

**Section 02531****SANITARY SEWER SERVICE LEADS OR RECONNECTIONS****1.0 GENERAL****1.01 SECTION INCLUDES**

- A Installation of service stubs on new sanitary sewers serving areas where sanitary sewer service did not previously exist.
- B Reconnection of existing service connections along parallel, replacement, or rehabilitated sanitary sewers.
- C References to Technical Specifications:
  - 1. Section 01350 – Submittals
  - 2. Section 01760 – Project Record Documents
  - 3. Section 01500 – Temporary Facilities and Controls
  - 4. Section 01570 – Trench Safety System
  - 5. Section 01564 – Control of Ground Water and Surface Water
  - 6. Section 02318 – Excavation and Backfill for Utilities
  - 7. Section 02530 – Gravity Sanitary Sewers
  - 8. Section 01140 – Contractor’s Use of Premises
- D Referenced Standards:
  - 1. American Society for Testing and Materials (ASTM)
    - a. ASTM D 1784, “Standard Specification for Rigid Poly Vinyl Chloride (PVC) Compounds and Chlorinated Poly Vinyl Chloride (CPVC) Compounds”
    - b. ASTM D 3034, “Standard Specification for Type PSM Poly Vinyl Chloride (PVC) Sewer Pipe and Fittings”
    - c. ASTM D 3212, “Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals”

**1.02 MEASUREMENT AND PAYMENT**

- A Measurement for single, near-side service leads is on a per each basis, complete in place.
- B Measurement for double, near-side service leads is on a per each basis, completed in place.
- C Measurement for single, far-side service leads is on a per each basis, complete in place.
- D Measurement for double, far-side service leads is on a per each basis, complete in place.

- E Payment for service leads includes service connections, couplings, clean-outs, adapters, disconnecting existing services, reconnecting new service, fittings, excavation, backfill, and testing.
- F Measurement for sanitary sewer stacks up to 3 vertical feet is on a per each basis, complete in place. Payment includes riser pipe, service connections, couplings, clean-outs, adapters, disconnecting existing services, reconnecting new service, fittings, excavation, backfill, and testing.
- G Measurement for extra depth sanitary sewer stacks greater than 3 vertical feet is on a vertical foot basis from the top of the receiving sewer to the invert of the service connection, measured and complete in place. Payment includes excavation, pipe, bedding, and backfill for that portion of the stack in excess of 3 feet.
- H Measurement for sanitary sewer service reconnections with stacks located within 5 feet of the sanitary sewer main centerline shall be per each reconnection, complete in place.
- I Measurement for sanitary sewer service reconnections without stacks located within 5 feet of the sanitary sewer main centerline shall be per each reconnection, complete in place.
- J Payment for sanitary sewer service reconnections includes include service connections, couplings, clean-outs, adapters disconnecting existing services, reconnecting new service, fittings, excavation, backfill, and testing.
- K Augered pipe for service leads will be paid as provided in Section 02415 – Augering Pipe or Casing for Sewer.
- L One or more connections discharging into a common point are considered one service connection. The Contractor shall not add service reconnections without approval of the Engineer. The Engineer may require reconnections to be moved or relocated to avoid having more than two single family units per reconnection.
- M Measurement for abandonment of service connection is on a per each basis. No additional payment will be made for abandonment of service connection unless excavation is required beyond new or replacement sewer or service lead trench zone. No separate payment will be made for excavation of sanitary sewer services within the new or replacement sewer trench.

### 1.03 SUBMITTALS

- A Make Submittals required by this Section under the provisions of Section 01350 – Submittals.
- B Submit product data for each pipe product, fitting, coupling and adapter.
- C Submit field red lines documenting location of sanitary sewer stubs and reconnections as installed, referenced to survey Control Points, under the provisions of Section 01760

– Project Record Documents, 1.04C. Include location of utilities and structures encountered or rerouted. Give horizontal dimensions, elevations, inverts and gradients. Record the exact distance from each service connection to the nearest downstream manhole.

#### **1.04 PROTECTION OF PEOPLE AND PROPERTY**

- A Contractor shall conduct all construction operations under this Contract in conformance with the practices described in Section 01500 – Temporary Facilities and Controls.

### **2.0 PRODUCTS**

#### **2.01 PVC SERVICE CONNECTION**

- A As stubouts, use PVC sewer pipe, 4-inch through 10-inch, conforming to ASTM D 1784 and ASTM D 3034, with a cell classification of 12454-B. The SDR (ratio of diameter to wall thickness) shall be 26 for pipe 10 inches in diameter or less.
- B PVC pipe shall be gasket jointed with gasket conforming to ASTM D3212.
- C Provide service connection pipe in sizes shown on the Plans. For reconnection of existing services, select service connection pipe diameter to match existing service diameter.
- D Provide a 6-inch service connection when more than one service discharges into a single pipe.
- E Connect service pipes to new parallel or replacement sewer mains with prefabricated, full-bodied tee or wye fittings conforming to specifications for the sewer main pipe material as specified in other Sections for all sewers up to 18 inches in diameter.
- F Where new sewers are installed using pipe augering or tunneling, or where the new sewer is greater than 18 inches in diameter, use Fowler “Inserta-Tee” to connect the service to the new sewer main.

#### **2.02 PIPE SADDLES**

- A Use pipe saddles only on rehabilitated sanitary sewer mains. Comply with Paragraph 2.01E for new parallel and replacement sanitary sewer mains.

**2.03 COUPLINGS AND ADAPTERS**

- A For connection between new PVC pipe stubout and existing service; 4-, 6-, or 8-inch diameter, use flexible adapter coupling consisting of a neoprene gasket and stainless steel shear ring, with 1/2-inch stainless steel band clamps:
1. Fernco Pipe Connectors, Inc., Series 1055 with shear ring SR-8;
  2. Band Seal by Mission Rubber Co., Inc.;
  3. Approved equal.
- B For connection between new PVC pipe stub out and new service, use rubber-gasketed adapter coupling:
1. GPK Products, Inc., IPS & Sewer Adapter.
  2. Approved Equal.

**2.04 STACKS**

- A Provide stacks for service connections wherever the crown of the sewer is 8 feet or more below finished grade.
- B Construct stacks of the same material as the sanitary sewer and as shown on the Plans.
- C Provide stacks of the same nominal diameter at the sanitary service line.

**2.05 CLEAN-OUTS**

- A Install clean-outs at property line on each service connection as shown in detail on the Plans.

**2.06 PLUGS AND CAPS**

- A Seal the upstream end of unconnected sewer service stubs with rubber gasketed plugs or caps of the same pipe type and size. Provide plugs or caps by GPK Products, Inc., or equal.

**3.0 EXECUTION****3.01 PERFORMANCE REQUIREMENTS**

- A Accurately field locate service connections, whether in service or not, as pipe laying progresses from downstream to upstream.
- B Properly disconnect existing connections from the sewer and reconnect to the new sewer, as described in this Section.
- C Reconnect service connections, including those that go to unoccupied or abandoned buildings, unless directed otherwise by the Engineer. Plug the service connection at the R.O.W. for vacant lots.

- D Connect services 8 inches in diameter and larger to the sewer by construction of a manhole.

### **3.02 PREPARATION**

- A Employ a Trench Safety Plan as specified in Section 01570 – Trench Safety System.
- B Install and operate necessary dewatering and surface water control measures in accordance with requirements of Section 01564 – Control of Ground Water and Surface Water.
- C Provide a minimum of 48 hours notice to customers whose sanitary sewer service will potentially be interrupted.
- D Schedule Work so that reconnection of service lines can be completed within 24 hours after disconnection.
- E Where sewers are existing, field locate existing service connections, whether in service or not. Use existing service locations for reconnection of service lines to new liner or new sanitary sewer main.
- F For new parallel and replacement sanitary sewer mains, complete testing and acceptance of downstream sewers as applicable.

### **3.03 EXCAVATION AND BACKFILL**

- A Excavate and backfill in accordance with Section 02318 – Excavation and Backfill for Utilities.

### **3.04 RECONNECTION ON NEW SEWER**

- A Install the new service connection on the new sanitary sewer main for each service connection.
- B Remove and replace cracked, offset or leaking service line for up to 5 feet, measured horizontally, from the centerline of the new sanitary sewer main.
- C Make up the connection between the new main and the existing service line using PVC sewer pipe and approved couplings, as shown on the Plans.
- D Test service connections before backfilling.
- E Embed the service connection and service line as specified for the new sanitary sewer main at this location, and as shown on the Plans. Place and compact trench zone backfill in compliance with Section 02318 – Excavation and Backfill for Utilities.

**3.05 INSTALLATION OF NEW SERVICE LEADS**

- A Install the new service connections on the new sanitary sewer main for each service connection. Provide the length of stub indicated on the Plans. Install plug or cap on the upstream end of the service stub as needed.
- B Test service connections before backfilling.
- C Embed the service connection and service line as specified for the new sanitary sewer main at this location, and as shown on the Plans. Place and compact trench zone backfill in compliance with Section 02318 – Excavation and Backfill for Utilities.

**3.06 FIELD QUALITY CONTROL**

- A Test service reconnections and service stubs. Follow applicable procedures given in Section 02530 – Gravity Sanitary Sewers.

**3.07 CLEAN-UP AND RESTORATION**

- A Perform clean-up and restoration in and around construction zone in accordance with Section 01140 – Contractor’s Use of Premises.

**3.08 PROTECTION OF THE WORK**

- A Protect and maintain all installations good condition until completion of Work.
- B Replace installations by Contractor's operations at no cost to Owner.
- C Do not allow sand, debris or runoff to enter sewer system.

END OF SECTION