



**CITY OF
SWIFT CURRENT**
where life makes sense

SECTION 13400
TOPSOIL AND SEEDING

MARCH 2019



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1 GENERAL

1.1 DESCRIPTION

- 1.1.1 This section includes the supply and installation of topsoil and turf grass within areas required by the City.
- 1.1.2 The Contractor shall provide all labour, products and equipment required for work including, but not limited to:
- installation of topsoil, seeding and sod

1.2 RELATED SECTIONS

- 13060 Irrigation Installation
- 13080 Trees, Shrubs, and Plants
- 13550 Sodding

1.3 JOB CONDITIONS

- 1.3.1 Proceed with seeding operations only during favourable weather conditions and in accordance with good horticultural practice.

1.4 INSPECTION

- 1.4.1 Make all materials available for inspection, upon arrival on the site, or at source of supply when requested.
- 1.4.2 Give one (1) working day notice to the Project Manager when materials are available for inspection.
- 1.4.3 Arrange for an inspection by of the Project Manager of the finished topsoil preparation before proceeding with seeding.
- 1.4.4 Upon completion of the seeding and site clean-up, the contractor shall contact the Project Manager and arrange for an inspection.
- 1.4.5 Where a hydro-seeding method is used, notify the Project Manager one (1) working day before loading seeder and allow for an inspection by the Project Manager at location of loading operation. Also provide all identification labels from materials placed in hydro-seeder. Failure to notify the Project Manager before loading occurs could result in rejection of the seeding operation. The Project Manager reserves the right to waive loading inspection at his discretion.
- 1.4.6 Installation of seed prior to inspection by the Project Manager shall be the Contractor's responsibility. The Project Manager reserves the right to reject seed, after it has been installed, if seed does not conform to specifications.
- 1.4.7 Remove all rejected materials from site immediately.

2 PRODUCTS

2.1 SEEDING PRODUCT DELIVERY, STORAGE, AND HANDLING

- 2.1.1 Deliver grass seed, fertilizer mulch and other materials in standard containers, clearly marked with contents, weight, analysis, and name of supplier or manufacturer.
- 2.1.2 In case of grass seed show quantities of difference types of seed mixture as well as the original seed lot number tag complete with supplier's name.

2.2 TOPSOIL

- 2.2.1 Topsoil shall be friable, neither heavy clay nor of very light sandy nature, consisting of approximately forty five percent (45%) sand, thirty five percent (35%) silt, twenty percent (20%) clay and a pH value ranging from 6.5 to 7.5. Topsoil shall be free from subsoil, roots, vegetation, debris, toxic materials, and stones over twenty five millimetres (25 mm) (one inch (1")) in diameter.

2.3 GRASS SEED

Certified Canada No. 1 seed, having a minimum purity of ninety seven percent (97%) and germination of seventy five percent (75%), meeting the requirements of the Seeds Act and mixed as specified below:

- 2.3.1 Type 1 – Designed for playground and athletic field use.
 - 20% Kentucky Blue Grass (*Poa pratensis L.*)
 - 20% Canada Blue grass (*Poa compressa L.*)
 - 15% Sheep's Fescue (*Festuca ovina L.*)
 - 10% Creeping Red Fescue (*Festuca rubra L.*)
 - 10% Chewing's Fescue (*Festuca rubra subsp. commutate Gaudin*)
 - 10% Perennial Rye Grass (*Lolium perenne L.*)
 - 10% Tall Fescue (*Festuca arundinacea Schreb.*)
 - 5% Annual Rye Grass (*Lolium multiflorum Lam.*)
 - Application Rate:
 - Seed drill @ 30kg/ha
 - Broadcast @ 60kg/ha
 - Hydro seeder @ 125 kg/ha
- 2.3.2 Type 2 – Intended for use in areas where frequent watering by irrigation or sprinkler systems is not available.
 - 25% Kentucky Blue Grass (*Poa pratensis L.*)
 - 20% Canada Blue Grass (*Poa compressa L.*)
 - 10% Sheep's Fescue (*Festuca ovina L.*)

- 10% Creeping Red Fescue (*Festuca rubra L.*)
- 10% Chewing's Fescue (*Festuca rubra subsp. commutate Gaudin*)
- 10% Hard Fescue (*Festuca trachyphylla Hack.*)
- 10% Perennial Rye Grass (*Lolium perenne L.*)
- 5% Transitional Rye Grass (*Lolium hybridum Hausskn.*)
 - Application Rate:
 - Seed drill @ 14kg/ha
 - Broadcast @ 28kg/ha

2.4 FERTILIZER

- 2.4.1 The grade of fertilizer used on the project shall be slow release formulated 16-30-0 or 11-54-0 applied at a rate of 75 kg/ha, or an approved alternative.
- 2.4.2 If applicable, no fertilizer shall be used for planting on any wet land.
- 2.4.3 Seed of the various species shall be furnished in a mixture in standard containers on each of which the following information shall be clearly shown:
- Supplier's name and address
 - Lot Number
 - Net Weight
 - Names and percentages of individual seed species/cultivars.

2.5 HYDRO SEEDING

- 2.5.1 Mulch: Approved wood fibre mulch manufactured from whole wood chips and containing no growth or germination inhibiting factors. The following specifications shall apply: Percent moisture content 10.0%; Percent organic matter 99.2%; Percent ash content 8.0%; Ph 4.8; Water holding 1,000 gms/100 gms of fibre.
- 2.5.2 Percent of moisture content is determined in accordance with the Pulp and Paper Technical Association of Canada, Technical Section Standard A.2.
- 2.5.3 Tackifier: Acceptable colloidal polysaccharide tackifier, adhering to mulch ring manufacturing, non-toxic and without growth or germination inhibiting factors.

3 EXECUTION

3.1 PREPARATION

- 3.1.1 A minimum depth of one hundred millimetres (150 mm) (six inches(6")) of topsoil shall be placed. Provide a finished topsoil surface that is smooth and firm with a fine loose texture.
- 3.1.2 Scarify subgrade to seventy five millimetres (75 mm). Where area is severely compacted, scarify to two hundred millimetres (200 mm).

- 3.1.3 Surface of topsoil free of rocks over twenty five millimetres (25 mm) in diameter, weeds and debris
- 3.1.4 Ensure that finished grade meets flush and smooth with adjacent grades and surface structures such as curbs, manholes, sidewalks, etc.

3.2 INSTALLATION

- 3.2.1 Preferably do all seeding as weather permits, when wind speeds are minimal and site conditions are approved by Project Manager. Seeding to take place no later than October 30 of the current year unless a later seeding date is approved by the Project Manager. Dormant seeding is preferred.
- 3.2.2 The following means of applying seed are acceptable to the Owner:
 - hydro-seeding
 - mechanical or "Brillion" seeding
 - drill seeding
- 3.2.3 Hand broadcasting of seed shall not be acceptable under any conditions except for isolated repair work.
- 3.2.4 Restore to pre-construction condition all hard surfacing, landscaping or facilities that has been damaged or disturbed in any way during the execution of the project, to the satisfaction of the Project Manager.
- 3.2.5 Upon completion of all seeding work, arrange for inspection by the Project Manager. Give timely notice for such inspection.
- 3.2.6 Protect all newly seeded areas as required.
- 3.2.7 Control Noxious Weeds as per municipal and provincial requirements for the specified warranty period.

3.3 MAINTENANCE

- 3.3.1 General - Such maintenance shall include all measures necessary to maintain the work including but not limited to the activities noted in this section.
- 3.3.2 Erosion - Remedy all damages, wash-outs and eroded areas resulting from weather, improper protection or of other causes.
- 3.3.3 Re-Seeding - Reseed all areas which show deterioration, bare spots no larger than one hundred centimetres squared (100 cm²) (sixteen square inches (16"²)).
- 3.3.4 Weed Control - Seeded areas shall have less than five percent (5%) weed cover. Weeds prohibited by the Weed Control Bylaw (No. 2480) shall not be permitted.
 - Control of noxious weeds as per municipal and provincial legislation.
- 3.3.5 Mowing - Mow and trim all coarse grass seeded areas as required to control weed growth and shall be continued to be mowed and trimmed until the coarse grass is in a healthy, vigorous growing condition.

4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- 4.1.1 Measurement for seeding and topsoil placement will be based on measured surface area at construction completion and paid as separate bid items.
- 4.1.2 Measurement will be completed by physical field measurement with a measuring wheel or by utilizing topographic survey and AutoCad modeling as determined by the Project Manager.

4.2 PAYMENT

- 4.2.1 Payment for topsoil placement will be made at the unit price per square meter (m²) and shall be compensation in full for loading from onsite stockpile, hauling, placing to a minimum one hundred millimeter (100 mm) depth, (or thickness specified) and all required labour, equipment and material to complete the work.
- 4.2.2 Payment for seeding will be made at the unit price per square meter (m²) and shall be compensation in full for harrowing/mulching the surface to be hydro-seeded, the supplying of water, seed, mulch fertilizer and dye, mixing, spraying the area to be seeded utilizing an approved hydro-seeder, re hydro-seeding areas which fail to catch, weed control, watering and fertilizing as required to ensure growth, protection of the area from damage and repair of any damage, coordination with private property owners as required, clean up, all required labour, equipment and material to complete the work, and any other incidental work for which payment is not specified elsewhere.

END OF SECTION