

Section 3

Sanitary Sewer Laterals

A. General

1. A sanitary sewer lateral is that section of a sanitary sewer that extends from the main sewer to a point 12 inches beyond the right-of-way, curb or sidewalk (or termination point as approved by the Engineer) in front of the property which it serves (refer to Detail 5 - Lateral Connection).
2. Each improved property shall have its own sanitary sewer lateral. Each side of a duplex, or each townhouse unit shall have its own sewer lateral. Buildings incorporating multiple condominium units may be served by one sanitary sewer lateral, similar to an apartment building sewer service.
3. Permits

The Applicant shall secure, in the name of the Authority, all permits that are required from the Pennsylvania Department of Environmental Protection (PADEP), Conrail and the Pennsylvania Department of Transportation (PennDOT). The Applicant shall secure, in his own name, all required construction permits such as highway or local street opening permits. Any existing street, highway or other improvements disturbed during construction shall be restored to the satisfaction of the appropriate municipality or Owner before the facilities will be accepted for final acceptance by the Authority. All costs of such permits, including any and all bonds required, shall be the sole expense of the Applicant.

4. Disconnection of Sewer Laterals

Disconnection of a sewer lateral shall be done at the sewer main. The 45° bend and the lateral pipe shall be removed and a cap installed on the sanitary tee on the main line. After the cap has been installed, concrete shall be poured over the sanitary tee and cap to prevent future connections at that point. If it is not possible to remove the lateral pipe, and at the discretion of the Engineer, the pipe may be filled with AASHTO 8 (PennDOT 1B) stone, sand or flowable fill to prevent future use.

5. Prior to installing a new lateral on an existing sanitary sewer main, the Applicant shall request the Engineer to determine whether or not the existing sanitary sewer main has been lined (rehabilitated). The method of construction for the lateral connection shall be determined on the basis of whether or not the existing sanitary sewer main has been lined.

B. Design Criteria

Fittings (sanitary tees, risers and bends) and sewer lateral pipe shall be furnished and installed in strict accordance with these specifications and any and all practices and precautions required for the main gravity sewers are equally applicable to the sewer laterals.

1. Diameter and Slope

Sewer laterals shall be designed so that all units shall be served by a minimum 6-inch sewer lateral. Laterals shall be installed with a minimum 1% slope and shall include a watertight cap or stopper. All sanitary tees shall be set in accordance with the detail drawings using 6-inch bends. The invert elevation of the 6-inch service lateral at the 45° bend shall be the same as the elevation of the crown of the main.

2. Depth and Alignment

All laterals shall be provided with a minimum cover of 3'-6". Laterals shall be constructed, generally, perpendicular to the sanitary sewer main. Laterals shall only be constructed at an angle other than perpendicular to the main when no other reasonable alternative exists, and/or at the discretion and approval of the Authority's Engineer.

3. Separation of Utilities

The Authority's interpretation of the PADEP requirements for 10-foot horizontal and 18-inch vertical separation distances between sewerage and water utilities is as follows:

a. Parallel Installation

A minimum 10-foot horizontal separation (measured from edge of pipe to edge of pipe) between sanitary sewer lines and water lines shall be required when the lines are constructed parallel (relatively) to one another. When this condition cannot be met, concrete encasement of the sanitary sewer line shall be required for the length of line that fails to meet the 10-foot separation distance requirement, at the discretion of the Authority's Engineer. However, under no conditions shall the horizontal separation distance between sewer and water lines be less than 6 feet.

b. Line Crossings

A minimum 18-inch vertical separation between the top of the sanitary sewer line and the bottom of the water line shall be required when the lines cross one another. When this separation cannot be met, concrete encasement of the sanitary sewer line shall be required for a minimum

distance of 10-feet on either side of the point of crossing, and/or until the minimum 10-foot separation distance requirement is met (depending on the angle of crossing).

Where a water main crosses below a sewer main, structural support must be provided for the sewer main to prevent any damage to the water main.

These requirements shall apply to laterals (both water and sewer) as well as main line construction.

5. Sewer laterals shall not be connected to manholes unless approved by Engineer.

C. Materials and Equipment

1. Gravity Sewer Laterals

a. Ductile Iron Pipe and Fittings

Refer to Section 2 – Gravity Sewers for these requirements.

b. Polyvinyl Chloride Sewer Pipe and Fittings

Refer to Section 2 – Gravity Sewers for these requirements.

c. Alternative Gravity Sewer Pipe Materials

Alternative gravity sewer pipe materials may be considered and will be subject to approval by the Authority on a case-by-case basis. Full details of alternatives must be submitted.

2. Low-Pressure Sewer Laterals

Refer to Section 6 – Low-Pressure Sewers for these requirements.

3. Sanitary Tees for Connection to Main Line

Sanitary tees shall conform to the pipe materials specifications above.

4. Lateral Connections to Existing Sanitary Sewer Lines

a. Saddles used to connect laterals to existing PVC sanitary sewer lines shall be molded tees, gasket branch and gasket skirt and shall have two stainless steel straps. Saddle tees installed on PVC pipe shall be solvent-weld type saddles by GPK Products, Inc. or approved equal.

b. Saddle tees installed on terra cotta or asbestos cement (transite) pipe shall be by Romac Industries, Inc. or equal.

D. Installation

1. General

Where a sanitary wye/tee already exists in the sewer main, refer to Section 2 – Gravity Sewers for these requirements. Section 2 also applies after a new wye/tee has been installed. Where no sanitary wye/tee is present in an existing sewer line and a new wye/tee must be installed, lateral connections shall be made as follows:

a. PVC Pipe

Lateral connections shall be made with a saddle type connection. The hole for this saddle must be carefully cut into the existing line, making sure that the cut-out piece is not dropped into the pipe. All saddles shall be securely fastened to the existing line with two stainless steel straps, one on each side of the opening in the pipe. In addition, saddles installed on PVC pipe shall be glued per the manufacturer's recommendations. A bead of silicone caulk shall be used to seal the saddle at the interface with the existing sewer main. Under no circumstances should any inserted pipe protrude into the sewer main.

b. Unlined (Non-Rehabilitated) Terra Cotta or Asbestos Cement (Transite) Pipe

Lateral connections to unlined (non-rehabilitated) existing terra cotta or asbestos cement (transite) pipe shall be made by cutting out a small section of the main and installing a PVC tee. Connection of the tee to the main shall be made with Fernco style transition couplings or approved equal.

c. Lined (Rehabilitated) Terra Cotta or Asbestos Cement (Transite) Pipe

Lateral connections to lined (rehabilitated) existing terra cotta or asbestos cement (transite) pipe shall be made by core-drilling through the existing host pipe and the liner and installing a 6-inch saddle tee. The hole for this saddle must be carefully cut into the existing line, making sure that the cut-out pieces are not dropped into the pipe. Under no circumstances should any inserted pipe protrude into the sewer main.

d. Ductile Iron Gravity Sewer Main

Lateral connections to existing ductile iron gravity sewer main shall be made by cutting out a small section of the main and installing a ductile iron tee. The tee shall be secured to the main by attaching the bell ends of the tee to the main line on one side and a short section of pipe on the other side. The short section of pipe shall be secured to the main using a Dresser style repair coupling or approved equal.

e. Reinforced Concrete Pipe (RCP)

Lateral connections shall be made by core-drilling through the existing pipe and installing a QuikSeal by Fernco Inc. The hole for the QuikSeal must be carefully cut into the existing line, making sure that the cut-out piece is not dropped into the pipe. Under no circumstances should any inserted pipe protrude into the sewer main.

2. Excavation

Trench excavation, in any material, shall extend four (4) feet beyond the end of the lateral for the full depth of the lateral. If the lateral is intended to be used at a later date, then prior to backfilling, a minimum 2-inch x 4-inch treated lumber locator marker shall be placed against the end of the lateral and shall extend a minimum of 12 inches above finished grade.

Refer to Section 2 - Gravity Sewers for other requirements.

3. Bedding

Refer to Section 2 - Gravity Sewers for these requirements.

4. Laying Pipe

Refer to Section 2 - Gravity Sewers for these requirements.

5. Backfilling

Refer to Section 2 - Gravity Sewers for these requirements.

6. Surface Restoration

Refer to Section 2 - Gravity Sewers for these requirements.

E. Testing and Inspection

1. Lateral connections which are constructed as part of new sanitary sewer installations shall be tested and inspected as described in Section 2 - Gravity Sewers.
2. Lateral connections to existing sanitary sewer lines shall be visually inspected prior to backfilling. Laterals shall be inspected for alignment, depth, slope, and for fittings and pipe material used.

F. Detail Drawings

Relevant detail drawings are:

- 1 Right-of-Way Restoration
- 2 Pavement Restoration
- 3 Concrete Encasement
- 5 Lateral Connection
- 6 Lateral Connection Riser
- 7 Lateral Connection Riser with Concrete Encasement
- 8 Typical Low-Pressure Lateral Connection to Low-Pressure Main or Force Main
- 9 Standard Lateral or Service Line Cleanout

END OF SECTION