

CULVERT WATERPROOFING - Item No.

Special Provision

1.0 SCOPE

This Special Provision covers the requirements for the surface preparation and installation of waterproofing. The waterproofing systems are separated into two distinct systems:

- a) Type 1 for the exposed concrete culvert waterproofing system; and
- b) Type 2 for the buried culvert waterproofing system.

2.0 REFERENCES - Not Used

3.0 DEFINITIONS - Not Used

4.0 DESIGN AND SUBMISSION REQUIREMENTS - Not Used

5.0 MATERIALS

5.01 Type 1 Waterproofing

Type 1 waterproofing system shall protect the exposed concrete areas to the limits shown in the Contract Documents on the top slab (horizontal) the top 300 mm of the walls (vertical) and the exposed surface of the end faces (vertical).

The horizontal surface shall have an abrasive traffic layer (heavy duty). A smooth surface shall be used on the walls and at the lap where it is overlain by the Type 2 waterproofing system.

The Type 1 waterproofing systems to be placed on the exposed concrete surfaces shall be selected from the systems listed below. The color of the system shall a light grey matching the concrete culvert.

- a) Vulkem 350/351 Pedestrian Deck Coating System

Manufactured by:
Tremco Commercial Sealants and Waterproofing,
220 Wicksteed Avenue, Toronto, Ontario, M4H 1G7
Telephone: (416) 421-3300 or (800) 363-3213

- b) Sikalastic 180/181 System

Manufactured by:
Sika Canada Inc.,
6915 Davand Drive, Mississauga, Ontario, L5T 1L5
Telephone: (905) 795-3177 or (800) 933-7452

5.02 Type 2 Waterproofing

Type 2 waterproofing system shall protect the buried concrete areas to the limits shown in the Contract Documents on the top slab (horizontal), and the top 300 mm of the walls (vertical) and the exposed surface of the end faces (vertical).

The Type 2 waterproofing system for the buried concrete surfaces shall be selected from the systems listed below:

Manufacturer	Self Adhesive Waterproofing Membrane	Waterproofing Membrane Protection System
WR Meadows	MEL-ROL with MEL-PRIME primer	PROTECTION COURSE (PC-3 Heavy Duty)
BAKOR	Blueskin WP200 with Blueskin Primer	Recover Board (6 mm thickness)
Grace Construction Products	Bituthene System 4000 with Bituthene System 4000 Surface Conditioner	25 mm expanded polystyrene

The self adhesive waterproofing membrane/waterproofing membrane protection products used shall all be products from a single manufacturer as indicated in the table, and compatible with each other.

The exterior face of the box culvert units to receive any of the waterproofing joint treatments noted above shall be abrasive blast cleaned to remove all contaminants and laitance in accordance with OPSS 929. Any spent abrasive, dust and debris shall be removed from the surrounding concrete surfaces using compressed air prior to applying any waterproofing treatments.

Waterproofing membrane protection materials shall be 6 mm thick (minimum) and shall be secured to the culvert as per the manufacturer's recommendations.

6.0 EQUIPMENT - Not Used

7.0 CONSTRUCTION

All field dimensions shall be verified. The installation of the system shall be coordinated with all other construction operations. The waterproofing system shall be installed on the top surface of the culverts, 300mm down each side of the culverts, and at the culvert ends. The areas requiring waterproofing shall be prepared and the waterproofing installed in accordance with the manufacturer's instructions.

The concrete in the culvert shall be clean and dry prior to waterproofing.

The application limits for the Type 1 system shall be masked.

A non-slip surface shall be provided for the horizontal portions of the Type 1 system. Silica sand shall be broadcast immediately into the wet topcoat and backrolled to distribute the aggregate.

A lap joint shall be constructed at the junction between the Type 1 and Type 2 systems, as shown on the plans. The Type 1 system shall be allowed to cure a minimum of 48 hours prior to application of the Type 2 overlap.

Excess materials shall be managed as specified elsewhere in the Contract Documents.

8.0 QUALITY ASSURANCE - Not Used

9.0 MEASUREMENT FOR PAYMENT

Measurement for payment shall be by plan quantity of the waterproofed area with no deductions for overlaps. The unit of measure is square metres.

10.0 BASIS OF PAYMENT

10.01 Culvert Waterproofing - Item

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, and Material to do the work.

WARRANT: Always with this tender item.