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CONSTRUCTION SPECIFICATION FOR SEEDING

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15.01. SCOPE OF WORK

This specification covers the requirements for restoration of grassed areas by use of the seeding method. OPSS.MUNI 804, Construction Specification for Seed and Cover shall be used as a reference.

Starting January 1, 2013, seeding shall only be used in multi-residential, commercial, industrial and park areas unless specified otherwise in the contract documents or at the discretion of the City Engineer.

15.02. REFERENCES

This specification refers to the following standards, specifications, or publications:

- S-34 Topsoil
- OPSS 802 Construction Specification for Topsoil
- OPSS.MUNI 804 Construction Specification for Seeding and Cover
- OPSS.MUNI 206 Grading

15.03. MATERIAL

15.03.01 SEED

The following is acceptable in addition to OPSS.MUNI 804:

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Seeding Mix: 40% Turf Type Perennial Rye
40% Fescue
20% Blue Grass

Nurse Crop: Annual Rye Grass

15.03.02 HYDRAULIC MULCH

Hydraulic mulch shall be dry, free of weeds and other foreign materials and shall be supplied in sealed packages bearing the manufacturer's label indicating product name and mass.

Hydraulic mulch shall be capable of dispersing rapidly in water to form homogeneous slurry and remain in such a state when agitated or mixed with other specified materials. When applied, hydraulic mulch shall be capable of forming an absorptive and cohesive mat, which will allow moisture to percolate into the underlying soil. Hydraulic mulch shall not inhibit growth or germination of the seed mix.

15.03.03 BONDED FIBRE MATRIX

Bonded Fibre Matrix (BFM) shall be a hydraulically applied product, which after application is capable of adhering to the soil in a 100% biodegradable uniform and continuous mat. In a dry state, BFM shall be comprised of not less than 70% by weight long stranded wood fibres held together by organic or mineral bonding agents or both. When hydrated, the BFM shall form a viscous material that when applied and dried, creates a high-strength, porous and erosion-resistant mat. The bonding agent shall not dissolve or disperse upon re-wetting. BFM shall not inhibit the germination or growth of plant material.

**15.03.04 EROSION CONTROL BLANKET – FUTURA OR EQUIVALENT
(BIODEGRADABLE)**

ECB shall be supplied in a dry, rolled mat protected with an outer waterproof wrap bearing the manufacturer's original label indicating product name and application instructions.

Erosion control blanket (ECB) shall be of a consistent thickness with a 100% biodegradable even fibre distribution. The ECB shall be covered on top with a biodegradable and photodegradable plastic mesh. ECB may also be sewn together with cotton thread.

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15.03.05 EROSION CONTROL BLANKET STAPLES

Staples shall be U-shaped, constructed of wire with a diameter of at least 2.5mm, with legs at least 150mm long and 25mm apart.

15.03.06 FERTILIZER:

5-20-20 (with 50% sulphur coated urea)

15.04. CONSTRUCTION

All work shall be carried out in a professional manner with care taken to protect existing structures and grassed areas. The work shall be undertaken in such a manner as to minimize the inconvenience to the residents and, as much as possible, blend in with existing conditions.

The work shall include:

1. Leveling, tilling or otherwise preparing existing areas of suitably arable soil
2. Applying fertilizer
3. Placing of seed
4. Placing mulch or erosion blanket as per the Contract
5. Weed control
6. Watering
7. Maintenance for 30 days

Unless otherwise specified, the prices quoted in the contract documents shall include the furnishing of all materials, supplies and equipment, all labour, construction tools and transportation services necessary to complete the work required under the contract.

15.04.01 PREPARATION

The grading shall be carried out as per OPSS.MUNI 206 and in such a manner as to provide drainage for all walkways, sidewalks, and driveways. Steps shall be taken to ensure that all existing drainage patterns are maintained and that the City right-of-way has positive drainage over roadside curbs or to an appropriate drainage inlet structure. Any correction required to obtain the above noted shall be at the expense of the Contractor.

At the time of seeding, all surface areas designated for seeding shall have a fine-graded, uniform placed imported topsoil surface and shall exhibit no evidence of erosion. The surface shall be uniformly cultivated to a minimum depth of 50 mm and

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shall not have surface stones greater than 25 mm in diameter, foreign material, and weeds or other unwanted vegetation.

15.04.02 SEEDING OPERATIONAL CONSTRAINTS

The seeding operation shall not commence until the Engineer has approved in writing the surface preparation, seed mix, and cover types.

Seed and cover application or re-application shall not be carried out under adverse weather conditions such as high wind or heavy rain or when field conditions are not conducive to seed germination such as frozen soil or soil covered with snow, ice, or standing water.

The Contractor shall maintain the site and control erosion until final acceptance of the seed and cover.

The surface to be seeded shall be prepared not more than 7 days before the seeding operation.

No seed or cover shall come in contact with the foliage of any trees, shrubs, or other vegetation, except as specified in the Seeding subsection. No seed or cover shall come in contact with water bodies.

Emulsified asphalt shall not be applied when rainfall is expected, during rainfall or immediately after rainfall.

To ensure a suitable drying and curing period, BFM shall not be applied when rainfall is expected, during rainfall, or immediately after rainfall.

15.04.03 PLACEMENT RATE (APPROXIMATE)

Seed:	25kg/1000m ²
Nurse Crop:	0.5kg/1000m ² (minimal)
Hydraulic Mulch:	170 kg/1000m ²
Bonded Fibre Matrix:	340 kg/1000m ²
Erosion Control Blanket:	to cover
Fertilizer:	40 kg/1000m ²

15.04.04 WATERING

The Contractor shall be responsible for the watering during the maintenance period. The City Inspector is to be notified when the Contractor or Subcontractor is watering on site.

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15.04.05 SEASONAL METHODS

Generally, seeding shall not be required between approximately June 1 and July 31. Areas left dormant over this period shall be treated with suitable weeds control method. Between the spring thaw and May 31 and from October 1 to October 31, seeding with a nurse crop shall be required.

Seeding which takes place between August 1 and September 30 shall not require a nurse crop.

If weather conditions during the time periods specified are not typical, the Contractor, who shall be solely responsible for the final product, shall, based on prevailing weather conditions, determine which method will be used.

Where conditions allow, drill seeding shall be acceptable.

The Contractor may choose to undertake the seeding between June 1 and July 31, with the approval of the Engineer. However, this shall not relieve the Contractor of responsibility to achieve an acceptable final product, and no additional payment shall be made to the Contractor for extra work required when undertaking work during this time period.

When the Engineer instructs the Contractor to carry out seeding during this period, mutually acceptable conditions shall be negotiated.

The Contractor is reminded that these dates are approximate and have been put in place in recognition that seasonal conditions are a factor in achieving an acceptable product.

15.04.06 MAINTENANCE

The seed shall be maintained for 30 consecutive days, excluding the winter dormant periods between November 15 and April 15 as shown in Table 3 of OPSS 804.

The Contractor shall be responsible for the watering during the maintenance period specified in Section 15.04.04. The cost for watering will be paid under a separate unit price for the water.

The Contractor shall take the responsibility of the lawn mowing, including the first cut during the maintenance period unless otherwise specified in the contract documents.

15.05. QUALITY CONTROL

The City shall take steps to record the acceptability of the seeded areas by the use of photos, videotaping or other means deemed necessary at the end of the 30 consecutive days of maintenance period. The City Engineer reserves the right of extending the maintenance period if the seeded area were not deemed acceptable.

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When the Engineer is agreeable to late season seeding, where it is not possible to determine the acceptability of the seeded areas until the following growing season, those areas deemed unacceptable due to causes beyond the control of the Contractor (road salting, heavy pedestrian traffic, etc.) shall, at the discretion of the Engineer, be reseeded at the unit price in the tender documents. The Contractor shall be paid for the original seeding and the area requiring reseeding.

After acceptance by the Corporation, remedial action of slit seeding, over seeding or reseeding, or reseeding with mulch cover may be required. These remedies shall be carried out at the same unit price quoted in the contract tender documents for seeding and mulch cover. If further fertilizing is required, it shall be carried out at a negotiated price. Additional topsoil shall be at the unit price quoted. Any specialty items or units shall also be at a negotiated price.

INFORMATION TO THE RESIDENT

In conjunction with the seeding, the City shall inform the residents of the limits of the Contractor's responsibilities and what steps the resident can take to assist in promoting and maintaining a flourishing lawn (the first notice letter to the residents). The homeowners shall be informed in writing that the seeded areas have been deemed acceptable and further maintenance and care will be their responsibility at the end of the maintenance period (the second notice letter to the residents).

15.06. MEASUREMENT FOR PAYMENT

The placement of seed, including fertilizing and weed spraying shall be paid by area in the unit of square metre.

The cost for watering will be paid by volume in cubic metre under a separate unit price in the Unit Pricing Schedule in the contract documents.

15.07. BASIS OF PAYMENT

Payment at the Contract price for the above items shall be full compensation for all labour, equipment, and materials to do the work.

Payment for watering will be made as per the Inspector's review of submitted water tickets.