PART 1 - GENERAL

- 1.1 The Work of this section shall include all labour, materials, equipment and services for the supply and installation of the subsurface drainage system for conditions on grade as indicated on the Contract Drawings and as noted in the specifications.
- 1.2 Related work in other sections: Grade preparation

PART 2 - MATERIALS

- 2.1 Perforated 76 OD PVC Rigid Drain Pipe as specified and as indicated on Contract Drawings.
- 2.2 Slab Drains and Grates: (CB)

Spec. 6 O.D., FD300-4 CI Collar & Grate Assembly Code [5021812] B4 - 3 CI DRN Body MJ[5021057] FC2 Hdwe Pack F/roof DRNS [5022436] 3MJ CPLG W/GSKT

Contact local supplier.

Source:

[0425656]

- 2.3 Granular filter material to following requirements:
 - .1 Screened washed drain rock consisting of hard durable particles free from clay lumps, cementation, organic material, frozen material and other deleterious materials.
 - .2 Gradations to be within limits specified when tested to ASTM C136. Sieve sizes to CAN/CGSB-8.1.

Sieve Designation	Percent Passing
25mm	100
19mm	0-100
9.5mm	0-5
4.75mm	0

PART 2 - MATERIALS - (Cont.)

2.4 Conformance:

.1 Drawings for location

2.5 References:

- .1 ASTM C136-84a, Method for Sieve Analysis of Fine and Coarse Aggregates.
- .2 CAN/CSA-B182.1-M87, Plastic Drain and Sewer Pipe and Pipe Fittings.

2.6 Samples:

.1 Inform *Contract Administrator* prior to commencing *Work*, of proposed source of bedding and filter materials and provide access for sampling if required.

2.7 Material Certification:

- .1 Submit manufacturer's test data and certification that drain pipe materials meet requirements of this section prior to commencing *Work*.
- .2 Certification to be marked on pipe.
- .3 Drainage pipes to be 76 φ PVC, for de-watering: perforated with filter cloth (see Spec below) and 29mm crushed granular as indicated. For under-slab drainage from slab drains, manholes, CB's: use 76 φ PVC solid.
- .4 Filter Fabric: around drain rock at footing drains shall be heat bonded woven polypropylene fabric: Mirafi P-150, as supplied by Dominion Textile, Terrafix 270R as supplied by Steel Industrial Products, Nilex 6-14 filter fabric or approved equivalent.

PART 3 - EXECUTION

3.1 Inspection:

- .1 Ensure graded sub-grade conforms with required drainage pattern before placing filter bed material.
- .2 Report to the *Contract Administrator* improper slopes, unstable areas, areas requiring addition compaction or other unsatisfactory conditions.

PART 3.2 - EXECUTION (Cont.)

- 3.2 Installation:
 - .1 Pipe Bedding:
 - .2 Cut trenches in compacted sub-base and set grade to drain into existing storm sewer system as noted on all grading plans.
 - .3 Place drain rock fill and any specified filter cloth after pipe installation is approved.
- 3.3 Pipe Bedding Insert:
 - .1 Cut trenches as indicated in detail
 - .2 Ensure pipe interior and coupling surfaces are clean before joining.
 - Lay to slope of 1:100 minimum, from perforated pipe to disposal source.
 Make joints watertight.
 - .4 Do no use shims to establish pipe slope.
 - .5 Use fittings recommended by manufacturer except where indicated otherwise.
 - .6 Protect pipe ends from damage and ingress of foreign material.
- 3.4 Filter Bed Backfill:
 - .1 Place drain rock fill after pipe installation is approved.
- Piping shall be neatly and securely installed to a good standard of workmanship. Pipe inverts as constructed shall be within 15mm of the design alignment.