

PART 1 - GENERAL

1.1 NOT USED .1 Section not used.

PART 2 - PRODUCTS

2.1 MATERIALS .1 Granular Type I and Type II to Prince Edward Island Department of Transportation and Infrastructure Renewal Standard Specifications.

.2 Unshrinkable fill: concrete to CSA A23.1/A23.2.

.3 Polyvinyl chloride (PVC) pipe:
.1 AWWA C900 Class 305, D14, in accordance with CSA 137.3.
.2 All valves and non PVC fittings shall be installed with zinc anode for cathodic protection.
.3 All fittings for PVC pipe shall be AWWA C110.
.4 All non PVC fittings shall be installed with polyethylene encasement.
.5 All PVC pipe shall be installed with type 1 gravel compacted to 98% standard proctor density with quantities as shown on drawing cross-sections.

.4 Thrust blocks are required for all horizontal and vertical pipe bends. (sizing provided on drawings).
.1 Vertical bends must have 2-15m hooked bars with minimum 75mm clear cover.

.5 T-head bolts and nuts to be low alloy corten steel.

.6 All mechanical joint restraints to be compatible with C900. Must meet ASTM F 1674-96.
.1 Provide manufacturer data sheets for review prior to ordering.

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 Completely excavate around any unidentified buried services and identify, relocate or temporary brace as required at no additional cost to Departmental Representative.
- .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 48 hours before backfilling or filling with approved material, notify Departmental Representative so that compaction tests can be carried out by designated testing agency.
 - .4 Before commencing work, conduct, with Departmental Representative, condition survey of existing structures, trees and plants, lawns, fencing, service poles, wires, and paving, survey bench marks and monuments which may be affected by work.

3.2 PREPARATION

- .1 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.
 - .2 Removal:
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- .1 Remove obsolete buried services within 2 m of foundations. Cap cut-offs.
- .2 Remove trees, stumps, logs, brush, shrubs, bushes, vines, undergrowth, rotten wood, dead plant material, exposed boulders and debris within areas designated on drawings.

3.3 EXCAVATION

- .1 Shore and brace excavations, protect slopes and banks and perform work in accordance with Provincial and Municipal regulations.
- .2 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.
 - .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 Departmental Representative's written authorization with concrete of same strength as for footings, with no additional cost to Owner.
- .3 Refer to trench detail on drawings for gravel dimensions.

3.4 BACKFILLING

- .1 Remove snow, ice, construction debris, organic soil and standing water from spaces to be filled.
 - .2 Lateral support: maintain even levels of backfill around structures as work progresses, to equalize earth pressures.
 - .3 Compaction of subgrade: compact existing subgrade under walks, paving, and slabs on grade, to same compaction as specified for fill. Fill excavated areas with selected subgrade material gravel and sand compacted as specified for fill.
 - .4 Placing:
 - .1 Place backfill, fill and basecourse material in 150 mm lifts. Add water as required to achieve specified density.
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.2 Place unshrinkable fill in areas as indicated. Consolidate and level unshrinkable fill with internal vibrators.

- .5 Compaction: compact each layer of material to following densities for material to ASTM D 698:
- .1 To underside of basecourses: 95%.
 - .2 Basecourses: 100%.
- .6 In trenches:
- .1 Up to 450 mm above pipe or conduit: Type 1 placed by hand.
 - .2 Over 450 mm above pipe or conduit: native material approved by Departmental Representative.
- .7 Under seeded and sodded areas: use site excavated material to bottom of topsoil except in trenches and within 600 mm of foundations.
- .8 Against foundations (except as applicable to trenches and under slabs and paving): excavated material or imported material with no stones larger than 200 mm diameter within 600 mm of structures.

3.5 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.

3.6 CLEANING

- .1 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.