

**PART 1 - GENERAL**

1.1 RELATED SECTIONS

- .1 Section 024113 - Selective Site Demolition
- .2 Section 313119.14 - Erosion Control
- .3 Section 313221 - Geotextiles
- .4 Section 320293 - Arboriculture
- .5 Section 329121 - Topsoil placement and Grading
- .6 Section 329222 Terraseeding
- .7 Section 329310 - Tree, Shrub and Ground-Cover Planting

1.2 BASIS FOR PAYMENT

- .1 The materials, tooling, labour and monitoring necessary to complete the earthworks are included in the lump sum bid.
- .2 The cost of the supply and installation of excavation and leveling work required to complete all planting and seeding work is included in the cost of these elements.
- .3 The Erosion and Sediment Control Plan is included in the lump sum bid. The work under this item shall include the submission of an Erosion and Sediment Control Plan to the Departmental Representative for review and approval as well as supply of and maintenance of all required erosion and sediment control measures per the approved plan.
- .4 The lump sum price shall include all labour, materials and equipment to do the work including disposal.
- .5 Include costs related to earthworks in items where required.

1.3 REFERENCES

- .1 ASTM International
  - .1 ASTM D 698-7e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup>) (600kN-m/m<sup>3</sup>).
- .2 CSA International
  - .1 CSA A23.1/A23.2-09, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.
- .3 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS 1004-06, Material Specification for Aggregates-Miscellaneous.
  - .2 OPSS SP 110F13-03, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

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| 1.4 <u>ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Submit in accordance with Section 013300 - Submittal Procedures.<br>.1 Erosion and Sedimentation Control: submit erosion and sedimentation control plan in accordance with authorities having jurisdiction. |
| 1.4 <u>REGULATIONS</u>                         | .1 | Contractor must shore and brace excavations, protect slopes and banks and perform all work in accordance with Provincial and Municipal regulations whichever is more stringent.                             |
| 1.4 <u>UNDERGROUND UTILITIES</u>               | .1 | Before commencing work verify and establish the location of all buried services on and adjacent to the site.  |
|  | .2 | If buried services are located in zones that will be excavated, advise Departmental Representative that will give indications as to modifications to work in order to prevent conflict.                     |

## **PART 2 - PRODUCTS**

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| 2.1 <u>NATIVE SOIL</u> | .1 | Use native soil for planting work. If required, add topsoil for seeding work. |
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## **PART 3 - EXECUTION**

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| 3.1 <u>EXAMINATION</u>    | .1 | Verification of Conditions:<br>.1 Before commencing work establish locations of buried services on and adjacent to site and conduct, with the Departmental Representative, a survey of existing condition and structures, trees and other plants, lawns, fencing, service poles, wires, rail tracks and paving, survey bench marks and monuments which may be affected by work.  |
| 3.2 <u>DEBRIS REMOVAL</u> | .1 | Remove all found debris off site.  |
|                           | .2 | Do not remove the stumps or roots of trees. Cover all Butternut stumps with 30cm of topsoil.   |
|                           | .3 | Evacuate, daily, all excess material and all other extracted materials to a disposal site accepted by the Departmental Representative.   |
| 3.3 <u>PREPARATION</u>    | .1 | Temporary Erosion and Sedimentation Control:<br>.1 Use temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, in accordance with sediment and erosion control plan, specific to site, and to requirements of authorities having jurisdiction.<br>.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.<br>.3 Remove erosion and sedimentation controls and restore |

and stabilize areas disturbed during removal.

- .2 Protection of in-place conditions:
  - .1 Protect excavations from freezing.
  - .2 Keep excavations clean, free of standing water, and loose soil.
  - .3 Where soil is subject to significant volume change due to change in moisture content, cover and protect to Departmental Representative 's approval.
  - .4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
  - .5 Protect buried services that are to remain undisturbed.
  - .6 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
  - .7 No excavation in bedrock for must be carried out.
  - .8 No raising of ground level more than 150mm within limit of protection of existing trees will be permitted. No removal of soil will be permitted within the limits of tree protection.
  - . Carry out excavations to protect trees and archaeological resources in accordance with the requirements in drawings and current book of specifications.
  - .9 Carry out excavations in such a way as to protect trees and archaeological resources as specified in the current book of specifications.

### 3.4 EXCAVATION

- .1 Excavate by hand all planting pits and holes. For seedling plugs, use a stake for planting.
- .2 Position all planting holes with wooden stakes and validated location by the Departmental Representative prior to planting.
- .3 Grade disturbed soil to meet existing grade.
- .4 Dig holes immediately before planting. Do not leave holes void of trees or shrubs.
- .5 Do not dig into bedrock. If roc prevents planting in a given area, notify Departmental Representative who will then issue alternative measures before proceeding with the work.
- .6 Use only native soil for planting.

### 3.5 BACKFILLING

- .1 All backfilling work must be in done compliance with the plans and specifications.

### 3.6 GRADING

- .1 Give to coarse grade of only disturbed soil a down slope to match existing conditions.
- .2 Connect construction work to existing adjacent surfaces to match existing elevations.

- .3 Before adding fill material, loosen surface to a depth of 150 mm. To favour bonding, ensure that fill material and existing surface contain roughly the same degree of humidity.
  - .4 Grades to meet existing grade and for optimal water flow so that no water accumulated in depressions caused by work.
- 3.7 SHORTAGE AND SURPLUS
  - .1 Dispose of surplus material off site.
- 3.8 CLEANING
  - .1 Progress Cleaning: clean in accordance with Section 017411 - Cleaning.
    - .1 Dispose of cleared and grubbed material off site daily.
  - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 017411 - Cleaning.
- 3.9 APPROBATION
  - .2 The installation of each material must be approved by the Departmental Representative before being covered and must be done as soon as installation is over.
  - .3 Departmental Representative must approve each and every step in order for the contractor to proceed to the next step.

**\*\*\* END OF SECTION \*\*\***