ITEM 18605.9810XX M - SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE

DESCRIPTION: The work shall consist of furnishing and installing Smooth Interior Perforated Corrugated Polyethylene Underdrain Pipe for drainage in accordance with this specification, the contract plans and the Standard Sheet entitled "Installation Details For Corrugated Metal and Structural Plate Pipe and Pipe-Arches".

MATERIALS: The Smooth Interior Perforated Corrugated Polyethylene Underdrain Pipe shall conform to the requirements of Subsection 706-12, Smooth Interior Corrugated Polyethylene Pipe, of the Standard Specifications. Underdrain filter materials shall consist of screened gravel, crushed stone, crushed gravel, or crushed slag meeting the requirements of Section 605-2.02 Granular Filter Materials.

End Sections. End sections shall be galvanized steel conforming to Subsection 707-10, Galvanized Steel End Sections, of the Standard Specifications. Metal end sections used with polyethylene pipe shall be sized as follows:

PE PIPE I. D.	Pe Pipe Wall Thick. (Approx.)	O. D. (Approx.)	End Section (Metal Pipe Size)
305 mm	25 mm	356 mm	400 mm
380 mm	36 mm	452 mm	450 mm
455 mm	41 mm	538 mm	600 mm
610 mm	46 mm	701 mm	700 mm
760 mm	53 mm	869 mm	900 mm
915 mm	64 mm	1041 mm	1200 mm

CONSTRUCTION DETAILS: The construction details of §605 shall apply.

In addition:

Excavation. The requirements specified in §206, Trench, Culvert and Structure Excavation, that apply to culverts and storm drains shall govern, except as modified herein. Width of excavation at trench bottom shall be measured as the nominal outside diameter of the pipe plus 300 mm or as show on the plans.

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Laying Pipe. All pipe shall be laid in reasonably close conformity to line and grade and shall have a full, firm and even bearing at each joint and along the entire length of pipe. Joint misalignment shall not result in offsets, in the interior smooth liner, greater than 6 mm. Pipe laying shall begin at the downstream end and progress upstream or as ordered by the Engineer. Any single run of pipe, excluding end sections, shall consist wholly of the same type material unless otherwise directed by the Engineer. In a closed drainage application the upgrade end of a run need not be capped. End caps shall be used when deemed necessary by the Engineer.

Handling and Assembly of Pipe. All pipe shall be handled, stored and assembled in accordance with the Approved Materials Details except as modified on the plans or by the Engineer's written order. Two copies of Materials Details shall be provided by the supplier through the Contractor to the Engineer at least 10 days prior to shipment of the product to the job site. Joint assembly shall be made with manufactured ends. Field cuts shall be permitted only at the terminal ends and shall result in a minimum pipe length of one meter. Joint assemblies shall provide separations no greater than 13 mm between adjoining sections of pipe. Lateral connections shall be made with appropriate fittings, supplied by the pipe manufacturer and approved by the Engineer. For basin connections, installations shall be in accordance with the standard sheet entitled " Drainage Structure Details " except that the pipe end shall protrude 50 mm into the basin interior to provide for a 45° battered grout seal. The battered grout seal shall be applied to both interior and exterior faces of the basin.

Bedding and Backfilling Pipe. When using Smooth Interior Perforated Corrugated Polyethylene Underdrain pipe, the type of materials to be used in bedding and backfilling shall conform to the provisions of Section 605, Underdrains. Installation shall be in accordance with the Standard Sheet titled "Installation Details for Corrugated Metal and Structural Plate Pipe and Pipe-Arches" and as modified in this specification. The pipe after installation shall have a maximum deflection of 5% of its nominal inside diameter. The Engineer may order the Contractor to perform mandrel testing to determine the 5% specification compliance.

Damage. Pipe that is damaged or disturbed through any cause occurring prior to acceptance of the contract, shall be replaced or realigned as directed by the Engineer and at the Contractor's expense. Pipe that is defective from any cause, including damage caused by handling, will be unacceptable for installation and will be replaced as directed by the Engineer at no cost to the State. Pipe with damaged ends may be incorporated into the work at terminal locations and only if the damaged portion is totally removed by the field cut. Repair or replacement of pipe that is disturbed, damaged or misaligned shall provide the same product as a new pipe installation, as determined by the Engineer.

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METHOD OF MEASUREMENT:

The provisions of §605-4 Method of Measurement shall apply.

BASIS OF PAYMENT:

End sections, Excavation, granular fill and backfill will be paid for separately under their appropriate items in §203 and §206 as applicable.

Payment will be made under:

Item 18605.981012 M	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 305 mm DIAMETER
Item 18605.981015 M	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 380 mm DIAMETER
Item 18605.981018 M	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 455 mm DIAMETER
Item 18605.981024 M	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 610 mm DIAMETER
Item 18605.981030 M	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 760 mm DIAMETER
Item 18605.981036 M	SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN PIPE, 915 mm DIAMETER