

**SECTION 02025
WATER-PERMEABLE SEDIMENT FILTRATION**

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. Requirements for the installation of erosion and sedimentation control such as coir logs, excelsior logs, straw lattles, filter socks, or gravel filter bags. Sandbag barriers are not allowed. This protection shall be utilized prior to the final development of the site and during construction, only to be removed after final completion and punch list items are complete.

1.2 MEASUREMENT AND PAYMENT

- A. Unit Prices:
 - 1. Payment for the chosen protection shall include and be full compensation for all labor, equipment, materials, supervision, and all incidental expenses for construction of these items, complete in place, including, but not limited to, protection of trees, maintenance requirements, repair and replacement of damaged sections, removal of sediment deposits, and removal of erosion and sedimentation control systems at the end of construction.
 - 2. Refer to Section 01270 – Measurement and Payment for unit price procedures.
- B. Stipulated Price (Lump Sum):
 - 1. If Contract is Stipulated Price Contract, payment for work in this Section shall be included in Total Stipulated Price.

1.3 REFERENCES

- A. CFTS – City of Friendswood Technical Specifications.

PART II: PRODUCTS

2.1 LOGS, STRAW LATTLES, AND FILTER SOCKS

- A. Logs, straw lattles, and filter socks shall be installed as shown on the plans and/or as directed by the Engineer. They shall be placed on contour and staked with 24 inch wood stakes or metal pins, at a maximum spacing of four foot on center. The ends of adjacent rolls shall be overlapped on each other a minimum of 1.0’.
- B. Rolls remain on site requiring maintenance by the Contractor throughout the project. Sediment buildup shall be removed when it reaches 1/3 the height of the roll. Any ineffective rolls must be replaced immediately. An ineffective roll is a roll that has flattened out to half its original height. Upon final stabilization it will be the responsibility of the Contractor to remove materials as directed by the Engineer. Disposal shall be the Contractor’s responsibility

2.2 GRAVEL BAGS

A. Materials: Bags shall consist of geotextile fabric (filter fabric) made of longchain synthetic polymers composed of at least 95 percent by weight of polyolefins in a woven fabric. The geotextile fabric shall meet or exceed the following specifications shown in table below:

SILT FENCE GEOTEXTILE FABRIC PROPERTIES			REQUIREMENTS UNSUPPORTED SILT FENCE	
	Units	Supported Silt Fence	Geotextile Elongation ≥50%	Geotextile Elongation <50%
Grab Strength				
Machine Direction	lbs.	90	123	123
X-Machine Direction	lbs.	90	100	100
Permittivity	sec ⁻¹	0.05	0.05	0.05
Apparent Opening Size (Max. Average Roll Value)	mm/sieve	0.6/30	0.6/30	0.6/30
Ultraviolet Stability (Retained Tensile Strength)	%	70 after 500 hrs exposure	70 after 500 hrs exposure	70 after 500 hrs exposure
NOTES: 1. Table 1 adapted from AASHTO M 288 <i>Geotextile Specification for Highway Applications</i> Table 6. Temporary Silt Fence Property Requirements. 2. All numeric values in Table 1 except Apparent Opening Size (AOS) represent minimum average roll values (MARV). Values for AOS represent maximum average roll values.				

B. Geotextile fabric shall contain stabilizers and/or inhibitors to make the fabric resistant to deterioration resulting from exposure to sunlight or heat. Geotextile fabric shall be resistant to commonly encountered soil chemicals, mildew, rot, and insects. Geotextile fabric shall be free of defects or flaws that affect its physical and/or filtering properties. Geotextile fabric shall provide an expected useable life comparable to the anticipated construction period. The bag size shall be as follows:

Length:	18 to 24 inches
Width:	12 to 18 inches
Thickness:	6 to 8 inches

C. The bag shall be filled with open-graded gravel and weigh 50 to 75 pounds. The gravel shall be free from adherent coatings, salt, alkali, dirt, clay, or organic and injurious matter. Nylon rope shall be used to secure the closure of the gravel filled bag

D. Torn or punctured bags shall be replaced immediately.

PART III: EXECUTION

3.1 GENERAL

- A. Maintain protection until the project is accepted by the City.
- B. Maintenance and removal of protection shall comply with all requirements as specified in Section 02000 – Erosion Control Systems.

3.2 CONSTRUCTION METHODS

- A. Provide protection barriers at locations specified on the Drawings. The protection shall be installed in such a manner that surface runoff will percolate through the system in sheet flow fashion and allow sediment to be retained and accumulated.
- B. Inspect protection barrier systems after each rainfall, daily during periods of prolonged rainfall and at a minimum once a week regardless of weather. Repair or replace damaged section immediately to restore the requirements of this Item. Remove sediment deposits when silt reaches one-third of the height of the protection in depth.

END OF SECTION