

## Section 610 Reinforced Concrete Horizontal Elliptical Pipe Storm Sewers

### 610.1 Description

- (1) This section describes providing reinforced concrete horizontal elliptical pipe storm sewer.

### 610.2 Materials

- (1) Use materials conforming to the requirements for the class of material named and specified below.

Mastic joint sealer .....	<a href="#">608.2</a>
External rubber gaskets.....	<a href="#">608.2</a>
Mortar .....	<a href="#">519.2.3</a>
Foundation and trench backfill .....	<a href="#">608.2</a>

- (2) Provide reinforced concrete horizontal elliptical pipe for storm sewers conforming to AASHTO M207, for the class of pipe specified, except for the following requirements. The concrete mixture shall not contain less than 565 pounds of cementitious materials per cubic yard. Use one of the following combinations of cementitious materials in the concrete:
- Portland cement only.
  - Portland blast furnace slag cement only.
  - Portland pozzolan cement only.
  - A combination of portland cement and fly ash where the fly ash is between 5 and 25 percent by weight of total cementitious material.
  - A combination of portland cement and ground granulated blast furnace slag where the slag is between 5 and 25 percent by weight of total cementitious material.
- (3) Regardless of the basis of acceptance of the pipe, comply with AASHTO M207 for reinforcement placement.

### 610.3 Construction

- (1) Use construction methods conforming to [608.3](#).

### 610.4 Measurement

- (1) The department will measure the Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical bid items by the linear foot acceptably completed. The measured quantity equals the number of linear feet of each of the various sizes and classes of pipe measured along the centerline of the pipe. The department will measure from the pipe end at a free outlet to the center of the end catch basin, manhole, inlet, junction or other drainage structure; or from center to center of catch basins, end manholes, inlets, other drainage structures or junctions. The department will make no deduction from these measured lengths for intermediate catch basins, manholes, inlets, other drainage structures, junctions, or fittings.

### 610.5 Payment

- (1) The department will pay for measured quantities at the contract unit price under the following bid items:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
610.0100 - 0199	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III (size)	LF
610.0400 - 0499	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV (size)	LF

**Revise 610.5 to clarify payment for water used for compaction and dust control.**

- (2) Payment for the Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical bid items is full compensation for providing storm sewer; for excavating, except rock excavation; for providing and removing sheeting and shoring; for constructing the foundation and backfilling; for cleaning out; and for restoring the work site. Replace pipe designated for reuse that is made unusable through the contractor's operations at no expense to the department.
- (3) The department will pay for excavation and backfill required at depths greater than 18 inches below the bottom of the pipe as extra work.
- (4) The department will pay separately for rock excavation for storm sewers under the Storm Sewer Rock Excavation bid item as specified in [608.5](#).
- (5) Payment for the 610 bid items also includes water for compaction and dust control, except if the contract contains the Water bid item, the department will pay separately for water under [624.5](#).