

## **PART 1 - GENERAL**

### **1.1 SCOPE**

- .1 Section includes supply and placement of topsoil and planting soil, including soil analysis and amendments.

### **1.2 RELATED SECTIONS**

- .1 Section 00 33 00 - Submittal Procedures
- .2 Section 01 35 29 - Health and Safety Requirements
- .3 Section 01 74 21 - Construction/Demolition Waste Management and Disposal
- .4 Section 01 77 00 - Closeout Procedures
- .5 Section 01 78 00 - Closeout Submittals

### **1.3 SOURCE QUALITY CONTROL**

- .1 Advise Departmental Representative of source of topsoil to be utilized seven (7) days in advance of starting work.
- .2 All soil used in this project shall be tested for compliance with soil texture specification by a laboratory approved by Departmental Representative. Soil sampling, testing and analysis to be in accordance with Provincial regulations and standards. Contractor will arrange and pay for cost of tests. Contractor shall submit copies of Soils Texture Report to the Departmental Representative for approval prior to delivery to the site.
- .3 Contractor is responsible for analysis of soil nutrients and requirements for amendments to topsoil as specified. All soil shall be tested by the NL Dept. of Agriculture and a copy of this analysis made available to the Departmental Representative prior to delivery of soil to the site. The Contractor shall make whatever modifications to the topsoil which are stated in the analysis. All soil shall be re-tested for compliance prior to acceptance. Contractor shall pay for the costs of all testing, as specified in Section 01 33 00 – Submittal Procedures.

### **1.4 SUBMITTALS**

- .1 Submit copies of the topsoil analysis described above.
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**1.5 MEASUREMENT FOR PAYMENT**

- .1 Soil Placement: The supply of labour, materials, plant and equipment for the placement, grading and compaction of topsoil or planting soil, as indicated on the drawings, will be measured by the Square Metre (m2) calculated from actual field measurements.
- .2 Include incidental to the unit price the cost of all soil placements as required.

**PART 2 - PRODUCTS**

**2.1 TOPSOIL**

- .1 Topsoil for seeded areas planting beds: mixture of particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth.
  - .1 Soil texture based on The Canadian System of Soil Classification, to consist of 20 to 70 % sand, minimum 7 % clay, and contain 2 to 10 % organic matter by weight.
  - .2 Contain no toxic elements or growth inhibiting materials.
  - .3 Finished surface free from:
    - .1 Debris and stones over 50 mm diameter.
    - .2 Course vegetative material, 10 mm diameter and 100 mm length, occupying more than 2% of soil volume.
  - .4 Consistence: friable when moist.

**2.2 SOIL AMENDMENTS**

- .1 Peatmoss:
  - .1 Derived from partially decomposed species of Sphagnum Mosses.
  - .2 Elastic and homogeneous, brown in colour.
  - .3 Free of wood and deleterious material which could prohibit growth.
  - .4 Shredded particle minimum size: 6 mm.
  - .5 Acidity range: 4.5 - 6 pH.
- .2 Limestone:
  - .1 Ground agricultural limestone containing minimum calcium carbonate equivalent of 85%.
  - .2 Gradation requirements: percentage passing by weight, 90% passing 1.0 mm sieve, 50% passing 0.125 mm sieve.
- .3 Fertilizer:
  - .1 Complete, commercial, with 35% soluble nitrogen.
  - .2 Well aged manure, free of seeds.

- .4 Compost:
  - .1 Mixture of soil and decomposing organic matter containing not less than 50% organic matter as determined by the LOI test of its equivalent under the Walkley-Black test.
  - .2 Product must be sufficiently decomposed (i.e. stable) so that any further decomposition does not adversely affect plant growth (C:N ratio below 25/50) and contain no toxic or growth inhibiting contaminants or heavy metals.
  - .3 Composed bio-solids must meet the requirements of the Guidelines For Compost Quality, Category A, produced by the Canadian Council of the Minister of the Environment, January 1996.
  - .4 The Contractor is responsible for providing certification of compost material.
- .5 Manure:
  - .1 Organic matter may be composed of well aged manure, free of lumps and impurities. Well decomposed, minimum two (2) years old, with particle size meeting organic matter requirements.
- .6 Sewage sludge is not acceptable for organic content.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION OF SUBGRADE**

- .1 Verify that grades are correct. If discrepancies occur, notify Departmental Representative and do not commence work until instructed by Departmental Representative.
- .2 Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.
- .3 Remove debris, roots, branches, stones in excess of 25 mm diameter and other deleterious materials. Remove soil contaminated with calcium chloride, toxic materials and petroleum products. Remove debris which protrudes more than 50 mm above surface. Dispose of removed material off site.
- .4 Course cultivate entire area which is to receive topsoil to depth of 100 mm. Cross-cultivate those areas where equipment used for hauling and spreading has compacted soil.

### **3.2 PLACING AND SPREADING OF TOPSOIL/PLANTING SOIL**

- .1 Place topsoil after Departmental Representative has accepted subgrade.
  - .2 Spread topsoil in uniform layers not exceeding 150 mm.
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- .3 Spread topsoil as indicated to following minimum depths after settlement.
  - .1 150 mm for seeded areas.

### **3.3 FINISH GRADING**

- .1 Grade to eliminate rough spots and low areas and ensure positive drainage. Prepare loose friable bed by means of cultivation and subsequent raking.
- .2 Leave surfaces smooth, uniform and firm against deep footprinting.

### **3.4 ACCEPTANCE**

- .1 Departmental Representative will inspect planting soil in place and determine acceptance of material, depth of soil and finish grading. Contractor will test soil in place. Approval of soil material subject to soil testing and analysis.

### **3.5 RESTORATION OF STOCKPILE SITES**

- .1 Restore stockpile sites acceptable to Consultant.

### **3.6 SURPLUS MATERIALS**

- .1 Dispose of materials not required off site.