

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Removal of topsoil and subsoil.
- .2 Cutting, grading, filling, rough contouring, compacting the site for site structures, building pads, parking area and access roads.

1.2 RELATED SECTIONS

- .1 Section 01 45 00 - Testing and Quality Control.
- .2 Section 31 00 00.01 - Earthwork and Related Work.
- .3 Section 31 05 16 - Aggregate Materials.
- .4 Section 31 23 10 - Excavating, Trenching and Backfilling.
- .5 Section 31 23 16.26 - Rock Removal.

1.3 REFERENCES

- .1 Codes and standards referenced in this section refer to the latest edition thereof.
- .2 AASHTO T180-09 - Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and an 457 mm (18 inch) Drop.
- .3 ASTM C136-06 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- .4 ASTM D698-07e1 - Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/cu ft (600 kN-m/cu m)).

- .5 ASTM D1556-07 - Test Method for Density and Weight Unit of Soil in Place by the Sand-Cone Method.
- .6 ASTM D1557-09 - Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu ft (2,700 kN-m/cu m)).
- .7 ASTM D2167-08 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
- .8 ASTM D2419-09 - Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
- .9 ASTM D2434-68(2006) - Test Method for Permeability of Granular Soils (Constant Head).

1.4 EXISTING CONDITIONS

- .1 Examine subsurface investigation report which is available for inspection from Departmental Representative.
- .2 Known underground and surface utility lines and buried objects are as indicated on site plan.

1.5 PROTECTION

- .1 Protect and/or transplant existing fencing, trees,

landscaping, natural features, bench marks, buildings, pavement, surface or underground utility lines which are to remain as directed by Departmental Representative. If damaged, restore to original or better condition unless directed otherwise.

- .2 Maintain access roads to prevent accumulation of construction related debris on roads.

PART 2 - PRODUCTS

2.1 MATERIAL

- .1 Fill material: In accordance with Section 31 23 25 - Rock and Gravel Fill.
- .2 Excavated or graded material existing on site may be suitable to use as fill for grading work if approved by Departmental Representative.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verify existing conditions before starting work.
- .2 Verify that survey bench mark and intended elevations for the Work are as indicated.

3.2 PREPARATION

- .1 Identify required lines, levels, contours, and datum.
- .2 Stake and flag locations of known utilities.

- .3 Locate, identify, and protect utilities that remain, from damage.
- .4 Notify Newfoundland Power to remove and relocate utilities.
- .5 Protect above and below grade utilities that remain.
- .6 Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- .7 Protect any bench marks, survey control point, and paving, from excavating equipment and vehicular traffic.

3.3 SUBSOIL EXCAVATION

- .1 Excavate subsoil from areas to be further excavated, re-landscaped, or re-graded.
- .2 Do not excavate wet subsoil or excavate and process wet material to obtain optimum moisture content.
- .3 When excavating through roots, perform work by hand and cut roots with sharp axe.
- .4 Remove subsoil from site.

3.4 FILLING

- .1 Prior to placing fill over existing ground, scarify surface to depth of 150 mm. Maintain fill and existing surface at approximately same moisture content to facilitate bonding.
- .2 Fill areas to contours and elevations with unfrozen materials.

- .3 Place fill material on continuous layers and compact.
- .4 Maintain optimum moisture content of fill materials to attain required compaction density.
- .5 Slope grade away from building minimum 2%, unless noted otherwise.
- .6 Make grade changes gradual. Blend slope into level areas.
- .7 Compact filled and disturbed areas to corrected maximum dry density to ASTM D698, as follows:
 - .1 90% under landscaped areas.
 - .2 100% under paved and walk areas.
- .8 Remove surplus fill material and material unsuitable for fill, grading or landscaping from site.

3.5 TOLERANCES

- .1 Top Surface of Subgrade: Plus or minus 30 mm from required elevation.

3.6 FIELD QUALITY CONTROL

- .1 Section 01 45 00 - Testing and Quality Control.
- .2 Inspection and testing of soil compaction will be carried out by testing laboratory designated by Departmental Representative. Reference to Section 01 45 00 - Testing and Quality Control.
- .3 Submit testing procedure, frequency of tests, to Departmental Representative for approval.