

**Elementary and Secondary Schools**

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## 1 INSTRUCTIONS TO ARCHITECTS

### 1.1 SPECIAL NOTES

- 1.1.1 **The enclosed is not a specification.** It is a Guideline of minimum requirements for Topsoil and Sodding for Elementary and Secondary Schools' sodded areas.
- 1.1.2 It is the responsibility of the Consultants not to rely on this document other than as a Guideline, but to develop a specification to be reviewed by the Design staff of the Board, prior to tendering.
- 1.1.3 The Consultants must note that sodded areas consist of lawns, sports fields and play areas.
- 1.1.4 The Consultants' specifications must clearly identify that testing of materials and applied thicknesses will be performed on all surfaces, and that such testing to be paid from Cash Allowance.
- 1.1.5 If the thicknesses of base and/or sodding are less than specified, the Board will not entertain credit for work incorrectly performed. Rather, the Board will insist on the removal of deficient work and reinstallation to specified levels, at times dictated by the Board.
- 1.1.6 Documentation from the source as to materials and quantities shall be made available to the Board's representative upon request.
- 1.1.7 The following is the general application of sodded areas for Dufferin-Peel Catholic District School Board's Secondary and Elementary schools. Site conditions and unique situations may, however, dictate different construction applications as required.

## 2 APPLICATIONS

- 2.1.1 Specify that for lawns, sports fields and play areas, a minimum of 150 mm depth topsoil shall be provided. Large roll sod is to be provided in sports facility areas and approval for the use of only a small roll sod must be obtained from the Consultant.

## 3 TOP SOIL AND FINE GRADING

### 3.1 SCHEDULING OF WORK

- 3.1.1 Specify that the Contractor must schedule placing of topsoil and finish grading to permit sodding operations under optimum conditions.

**3.2 MATERIALS**

- 3.2.1 Specify that topsoil must be friable, neither heavy clay nor of a very light sandy nature, consisting of 60% sand, 30% silt, 10% clay and Ph value of 6-7.5 %. Topsoil must be capable of sustaining vigorous plant growth and to be free from subsoil, roots, vegetation, debris, toxic materials and stone over 50 mm diameter.
- 3.2.2 Specify that topsoil sample must be provided to the Consultant for testing and analysis including herbicide or atrazine content. All topsoil supplied must conform to a sample provided.

**3.3 FERTILIZER**

- 3.3.1 Specify that the contractor must supply complete commercial synthetic fertilizer as required by soil tests.

**3.4 LIMESTONE**

- 3.4.1 Specify that round agricultural limestone is to contain a of minimum 85% of total carbonates.
- 3.4.2 Gradation requirements: percentage passing by weight, 90% passing 1.0 mm sieve, 50% passing 0.125 mm sieve.

**3.5 ELEMENTAL SULPHUR**

- 3.5.1 Specify that the Contractor is to supply sulphur comprised of ninety (90) percent sulphur and ten (10) percent Bentonite Clay.

**3.6 RUBBER CRUMBS**

- 3.6.1 This product is not to be supplied and installed without a specific recommendation of the Consultant and by subsequent approval from the Board's Design Department.
- 3.6.1.1 If approved, specify that the rubber crumbs shall be less than 5 mm diameter from recycling source. Rubber crumbs shall be inert and free from any and all metals or contaminants. Submit 0.5 kg sample to Consultant.

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**4 EXECUTION**

**4.1 PREPARATION OF GRADE**

- 4.1.1 Specify that rough grading of soil is to be by Laser Grading Process, eliminating uneven areas and low spots, ensuring positive drainage.
- 4.1.2 Specify that any soil contaminated with toxic materials is to be reported to the Consultant and removed from site.
- 4.1.3 Specify that the contractor is to cultivate entire area that is to receive topsoil to depth of 100 mm. Repeat cultivation in those areas where equipment used for hauling and spreading has been compacted.
- 4.1.4 Specify removal of surface debris, roots, vegetation braces and stones in excess of 50 mm diameter.
- 4.1.5 Specify that all work shall be in accordance with OPSS 206.

**4.2 SPREADING OF TOPSOIL**

- 4.2.1 Specify that the Contractor shall spread topsoil only after the Consultant has inspected and approved the sub-grade.
- 4.2.2 Spread topsoil with adequate moisture in uniform layers over approved, unfrozen sub-grade, where sodding, planting as indicated.
- 4.2.3 For sodded areas keep topsoil 15 mm below finished grade.
- 4.2.4 Apply topsoil to minimum depth of 150 mm for sodded or seeded areas.
- 4.2.5 Manually spread topsoil/planting soil around trees, shrubs and obstacles.
- 4.2.6 Specify that all work shall be in accordance with OPSS 570, 571 and 572.

**4.3 SOIL AMENDMENTS**

- 4.3.1 Specify that the Contractor shall apply soil amendments at rate as specified by the Consultant and as determined from soil sample test.
- 4.3.2 Mix soil amendments into full depth of topsoil prior to application of fertilizer.
- 4.3.3 Apply rubber crumb or pellets into topsoil mix at a rate of four (4) parts topsoil, one (1) part rubber crumbs. (If deemed required by the Consultant and approved by the Design Department.)
  - 4.3.3.1 Place rubber amended topsoil in goalmouths and center

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fields of soccer pitches and/or in heavy traffic areas as shown on drawings or requested by Consultant.

**4.4 APPLICATION OF FERTILIZER**

- 4.4.1 Specify that application of fertilizer is to be accomplished at least one week after limestone application.
- 4.4.2 Spread fertilizer uniformly over entire area of topsoil at rate determined on basis of soil sample test or rate.
- 4.4.3 Mix fertilizer thoroughly to full depth of topsoil.

**4.5 FINISHED GRADING**

- 4.5.1 Specify that the contractor shall fine grade designated areas by Laser Grading process and loosen top soil.
- 4.5.2 Eliminate rough spots and low areas to ensure positive drainage. Prepare loose friable bed by means of cultivation and subsequent raking.
- 4.5.3 Roll to consolidate topsoil for areas to be sodded leaving surface smooth, uniform, firm against deep foot printing and with a fine loose texture.

**5 SODDING**

**5.1 VERIFICATION OF FINAL GRADES**

- 5.1.1 **Specify that prior to the laying of sod, and included in the cost of the landscaping contract, the Landscape Contractor shall employ an Ontario Land Surveyor to verify design grades.**
- 5.1.2 Grades that do not meet design grades shall be rectified prior to the laying of sod.
- 5.1.3 The Landscape Contractor must obtain approval from the Consultant *before laying any sod or installing any vegetation.*

**5.2 SOURCE QUALITY CONTROL**

- 5.2.1 Specify that the Contractor shall obtain approval from Consultant of sod at source.
- 5.2.2 When proposed source of sod is approved, the Contractor shall not use any other source without written authorization.

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**5.3 SCHEDULING**

- 5.3.1 Specify that the Contractor shall schedule sod laying to coincide with topsoil operations.
- 5.3.2 Final finish grade to be verified by OLS and approved by Consultant prior to sod installation.

**6 PRODUCTS**

**6.1 GENERAL**

- 6.1.1 Specify that nursery sod shall be of quality and source to comply with standards and classification of Turfgrass Sod for Ontario, by Nursery Sod Growers Association of Ontario.
- 6.1.2 The Consultant will reject broken, dry, discoloured pieces.

**6.2 MATERIALS**

- 6.2.1 Sports Turf:
  - 6.2.1.1 Number one Kentucky Bluegrass large roll sod shall be grown from minimum mixture of three (3) Kentucky Bluegrass cultivars. Sod cultivar is to be approved by the Consultant prior to placement.
- 6.2.2 Lawn:
- 6.2.3 Number one Kentucky Bluegrass/Fescue Sod shall be grown from minimum 40% Kentucky Bluegrass, 30% Creeping Red Fescue. Sod cultivar to be approved by the Consultant prior to placement.
- 6.2.4 Topdressing soil:
  - 6.2.4.1 Is to be comprised of fifty (50) percent sandy loam topsoil and fifty (50) percent mushroom compost. Provide soil sample to Consultant.
  - 6.2.4.2 All soil supplied must conform with sample provided and shall be free of any debris and tested for Atrazin.
  - 6.2.4.3 Unless the intent is to modify the soil texture, the material used for topdressing is to be physically and chemically very similar to the existing soil.
- 6.2.5 Overseeding Seed Mix:
  - 6.2.5.1 Is to be a blend of not less than three winter hardy perennial rye grasses that contain endophytes.

- 6.2.6 Fertilizer:
  - 6.2.6.1 Fertilizer shall be complete synthetic flow release fertilizer with maximum 35% water-soluble nitrogen.
  - 6.2.6.2 Herbicide type, and method of application, will be subject to approval by the Consultant.
- 6.2.7 Steel Staples 200 mm long or biodegradable stakes are to be used as required.
- 6.2.8 Only potable water for irrigation is to be used.

## 7 EXECUTION

### 7.1 LAYING OF SOD

- 7.1.1 Specify that prior to sodding, the Contractor must obtain approval from the Consultant that finished grade and depth of top soil are satisfactory. (See Item on verification of grade by OLS.)
- 7.1.2 Lay sod within 24 hours of being lifted.
- 7.1.3 Specify that sodding during excessively wet conditions, at freezing temperatures or over frozen soil is not acceptable.
- 7.1.4 Lay sod in rows, perpendicular to slope, and with joints staggered. Butt sections closely without overlapping or leaning gaps between sections. Cut out irregular or thin sections with sharp implements.
- 7.1.5 Specify that the Contractor shall provide close contact between sod and soil by light rolling. Use of heavy roller to correct irregularities in grade is not permitted.
- 7.1.6 Specify that the Contractor shall water sod immediately after laying to obtain moisture penetration into top 100 mm of topsoil.
- 7.1.7 Specify that the Contractor shall lay sod sections perpendicular to slopes greater than 3:1 (run/rise) and secure with staples.
  - 7.1.7.1 Place 3 staples per square metre, 100 mm below top slope edge to prevent shifting of sod. Staples to be flush with top of sod soil.

### 7.2 MAINTENANCE

- 7.2.1 Specify that the Contractor shall maintain sodded area from start of installation until Substantial Performance **and** until accepted by the Consultant.

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- 7.2.2 Specify that the all sodded areas shall be watered in sufficient quantities, and at frequency required maintaining soil under sod continuously moist to depth of 75 to 100 mm.
- 7.2.3 Specify that the contractor shall cut grass to 50 mm when it reaches height of 75 mm, and shall remove clippings that will smother grassed areas.
- 7.2.4 *Specify that the Contractor shall continue grass cutting until Substantial Performance and until accepted by the Consultant.***
- 7.2.5 Maintain grass height at 50 mm in Spring and Fall. In July and August, mow height to be 60 mm.
- 7.2.6 Specify that the contractor must repair and renovate areas of poor drainage as directed by Consultant:
- 7.2.6.1 Remove sod and topsoil from areas requiring regrading to new elevations with sub-grade 150 mm below final grade.
- 7.2.6.2 Remove excess material from site or supply and spread fill to bring sub-grade to required elevations.
- 7.2.6.3 After re-grading the sub-grade obtain approval of corrective measures by the Consultant.
- 7.2.6.4 After approval of sub-grade by the Consultant, supply and spread topsoil to depth of 150mm.
- 7.2.7 Specify that the contractor must repair and renovate areas of dead sod as directed by the Consultant:
- 7.2.7.1 Remove existing and dead sod, weeds and debris from area to be re-sodded.
- 7.2.7.2 Loosen top layer by disking or rototilling. Prepare smooth surface for laying sod.
- 7.2.7.3 Apply fertilizer based on soil analysis. Rake into top layer of soil.
- 7.2.7.4 Use sod with grass mixture equivalent to one growing on site. If correct mixture is not known, use only sod, which in appearance, equals existing lawn.
- 7.2.7.5 Lay sod with sections closely butted, without overlapping of gaps, smooth and even with adjoining areas. Stagger sod joints when sodding large areas. Roll lightly and tamp.
- 7.2.7.6 Water to obtain moisture penetration of 75 to 100 mm. Continue watering at intervals to maintain sufficient growth. Keep grass cut at height of 50mm.

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- 7.2.7.7 Maintain grass height at 50 mm in the Spring and Fall. July and August mow height to be 60 mm.
- 7.2.8 Top dress and re-seed areas of poor sod as directed by the Consultant:
  - 7.2.8.1 Mow areas to receive topdressing to height of 50mm.
  - 7.2.8.2 Rake thoroughly, removing loose and dead grass, stones and debris.
  - 7.2.8.3 Use dry, friable and clean topdressing and spread evenly to a minimum depth of 6 mm, filling in low areas and bare spots.
  - 7.2.8.4 Overseed area with seed mixture equivalent to one growing on site and approved by Consultant. Seed at a rate of 1.5 kg/100 m<sup>2</sup>.
  - 7.2.8.5 Mix topdressing soil and seed by heavy raking or with equipment with not less than four (4) *Terra* type tires to prevent compaction.
  - 7.2.8.6 *Keystone Dragmat*, or approved equal, is to be used for dragmatting of topdressing material. Use of a chain link fence as a Dragmat is unacceptable.
  - 7.2.8.7 Water to ensure close contact between sod, seed and top dressing. Roll lightly after soil has dried sufficiently to avoid adherence to roller.

**7.3 ACCEPTANCE**

- 7.3.1 Specify that sodded areas will be accepted by the Consultant at Substantial Performance providing that:
  - 7.3.1.1 Sodded areas are properly established.
  - 7.3.1.2 Sod is free of bare and dead spots and without weeds.
  - 7.3.1.3 All Steel staples are removed after sod has been established and/or with approval by Consultant.
  - 7.3.1.4 No surface soil is visible when grass has been cut to height of 50 mm.
  - 7.3.1.5 Sodded areas have been cut a minimum 2 times.

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- 7.3.2 Specify that lawns sodded in fall will be accepted in following spring one month after start of growing season, providing all acceptance conditions are fulfilled.

**END OF TOPSOIL, FINE GRADING AND SODDING GUIDELINE**

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