

LPH SOIL REMDIATION
FORMER LANDFILL
AND ASPHALT PLANT
OTTER CREEK
HAPPY VALLEY-GOOSE BAY
NEWFOUNDLAND AND LABRADOR
PROJECT NO. R.082578.001

1 - GENERAL

1.01 SECTION INCLUDES

- .1 Materials and installation of polymeric geotextiles used in construction of temporary access roads and where soils adjacent to excavations are stockpiled to dewater materials prior to transportation to Disposal Facility; purpose of which is to:
 - .1 Separate and prevent mixing of granular materials of different grading.
 - .2 Act as hydraulic filters permitting passage of water while retaining soil strength of granular structure.
 - .3 To be used to determine where the existing slopes were prior to the construction of the temporary road.

1.02 RELATED WORK

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .3 Section 02 41 16 - Selective Site Demolition.
- .4 Section 31 23 10 - Excavation, Trenching and Backfilling.

1.03 MEASUREMENT FOR PAYMENT

- .1 Geotextiles, including overlap materials, will not be measured for payment but considered incidental to the project and costs included in the Lump Sum portion of the Work on the Bid and Acceptance Form for the Contract.

1.04 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM D 4491-99a, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - .2 ASTM D 4595-86-94, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
 - .3 ASTM D 4716-00, 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 D 4751-99a, Standard Test Method for Determining Apparent Opening Size of a Geotextile.

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- .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.
 - .4 No.6.1-93, Bursting Strength of Geotextiles Under No Compressive Load.
- .3 Canadian Standards Association (CSA)
 - .1 CAN/CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel.
 - .2 CAN/CSA-G164 M92 (R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.

1.05 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative the following samples at least 2 weeks prior to commencing work.
 - .1 Minimum length of 1 m of roll width of geotextile.

1.06 MILL CERTIFICATES

- .1 Submit to Departmental Representative a copy of mill test data and certificate at least 2 weeks prior to start of work.

1.07 DELIVERY AND STORAGE

- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

1.08 WASTE MANAGEMENT AND DISPOSAL

- .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 bins, for recycling in accordance with Waste Management Plan.
- .4 Fold up metal banding, flatten and place in designated area for recycling.

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2 - PRODUCTS

2.01 MATERIAL

- .1 The plastic yarn of the geotextile and the threads used in sewing operations shall consist of a long chain synthetic polymer composed of at least 85% by mass of propylene, ethylene, ester, amide or vinylidene-chloride, and shall contain stabilizers or inhibitors added to the base plastic to make the filaments resistant to deterioration by ultraviolet and heat exposure.
- .2 Geotextile shall be a pervious sheet of non-woven plastic yarn.
- .3 The material shall be handled and protected as per the manufacturer's instructions and recommendations until incorporated in the Work.
- .4 The geotextile shall conform to the following requirements:

Property	Unit	ASTM	Type	
			N2	N3
Min. tearing Strength (Trapezoid Method)	N	D4533	250	310
Min. Grab Tensile Strength (Both Directions)	N	D4632	600	790
Min. Elongation at Break	%	D4632	50	50
Apparent Opening Size	µm	D4751	50 to 250	50 to 250
Permittivity	Sec ⁻¹	D4491	1.25 to 2.75	1.00 to 2.50
Thickness	mm			

- .5 Thread for the seams shall be equal to or better than the geotextile in resistance to chemical and biological degradation and both factory and field sewn or sealed seams shall have a grab tensile strength equal to 90% of that of the geotextile.
- .6 Securing pins and washers: to CAN/CSA-G40.21, Grade 300W, hot-dipped galvanized with minimum zinc coating of 600 g/m² to CAN/CSA G164.

3 - EXECUTION

3.01 INSTALLATION

- .1 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position with securing pins and washers.

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- .2 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
- .3 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .4 Overlap each successive strip of geotextile 600 mm over previously laid strip.
- .5 Pin successive strips of geotextile with securing pins at 600 mm interval at midpoint of lap.
- .6 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- .7 After installation, cover with overlying layer within 4 hours of placement.
- .8 Replace damaged or deteriorated geotextile to approval of Departmental Representative.
- .9 Place and compact soil layers in accordance with Section 31 23 10 - Excavation Trenching and Backfilling.

3.02 CLEANING

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

3.03 PROTECTION

- .1 Vehicular traffic not permitted directly on geotextile.

END OF SECTION