

SECTION 33 40 02  
**REINFORCED CONCRETE PIPE**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. This item includes the furnishing of labor, materials, equipment, and supervision in the operations required in the laying and jointing of reinforced concrete pipe.

**1.2 MEASUREMENT AND PAYMENT**

- A. Measurement shall be made based upon the length of pipe as laid in the field. Length of inlets and junction boxes are not included in this measurement. Pipe shall be paid for at the unit price bid in the Proposal for each size and type of pipe, which price shall be full compensation for trenching and backfilling, furnishing and laying the pipe, and furnishing all equipment, labor, materials, tools and incidentals necessary to complete the work.

**1.3 SUBMITTALS**

- A. Submit certification from independent testing laboratory at manufacturer expense that the pipe meets the requirements of ASTM C76/C76M and ASTM C497/C497M.

**PART 2 – PRODUCTS**

**2.1 MATERIALS**

The Publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by basic designation only.

**AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)**

ASTM C76	Standard Specification for Reinforced Concrete Culvert Storm Drain and Sewer Pipe (Latest Revision)
ASTM C443	Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets (Latest Revision)

- A. Reinforced Concrete Pipe
1. Reinforced concrete pipe to meet the requirements of ASTM C76. The pipe shall be Class III unless otherwise shown on PLANS.
  2. Joint reinforced for rubber gasket joints to meet the requirements of paragraph 8 of ASTM C76.
  3. Joints shall be rubber gasket per ASTM C443 unless otherwise shown on PLANS. Lubricant materials for installation purposes to be per manufacturers recommendations. Mineral lubricants are not to be used.
  4. Pipe coating requirements are shown on PLANS if required.

## **2.2 TESTING REQUIREMENTS**

Testing methods for the reinforced concrete pipe shall conform to the latest revision of ASTM C497 (Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile).

REJECTION: The pipe may be rejected for having defects or failure to meet requirements as follows:

- A. Variations in any dimension exceeding the permissible variations prescribed.
- B. A piece broken out of the bell or spigot end of such size that the water-tightness of the joint would be impaired.
- C. Any shattering or flaking of concrete or other conditions indicating an improper concrete mix.
- D. Lack of uniformity in placement of steel which might preclude all joints being typical of those tested.
- E. Cracks sufficient to impair the strength, durability or serviceability of the pipe.

## **PART 3 – EXECUTION**

### **3.1 DELIVERY, STORAGE, AND HANDLING**

Shipment of pipe to be in accordance with the manufacturer's recommendations. Pipe to be unloaded and stored in a location where pipe will be protected from damage.

### **3.2 TRENCH/BACKFILL**

Pipe trench excavation and backfill to be in accordance with SECTION 31 23 33 – EXCAVATING, TRENCHING, AND BACKFILLING and/or as shown on Plans or as directed by the City Engineer.

### **3.3 JOINTING OF PIPE**

- A. Lay pipe sections in trench to true alignment and grade. Take exceptional care in placing pipe and making field joints. Avoid bumping of pipe in trench.
- B. Properly lubricate groove end of pipe and rubber gasket with lubricant. Stretch gasket over the spigot end of the pipe. Gasket shall be "equalized" by placing a screwdriver between the gasket and spigot and run around the full joint circumference. Do not twist, roll, cut, crimp, or otherwise injure gaskets or force out of position during closure of joints.
- C. Pull or push "home" pipe for closure of the joint. Correct joint rebound before backfilling of pipe.
- D. Remove foreign matter or dirt from pipe, and keep clean during and after laying.
- E. Any damages in pipe installation or prior to final acceptance is to be repaired or replaced in accordance with ASTM C76 at no additional cost to the City.
- F. Failure to conform with any of the specifications herein set forth or referenced.
- G. Failure of pipe to go completely "home" due to binding of spigot against bell.

**END OF SECTION**