

**PART 1 - GENERAL**

1.1 Related Sections

- .1 Sub-grade, sub-base and base course construction Section CW3110-R10
- .2 Earthwork and Grading Section CW3170-R3
- .3 Topsoil and Finish Grading Section E10

1.2 References

- .1 Canadian General Standards Board
  - .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
  - .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
- .2 Canadian Standards Association
  - .1 CAN/CSA A23.1-M90, Concrete Materials and Methods of Construction, Section 5.3.2.
  - .2 CSA A179-94, Mortar and Grout for Unit Masonry.
  - .3 CSA-A231.1-72, Precast Concrete Paving Slabs.
  - .4 CSA-A231.2-95, Precast Concrete Pavers.
- .3 American Society for Testing and Materials
  - .1 ASTM C 117-90, Test Method for Material Finer Than 0.075 mm (No. 200) Sieve in Mineral Aggregates by Washing.
  - .2 ASTM C 136-93, Method for Sieve Analysis of Fine and Coarse Aggregates.
  - .3 ASTM C 902-93, Specification for Pedestrian and Light Traffic Paving Brick.
  - .4 ASTM C 1272-94, Specification for Heavy Vehicular Paving Brick.
  - .5 ASTM D 698-91, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft) (600 kN-m/m).
  - .6 ASTM D 1557-91, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft) (2,700 kN-m/m).
  - .7 ASTM E 11-87, Specification for Wire-Cloth Sieves for Testing Purposes.

1.3 Submittals

- .1 Submit full size sample of retaining wall unit on request.

1.4 Protection

- .1 Prevent damage to buildings, landscaping, curbs, sidewalks, trees, fences, roads and adjacent property. Make good any damage.

**PART 2 - PRODUCTS**

2.1 Materials

- .1 Precast Concrete Retaining Wall Units:
  - .1 Concrete wall units shall have minimum 28 day compressive strength of 3,000 psi in accordance with ASTM C-90. The concrete shall have adequate freeze-thaw protection with an average absorption rate of 5%.
  - .2 Exterior dimensions shall be uniform and consistent. Maximum dimensional deviations shall be 10 mm (not including textured face).
  - .3 Retaining wall units shall provide a minimum of 475 kg total weight per square metre of wall face area. Fill contained within the units may be considered 80% effective weight.
  - .4 Exterior face shall be textured.
  - .5 Colour: AB White.
  - .6 Type: Standard AB – 12° Stone by Allan Block.
- .2 Granular Base: To conform to the requirements of City of Winnipeg Specification Section CW 3110-R10.
- .3 Drainage Medium: Free draining granular fill free of fines. 10 mm down with maximum 5% passing #200 sieve and less than 50% passing #4- sieve.
- .4 Tie Back System: Manufacturer's standard geogrid fabric system. (N.A.)
- .5 Drain Pipe: Perforated plastic pipe and fitting to CAN/CSA-B182.1. Size as indicated.
- .6 Block Adhesive: "PL Premium Construction" or approved equal in accordance with B6.

**PART 3 - EXECUTION**

3.1 Preparation

- .1 Rough grade to depth required for surface treatments as indicated on Drawings.

3.2 Inspection

- .1 Subgrade is to be unfrozen and free from snow or ice.
- .2 Check graded subgrade for conformity with elevations and sections before placing granular base materials.
- .3 Notify Contract Administrator of any unsatisfactory conditions.

3.3 Granular Base

- .1 Place granular base to compacted thickness as indicated.
- .2 Place in layers not exceeding 150 mm compacted thickness. Compact each layer to minimum 98% maximum dry density as determined by Standard Proctor Density.

3.4 Precast Concrete Retaining Walls

- .1 Place fine granular fill screeded to 20 mm compacted thickness.
- .2 Install units as indicated, true to grade and free of movement. Joints not to exceed 3 mm.
- .3 Where required, cut units with approved cutter or saw to fit accurately, neatly and without damaged edges.
- .4 Where railings and fences are to be installed on top of or behind the wall, coordinate work with related subtrades.
- .5 Replace rejected, damaged or defective units with sound units.
- .6 All coping pieces to be securely attached with block adhesive.

3.5 Finish Tolerances

- .1 Finish surface to within 25 mm (1") of established grade but not uniformly high or low.
- .2 Correct irregularities by loosening and adding or removing material until surface is within specified tolerance.

3.6 Surplus Materials

- .1 Remove surplus material.
- .2 Remove material unsuitable for fill, grading or landscaping.