

ITEM 47

PVC BUILDING/SERVICE SEWER INSTALLATION

1.0 DESCRIPTION. The Contractor shall, under Item 47, furnish all materials and properly install all PVC building/service sewers, including pipe, fittings, coupling devices and plugs, as shown on the drawings, or required for the proper completion of the work included under the contract. Earth excavation and backfill shall be completed as specified under Item 1.

In general, each building/service sewer installation shall consist of furnishing and installing all pipe from the service sewer to the property's tie in location, as shown on the drawings. All locations are approximate and to be field verified. The building/service sewer installation includes all excavation, pipe laying, bedding, backfill and restoration. Note that bedding is required from the house connection to the service sewer at the right of way or easement line.

2.0 SUBMITTALS.

A. Reference Standards. Latest revisions:

1. ASTM D3034 or F679.
2. ASTM D3212.
3. ASTM D1784.
4. AWWA C900 (special circumstances).

B. Shop Drawings.

1. These submittals shall be emailed to the project engineer in PDF form. The Contractor shall have reviewed the submittal and approved the document by signature prior to submission. The Contractor shall be given a submittal log to be satisfied during the Pre-Construction meeting.

C. Calculations. This section is not applicable.

D. Certifications.

1. The Contractor shall supply a sworn certificate of inspection and testing for all PVC materials (pipe, fitting coupler devices) proposed for use on the job.

3.0 MATERIALS.

A. Quality of Pipe.

1. The material used for all PVC pipe and fittings shall have the cell classification of 12454-B as defined by ASTM D1784. All PVC materials shall be new, of the best quality, conform to ASTM D3034 or F679, be gasketed and the same manufacturer shall supply both pipe and fittings.

B. Dimensions of Pipe.

1. All PVC pipe and fittings shall be a nominal (6) six inches in diameter unless specifically detailed on the drawings or as specified. No PVC pipe shall be rated at a greater side dimension ratio than 35 as defined under ASTM D3034. Special circumstances require a DR 18 AWWA C900 pipe as specified in the Contract Drawings or as directed by the Engineer.

4.0 EXECUTION.

A. Pipe Laying.

1. Installation shall be in accordance with ASTM D2321, Underground Installation of Flexible Thermoplastic Sewer Pipe, except bedding shall be Stark County Type B Bedding.
2. When pipe laying is in progress, all trenches shall be kept dry and clean. Bedding shall be Type B as shown on drawing detail No. 1, No. 2 and defined below unless otherwise specified or directed by the Engineer.
3. The material used for Type B bedding shall be One Hundred Percent (100%) crushed limestone. The material shall be free from dirt and deleterious material and shall be graded as follows.
 - a. 100% - 100% Shall pass 1 ½" square opening
 - b. 95% - 100% Shall pass 1" square opening
 - c. 25% - 60% Shall pass ½" square opening
 - d. 0% - 10% Shall pass #4 sieve opening
 - e. 0% - 5% Shall pass #8 sieve opening
4. The Contractor must have suitable equipment and the capability to measure and establish the proper grade of at least 1.0% from the structure to the service sewer. This may be by rotating laser, transit or other method acceptable to the Engineer. No pipe shall be laid until a sufficient length of trench has been properly prepared for a full length piece of pipe.
5. Unsuitable soil as determined by the Engineer or Resident Representative shall be removed and replaced with suitable material as specified by the Engineer.

B. Cutting Pipe.

1. It is essential that a square cut be made to insure proper fit whenever pipe is cut. This is accomplished by using either a tubing cutter or a miter box and fine-toothed hand saw or hacksaw. For beveling, use a factory finished beveled end as a guide. The cut end may be beveled using a "pilot" beveling tool, or a thin, steel hand tool, such as a "Stanley Surform No. 399.
2. After cutting a pipe, place a reference mark at the proper distance from the bevel end. This is accomplished by using a factory marked end of the same size pipe as a guide.
3. The Contractor shall initiate the building lateral at the termination of the service lateral (typically located at the right of way or easement line) and continue the

work to the building. Laying the lateral from the building to the service lateral shall not be permitted.

C. Fittings.

1. All fittings shall conform to ASTM D3212. All fittings shall be gasketed and of the same manufacturer as the pipe. All connectors shall be approved by the Engineer or Resident Representative.

D. Connections.

1. All connections from the building to the proposed building lateral may require reducers or other fittings to provide a proper connection and may not be included in the Contract Drawings. If the effluent pipe from the home is PVC, a solid wall PVC coupling/reducer shall be used for connection. All dissimilar materials shall be connected to the proposed PVC building sewer with an "RC Series" Strong Back Fernco (or approved equal).

E. Cleanouts.

1. Cleanouts shall be installed as indicated in the Contract Drawings or as required by the Engineer or Resident Representative. Cleanouts shall be assembled as per Standard Detail DWG. No. 29 and 29A. The cleanout shall be installed to be directed toward the service sewer or main line.

F. Polyethylene Tape Marker.

1. The Contractor shall furnish and install during backfill operation for all building/service sewers polyethylene green (SEWER) tape above the bedding material, three (3) feet above the crown of pipe.

5.0 ELECTRICAL. This section is not applicable.

6.0 QUALITY ASSURANCE. All pipe, fittings and coupling devices shall be subject to inspection and approval by the Engineer or the Resident Representative after delivery of material to the job site. Any material found to be unsatisfactory or otherwise damaged shall not be approved for use.

A. Testing. This section is not applicable.

B. Observation.

1. No installed building sewer shall be covered or backfilled until approved by the Engineer or Resident Representative.
2. SCMSD designated representative will visually observe the work performed. The representative will notify the Engineer of any discrepancies with the contract documents in the course of the Contractor performing the work. The progress

observations by the SCMSD do not waive any rights or remedies, nor divest the Contractor of any responsibility for contract compliance or liability for damage.

C. Warranty. This section is not applicable.

7.0 MEASUREMENT. This section is not applicable.

8.0 PAYMENT. All Lateral Installation shall be included in the price bid for each home, as shown on the bid schedule.

END OF SECTION