove the damaged area plus an additional 3 feet and apply geotextile patch.

- D. Maintenance: Maintain surfaces and supply additional landscape materials where necessary, including areas affected by erosion.

3.8 SEWING

- A. Perform sewing (seaming) as specified in AASHTO M 288, Section A1-4.

END OF SECTION