

Special Provision to Special Specification 7017

Sanitary Sewers



Special Specification 7017 "Sanitary Sewers," is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 2, "Materials," is supplemented by the following:

2.0.1. **City of Houston Requirements:** Provide materials used in this project that are new and unused unless otherwise specified on the plans, specifications, or the proposal. The City of Houston Standard Specifications and lists of approved products are available on the City's website <https://edocs.publicworks.houstontx.gov/engineering-and-construction.html>. Contractors may, when appropriate, use products that are specified in these documents; however, a Submittal is still required that clearly indicates the applicable Specification. Provided products (including Approved Products) are subject to review and approval by the Engineer of Record before use on the City's projects.

2.22. **HDPE (Polyethylene) Pipe.**

2.22.1 **General.** Provide products manufactured by companies listed on the City of Houston Standard Product List. Furnish solid wall pipe with plain end construction for heat joining (butt fusion) conforming to ASTM D 2657. Utilize controlled temperatures and pressures for joining to produce fused leak-free joint.

Furnish solid wall pipe for sanitary sewer force mains with minimum working pressure rating of 150 psi, and with inside diameter equal to or greater than nominal pipe size indicated on the plans.

2.22.2 **Pipe and Fittings.** Provide high density, high molecular weight polyethylene pipe material meeting requirements of Type III, Class C, Category 5, Grade P34, as defined in ASTM D 1248. Material meeting requirements of cell classification 345434D or E, in accordance with ASTM D 3350, are also suitable for making pipe products under these specifications. Provide pipe with a light colored inner wall for television inspection purposes. Black pipe will be allowed for temporary use.

Article 2.2.2, "Force Mains," is supplemented by the following:

2.2.2.1 **Restrained Joint Pipe and Fittings (RJ).** Provide restrained joints for pipe and fittings that are either internal bell locking type, external mechanical type, or a combination of both, and are corrosion resistant and compatible with both pipe and fitting materials. Ensure restrained joints provide thrust restraint for plug, tee, and bend fittings rated for 150 psi minimum pipe pressure in accordance with the manufacturer's published specifications and product data.

Article 2.3, "Ductile-Iron Pipe and Fittings," is replaced by the following:

2.3. **Ductile-Iron Pipe.** Provide ductile-iron pipe conforming to the requirements of AWWA C115, C150, and C151 and bear mark of Underwriters' Laboratories approval. Unless otherwise shown on the plans, use a minimum Pressure Class 250 for water lines less than or equal to 20-in. diameter. Use minimum Pressure Class 350 for water lines in casing or trenchless construction and for flanged pipe. Provide minimum lengths of 18 ft. Use joints of the push-on type or flanged type unless otherwise shown on the plans. Do not use threaded or grooved type joints which reduce the pipe wall thickness below the minimum required

Ensure fittings for use with ductile-iron pipe of nominal sizes 4 in. through 48 in. conform to AWWA Standard C110 or C153.

Use joints of the push-on type or flanged type unless otherwise shown on the plans. Use push-on joints conforming to the requirements of ANSI Specification A21.11 (AWWA C111), rated for a 250 psig working pressure or A21.53 (AWWA C153). Use flanged fittings conforming to AWWA C110, of cast or ductile iron and conforming to ANSI B16.1, class 125 rated at 250 psig working pressure. Screw flanged fittings on threaded pipe ends done in the shop in accordance AWWA C115 for attaching, aligning, and facing.

Coat the inside and outside surfaces of the fittings as specified for the regular lengths of ductile-iron pipe.

Regardless of the coating system, for flanged joints in buried service, provide a petrolatum wrapping system, Denso, or approved equal, for the complete joint and alloy steel fasteners. Alternatively, provide bolts made of Type 304 stainless steel.

Article 2.21, "Air Release and Vacuum Relief Valves," is supplemented by the following:

- 2.21.4 **Additional Requirements.** Provide air Release/Vacuum Relief Valves that have a minimum seating pressure of 0 psi through a maximum operating pressure of 250psi. Provide valve bodies constructed of 316Ti stainless steel. Provide valves that have an internal debris shield and debris screen or an alternative mechanism to prevent clogging of the orifice. Provide rubber components that are suitable for wastewater application.

Article 3.3, "Laying Pipe," the second paragraph of Article 3.3.1, "General" is replaced with:

Install sewer lines meeting the minimum separation distance from any potable water line, as required by the City of Houston Design Manual Chapter 7, Item 7.03 J.

Article 3.3, "Laying Pipe," is supplemented by the following

- 3.3.6. **HDPE Pipe.** Use only workers trained in the installation of HDPE Pipe. Install pipe in accordance with the manufacturer's recommended installation procedures and ASTM D 2774. Do not store pipe uncovered direct in direct sunlight. Allow pipe temperature to approach ground temperature before terminally connecting each individual pipe section.

Article 3.11, "Joining Pipe and Accessories," is supplemented by the following:

- 3.11.6. **Force Main Connections.** Make the wet connections, as directed, in such a manner and at such hours to minimize disruption to the lift station operations. When the existing force mains have been cut or a plug removed for a connection, pursue the work of making the connection without interruption until complete.

Notify the Utility Owner at least 48 hr. in advance of making connections to schedule the temporary shutdown of the lift station.

- 3.11.7 **HDPE Pipe.** Join sections of HDPE pipe into continuous lengths above ground by thermal butt fusion method in accordance with AWWA C906 and pipe manufacturer's recommendations for specified service. Fusion joints: meeting minimum requirements of manufacturer for cool down time and other fusing requirements. Socket fusion and extrusion welding or hot gas welding will not be accepted.

Comply with pipe manufacturer's recommendations for cutting pipe. After cutting, leave end pipe in accordance with manufacturer's recommendations.

Article 5.1, "Sanitary Sewers," is supplemented by the following:

- 5.1.1. **Sanitary Sewer Force Mains** will be measured by the foot, of the various sizes, types, and wall thickness (if applicable), of sanitary sewer force main specified, complete in place, tested and accepted by the Engineer. Sanitary sewer force main will be measured by plan dimension along the centerline of pipe, for the limits indicated on the plans, with additional pipe length due to vertical offsets and vertical deflections incidental.

Horizontal and vertical ductile-iron (Class 52) fittings and pipe couplings are subsidiary to this item.

- 5.1.2. **Sanitary Sewer Force Mains (RJ)** with restrained joint pipe and fittings that include either internal, external, or combination of mechanically restrained joints throughout the pipeline lengths will be measured by the foot, of the various sizes, types, and wall thickness (if applicable), complete in place, tested and accepted by the Engineer. Sanitary Sewer Force Main (RJ) will be measured by plan dimension along the centerline of pipe, for the limits indicated on the plans, with additional pipe length due to vertical offsets and vertical deflections incidental.

Horizontal and vertical restrained joint ductile-iron (Class 52) fittings and restrained joint pipe couplings are subsidiary to this item.

- 5.1.3 **Force Main Connection** will be measured by each connection made.

Article 6.1, "Sanitary Sewers," is supplemented by the following:

- 6.1.1. **Sanitary Sewer Force Mains.** Payment for sanitary sewer and sanitary sludge force mains will be made at the unit price bid for "Sanitary Sewer (FM)" of the various sizes, types (material, specification and/or joints), and wall thickness (if applicable) specified, complete in place.
- 6.1.2. **Force Main Connections.** Payment for force main connections will be made at the unit price bid for "Force Main Connection"