
RIP RAP

PART 1 GENERAL**1.1 Description Of Work**

The work shall consist of a covering to protect and stabilize areas subject to erosion with the use of stone, with or without grout, constructed on a bed or granular filter blanket.

PART 2 PRODUCTS**2.1 Stone**

- .1 Hard durable quarry stone, free from seams, cracks or other structural defects, to meet following size distribution for use intended.
- .2 Unless otherwise specified on the drawings or details hand placed Rip Rap shall be:
 - .1 Minimum size of individual stones 150 mm diameter.
 - .2 Not less than 75% of total volume of stones with individual volume of 250 mm diameter or more.
 - .3 Supply rock spalls or cobbles to fill open joints.
 - .4 Thickness to be minimum 300 mm.

2.2 Cement Mortar

- .1 Cement: to CAN3-A5- M83 type 10.
- .2 Mortar mix: One (1) part cement to three (3) parts sand, to consistency approved by the Consultant.

2.3 Geotextile Fabric

- .1 Geotextile: Non Woven Terrafix 270R or approved alternate, synthetic fibre fabric, supplied in rolls.
 - .1 Length as required, refer to the Contract Document drawings.
- .2 Physical properties:
 - .1 Thickness: to CAN/CGSB-148.1-M85, number 3, minimum 3mm.
 - .2 Mass per unit area: to CAN/CGSB-148.1-M85, number 2, minimum 270 g/m².

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- .3 Tensile strength and elongation (in any principal direction): to CAN/CGSB-4.2-M77, method 9.2.
 - .1 Tensile strength: minimum 556 N, wet condition.
 - .2 Elongation at break: 70-100%.
 - .3 Ball burst, strength: to CAN/CGSB- 4.2-M77, method 11.2, minimum 1350 N, wet condition.
- .4 Securing pins and washers: to CAN3-G40.21-M81, Grade300W, hot dipped galvanized with minimum zinc coating of 600g/m² to CSA G164-M81.

2.4 Installation Of Geotextile Fabric

- .1 Place geotextile material by unrolling onto graded surface in orientation, manner and locations indicated and retain in position with securing pins.
- .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.
- .3 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
- .4 Overlap each successive strip of geotextile 500 mm over previously laid strip.
- .5 Join successive strips of geotextile by sewing or with securing pins as recommended by manufacturer.
- .6 Protect geotextile material from displacement and damage until and during placement of additional material layers.
- .7 After installation, cover with overlying layer within one (1) day of placement.
- .8 Replace damaged or deteriorated geotextile.

2.5 Protection

- .1 Do not permit passage of any vehicle directly on geotextile at any time.

END OF SECTION - 02374