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**PART 1**      **GENERAL**

**1.1**            **QUALITY ASSURANCE**

- .1      Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2      Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3      Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements.

**1.2**            **SOURCE QUALITY CONTROL**

- .1      Advise Departmental Representative of sources of topsoil to be utilized 7 days in advance of stating time.
- .2      Contractor is responsible for soil analysis and requirements for amendments to supply topsoil as specified.
- .3      Soil testing by recognized testing facility for PH, P and K, and organic matter.

**PART 2**      **PRODUCTS**

**2.1**            **TOPSOIL**

- .1      Topsoil: mixture of mineral 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      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      Fertilizer:
  - .1      Fertility: major soil nutrients present in following amounts:
  - .2      Nitrogen (N): 20 to 40 micrograms of available N per gram of topsoil.

- .3 Phosphorus (P): 40 to 50 micrograms of phosphate per gram of topsoil.
- .4 Potassium (K): 75 to 110 micrograms of potassium per gram of topsoil.
- .5 Calcium, magnesium, sulfur and micro-nutrients present in balanced ratios to support germination and/or establishment of intended vegetation.
- .6 Ph value: 6.5 to 8.0.
- .2 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: 5 mm.
- .3 Sand: washed coarse silica sand, medium to coarse textured.
- .4 Limestone:
  - .1 Ground agricultural limestone.
  - .2 Gradation requirements: percentage passing by weight, 90% passing 1.0 mm sieve, 50% passing 0.125 mm sieve.
- .5 Fertilizer: industry accepted standard medium containing nitrogen, phosphorous, potassium and other micro-nutrients suitable to specific plant species or application or defined by soil test.

### **PART 3**      **EXECUTION**

#### **3.1**      **STRIPPING OF TOPSOIL**

- .1 Do not handle topsoil while in wet or frozen condition or in any manner in which soil structure is adversely affected.
- .2 Commence topsoil stripping of areas as indicated after area has been cleared of brush weeds and grasses and removed from site.
- .3 Strip topsoil to depths as indicated. Avoid mixing topsoil with subsoil where textural quality will be moved outside acceptable range of intended application.
- .4 Stockpile in locations as directed by Departmental Representative. Stockpile height not to exceed 2 m.
- .5 Disposal of unused topsoil as directed by Departmental Representative.
- .6 Protect stockpiles from contamination and compaction.

### **3.2 PREPARATION OF EXISTING GRADE**

- .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 50 mm diameter and other deleterious materials. Remove soil contaminated with calcium chloride, toxic materials and petroleum products. Remove debris which protrudes more than 75 mm above surface. Dispose of removed material off site.
- .4 Course cultivate entire area which is to receive topsoil to minimum depth of 100 mm. Cross cultivate those areas where equipment used for hauling and spreading has compacted soil.

### **3.3 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, over unfrozen subgrade free of standing water.
- .3 For sodded areas keep topsoil 50/100 mm below finished grade.
- .4 Spread topsoil as indicated to following minimum depths after settlement and 80% compaction:
  - .1 150 mm for seeded areas.
  - .2 135 mm for sodded areas.
  - .3 300 mm for flower beds.
  - .4 500 mm for shrub beds.
- .5 Manually spread topsoil/planting soil around trees, shrubs and obstacles.

### **3.4 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 Consolidate topsoil to required bulk density using equipment approved by Departmental Representative. Leave surfaces smooth, uniform and firm against deep footprinting.

### **3.5 ACCEPTANCE**

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

- .2 Testing of topsoil will be carried out by testing laboratory designated by Departmental Representative. Soil sampling, testing and analysis to be in accordance with Provincial regulations and standards. Departmental Representative will pay for cost of tests as specified in Section 01 45 00 – Quality Control.

### **3.6 RESTORATION OF STOCKPILE SITES**

- .1 Restore stockpile sites acceptable to Departmental Representative.

### **3.7 SURPLUS MATERIAL**

- .1 Dispose of materials not required where directed by Departmental Representative.

### **3.8 CLEANING**

- .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**