

PART 1 GENERAL

1.1 RELATED SECTIONS

- .1 Section 32 92 23 - Sodding

1.2 DEFINITIONS

- .1 **COMPOST:** mix ground and organic matter in decomposition used like manure, mulch or product of amendment of the ground. The compost is made up, to 40 % or more, of treated organic matter, percentage determined according to tests' Walkley - Black or LAW (loss on ignition). The product must be sufficiently stable (sufficiently broken up matters) to prevent any harmful effect on the growth of the plants (report/ratio C/N lower than (25) (50)), and it should not contain toxic elements nor inhibitors of growth. The solid matters of biological origin perforated must be in conformity with the hot lines concerning the quality of the compost, category (A) (B), published by the Canadian Council of the Ministers for the environment, in January 1996.

1.3 QUALITY INSURANCE

- .1 **Reports/ratios of the tests:** Submit the reports/ratios of the tests certifying that the products, materials and materials satisfy the regulations as for the physical characteristics and the criteria of performance.
- .2 **Certificates:** Present the documents signed by the manufacturer, certifying that the products, materials and materials satisfy the regulations as for the physical characteristics and the criteria of performance:

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Forward the unutilised products of amendment to an approved site of dangerous matter collection approved by the Engineer.
- .2 It is forbidden to pour unutilised products of amendment in the sewers, in a river, a lake, on the ground or at any other place where that could present a health hazard for the environment.

PART 2 PRODUCTS

2.1 TOPSOIL

- .1 **Topsoil for trued surfaces:** mix particles, micro-organisms and organic matter constituting a medium favourable to the growth of the desired plants.
 - 1. Texture based on the Canadian System of classification of the grounds: ground made up from 20 to 70% of sand, at least 7% of clay and 2 to 10% organic matter in weight.
 - 2. Not containing toxic elements nor inhibitors of growth.
 - 3. Producing a finished surface exempts:
 - 1. Remains and of stones of more than 50 mms in diameter;
 - 2. Coarse vegetable matters 10 mm in diameter and 100 mm length, and cash more than 2% of the volume of the ground.
 - .4 Consistency: friable ground when it is wet.

2.2 SOIL AMENDMENT PRODUCTS

- .1 **Fertilizer:** commonly accepted industrial product containing nitrogen, phosphorous, potassium, and any other micro-nutrients intended for the vegetation species or for specific applications, or determined with respect to the soil analysis. The industrially produced fertilizers shall respect the Fertilizers Act of Canada.

- .1 Fertility: product providing key nutrients in the following proportions.
- .2 Nitrogen (N): 20 to 40 micrograms of available nitrogen per gram of soil.
- .3 Phosphorus (P): 40 to 50 micrograms of phosphate per gram of soil.
- .4 Potassium (K): 75 to 110 micrograms of potassium per gram of soil.
- .5 Calcium, magnesium, sulfur and trace elements present in balanced proportions to promote germination and / or the establishment of desired vegetation.
- .6 PH: between 6.5 and 8.0.

2.3 QUALITY CONTROL AT THE SOURCE

- .1 The Contractor shall determine the need for amendment products in order to be able to provide topsoil that meets the requirements.

PART 3 EXECUTION

3.1 SOIL REMOVAL

- .1 Begin to remove the topsoil in the areas indicated, once the lawn was removed and taken off site.
- .2 Remove the topsoil to a depth determined by the Engineer. Avoid mixing topsoil with soil from the basement if it makes the texture of the topsoil not conform to acceptable parameters, given the intended use of the ground.
- .3 Place topsoil on deposit. The height of the pile should not exceed 2 m.
- .4 Evacuate unused topsoil in a environmentally friendly manner but not in a landfill.
- .5 Protect piles against contamination and compaction.

3.2 PREPARATION ON THE EXISTING LAYER

- .1 Check the ground to ensure it is adequate. Otherwise, notify the Engineer and put work on standby until receiving permission to continue.
- .2 Level the ground by eliminating the hollows and bumps and giving a slope that promotes good drainage.
- .3 Remove debris, roots, branches, stones larger than 50 mm in diameter and other harmful substances. Also remove soil contaminated with calcium chloride, toxic materials and petroleum products, and debris in excess of 75 mm the soil surface. Eliminate off-site all the materials removed.
- .4 Loosen the soil throughout the area to receive a layer of topsoil to a depth of 100 mm. Repeat first passes perpendicular to the surfaces where the material transport and spread a compacted soil.

3.3 PLACING AND SPREADING OF TOPSOIL AND COMPOST

- .1 Once the engineer as accepted the layer, put topsoil in place
- .2 Place topsoil in uniform layers, not exceeding 150 mm thick.
- .3 In areas to be sodded, bring the level of the topsoil to 15 mm from the finished grade.
- .4 Spread topsoil in layers of minimum thickness tapped following:
 - .1 150 mm for areas to plant grass.
- .5 Spread using your hands topsoil and compost around trees, shrubs and obstacles.

3.4 GROUND AMENDMENT

- .1 For the grass apply amendment products and mix well the entire thickness of the ground layer specified.

3.5 FINAL LEVELLING

- .1 Level the soil to eliminate hollows and bumps and promote good drainage. Produce a layer of soft soil by loosening the soil by raking.
- .2 Strengthen the topsoil to achieve the required bulk density, using materials approved by the Engineer. Let the surface smooth, uniform and firm so it doesn't form deep scars under the weight of a person.

3.6 RECEPTION

- .1 Engineer will examine and analyse the topsoil put in place and will determine if the material, the thickness of its layer and the finish grading are acceptable.

3.7 EXCEEDING MATERIAL

- .1 Evacuate exceeding material out of the site

3.8 CLEANING

- .1 Once the job is done, evacuate all material debris and tools out of the site.

END OF SECTION