

Part 1 General

1.1 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM D698-07e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³) (600kN-m/m³).

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Sustainable Design Submittals:
 - .1 Not used.
 - .2 Erosion and Sedimentation Control: submit erosion and sedimentation control plan in accordance with authorities having jurisdiction.
 - .3 Construction Waste Management:
 - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
 - .2 Not Used.

Part 2 Products

2.1 MATERIALS

- .1 Granular B Type I.
- .2 Sand.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions:
 - .1 Before commencing work verify locations of buried services on and adjacent to site.
- .2 Evaluation and Assessment:
 - .1 Arrange with appropriate authority for relocation of buried services that interfere with execution of work. Pay costs of relocating services.
 - .2 Testing of materials and compaction of backfill and fill will be carried out by testing laboratory designated by Departmental Representative.
 - .3 Not later than 2 weeks before backfilling or filling, provide to designated testing agency, 23 kg sample of fill and backfill materials proposed for use.

- .4 Not later than 48 hours before backfilling or filling with approved material, notify Departmental Representative so that compaction tests can be carried out by designated testing agency.
- .5 Before commencing work, conduct, with Departmental Representative, condition survey of existing structures, trees and plants, lawns, fencing, service poles, wires, rail tracks and paving, survey bench marks and monuments which may be affected by work.

3.2 PREPARATION

- .1 Temporary Erosion and Sedimentation Control:
 - .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 requirements of authorities having jurisdiction.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
 - .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.
- .3 Removal:
 - .1 Remove obsolete buried services within 2 m of foundations. Cap cut-offs.
 - .2 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.
 - .3 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.
 - .4 Remove trees, stumps, logs, brush, shrubs, bushes, vines, undergrowth, rotten wood, dead plant material, exposed boulders and debris within areas designated on drawings.
 - .5 Remove stumps and tree roots below footings, slabs, and paving, and to 600 mm below finished grade elsewhere.

3.3 EXCAVATION

- .1 Shore and brace excavations, protect slopes and banks and perform work in accordance with Provincial and Municipal regulations.
- .2 Topsoil stripping:

- .1 Do not handle topsoil while in wet or frozen condition or in any manner in which soil structure is adversely affected.
- .2 Strip topsoil to depths as directed by Departmental Representative. Avoid mixing topsoil with subsoil.
- .3 Strip topsoil over areas to be covered by new construction, over areas where grade changes are required, and so that excavated material may be stockpiled without covering topsoil.
- .4 Stockpile in locations as directed by Departmental Representative.
- .5 Not used.
- .3 Excavate as required to carry out work, in all materials met.
 - .1 Do not disturb soil or rock below bearing surfaces. Notify Departmental Representative when excavations are complete.

3.4 SITE QUALITY CONTROL

- .1 Fill material and spaces to be filled to be inspected and approved by Departmental Representative.

3.5 BACKFILLING

- .1 Start backfilling only after inspection and receipt of written approval of fill material and spaces to be filled from Departmental Representative.
- .2 Remove snow, ice, construction debris, organic soil and standing water from spaces to be filled.
- .3 Lateral support: maintain even levels of backfill around structures as work progresses, to equalize earth pressures.
- .4 Compaction of subgrade: compact existing subgrade under walks, paving, and slabs on grade, to same compaction as specified for fill. Fill excavated areas with gravel and sand compacted as specified for fill.
- .5 Placing:
 - .1 Place backfill, fill and basecourse material in 150 mm lifts. Add water as required to achieve specified density.
- .6 Compaction: compact each layer of material to following densities for material to ASTM D698:
 - .1 To underside of basecourses: 95%.
 - .2 Basecourses: 95%.
 - .3 Elsewhere: 95%.

3.6 GRADING

- .1 Grade to ensure that water will drain away from buildings, walls and paved areas, to catch basins and other disposal areas approved by Departmental Representative. Grade to be gradual between finished spot elevations as indicated.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00- 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 01 74 00 - Cleaning.
- .3 Waste Management: separate waste materials for recycling and reuse in accordance with Section 01 74 19 - Waste Management and Disposal.

END OF SECTION