

PART 1 - GENERAL

<u>1.1 RELATED REQUIREMENTS</u>	.1	Section 32 91 19.13 - Topsoil Placement and Grading.
<u>1.2 REFERENCES</u>	.1	Canada Green Building Council (CaGBC) .1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.
<u>1.3 ADMINISTRATIVE REQUIREMENTS</u>	.1	Scheduling: .1 Schedule sod laying to coincide with preparation of soil surface. .2 Schedule sod installation when frost is not present in ground. .3 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements in accordance with Section 01 31 19 - Project Meetings.
<u>1.4 ACTION AND INFORMATIONAL SUBMITTALS</u>	.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. .2 Submit electronic copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and Section 01 35 43 - Environmental Procedures.
	.3	Samples. .1 Submit: .1 Sod for each type specified. .1 Install approved samples in 1 square metre mock-ups and maintain in accordance with maintenance

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS
(Cont'd)

- .3 (Cont'd)
 - .1 Submit: (Cont'd)
 - .1 (Cont'd)
 - .1 (Cont'd)
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.
 - .5 Test Reports: submit certified test reports
showing compliance with specified performance
characteristics and physical properties of
seed mix, seed purity, and sod quality.
 - .6 Regional Materials: submit evidence that
project incorporates required percentage 30%
of regional materials and products, showing
their cost, distance from project to furthest
site of extraction or manufacturer, and total
cost of materials for project.
 - .7 Sustainable Design Submittals:
 - .1 LEED Canada Submittals: in accordance
with Section 01 35 21 - LEED Requirements.

1.5 QUALITY
ASSURANCE

- .1 Qualifications:
 - .1 Landscape Contractor: to be a Member in
Good Standing of locally recognized
Landscaping and Horticultural Trades
Association, or equivalent.
 - .2 Landscape Planting Supervisor: Landscape
Industry Certified Technician with Softscape
Installation designation.
 - .3 Landscape Maintenance Supervisor:
Landscape Industry Certified Technician with
Turf Maintenance designation.

- 1.6 DELIVERY,
STORAGE AND
HANDLING
- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
 - .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
 - .3 Storage and Handling Requirements:
 - .1 Store materials in accordance with supplier's recommendations.
 - .2 Replace defective or damaged materials with new.
 - .4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
 - .5 Packaging Waste Management: remove for reuse or return of pallets, crates, padding, banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

PART 2 - PRODUCTS

- 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 Turf Grass Nursery Sod types:
 - .1 Number One Kentucky Bluegrass Sod: Nursery Sod grown solely from seed of cultivars of Kentucky Bluegrass, containing not less than 50% Kentucky Bluegrass cultivars.
 - .2 Number One Named Cultivars: Nursery Sod grown from certified seed.
 - .2 Commercial Grade Turf Grass Nursery:
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- 2.1 MATERIALS
(Cont'd)
- .2 Commercial Grade Turf Grass Nursery: (Cont'd)
 - .1 Mow sod at height directed by Departmental Representative within 36 hours prior to lifting, and remove clippings.
 - .2 Not more than 5 broadleaf weeds and up to 20% native grasses per 40 square metres.
 - .3 Sod establishment support:
 - .1 Geotextile fabric: biodegradable,
 - .2 Wooden pegs: 17 x 8 x 200 mm.
 - .3 Biodegradable starch pegs: 17 x 8 x 200 mm.
 - .4 Water:
 - .1 Supplied by Departmental Representative at designated source.
 - .5 Fertilizer:
 - .1 To Canada "Fertilizers Act" and Fertilizers Regulations.
 - .2 Complete, synthetic, slow release with 65% of nitrogen content in water-insoluble form.
- 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.
- 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.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and
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- 3.1 EXAMINATION .1 (Cont'd)
(Cont'd) .3 (Cont'd)
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, to contours and
elevations indicated, 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; in location as directed
by Departmental Representative in accordance
with Section 01 74 21 -
Construction/Demolition Waste Management And
Disposal.
- 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 Roll sod as directed by Departmental
Representative. Provide close contact between
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- 3.3 SOD PLACEMENT (Cont'd) .4 (Cont'd)
sod and soil by light rolling. Use of heavy roller to correct irregularities in grade is not permitted.
- 3.4 SOD PLACEMENT ON SLOPES AND PEGGING .1 Start laying sod at bottom of slopes.
.2 Peg sod on slopes steeper than 3 horizontal to 1 vertical, within 1 m of catch basins and within 1 m of drainage channels and ditches to following pattern:
.1 100 mm below top edge at 200 mm on centre for first sod sections along contours of slopes.
.2 Not less than 3-6 pegs per square metre.
.3 Not less than 6-9 pegs per square metre in drainage structures. Adjust pattern as directed by Departmental Representative.
.4 Drive pegs as close to flush as is practical for pegs to still be effective.
- 3.5 FERTILIZING PROGRAM .1 Fertilize during establishment and warranty periods as recommended by sod manufacturer.
- 3.6 CLEANING .1 Progress Cleaning: clean in accordance with Section 01 74 11 - 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.
.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
.1 Clean and reinstate areas affected by Work.
.3 Waste Management: separate waste materials for reuse, compost, and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and
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- 3.6 CLEANING (Cont'd) .3 Waste Management: (Cont'd)
Disposal and Section 01 35 21 - LEED Requirements.
.1 Remove recycling and compost containers and bins from site and dispose of materials at appropriate facility.
.2 Divert unused fertilizer from landfill to official hazardous material collections site approved by Departmental Representative.
- 3.7 PROTECTION BARRIERS .1 Protect newly sodded areas from deterioration with snow fence on rigid frame as directed by Departmental Representative.
.2 Remove protection after inspection as directed by Departmental Representative.
- 3.8 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 50 mm when or prior to it reaching height of 75 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.
- 3.9 ACCEPTANCE .1 Turf Grass Nursery Sod areas will be accepted by Departmental Representative provided that:
.1 Sodded areas are properly established.
.2 Sod is free of bare and dead spots.
.3 No surface soil is visible from height of 1500 mm when grass has been cut to height of 50 mm.
.4 Sodded areas have been cut minimum 2 times prior to acceptance.
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3.9 ACCEPTANCE
(Cont'd)

- .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.

3.10 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.
- .2 Repair and resod dead or bare spots to satisfaction of Departmental Representative.
- .3 Cut grass and remove clippings that will smother grass as directed by Departmental Representative to height as follows:
 - .1 Sod:
 - .1 50 mm during normal growing conditions.
 - .2 Cut grass at 2 week intervals or as directed by Departmental Representative, but at intervals so that approximately one third of growth is removed in single cut.
 - .3 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.
 - .4 Eliminate weeds by mechanical means to extent acceptable to Departmental Representative.