Standard Specifications and Details for Sewer Construction

April 2018

General

All local, state, and federal laws and regulations shall apply to the connection to the Oconee Joint Regional Sewer Authority (OJRSA) sewer system. Failure to comply may lead to the suspension or revocation of the Permit.

Inspection

In order to ensure that the manhole and pipeline is not damaged and to oversee the connection of a service lateral to the public sewer system, it is necessary that an OJRSA staff member is at the site while the work is being performed. It is the responsibility of the applicant as stated on the OJRSA APPLICATION PERMIT FOR SEWER CONNECTION form to contact the OJRSA no less than 48 hours prior to performing the work in order to schedule the inspection, which must take place during normal OJRSA business hours.

Piping and Tap into Manhole

1. All connections to the OJRSA Sewer System must be made at a manhole.
2. All underground piping shall be inspected in place prior to backfilling.
3. Service laterals shall at the connection shall consist of polyvinyl chloride (PVC) pipe and conform to the requirements of latest edition of American Society for Testing and Materials (ASTM) Standard D3034 (STANDARD SPECIFICATION FOR TYPE PSM POLY(VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS)
4. The pipe shall enter the manhole at the bottom, on the existing shelf, at an angle in relation to the existing flow.
5. All foreign matter and dirt shall be cleaned from the inside of the pipe before installing, and the pipe shall be kept clean during and after installation.
6. During times when pipe laying is not in progress, the open ends of the pipe shall be closed, and no trench or storm water shall be permitted to enter the pipe.
7. Pipe joints shall be assembled in strict accordance with the manufacturer's instructions.
8. The tap (hole) shall be made into the manhole by core drilling and shall be no larger than is necessary for the installation of the proper-sized rubber boot for the pipe to enter. The size of the tap and rubber boot shall correspond to the connection size as stated in Table 1 below. In-line "hammer taps" are not allowed.

Pipe Connection Size (inches)	Maximum Tap Size (inches)
4	7
6	12
8	12
10	16
12	16 or 20

Table 1: Connection size and its corresponding maximum tap size

9. Repair around pipe entry into the manhole shall be made watertight by plastering both the inside and outside of the manhole at the connection. Plaster materials shall be vinyl base or rubberized material, such as vinyl crete, water plug, or equal. Mortar or cement are not allowed. This repair shall be allowed to cure or set before backfilling and trench water shall be isolated from the area during the curing process.

10. The invert shall be reformed and built to a smooth texture to prevent obstructions in the flow of the sewer.

Clearing and Grubbing

1. Clearing and grubbing along pipelines shall be done prior to trenching and pipe installation.
2. Pipe laying operations and width of clearing shall be held to a minimum.

Earthwork

1. In general, the work consists of all necessary grading, trench excavation, and backfill related to this connection. All excavation and grading shall be confined to the construction area and shall be done with the proper equipment.
2. Contractor shall take every precaution to protect existing utility services from damage during construction operations. If damage occurs, the proper utility must be notified immediately. All repairs incurred as a result of damage shall be made promptly at contractor's expense.

Excavation, Bedding, and Backfill

1. Grading shall be done as necessary to prevent surface water from flowing into trenches or other excavations. Any water accumulating therein shall be removed by pumping or by other approved methods.
2. Trenches shall be excavated by an approved method to a depth to permit installation of pipe. The width of the trench shall be sufficient to allow thorough compacting of tile backfill under and around the pipe.
3. The side of all trenches and excavations shall be adequately braced and sheeted to protect personnel, structures, and property from slides, cave-ins, or settlement.
4. Full responsibility for the design, type, and strength of shoring, sheeting, and bracing shall rest with the contractor.
5. The contractor shall do all pumping necessary for dewatering trenches and to provide proper work conditions for installing of pipe and appurtenances.
6. Bedding conditions shall be such as required to provide firm foundation of uniform density throughout the entire length of the pipe.
7. Suitable native soil materials may be used as bedding material.
8. Granular materials used for bedding shall be sand of suitable consistency and gradation.
9. The trench shall be backfilled only after the pipes have been laid, inspected, and approved. Each layer of soil shall be thoroughly tamped and compacted before the next layer is deposited. Care shall be exercised to avoid any wedging action or eccentric action upon or against any pipe or structure and to avoid any disturbance or damage to the work.
10. Backfill material for the lower portion of the trench shall consist of fine, loose earth, free of large clods, stones, vegetable matter, debris, and/or other objectionable material. It shall have moisture content suitable for thorough compaction. It shall be deposited in horizontal layers not to exceed six (6) inches in thickness, thoroughly tamped or rammed around the pipe with approved hand or power-driven tools until enough material has been placed and compacted to provide a cover of not less than 18 inches over the top of the pipe.
11. Backfill adjacent to the manhole shall be placed and compacted uniformly in such a manner as to prevent wedging action or eccentric loading upon or against the structure.

Grassing and Site Stabilization

All disturbed areas within the right-of-way shall be covered with a minimum four (4) inch thickness of topsoil, except areas that are graveled, paved, or are below the water level. All areas where topsoil is applied shall be seeded per the current version of the South Carolina Department of Transportation Standard Specifications (SCDOT SC-M-810-3) to obtain turf of Kentucky 31 fescue.