

Part 1 General

1.1 REFERENCES

- .1 ASTM International
 - .1 ASTM D698-[12e2], Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³) (600kN-m/m³).
- .2 CSA International
 - .1 CSA A23.1/A23.2-14, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Sustainable Design Submittals:
 - .1 Erosion and Sedimentation Control: submit erosion and sedimentation control plan in accordance with authorities having.

Part 2 Products

2.1 MATERIALS

- .1 Granular material to be approved by Consultant.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions:
 - .1 Before commencing work verify and establish 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 Consultant.
 - .3 Not later than 48 hours before backfilling or filling with approved material, notify Consultant so that compaction tests can be carried out by designated testing agency.
 - .4 Before commencing work, conduct, with Consultant, 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 and Consultant'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 Remove trees, stumps, logs, brush, shrubs, bushes, vines, undergrowth, rotten wood, dead plant material, exposed boulders and debris within areas designated on drawings.
 - .4 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 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.
 - .2 Stockpile in locations as directed by Consultant.
- .3 Excavate as required to carry out work, in all materials met.
 - .1 Do not disturb soil or rock below bearing surfaces. Notify Consultant when excavations are complete.
 - .2 If bearings are unsatisfactory, additional excavation will be authorized in writing and paid for as additional work.
 - .3 Fill excavation taken below depths shown without Consultant's written authorization with concrete of same strength as for footings.

- .4 Excavate trenches to provide uniform continuous bearing and support for 150 mm thickness of pipe bedding material on solid and undisturbed ground.
- .5 Excavate for slabs and paving to subgrade levels.
 - .1 Remove topsoil, organic matter, debris and other loose and harmful matter encountered at subgrade level.

3.4 SITE QUALITY CONTROL

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

3.5 BACKFILLING

- .1 Start backfilling only after inspection and receipt of written approval of fill material and spaces to be filled from Consultant.
- .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 base course material in 150 mm lifts. Add water as required to achieve specified density.
 - .2 Place unshrinkable fill in areas as indicated. Consolidate and level unshrinkable fill with internal vibrators.
- .6 Compaction: compact each layer of material to following densities for material to ASTM D698:
 - .1 To underside of base courses: 95%.
 - .2 Base courses: 100%.
 - .3 Elsewhere: 90%.

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 Consultant. Grade to be gradual between finished spot elevations as indicated.

3.7 CLEANING

- .1 Dispose of cleared and grubbed material off site daily.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION