

## PART 1 - GENERAL

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| <u>1.1 Related Work</u>            | .1 | Refer to other Specification Sections for   |
|                                    | .2 | Refer to Section 01 33 00 for Shop  |
| <u>1.2 Source Approval</u>         | .1 | Source of materials to be incorporated into work or stockpiled requires acceptance.   |
|                                    | .2 | Inform Departmental Representative of proposed source of aggregates and provide access for sampling at least 4 weeks prior to commencing production.  |
|                                    | .3 | If, in opinion of Departmental Representative, materials from the proposed source do not meet, or cannot reasonably be processed to meet specified requirements, procure an alternative source to demonstrate that materials from source in question can be processed to meet specified requirements. |
|                                    | .4 | Should a change of material source be proposed during work, advise Departmental Representative 4 weeks in advance of proposed change to allow sampling and testing.   |
|                                    | .5 | Acceptance of material at source does not preclude future rejection if it subsequently found to lack uniformity, or if it fails to conform to requirements specified, or if its field performance is found to be unsatisfactory.  |
| <u>1.3 Production Sampling</u>     | .1 | Aggregate will be subject to continual sampling during production.  |
|                                    | .2 | Provide Departmental Representative with ready access to source and processed material for purpose of sampling and testing.   |
| <u>1.4 Measurement for Payment</u> | .1 | This item will not be measured separately.  |

## PART 2 - PRODUCTS

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| <u>2.1 Materials</u> | .1 | Aggregate quality: sound, hard, durable material free from soft, thin, elongated or laminated particles, organic material, clay lumps or mineral or other substances.   |
|                      | .2 | Flat and elongated particles are those whose greatest dimension exceeds four times their least dimension.   |
|                      | .3 | Fine aggregates satisfying requirements of applicable section shall be one or blend of following: <ul style="list-style-type: none"><li>.1 Natural sand.</li><li>.2 Manufactured sand.</li><li>.3 Screenings produced in crushing of quarried rock, boulders, gravel or slag.</li></ul> |

2.1 Materials  
(Cont'd)

- .3 (Cont'd)
- .4 Coarse aggregates satisfying requirement of applicable section shall be one of following:
- .1 Crushed rock and slag
- .2 Gravel composed of naturally formed particles of stone.

PART 3 - EXECUTION

3.1 Development of  
Aggregate Source

- .1 Prior to excavating materials for aggregate production, clear and grub area to be worked, and strip unsuitable surface materials. Dispose of cleared, grubbed and unsuitable materials as directed by the Departmental Representative.
- .2 Clear, grub and strip an area ahead of quarrying or excavating operation sufficient to prevent contamination of aggregate by deleterious materials.
- .3 When operating in stratified deposits use excavation equipment and methods that will produce a uniform, homogeneous aggregate.
- .4 When excavation is completed, provide drains or ditches as required to prevent surface standing water.
- .5 Trim off and dress slopes of waste material piles and leave site in a neat condition.

3.2 Processing

- .1 Process aggregate uniformly using methods that prevent contamination, segregation and degradation.
- .2 Blend aggregate if required to obtain gradation requirements specified. Use approved methods and equipment.
- .3 Blending to increase percentage of crushed particles or decrease percentage of flat and elongated particles is permitted.
- .4 Wash aggregates if required to meet specification. Use only equipment accepted by Departmental Representative.

3.3 Handling

- .1 Handle and transport aggregates to avoid segregation, contamination and degradation.

3.4 Stockpiling

- .1 Stockpile aggregates on stabilize, clean and well drained surfaces.
- .2 To ensure that no material other than stockpile aggregate is used, do not incorporate bottom 250 mm of stockpile into work, if aggregates are stockpiled on ground.
- .3 Stockpile far enough apart to prevent intermixing.
- .4 Reject intermixed or contaminated materials. Remove and dispose of rejected materials as directed within 48 hours of rejection.
- .5 Stockpile materials in uniform layers of thickness as follows:
- .1 Max 1 m for coarse aggregate and base course materials.

3.4 Stockpiling  
(Cont'd)

- .5 (Cont'd)
  - .2 Max 2 m for fine aggregate and subbase materials.
  - .3 Max 1.5 m for other materials
- .6 Complete each layer over entire stockpile area before beginning next layer
- .7 Uniformly spot-dump aggregates delivered to stockpile in trucks and build up stockpile as specified.
- .8 Coning of piles or spilling of material over edges of pile will not be permitted.
- .9 During winter operations, prevent ice and snow from becoming mixed into stockpile or in material being removed from stockpile.

## PART 1 - GENERAL

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| <u>1.1 Definitions</u>         | .1 Debris: pieces of wood, wire rope, scrap steel, concrete, etc.   |
|                                | .2 Grade: finished grade  |
|                                | .3 Estimated quantity: volume of material calculated.   |
|                                | .4 Chart Datum: by international agreement, a plane below which the tide will seldom fall. The Canadian Hydrographic Services has adopted the plane of Lowest Norman Tide (LNT) as Chart Datum. As the rise, fall and ranges of tides varies daily, The Canadian Hydrographic Services should be consulted for tidal prediction and other tidal information relating to the work. |
|                                | .5 CMPM: cubic metres place measurement   |
|                                | .6 CMTM: cubic metres truck measurement   |
|                                | .7 H.N.T.: High Normal Tide   |
| <u>1.2 Description of Work</u> | .1 Work under this section covers the following:<br>.1 Removal of material to lines and grades as shown on the drawings.  |
| <u>1.3 Related Work</u>        | .1 Refer to other Specification Sections for related information.   |
|                                | .2 Refer to Section 01 33 00 for Shop Drawings/Specifications requirements.   |
| <u>1.4 Submissions</u>         | .1 Certificates:<br>.1 Provides copies of all permits and licenses required to carry out the work.<br>.2 Methodology:<br>.1 Provide methodology for carrying out the work.<br>.3 Provide submissions in accordance with Section 01 33 00.   |
| <u>1.5 Schedule of Work</u>    | .1 Submit to Departmental Representative within 2 weeks after award of contract, a schedule of work including time periods during which each operation involved in work will be undertaken.   |
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| <u>1.6 Interference to Navigation</u>          | .1 | Be familiar with vessel movements and fishery activities in area affected by excavation operations. Plan and execute work in a manner that will not unnecessarily impede navigation and fishing operations including movement of vessels at adjacent structures.   |
| <br>   |    |  |
| <u>1.7 Requirements of Regulatory Agencies</u> | .1 | Comply with municipal, provincial and national codes and regulations relating to project.<br>.1 Perform work in accordance with Section.   |
|  | .2 | Mark floating equipment with lights in accordance with Regulations for the Prevention of Collisions and Notice to Mariners.  |
|  | .3 | Do blasting operations in accordance with local and provincial codes.  |
| <br>   |    |  |
| <u>1.8 Datum, Water Gauges and Targets</u>     | .1 | Elevations used in this specification and contract drawings are in metres referred to chart datum.   |
| <br>   |    |  |
| <u>1.9 Qualifications</u>                      | .1 | Retain licensed explosives to supervise and program blasting work, and to determine precautions, preparation and operation techniques.   |
| <br>   |    |  |
| <u>1.10 Protection</u>                         | .1 | Prevent damage to surroundings and injury to persons. Post guards, sound warnings and display signs when blasting to take place.   |
| <br>   |    |  |
| <u>1.11 Equipment</u>                          | .1 | Determine the equipment required to excavate the area and material specified.  |
| <br>   |    |  |
| <u>1.12 Site Information</u>                   | .1 | Results of soil borings and soil investigations maybe available for inspection at office of Public Works and Government Services Canada, 1713 Bedford Row, Halifax, N.S. This material is not necessarily up to date and is for information purposes only. It should be complemented by site visits and consultation with appropriate expertise. |
|  | .2 | The Contractor will be responsible for making his own interpretation of soil conditions as any location, other than borehole locations. The borehole descriptions are only descriptive of conditions at locations described by boreholes themselves.   |
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- 1.13 Measurements for Payment
- .1 Site preparation will be measured in Accordance with Section 01 29 00.
  - .2 There will be no additional payment for delays incurred as a result of weather conditions.
  - .3 There will be no additional payment for delays caused by vessel traffic in and out of the harbour.
  - .4 There will be no additional payment for down time.
  - .5 The Contractor will adhere to the schedule and take immediate action to correct any shortfall, by effectively altering existing excavation operations or mobilizing other equipment. The Departmental Representative is to be notified of the corrective action to be taken.

PART 3 - EXECUTION

- 3.1 General
- .1 Layout out work from bench marks and base lines established by Departmental Representative. Be responsible for accuracy of work relative to established bench marks. Provide and maintain electronic position fixing and distance measuring equipment using laser, GPS and or transits.

- 3.2 Co-operation and Work Assistance to Departmental Representative
- .1 Co-operate with Departmental Representative for inspection of an assistance requested.

## PART 1 - GENERAL

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|------------------------------------|----|---|
| <u>1.1 Related Work</u>            | .1 | Refer to other Specification Sections for related information.  |
| <u>1.2 References</u>              | .1 | ASTM D4595-86 (1986) (or latest edition), Tensile Properties of Geotextile by the Wide-Width Strip Method.  |
|                                    | .2 | CAN/CGSB-4.2 No.4.2-M87 (or latest edition), Textile Test Methods.  |
|                                    | .3 | CAN/CGSB-148.1 No. 14-M93 (or latest edition), Methods of Testing Geotextiles and Geomembranes.   |
|                                    | .4 | ASTM D4751-95, Determining Apparent Opening Size of a Geotextile.   |
| <u>1.3 Mill Certificates</u>       | .1 | At least two weeks prior to start of work, furnish Departmental Representative with copies of mill test data and certificate that filter fabric delivered to job site meets requirements of this section. |
| <u>1.4 Approval</u>                | .1 | Obtain written approval of Departmental Representative for filter fabric before installation of material in work.   |
| <u>1.5 Measurement for Payment</u> | .1 | Filter fabric will be measured in accordance with Section 01 29 00.   |

## PART 2 - PRODUCTS

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| <u>2.1 MATERIAL</u> | .1 | Synthetic fiber: rot proof, unaffected by action of oil or salt water and not subject to attack by insects or rodents. |
|                     | .2 | Fabric: nonwoven polyester and/or polypropylene fabric.  |
|                     | .3 | Seams: sewn in accordance with manufacturer's recommendations.   |
|                     | .4 | Physical properties: to ASTM D4595, CAN/CGSB-4.2, CAN/CGSB-148.1 No 14 and ASTM D4751.                                 |
|                     | .1 | Tensile strength 90° N   |
|                     | .2 | Tear Strength 36° N  |
|                     | .3 | Elongation at break 50%  |
|                     | .4 | Filtration Opening Size = 100 - 80 um  |
|                     | .5 | Permeability = 2 x 10-1 cm sec.  |
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PART 3 - EXECUTION

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| <u>3.1 Preparation of Base</u> | .1 | Fine grade area to be covered with filter fabric to uniform surface area. Fill depressions with suitable material. |
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| <u>3.2 Placing Filter Fabric</u> | .1 | Place filter fabric on prepared surface loosely from top of the slope to the bottom allowing fabric to conform easily to contours of the slope.               |
|                                  | .2 | Allow one (1) metre of fabric for overlapping and anchoring purposes, 700 mm at the top and 300 mm at the bottom of the slope.                                |
|                                  | .3 | Longitudinal seems will have a minimum of 450 mm overlap and will be pinned every 600 mm with 100 mm nails.   |
|                                  | .4 | Anchor top of fabric at 1 metre intervals with 15 mm diameter steel rods 600 mm in length. Anchor bottom of fabric by folding fabric and placing fill on top. |
|                                  | .5 | Place granular base material over filter fabric to a depth of 200 mm. No equipment will be permitted on fabric.   |