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**TOPSOIL**

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**PART 1 GENERAL**

- 1.01 OTHER CONTRACT DOCUMENTS      The General Conditions of the Contract, General Requirements and Supplemental Conditions attached hereto shall apply to and be a part of this Section.
- 1.02 DESCRIPTION OF WORK      The Work described herein is for the supply and installation of mineral topsoil for turf grass sod, turf grass seed, planting beds and associated works.
- 1.03 RELATED WORK      Section 02210 Excavation, Bedding & Backfill  
Section 02078 Geotextiles  
Section 02938 Turf Grass Sod
- 1.04 CLASSIFICATION OF THE WORK      Topsoil shall be classified as either Boulevard Soil or Bedding Plant Soil and unless specified otherwise in Section 01001 Supplemental Conditions or shown on the Drawings, the type shall be Boulevard Soil.
- 1.05 SUBMITTALS      A minimum of one (1) week prior to the delivery of the Topsoil, the Contractor shall obtain approval from the Engineer of the source of the Topsoil and shall use no other source without written authorization from the Engineer. The Contractor shall, if requested by the Engineer, provide soil test analysis results and recommendations for soil amendment from an approved certified soil test laboratory as described in Section 01340 Submittals. Topsoil shall be analysed for clay, sand and silt content, NPK, Mg, soluble salt content and pH value, growth inhibitors and soil sterilants.
- The Contractor shall not commence any Work until the topsoil has been accepted by the Engineer.
- The City reserves the right to reject any Topsoil which does not, in the opinion of the Engineer, conform to the requirements of this specification.

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**PART 2 PRODUCTS**

**2.01 BOULEVARD SOIL**

Boulevard Soil shall be a mixture of mineral particulates, micro organisms and organic matter which provides a suitable medium for the support of vigorous plant growth. Boulevard Soil shall be either site topsoil or imported topsoil and shall be a well mixed, screened, clay-textured or clay loam-textured dark, fertile, friable material neither of heavy clay nor of light sandy nature containing by volume 15 to 40 percent clay; 20 to 70 percent sand (with a minimum of 10 percent of either) and a minimum of 4 percent to a maximum of 25 percent organic matter (peat, rotted manure or composted material).

Boulevard Soil shall be free of contamination, subsoil, debris, toxic materials, roots, vegetation lumps over 40 millimetres in greatest dimension, stones over 25 millimetres in greatest dimension, weed seeds, quackgrass rhizomes, couch grass rhizomes, and Canadian thistle roots and other noxious weeds.

Boulevard soil shall be typical for locality, and mined from a well drained site. Boulevard soil shall not be blown dirt taken from wind erosion sites or taken from fields abandoned to corn production where such soil may contain soil incorporated herbicides with lasting residual effects such as eradicane and atrazine.

Boulevard Soil shall have a conductivity value (salinity rating) of less than 2.0 mMhos/cm and a pH range of. 7.0 to 8.0; 20 to 40 micrograms of available Nitrogen (N) per gram of soil,; 10 to 20 micrograms of Phosphorus (P) per gram of soil and 80 to 120 micrograms of Potassium (K) per gram of topsoil.

**2.02 BEDDING PLANT  
SOIL**

Bedding Plant Soil for trees, groundcovers and shrub beds shall be a mixture of 1 part peatmoss to 6 parts Boulevard Soil. Bone meal shall be incorporated into the soil mixture at a rate of 3.0 kilograms of bone meal per cubic metre of Bedding Plant Soil.

**2.03 WATER**

Water shall be potable from a source approved by the Engineer.

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- 2.04 FERTILIZER Fertilizer shall be a synthetic slow release type with a N-P-K ratio of 1-2-1
- 2.05 HERBICIDE Herbicide shall be the type and rate and method of application subject to approval of the Engineer. Herbicides shall be standard commercial products registered for sale and use in Canada under the Pest Control Products Act.
- 2.06 BONE MEAL Bone meal shall be finely ground with a minimum of 20 percent phosphoric acid.

**PART 3 EXECUTION**

- 3.01 SITE PREPARATION If required by the Engineer, the Contractor shall apply herbicide to the Site ten (10) days in advance of topsoil placement to kill existing weeds and grasses. The supply and application of herbicide is not incidental to the Work and will be paid for as Additional Work as outlined in the Contract Documents.
- Prior to the start of any Work, the Contractor shall verify the backfill grades are correct and obtain approval from the Engineer that the Site is acceptable and installation of the Filter Fabric and/or Topsoil can begin.
- The Contractor shall remove and dispose of all debris, roots, branches, stones in excess of 50 millimetres in greatest dimension and other deleterious materials. The Contractor shall scarify the subsoil to a minimum depth of 100 millimetres and cross cultivate areas compacted by equipment.
- 3.02 FILTER FABRIC The filter fabric shall be installed as outlined in Section 02078 Geotextiles, shown on the Drawings or as directed by the Engineer.
- The Contractor shall not drive or operate equipment directly on the filter fabric. Where a filter fabric is installed the Contractor shall dump and/or spread the Topsoil by working upon the Topsoil surface and back dumping.

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3.03 DELIVERY OF  
TOPSOIL

The Contractor shall schedule the delivery and installation of the Topsoil to coincide with the turf grass sod, grass seed, tree and shrub placement. The Contractor shall not stockpile or place topsoil on any pavement or sidewalk surface.

3.04 INSTALLATION OF  
TOPSOIL

Topsoil shall be installed only on dry, unfrozen subgrade in uniform layers not exceeding 100 millimetres in depth. Topsoil shall not be worked when it is so wet or so dry to cause excessive compaction, the forming of hard clods or dust. The Contractor shall grade and trim the Topsoil to the lines, levels, profiles, contours and elevations shown on the Drawings or as directed by the Engineer. Changes in grade shall be gradual, slopes shall be blended into level areas and the entire Site shall have positive drainage. The Contractor shall manually spread the Topsoil around existing trees and plantings to prevent damage from equipment.

Unless specified otherwise in Section 01001 Supplemental Conditions or shown on the Drawings, Boulevard Soil shall be installed to a minimum depth of 150 millimetres and Bedding Plant Soil shall be installed to a minimum depth of 450 millimetres.

The Contractor shall insure that the Topsoil does not come in contact with new asphalt concrete pavement that is less than 2 weeks old. Topsoil which does come in contact with new asphalt pavement shall be immediately removed and the area swept and washed to the satisfaction of the Engineer.

3.05 FERTILIZING & SOIL  
AMENDMENTS

The Topsoil shall be brought to the finished grade prior to the application of the fertilizer or recommended soil amendment materials. The Contractor shall submit to the Engineer a written report stating the name and type of fertilizer formulation and/or soil amendment used, the rate(s) and date(s) of applications complete with copies of all delivery tickets.

Prior to the application of fertilizer, the Contractor shall uniformly apply or incorporate the soil amendment(s) into the Topsoil according to the manufactures written instructions and at the rate(s) determined by the soil sample test results or as directed by the Engineer.

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**3.06 FINIAL GRADING**

The Contractor shall uniformly apply the fertilizer over the Topsoil at a rate which provides 48kg actual Nitrogen, 96 kg actual Phosphate and 48 kg actual Potassium per hectare. The Contractor shall lightly rake the surface of the Topsoil to disperse the fertilizer.

The Contractor shall roll the Boulevard Soil with a 900 millimetre wide 50 kilogram roller to create a smooth, uniform, compacted (firm against footprints) soil base with a fine loose texture. Heavy rolling to adjust high or low areas will not be allowed. Bedding Plant Soil shall not be rolled.

The Contractor shall grade and trim the Topsoil to the lines, levels, profiles, contours and elevations shown on the Drawings or as directed by the Engineer. For seeded area, the finished grade shall be the elevations as shown or directed. For turf grass sod areas, the finished grade shall be the elevations as shown or directed less the thickness of the turf grass sod. For planting beds, the finished grade shall be the elevations as shown minus 50 millimetres.

The finished surface shall be level and no more than 10 millimetres below adjacent concrete/asphalt roadways, driveways, walkways, curbs or headers. Under no circumstances shall topsoil be allowed to remain higher than any adjacent finished surface.

**3.07 CLEANUP**

The Contractor shall clean up the Site after each working day and shall remove all debris, garbage, excess soil, deleterious material, and fill material from the Site, broom and, if requested by the Engineer, wash all paved and concrete surfaces and leave the Site in a net and tidy appearance.

**END OF SECTION**