

ITEM 273.12

12 INCH TRENCH DRAIN WITH GRATE –
PREFABRICATED

LINEAR FOOT

GENERAL

The work under this item shall consist of includes the installation of prefabricated trench drains as indicated in the Contract Drawings.

MATERIALS

12 Inch Trench Drain with Grate - Prefabricated shall be a pre-engineered, manufactured system.

Trench drains shall be manufactured from polyester resin polymer concrete with an integrally cast-in ductile iron edge rail. Each edge rail shall be at least ¼" thick.

The polymer concrete shall be frost proof, dilute acid and alkali resistant, and salt proof (B117 Salt Spray Test Compliant) with the minimum properties as follows:

Compressive Strength:	14,000 psi
Flexural Strength:	4,000 psi
Tensile Strength:	1,500 psi
Water Absorption:	0.07%

The system shall be 12" nominal internal width with a built-in slope of 0.5%. Channel invert shall have a partial radius in the trench bottom. All channels shall be interlocking with a male/female joint.

Trench drain grates shall be ADA compliant, slotted ductile iron conforming to ASTM 536-84, Grade 65-45-12. After removal of grates, there shall be uninterrupted access to the trench to aid maintenance.

Units shall have horizontal cast in anchoring keys on the outside wall to ensure maximum mechanical bond to the surrounding bedding material and pavement surface.

Trench drain frames and grates shall be ACO PowerDrain S300K or approved equal.

The trench drain shall have a locking device that directly connects the grate to the frame.

Trench drain shall be designed to meet the loading requirements of AASHTO H-20 and HS-20 (minimum). Grate type shall be appropriate to meet the system load class specified.

Trench drain system shall be installed in strict accordance with manufacturer's installation instructions, recommendations, and shop drawings.

Cement concrete backfill shall be 4,000 psi, ¾ inch, 610 cement concrete conforming to MassDOT Standard Specifications Division III, M4.02.00.

Submittals

The Contractor shall submit product specifications and shop drawings indicating all trench drain and grate dimensions in conformance with the details shown on the Plans for review and approval by the Engineer prior to ordering any material.

CONSTRUCTION METHODS

Install trench drain structures per provided construction details and/or manufacturer specifications.

Embed trench drain in concrete per manufacturer's direction.

METHOD OF MEASUREMENT

12 Inch Trench Drain with Grate - Prefabricated will be measured for payment by the linear foot, complete in place.

BASIS OF PAYMENT

12 Inch Trench Drain with Grate - Prefabricated will be paid for at the Contract unit price per linear foot, which price shall include all labor, materials, equipment, and incidental costs required to complete the work. No separate payment will be made for saw cutting existing sidewalk, excavation, and cement concrete backfill, but all costs in connection therewith shall be included in the Contract unit price bid.

Gravel base will be paid for separately under Item 151.02, Gravel.