

SECTION 334103**REINFORCED CONCRETE DRAINAGE PIPE (STORM DRAINAGE)****PART 1 GENERAL****1.01 RELATED WORK SPECIFIED ELSEWHERE**

- A. Earthwork: Section 310000.
- B. Underdrain Filter Material: Section 310000.

1.02 SUBMITTALS

- A. Product Data: Manufacturer's specifications including dimensions and strength for each type of pipe.

PART 2 PRODUCTS**2.01 CONCRETE PIPE**

- A. Furnish pipe of the strength given in the table below. Use standard strength pipe unless extra strength is indicated. For use where adequate cover is not available.

PIPE STRENGTH (Lbs/Lin Foot - ASTM Three-Edge Bearing Method)		
PIPE SIZE (INCHES)	STANDARD STRENGTH	EXTRA STRENGTH
4	1500	2000
6	1500	2400
8	1500	2400
10	1600	2400
12	1800	2600
15	2000	2900
18	2200	3300
21	2400	3850
24	2600	4400

- B. Pipe and Fittings: ASTM C 14
- C. Joints and Gaskets: ASTM C 443.

2.02 POROUS CONCRETE PIPE

- A. Pipe Classification: ASTM C 654. Comply fully with this standard except as modified below.
- B. External Load Crushing Requirements: Standard Strength.
- C. Tongue-and-Groove Joints.
- D. Infiltration Requirement: Not less than 2 gpm per inch of internal diameter per lineal foot of pipe.
- E. Acceptable Manufacturer: Walker Poroswall Pipe Co., 110 Bergen Turnpike, Little Ferry, NJ 07643, (201) 440-2542.

2.03 IRON PIPE AND FITTINGS

- A. Ductile Iron Class 50: ANSI/ASTM A 746; coat pipe and fittings inside and outside with an asphaltic coating at least 1 mil in thickness.
- B. Service Weight Cast Iron: ASTM A 74; coat pipe and fittings inside and outside with an asphaltic coating at least 1 mil in thickness.

PART 3 EXECUTION

3.01 INSPECTION

- A. Examine all pipe and fittings before installation. Remove defective pipe and fittings from the Site.
- B. Do not backfill until inspected by the Architect.

3.02 INSTALLATION

- A. Laying Pipe:
 - 1. Lay pipe to indicated line and grade with a firm uniform bearing throughout its length.
 - 2. Lay pipe with a uniform pitch between high and low points.
 - 3. Position bells upstream.
 - 4. Provide sufficient clearance at each bell or coupling to allow uniform bearing along the pipe barrel. Fill excess excavation with suitable material and tamp.
- B. Joints:
 - 1. Wipe inside of sockets and outside of pipe to be jointed, clean and dry.
 - 2. Install rubber gaskets in accordance with the manufacturer's specifications.
- C. Connections:
 - 1. Make connection to existing sewers by springing two or more joints and inserting a "Y" fitting. Remake all damaged existing joints.
 - 2. If the pipe, manholes or other structures with which connection is to be made has not yet been installed, install the pipe to a point directed by the Contractor and plug or cap the end in a satisfactory manner.
- D. Porous Concrete Pipe:
 - 1. Install pipe in accordance with the manufacturer's recommendations and as indicated on the drawings.
 - 2. Graded stone or gravel aggregate conforming to at least 85 percent passing through a 3/8 inch screen and 100 percent retained on a No. 35 screen shall be used for bedding and backfill to the depth shown on the drawings.

END OF SECTION