1.0 GENERAL

1.1 REFERENCES

.1 Provide geotextile in accordance with the following standards (latest revision) except where specified otherwise.

.2 American Society for Testing and Materials (ASTM)

.1	ASTM D3786	Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method.
.2	ASTM D4491	Standard Test Method for Water Permeability of Geotextiles by Permittivity.
.3	ASTM D4533	Standard Test Method for Trapezoidal Tearing Strength of Geotextiles.
.4	ASTM D4632	Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
.5	ASTM D4751	Standard Test Method for Determining Apparent Opening Size of a Geotextile.
.6	ASTM D4833	Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.

1.2 SUBMITTALS

.1 Provide the following submittals.

.2 The manufacturer's affidavit certifying that the geotextile being supplied meets the specified requirements prior to delivery to the Site.

1.3 DELIVERY, STORAGE, AND HANDLINGS

.1 Inspect each shipment of material and timely replace any damaged materials.

.2 Keep geotextile wrapped in its original packaging until immediately prior to installation. Protect geotextile from direct sunlight, excessive heat, dirt, and rodents while in transit and storage.

2.0 PRODUCTS

2.1 MATERIALS

.1 Provide materials in accordance with the following.

.2 Geotextile: Non-woven, needle punched, composed of a minimum 85% polypropylene or polyester polymers, formulated to resist deterioration by ultraviolet exposure and free of manufacturing defects, cuts, tears, or any other physical damage, that meets or exceeds the following physical properties.

Property	Requirement	Test Method
1. Puncture	900 N	ASTM D4833
2. Grab Strength	1,200 N	ASTM D4632
3. Grab Tensile Elongation	50%	ASTM D4632
4. Trapezoidal Tear Strength	575 N	ASTM D4533
5. Mullen Burst Strength	4500 kPa	ASTM D3786
6. Apparent Opening Size	150 to 225 μm	ASTM D4751
7. Permittivity	0.7 to 0.9 sec^{-1}	ASTM D4491
8. Flow Rate	34 to 44 $L/s/m^2$	ASTM D4491

2.2 SHOP FABRICATION

.1 Provide shop-made sewn seams as required to produce the minimum roll widths and lengths specified. Provide seams that meet or exceed the strength properties of the geotextile. Use sewing thread that has equal or better resistance against chemical and biological degradation as the geotextile.

.2 Provide rolls that are at least [m] wide and [m] long.

3.0 EXECUTION

3.1 PREPARATION

.1 Excavate and prepare the subgrade to the lines, grades, slopes, and elevations specified in the Contract Documents. Remove rock fragments or other objects having sharp projections.

.2 Remove snow, ice, loose or other deleterious materials from the subgrade.

.3 Do not place geotextile until the prepared subgrade surfaces have been inspected by the Minister. Rectify any defects as required by the Minister.

3.2 INSTALLATION

.1 Install geotextile at the locations, to the lines, grades, slopes, and elevations specified in the Contract Documents.

.2 Place geotextile in a smooth, wrinkle-free and slack condition to conform to the contour of the subgrade without becoming taut when covered with the specified material. Where required to conform to the subgrade, provide folds in the geotextile. Orient folds in the downslope and downstream direction.

.3 Place the geotextile with the longitudinal seam parallel to the [upstream to downstream] [longitudinal] direction.

.4 [At field seams, including patches or repair areas, provide a minimum overlap of [mm] or as required by the manufacturer]. [Sew field seams in accordance with the manufacturer's written instructions.]

.5 Temporarily anchor the geotextile with sand bags or weights placed at the outer edges, along seams, and at other intermediate points as required to prevent displacement.

.6 Construct field seams such that the upper upslope sheet of the geotextile overlaps the downslope sheet, and the downstream end of the sheet overlays the upstream end of the adjacent sheet.

.7 Trim excess geotextile at the outer edges to the specified lines.

.8 Protect the geotextile from damage. Repair or replace geotextile damaged during installation or construction of subsequent Work.

.9 Do not allow any equipment to operate directly on the geotextile or the overlying material.

.10 Cover the geotextile within 2 days of installation with the specified material. During placement of the specified material, limit the height from which the material is placed to 300 mm or lower, as required to avoid damaging or displacing the geotextile.

END OF SECTION