

SECTION 33 31 13 - SITE SANITARY SEWERAGE GRAVITY PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sanitary sewerage drainage piping, fittings, and accessories.
- B. Connection of building sanitary drainage system to municipal sewers.
- C. Cleanout access.

1.02 RELATED REQUIREMENTS

- A. Section 31 23 16 - Excavation: Excavating of trenches.
- B. Section 31 23 16.13 - Trenching: Excavating, bedding, and backfilling.
- C. Section 33 05 13 - Manholes and Structures.

1.03 DEFINITIONS

- A. Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

1.04 REFERENCE STANDARDS

- A. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings; 2014.
- B. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2014.
- C. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2016.
- D. AWWA C111/A21.11 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings; 2017.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the installation of sanitary sewerage pipe with size, location and installation of other service utilities.
- B. Preinstallation Meeting: Conduct a preinstallation meeting prior to the start of the work of this section; require attendance by all affected installers.
- C. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating pipe material and pipe accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed County of Gloucester requirements.
- D. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- E. Field Quality Control Submittals: Document results of field quality control testing.
- F. Project Record Documents:
 - 1. Record location of pipe runs, connections, manholes, cleanouts, and invert elevations.
 - 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

PART 2 PRODUCTS

2.01 SEWER PIPE MATERIALS

- A. Provide products that comply with County of Gloucester, Virginia Department of Public Utilities Standards.

- B. Cast Iron Soil Pipe: ASTM A74, service type, hub and spigot end.
- C. Joint Seals for Cast Iron Pipe: ASTM C564 rubber gaskets.
- D. Ductile Iron Pipe: ASTM A746, Pressure Class 350, with cement-mortar lining and bell and spigot end.
- E. Joint Seals for Ductile Iron Pipe: AWWA C111/A21.11; styrene butadiene rubber (SBR) or vulcanized SBR gaskets.
- F. Plastic Pipe: ASTM D3034, Type PSM, Poly(Vinyl Chloride) (PVC) material; minimum inside nominal diameter of 4 inches, bell and spigot style solvent sealed joint end.
- G. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.

PART 3 EXECUTION

3.01 GENERAL

- A. Perform work in accordance with County of Gloucester, Virginia Department of Public Utilities Standards.

3.02 TRENCHING

- A. Hand trim excavation for accurate placement of pipe to elevations indicated.
- B. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.03 INSTALLATION - PIPE

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.
- B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal watertight.
 - 1. Plastic Pipe: Also comply with ASTM D2321.
- C. Lay pipe to slope gradients noted on drawings.
- D. Connect to municipal sewer system.

3.04 INSTALLATION - CLEANOUTS

- A. Form bottom of excavation clean and smooth to correct elevation.
- B. Form and place cast-in-place concrete base pad, with provision for sanitary sewer pipe end sections.
- C. Establish elevations and pipe inverts for inlets and outlets as indicated.
- D. Mount lid and frame level in grout, secured to top cone section to elevation indicated.

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with County of Gloucester, Virginia Department of Public Utilities Standards.
- B. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

3.06 PROTECTION

- A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION