

PART 1 - GENERAL

1.1 SECTION
INCLUDES

- .1 Materials and installation of polymeric (Non-Woven) geotextiles used in shoreline protection and breakwaters, purpose of which is to:
 - .1 Separate and prevent mixing of materials of different grading.
 - .2 Act as hydraulic filters permitting passage of water while retaining soil strength of granular structure.

1.2 RELATED WORK

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Section 35 31 34 - Rubble Mound Breakwater.

1.3 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM D4491-99a(2004)e1, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .2 ASTM D4595-05, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
 - .3 ASTM D4716-04, Standard Test Method for Determining the (In-Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
 - .4 ASTM D4751-04, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-4.2-M88, Textile Test Methods.
 - .2 CAN/CGSB-148.1, Methods of Testing Geotextiles and Geomembranes.
 - .1 No.2-M85, Mass per Unit Area.
 - .2 No.3-M85, Thickness of Geotextiles.
 - .3 No.7.3-92, Grab Tensile Test for Geotextiles.

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and packaging material, in appropriate on-site

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| 1.7 WASTE | .3 | (Cont'd) |
| MANAGEMENT AND DISPOSAL | | bins, for recycling in accordance with Waste Management Plan. |
| (Cont'd) | .4 | Fold up metal banding, flatten and place in designated area for recycling. |

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| 1.8 MEASUREMENT FOR PAYMENT | .1 | This portion of work will not be measured for payment but to be included in the Lump Sum Amount of the Contract. |
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PART 2 - PRODUCTS

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| 2.1 MATERIAL | .1 | Synthetic fibre to be rot proof, unaffected by action of oil or salt water and not subject to attack by marine life, insects, or rodents. |
| | .2 | Fabric to be of non-woven polyester or polypropylene fabric. |
| | .3 | Seams: Sewn in accordance with manufacturer's recommendations. |
| | .4 | Fabric to be of non-woven construction supplied in rolls of minimum 3.0 metres width and to the following properties of equivalent: <ul style="list-style-type: none"> .1 Mass(g/m2) 370 - 710 .2 Tear(N) 450 - 490 .3 Tensile Strength(N) 1100 - 1200 .4 Elongation at Break(%) 45 - 105 .5 Mullen Burst Strength(kPa) 3150 .6 Opening Size(um) 45 to 85 .7 Permeability(K cm s-1) 1.9x10-1. |
| | .5 | Securing pins and washers: to CAN/CSA-G40.21, Grade 300W, hot-dipped galvanized with minimum zinc coating of 600g/m2 to CAN/CSA G164. |

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Place one (1) layer of geotextile material from L.N.T. on side of road to top of gravel fill and retain in position with securing pins and washers.
- .2 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position with securing pins and washers.
- .3 Anchor top of fabric at 1.0 meter intervals with 25 mm diameter steel rods 600 mm in length. Anchor bottom of fabric by folding fabric and placing fill on top.
- .4 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .5 Overlap each successive strip of geotextile 450 mm over previously laid strip and secure with 100 mm long nails at 450 mm intervals.
- .6 Join successive strips of geotextile material by sewing.
- .7 Pin successive strips of geotextile with securing pins at 2000mm interval at mid point of lap as indicated.
- .8 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- .9 After installation, cover with overlying layer of filter stone to ensure material is not risk of movement.
- .10 Replace damaged or deteriorated geotextile to approval of Departmental Representative.

3.2 CLEANING

- .1 Remove construction debris from Project site and dispose of debris in an environmentally responsible and legal manner.

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| SHORELINE PROTECTION | | |
| ST. DAVID'S, NL | | JULY 2014 |

3.3 PROTECTION .1 Vehicular traffic not permitted directly on geotextile.

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