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**PART 1 GENERAL**

**1.1 RELATED REQUIREMENTS**

- .1 Section 32 91 19 13 – Topsoil Placement and Grading.
- .2 Section 32 92 19 16 – Hydraulic Seeding

**1.2 REFERENCES**

- .1 Standards:
  - .1 All work under this section must comply with N.Q. 605-030 “Aménagement paysager – Engazonnement et ensemencement” unless otherwise indicated.

**1.3 ADMINISTRATIVE REQUIREMENTS**

- .1 Scheduling:
  - .1 Schedule sod laying to coincide with preparation of soil surface.
  - .2 Schedule sod installation when frost is not present in ground.

**1.4 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for sod and fertilizer and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
  - .1 Submit:
    - .1 Sod:
      - .1 Install approved samples in 5 square metre mock-ups and maintain in accordance with maintenance requirements during establishment period.
      - .2 0.5 kg container of each type of fertilizer used.
    - .2 Obtain approval of samples by Departmental Representative.
- .4 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements of seed mix, seed purity, and sod quality.

**1.5 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Landscape Contractor: recognized practitioner in the field, with appropriate qualifications and expertise.
  - .2 Landscape Planting Supervisor: Landscape Industry Certified Technician with Softscape Installation designation.

**1.5 QUALITY ASSURANCE (cont'd)**

- .3 Landscape Maintenance Supervisor: Landscape Industry Certified Technician with Turf Maintenance designation.

**1.6 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 The contractor must establish a delivery schedule to reduce on-site storage times to a minimum without causing undue delays in execution of the work.
- .3 Roll and place sod to prevent damage during transportation and handling.
- .4 Transport, unload and store sod on palletes only.
- .5 Have sod delivered within twenty-four (24) hours of being harvested and laid within thirty-six (36) hours.
- .6 Do not deliver sod that is too small, asymmetrical or damaged.
- .7 Allow sod to dry sufficiently during humid weather to avoid damage during harvest or handling.
- .8 During dry periods, protect sod to prevent drying out and water sufficiently to maintain vitality and soil loss during handling. Dry sod will not be accepted.
- .9 Sod must be installed upon arrival. Keep sod humid and cool until installation if there is a delay between delivery and installation.
- .10 Deliver and store fertilizer in sealed containers with labels clearly indicating weight, composition and manufacturer's name.
- .11 Packaging Waste Management: remove for reuse and return by manufacturer. E.g., pallets.

**1.7 SCHEDULE**

- .1 Lay sod when soil is spread.
- .2 Do not harvest or lay sod when soil is excessively dry or when temperature is under 0 °C.

**PART 2 PRODUCT**

**2.1 MATERIALS**

- .1 Number One Turf Grass Nursery Sod: sod that has been especially sown and cultivated in nursery fields as turf grass crop.
  - .1 Nursery grass:
    - .1 Turf consisting mainly of Fescue, two (2) cultivars, Number 1, certified seed.
    - .2 Nursery sod covering 3 m<sup>2</sup>.
  - .2 Turf Grass Nursery Sod quality
    - .1 Density of sod sufficient so that no soil is visible from height of 1500 mm when mown to height of 50 mm.

## **2.1 MATERIALS (cont'd)**

- .2 Mowing height limit: 35 to 65 mm.
- .3 Soil portion of sod: 6 to 15 mm in thickness.
- .2 Number one nursery sod, Quebec grown (on mineral soil), preferably in proximity to site in compliance with N.Q. 0640-050 "Gazon en plaques classification et caractéristiques" with seed mix corresponding to intended use and location.
- .3 Sod cultivated and sold in accordance with all quality standards. Sod to have strong, fibrous root system, free of stones, weeds or deficiencies.
- .4 Water:
  - .1 Supplied by Contractor using water tanker.
  - .2 Free of impurities and mineral salts that may hinder plants.
- .5 Fertilizer:
  - .1 To Canada "Fertilizers Act" and Fertilizers Regulations.
  - .2 Complete, synthetic, slow release with 35% of nitrogen content in water-insoluble form or preferably organic.
  - .3 8-30-12: 8% nitrogen from two sources, including aluminum sulphate; 30% normal superphosphate and monoammonium phosphate; 12% potassium with one part in the form of sulfate; magnesium, sulfur and trace elements.
  - .4 Formula and type of fertilizer proposed by Contractor, recommended by the laboratory, according to season and period. Formulas must be identified on establishment and maintenance plan and approved by Departmental Representative.
- .6 Grass soil:
  - .1 Grass soil must comply with criteria under 32 91 19 13 – Topsoil Placement and Grading.
- .7 Crushed stone:
  - .1 Crushed stone: 0-20 mm in diameter (MG 20) corresponding to Ministère des Transports du Québec standards.
- .8 Stakes:
  - .1 Wood stakes 25 x 25 x 300 mm.

## **2.2 SOURCE QUALITY CONTROL**

- .1 Obtain written approval from Departmental Representative of sod at source.
- .2 When proposed source of sod is approved, use no other source without written authorization from Departmental Representative.

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**PART 3 EXECUTION**

**3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sod installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative. Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

**3.2 PREPARATION**

- .1 Verify that grades are correct and prepared in accordance with Section 32 91 19.13 - Topsoil Placement and Grading. If discrepancies occur, notify Departmental Representative and commence work when instructed by Departmental Representative.
- .2 Do not perform work under adverse field conditions such as frozen soil, excessively wet soil or soil covered with snow, ice, or standing water.
- .3 Fine grade surface free of humps and hollows to smooth, even grade, surface to drain naturally.
- .4 Remove and dispose of weeds; debris; stones 50 mm in diameter and larger; soil contaminated by oil, gasoline and other deleterious materials; off site in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .5 Apply fertilizer before laying sod and incorporate 3.8 kg per 100 square metres to first five (5) centimetres of soil.

**3.3 SOD PLACEMENT**

- .1 Ensure sod placement is done under supervision of certified Landscape Planting Supervisor.
- .2 Lay sod within 24 hours of being lifted if air temperature exceeds 20 degrees C.
- .3 Lay sod sections in rows, joints staggered. Butt sections closely without overlapping or leaving gaps between sections. Cut out irregular or thin sections with sharp implements.
- .4 Provide close contact between sod and soil by light rolling. Use of heavy roller to correct irregularities in grade is not permitted.
- .5 Peg sod on slopes on slopes steeper than 1 vertical to 2 horizontal, 5 stakes per metre of grassed surface area.

**3.4 CLEANING**

- .1 Progress Cleaning:
  - .1 Leave Work area clean at end of each day.
  - .2 Keep pavement and area adjacent to site clean and free from mud, dirt, and debris at all times.

### **3.4 CLEANING (cont'd)**

- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
  - .1 Leave Work area clean at end of each day.

### **3.5 PROTECTION BARRIERS**

- .1 Protect newly sodded areas from deterioration with as directed by Departmental Representative.
- .2 Remove after installation Departmental Representative.

### **3.6 MAINTENANCE DURING ESTABLISHMENT PERIOD**

- .1 Perform following operations from time of installation until acceptance.
  - .1 Water sodded areas in sufficient quantities and at frequency required to maintain optimum soil moisture condition to depth of 75 to 100 mm.
  - .2 Cut grass to 60 mm when or prior to it reaching height of 120 mm.
  - .3 Maintain sodded areas weed free 95%.
  - .4 Fertilize areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles and water in well.
  - .5 Temporary barriers or signage to be maintained where required to protect newly established sod.

### **3.7 ACCEPTANCE**

- .1 Sodded Commercial Grade Turf Grass Nursery Sod areas will be accepted by Departmental Representative provided that:
  - .1 Sodded areas are properly established.
  - .2 Extent of surface soil visible when grass has been cut to height of 60 mm is acceptable.
  - .3 Sod is free of bare or dead spots and extent of weeds apparent in grass is acceptable.
  - .4 Sodded areas have been cut minimum 2 times prior to acceptance.
  - .5 Fertilizing in accordance with fertilizer program has been carried out at least once.
- .2 Areas sodded in fall will be accepted in following spring one month after start of growing season provided acceptance conditions are fulfilled.
- .3 When environmental conditions allow, all sodded areas showing shrinkage cracks shall be top-dressed and seeded with a seed mix matching the original.

### **3.8 MAINTENANCE DURING WARRANTY PERIOD**

- .1 Perform following operations from time of acceptance until end of warranty period.
  - .1 Water sodded Commercial Grade Turf Grass Nursery Sod areas at weekly intervals to obtain optimum soil moisture conditions to depth of 100 mm.

**3.8 MAINTENANCE DURING WARRANTY PERIOD (cont'd)**

- .2 Repair and grass bare or dead spots again to the satisfaction of the Departmental Representative.
- .3 Cut grass and remove clippings that will smother grass as directed by Departmental Representative. Weed.
  - .1 Commercial Grade Turf Grass Nursery Sod:
    - .1 60 mm during normal growing conditions.
    - .2 Cut grass as necessary when at indicated height, but at intervals so that approximately one third of growth is removed in single cut.
    - .3 Fertilize areas in accordance with fertilizing program acceptable to Departmental Representative. Spread half of required amount of fertilizer in one direction and remainder at right angles.
    - .4 Eliminate weeds by mechanical or chemical means to extent acceptable to Departmental Representative.

**END OF SECTION**