

# SECTION 02441

## HOUSE CONNECTIONS, RISERS AND CLEANOUT ASSEMBLIES

### PART 1 - GENERAL

#### 1.1 Description

- A. Scope of Work: This section includes the provisions for the installation of all house connections, risers and cleanout assemblies of the types and sizes as shown on the Drawings and as specified.

#### 1.2 Pipe Options

- A. All house connection pipes shall be a minimum 6-inch diameter.
- B. In general, all house connection pipe, riser pipe and all fittings shall be manufactured of the same material and class as the mainline sewer pipe.
- C. Where the sewer pipe is of reinforced concrete, the house connection pipe shall be connected to a cored opening. The house connection pipe, riser pipe and fittings shall be DIP, as approved by the Engineer.
- D. Where pressure pipe is specified or ordered by the Engineer, the Contractor shall furnish and install DIP.
- E. All pipe and fittings for cleanout assemblies in commercial and traffic areas shall be Extra Heavy Cast Iron.
- F. Where the depth of cover over the pipe is less than four (4) feet, all pipe shall be DIP unless otherwise approved by the Engineer, specified or shown on the drawings.

#### 1.3 Submittals

- A. Shop Drawings
1. Shop drawings shall be submitted for all pipe, pipe fittings, risers and cleanout assemblies.

### PART 2 - PRODUCTS

#### 2.1 Materials

- A. General
1. All pipe, fittings, joints and incidentals shall conform to the requirements of Section 02450, "Ductile Iron Sewer Pipe," of these specifications.
2. Cleanout castings, iron body ferrules and brass screw plugs for cleanout assemblies shall conform to the requirements of Nassau County Standards for the Construction of Sanitary Sewers.
3. Saddles for sewer connections to existing sewers and shall be cast iron or as approved by the Engineer.
4. Concrete for connections shall be 4000 psi conforming to the requirements of Section 03300 of these specifications.
5. Provide 6-inch wide utility marking tape at a location 24 inches above the top of the piping.

### PART 3 - EXECUTION

#### 3.1 Preparation

- A. All requirements for preparation shall conform to the requirements of Section 02450 of these specifications.
- B. The exact location and depth of house connections shall be as directed in the field by the Engineer to best suit, in location and depth, the property to be served.

#### 3.2 Installation

##### A. General

1. The installation of all pipe, fittings, assemblies, concrete encasement and incidentals necessary to complete the various items of work shall be as shown on the Drawings.
2. The open ends of all pipe stubs or lines installed for future connection shall be capped or plugged watertight. The use of solvent-cemented caps or plugs will not be permitted.

##### B. House Connection Assemblies

1. For 8 to 24-inch diameter sewers, fittings for house connection assemblies shall be reducing wye fittings. The straight run of the wye fitting shall be the same size as the sewer line in which it is installed, and the reducing leg shall be the same size as the house connection pipe.
2. The wye fittings shall be installed in a rotated position at an angle of approximately twenty (20) degrees to the horizontal. The elbow shall be installed that it will best suit the run and slope of the house connection piping. The degree of rotation of the wye fitting shall be limited so that the joints of connecting pipes and fittings are not impaired by excessive deflection.

##### C. House Connections Tapped to Existing Sanitary Sewers or Interceptors

1. Where noted on the drawings or where directed by the Engineer, the Contractor shall make connections to existing lateral sewers and interceptors in conformance with the details shown on the drawings.
2. The Contractor is advised that the existing sewer lines may be active. The Contractor shall maintain flow in active lines while making the connection. Any sewer connections made to active lines shall be performed during low-flow periods. Sewer lines filled with water shall be drained prior to making the connection.

##### D. Riser Assemblies

1. A riser assembly shall be made with a reducing "T" fittings and elbows of the same kind and strength class as the pipe installed in the sewer line unless otherwise required by the Engineer. The straight run of the "T" shall be the same size as the sewer line in which it is installed and the leg of the "T" fittings shall be the same size as the riser and house connection pipe.
2. When a riser assembly is to be installed on a section of reinforced concrete pipe or an existing sewer, a saddle and coupling shall be placed over a cored opening and the joint shall be constructed as shown on the Drawings.

##### E. Additional Riser Height

1. The additional length of straight pipe required to increase the height of a standard riser assembly for a house connection shall be as ordered by the Engineer and shall be installed in a vertical position as shown on the Drawings.
2. Care shall be taken by the Contractor to ensure that the riser pipe and fittings are properly braced. Riser pipe and fittings shall be held rigidly in place during backfilling and shall be maintained in a vertical position.

##### F. House Connection Pipe

1. All house connection pipe shall be a minimum 6-inch diameter pipe.

2. House connection pipe shall be installed from the connection assembly or the riser assembly to a point one (1) foot inside the curb except as listed below:
  - a. Where storm drains or utilities are located in the sidewalk area, the house connections shall be installed to a point beyond the back edge of the drain or utility.
  - b. In State highways, the house connections shall be installed to the property line.
  - c. House connection tunneled close to poles or trees shall be extended to a point as determined by the Engineer.
  - d. House connections (depth 9 feet or greater) shall be extended to a point 5 feet beyond the edge of pavement and/or as directed by the Engineer.
3. Where the house connection pipe cannot be placed on undisturbed soil, the trench must be backfilled and compacted to the invert of the house connection prior to the installation of any horizontal part of a house connection pipe.
4. If in the opinion of the Engineer it is necessary to install a house connection under or close to a pole or tree, the house connection shall be tunneled.
5. The Contractor is advised that it will be his responsibility to accurately mark the location of the house connection at the curbline. This will be accomplished by means of two parallel chisel marks approximately two (2) inches apart, one-quarter (1/4) inch deep and four (4) inches in

length perpendicular to the curbline. These marks shall be painted green with durable paint approved by the Engineer. If no curb exists at the house connection location, these marks will be chiseled and painted on the sidewalk. If no sidewalk or curb exists at this location, a 2-inch by 2-inch by 18-inch hardwood stake shall be driven flush with the soil. The top of this stake shall be painted green with a permanent paint.

#### G. Cleanout Assemblies

1. Cleanout assemblies shall be constructed in accordance with the details on the drawings.
2. These assemblies shall be installed in locations as determined by the Engineer. In general, cleanout assemblies shall be installed on house connections that exceed thirty-five (35) feet in length from centerline of sewer to curb and in locations where the total length of house connection pipe from centerline of sewer to outlets at the residence or building exceeds seventy-five (75) feet. The distance between cleanout assemblies shall not exceed seventy-five (75) feet on house connections longer than one-hundred-fifty (150) feet.
3. All pipe and fittings shall be properly braced, supported and protected to avoid displacement or damage to the assembly and joints during the placement and compaction of the backfill, and they shall be maintained in a vertical position.