

PART 1 - GENERAL

1.1 RELATED  
REQUIREMENTS

- .1 Section 02 81 01 - Hazardous Materials.
- .2 Section 03 20 00 - Concrete Reinforcing.
- .3 Section 03 30 00 - Cast-in-Place Concrete.
- .4 Section 32 11 23 - Aggregate Base Courses

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
  - .1 ASTM D 260-86(2001), Standard Specification for Boiled Linseed Oil.
  - .2 ASTM D 698-00a1, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft<sup>3</sup>) (600 kN-m/m<sup>3</sup>).
  - .3 ASTM C309-11, Standard Specification for Liquid Membrane - Performing Compounds for Curing Concrete.
  - .4 ASTM D1751-04(2013), Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non Extruding and Resilient Bituminous Types).
- .2 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1-04/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.

1.3 ACTION AND  
INFORMATIONAL  
SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 Product Data: submit WHMIS MSDS in accordance with Section 01 33 00 - Submittal Procedures.
  - .3 Inform Departmental Representative of proposed source of materials and provide access for sampling at least 4 weeks prior to commencing work.
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1.3 ACTION AND INFORMATIONAL SUBMITTALS (Cont'd)	.4	If materials have been tested by accredited testing laboratory approved by Departmental Representative within previous 2 months and have passed tests equal to requirements of this specification, submit test certificates from testing laboratory showing suitability of materials for this project.
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1.4 DELIVERY, STORAGE AND HANDLING	.1	Waste Management and Disposal: .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
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## PART 2 - PRODUCTS

2.1 SUSTAINABLE REQUIREMENTS	.1	Materials and products in accordance with Section 01 35 21 - LEED Requirements.
	.2	Do verification requirements in accordance with Section 01 35 21 - LEED Requirements.

2.2 MATERIALS	.1	Concrete mixes and materials: in accordance with Section 03 30 00 - Cast-in-Place Concrete.
	.2	Reinforcing steel: in accordance with Section 03 20 00 - Concrete Reinforcing.
	.3	Curing Compound: in accordance with ASTM C309 (Type 2).
	.4	Fibre expansion joint filler; in accordance with ASTM D1751.
	.5	Granular "A" Base Material: material to Section 32 11 23 - Aggregate Base Course.
	.6	Non-staining mineral type form release agent: chemically active release agents containing compounds that react with free lime to provide water-soluble soap.

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2.2 MATERIALS .7 Boiled linseed oil: to ASTM D 260.  
(Cont'd)

PART 3 - EXECUTION

3.1 GRANULAR BASE .1 Obtain Departmental Representative's approval  
of subgrade before placing granular base.  
.2 Place granular base material to lines,  
widths, and depths as indicated.  
.3 Compact granular base in maximum 150 mm  
layers to at least 95% of maximum density to  
ASTM D 698.

3.2 CONCRETE .1 Obtain Departmental Representative approval  
of granular base and reinforcing steel prior  
to placing concrete.  
.2 Do concrete work in accordance with Section  
03 30 00 - Cast-in-Place Concrete.  
.3 Immediately after floating, give sidewalk  
surface uniform broom finish to produce  
regular corrugations not exceeding 2 mm deep,  
by drawing broom in direction normal to centre  
line.  
.4 Provide edging as indicated with 10 mm radius  
edging tool.  
.5 Slip-form pavers equipped with string line  
system for line and grade control may be used  
if quality of work acceptable to Departmental  
Representative can be demonstrated. Hand  
finish surfaces when directed by Departmental  
Representative.

3.3 TOLERANCES .1 Finish surfaces to within 3 mm in 3 m as  
measured with 3 m straightedge placed on  
surface.

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- 3.4 EXPANSION AND CONTRACTION JOINTS
- .1 Install tooled transverse contraction joints after floating, when concrete is stiff, but still plastic, at intervals of 2 m.
  - .2 Install expansion joints as directed by Departmental Representative at maximum intervals of 6 m.
  - .3 When sidewalk is adjacent to curb, make joints of curb, gutters and sidewalk coincide.

- 3.5 ISOLATION JOINTS
- .1 Install isolation joints around manholes and catch basins and along length adjacent to concrete curbs, catch basins, buildings, or permanent structure.
  - .2 Install joint filler in isolation joints in accordance with Section 03 30 00 - Cast-in-Place Concrete.
  - .3 Seal isolation joints with sealant approved by Departmental Representative.

- 3.6 CURING
- .1 Cure concrete by adding moisture continuously in accordance with CSA-A23.1/A23.2 to exposed finished surfaces for at least 1 day after placing, or sealing moisture in by curing compound as directed by Departmental Representative.
  - .2 Where burlap is used for moist curing, place two prewetted layers on concrete surface and keep continuously wet during curing period.
  - .3 Apply curing compound evenly to form continuous film, in accordance with manufacturer's requirements.

- 3.7 BACKFILL
- .1 Allow concrete to cure for 7 days prior to backfilling.
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- 3.7 BACKFILL  
(Cont'd)
- .2 Backfill to designated elevations with material as directed by Departmental Representative.  
.1 Compact and shape to required contours as indicated.
- 3.8 LINSEED OIL TREATMENT
- .1 Apply two coats of linseed oil mixture uniformly to surfaces of curbs, walks and gutters, after concrete has cured for specified curing time and when surface of concrete is clean and dry.
- .2 Linseed oil mixture to consist of 50% boiled linseed oil and 50% mineral spirits by volume.
- .3 Apply treatment when air temperature above 10 degrees C.
- .4 Apply first coat at 135 mL/m<sup>2</sup>.
- .5 Apply second coat at 90 mL/m<sup>2</sup> when first coat has dried.
- 3.9 TESTING
- .1 Inspection and testing of concrete will be carried out by independent inspection and testing agency designated by Departmental Representative. Costs of these tests will be paid by Contractor in accordance with Section 01 29 83 - Payment Procedures for Testing Laboratory Services and Section 01 45 00 - Quality Control.
- 3.10 CLEANING
- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.