TANEY COUNTY REGIONAL SEWER DISTRICT

6733 E. STATE HIGHWAY 76
KIRBYVILLE, MO 65679
P: 417-544-0655
F: 417-544-0654
TCRSD.ORG

Procedures for Connecting to Central Sewer System

Section 2.07 is taken from the Taney County Regional Sewer District's Rules, Rates, and Regulations.

SECTION 2.07 BUILDING SEWERS AND CONNECTIONS

1. No unauthorized person shall uncover, make any connections with or opening into, use, alter, relocate, or disturb any public sewer main or service line, grinder pump or appurtenance thereof without first obtaining a written permit from the District.
2. All costs and expenses incident to the installation and connection of the building sewer shall be borne by the owner, except during projects constructed by the District whereby the District will provide a full connection of each building at the District's sole discretion and expense. The owner shall indemnify the District from any loss or damage that may directly be occasioned by the installation of the building sewer.
3. A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, courtyard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.
4. Old building sewers may be used in connection with new buildings only when they are found, on examination and tested by the District, to meet all requirements of this regulation. Costs required to examine and test old building sewers will be borne by the property owner.
5. The Taney County Regional Sewer District operates and maintains four (4) types of collection systems: a low-pressure sewer system consisting of force main sewers that require an individual grinder pump and pressure service line; a gravity flow system consisting of gravity sewer mains that require a gravity service line only; a septic tank effluent gravity (STEG) system consisting of small diameter gravity sewer mains that require a septic tank at each building and a gravity service line that connects the septic tank to the main; and a septic tank effluent pump (STEP) system consisting of small diameter pressure sewer mains that require a septic tank and effluent pump at each building with a pressure service line from the tank to the pressure main. The requirements herein help to ensure the integrity of the District's sewer systems. The District reserves the right to reject any work, material, service line, or connection found that does not comply with the requirements herein or any other requirement not specifically mentioned herein. The size, slope, alignment, materials of construction, methods to be used in excavating, placing of the pipe, jointing, testing, and backfilling the trench for a new or replaced building sewer, shall all conform to the following requirements, rules, specifications, regulations, and applicable Standard Details and Technical Specifications of the Taney County Regional Sewer District for building sewers:

A. Connection to Low Pressure Sewer System Requirements

1) When connecting to a low-pressure sewer system the property owner is responsible for obtaining an individual grinder pump and all the necessary material and appurtenances to connect to the system.

2) The grinder pump utilized must be a two-stage centrifugal or semi-positive displacement type pump capable of meeting the required flow and head conditions for each specific location within the collection system. Please consult the District to ensure the proper selection of grinder pump can meet the required head condition. The District reserves the right to require an E-One grinder pump when system hydraulics are such that installation of other make and model pumps would be a detriment to the system.

3) All grinder pump systems shall be equipped with an audio and visual alarm. When grinder pumps are used for residential customers, one pump unit installations are acceptable. Non-residential customer installations shall require the use of a duplex pump system unless a simplex pump system is deemed acceptable by the District. Grinder pumps must be located outside of the building wall.

4) Each individual lot and/or residential unit served by a low-pressure sewer system shall have a separate grinder pump unit and service line. Electrical service shall be supplied to the grinder pump unit by the structure it serves and must be installed in accordance with applicable local and national electrical codes and standards.

5) Multi-family structures consisting of two (2) or more units and commercial developments will be served by a duplex unit(s) and the size of the tank shall be sized according to the manufacturer's recommendations. Grinder pump units serving multi-family structures consisting of two (2) or more units shall be served by an independent electrical source and not connected to any electrical source serving any specific dwelling unit.

6) Under no circumstances shall the District be responsible for paying electrical costs associated with the operation of any privately owned grinder pump unit.

7) All pressure service lines and fittings shall be Schedule 80 PVC and a minimum 1 ¼" in diameter.

8) A Schedule 80 PVC shut-off valve is required for all pressure service lines. The valve is to be located as close as possible to the main connection at the edge of the sewer easement/property line near the sewer main. The location of the valve must be approved prior to installation.

9) A Schedule 80 PVC check valve located within two feet upstream of the shutoff valve is required. The requirement for a check valve located outside the grinder tank within two feet of the shutoff valve is required regardless if the grinder tank and pump are equipped with a check valve inside the tank.

B. Connection to Gravity Sewer System Requirements

1) When connecting to a gravity flow system the property owner is responsible for obtaining all the necessary material and appurtenances to connect to the system.

2) The minimum pipe size for a building sewer service line is four inches (4") for residential buildings. Non-residential/commercial buildings shall be at least six inches (6") in diameter.

3) All building service lines shall be Schedule 40 PVC pipe (no cellular core allowed) constructed on a minimum one (1) percent slope (0.01'/1.0').

4) A four-inch (4 ") two-way sweep cleanout should be located within five feet (5') of the building and then every 100' thereafter with one cleanout at the main inside the public sewer right-of-way. All portions of the sewer line shall be reachable within fifty (50) feet of a cleanout. Cleanouts must extend to finished grade with appropriate cap and frame and cover.

5) An appropriate size service connection matching the service line and sewer main pipe sizes shall be used for the mainline tap. This shall be an Inserta-Tee, or solvent weld type saddle (No neoprene saddles allowed). Service line saddle taps must be connected to the main with the service line discharging in the direction of flow in the main so as to prevent piling of solids and debris.

6) All holes cut into the main for connection must be cut with an appropriate size hole saw and the actual cutting must be performed in the presence of District personnel.

7) The service line tap system must be sealed with appropriate clamps and sealant must be used to insure a proper seal to the main.

8) Where gravity flow cannot be achieved by a gravity building sewer a grinder pump may be installed and shall meet the requirements as listed in the Low-Pressure Sewer System Requirements section.

C. Connection to Septic Tank Effluent Gravity (STEG) Sewer System Requirements

1) A Septic Tank Effluent Gravity (STEG) sewer system, which is defined as a septic tank to settle and collect solids with a gravity sewer service from the septic tank to the gravity sewer main, is required within the District's Lakeway collection system.

2) The Connection to Gravity Sewer System Requirements in this Article shall apply to all connections to septic tank effluent gravity sewer systems.

3) When connecting to a septic tank effluent gravity sewer system the property owner is responsible for obtaining all the necessary material and appurtenances to connect to the system including an appropriate sized septic tank.

4) All connections to a septic tank effluent gravity sewer system shall include the installation of a concrete septic tank (no metal tanks allowed), for each building, meeting the requirements of the Missouri Department of Health and Senior Services for onsite wastewater systems. The location of the septic tank must be as close to the main sewer and road as possible and in a location that is acceptable to the District for purposes of accessing, inspecting, and periodically pumping and cleaning. An appropriately sized effluent filter shall be installed in each septic tank and must be capable of being removed for periodic cleaning. Plastic septic tanks may be allowed in special circumstances only with the approval of the District.

5) The liquid capacity of a septic tank serving a dwelling shall be based upon the number of bedrooms contemplated in the dwelling served and shall be at least as large

as the following capacities: one (1) to three (3) bedrooms – 1,000 gallons; four (4) bedrooms – 1,250 gallons; five (5) bedrooms – 1,500 gallons.

6) For six (6) or more bedrooms, the septic tank shall be sized on the basis similar to an establishment. No tank shall be designed to retain less than two (2) days', forty-eight (48) hours' flow; and individual residences with more than five (5) bedrooms, multiple-family residences or any place of business or public assembly where the design sewage flow is greater than one thousand gallons per day (1,000 gpd), the liquid capacity of the septic tank shall be designed in accordance with the following: $V = 1.5Q + 500$ where V = the liquid capacity of the septic tank and Q = the design daily sewage flow.

7) Where gravity flow cannot be achieved out of the septic tank to the gravity sewer main an effluent pump shall be installed inside the septic tank and must be capable of meeting the flow and head requirements for the particular application and location. Connections requiring an effluent pump shall install a two-compartment tank that restricts solids from passing to the pump chamber and ultimately from being pumped out of the tank into the main sewer system.

8) Each owner of a property connecting to a septic tank effluent gravity sewer system within the District's Lakeway collection system shall execute an easement granting the District the right to own, operate, maintain, repair, and or replace the septic tank and service line from said tank to the public sewer main including the right of ingress and egress across the property owner's adjacent lands. The District, in its sole discretion, reserves the right to waive this requirement and obligate the property owner to own, operate, maintain, repair, and or replace as necessary the septic tank and service line from said tank to public sewer main.

9) The District is responsible for the pumping of solids periodically out of the septic tanks located only in the Lakeway collection system.

D. Connection to Septic Tank Effluent Pump (STEP) Sewer System Requirements

1) A Septic Tank Effluent Pump (STEP) sewer system, which is defined as a two-compartment septic tank to settle and collect solids with a pump chamber capable of pumping the effluent through a small diameter pressure service line into the pressure sewer main, is required within the District's Emory Creek collection system. Property owners in the District's Emory Creek collection system shall own, operate, and maintain their own STEP tank, pump, and service line out to the shutoff valve prior to its connection to the sewer main. Each property owner is required to pump the solids from their STEP tank periodically in order to properly maintain the system.

2) When connecting to a STEP sewer system the property owner is responsible for obtaining all the necessary material and appurtenances to connect to the system including an appropriate sized septic tank and effluent pump meeting the requirements shown in the District's Standard Details. The effluent pumps to be installed shall be capable of meeting a minimum flow rate of 10 to 15 gallons per minute at a total dynamic head range between 115 – 150 feet up to a maximum of 196 feet.

3) All connections to a STEP sewer system shall include the installation of a two-compartment concrete septic tank (no metal or plastic tanks allowed) with pump

chamber, for each building, meeting the requirements of the District's Standard Details. An appropriately sized effluent filter shall be installed in each septic tank to filter the effluent prior to being pumped from the pump chamber into the sewer system and the filter must be capable of being removed for periodic cleaning. An appropriately sized effluent pump is required for all STEP systems within the Emory Creek collection system. Please consult the District to ensure the proper selection of effluent pump can meet the required head condition.

4) The minimum size two-compartment tank is 1,500 gallons as shown in the Standard Details. For homes with six (6) or more bedrooms, the septic tank shall be sized on the basis similar to an establishment. No tank shall be designed to retain less than two (2) days', forty-eight (48) hours' flow; and individual residences with more than five (5) bedrooms, multiple-family residences, individual septic tank systems serving two (2) or more residences or any place of business or public assembly where the design sewage flow is greater than one thousand gallons per day (1,000 gpd), the liquid capacity of the septic tank shall be designed in accordance with the following: $V = 1.5Q + 500$ where V = the liquid capacity of the septic tank and Q = the design daily sewage flow.

E. General Connection Requirements Applying to all Connections

1) All building sewer lines, connections, reconnections, and relocations require an approved District Connection to Central Sewer permit. All permits must be completed with all required information and legible. Prior to issuing all permits a preconstruction meeting shall be held between the District, the property owner or their representative, and the contractor performing the work. The preconstruction meeting is required to allow the District to review with the property owner and contractor the requirements of the District and the permit and to review the work to be completed, mitigate conflicts with utilities, easements, and structures, and plan where and how the service line and connections will be made. The permit once approved is to be posted on the property. A 24-hour notice for the inspection to be performed is required to give the District time to plan their work and respond. Once the service line and connection has been inspected and approved by the District, the system may then be placed in operation.

2) The connection of the building sewer into the public sewer and all building sewers themselves shall be made gastight and watertight.

3) An inspection of the entire service line from the building to the sewer main is required and must be conducted by District personnel prior to backfilling. The service line trench and connection at the main must remain open for inspection or the contractor will be required to uncover the line to allow for the inspection. Service lines must be installed with specification writing on pipe facing up and visible to allow verification of pipe types during inspection.

4) Each individual property must have its own individual building sewer. Building sewers shall not be shared. Building sewers shall remain on the property they are intended to serve or in a sewer or road right-of-way.

5) All building sewer service lines including the connection to the sewer main, and grinder pump if required, is the responsibility of the property owner. This includes responsibility for ownership, operation, maintenance, and repair or replacement.

6) The property owner/builder shall provide the excavation, equipment, labor, and materials as required to make a proper connection and complete the service line connection and installation.

7) Prior to backfilling a visual inspection of the main connection and the entire length of service line shall be made. A pressure test shall be made and passed in the presence of District personnel also prior to backfilling and before tapping the main. For gravity building sewers the pressure test shall be an air test for five (5) psi for fifteen (15) minutes. For pressure sewer service lines, the test shall be an air test for twenty-five (25) psi for fifteen minutes. The pressure test gauge shall be connected to the pipe (no tire gauges) and meet the following minimum specifications:

Size (diameter)	4-1/2 inches
Pressure Range	0-25 P.S.I.
Figure Intervals	1 P.S.I. Increments
Minor Subdivisions	0.gre5 P.S.I.
Pressure Tube	Bourdon Tube or diaphragm
Accuracy	+ 0.25% of maximum scale reading
Dial	White coated aluminum with black lettering, 270° Arc and mirror edge
Pipe Connection	Low male 1/2" N.P.T.

8) All building sewers must be constructed with a minimum eighteen (18) inches of cover from top of pipe to finished grade.

9) No. 12 insulated copper trace wire must be installed on all service lines, attached directly to the pipe, from the connection at the main to the first cleanout on a gravity service and to the shutoff valve on low pressure service lines. All trace wire splices shall be connected with a waterproof connection such as wire nuts with gel, trace wire kits, etc. Trace wire shall be inspected and tested by the District prior to backfill.

10) All risers for cleanouts, valves, etc. must be installed with traffic-rated lids.

11) All service line pipe joints must be properly glued with an approved PVC pipe adhesive to ensure a watertight seal. Approved adhesives include Oatey Purple Primer and Oatey Rain-R-Shine Cement; or approved equals.

12) Ninety (90) degree ells or sweeps are prohibited. A minimum distance of six (6) inches must be maintained between two ells.

13) Furnco or “no-hubs” on any pipe connections are prohibited.

14) Bell and spigot pipe must be installed with the spigot end facing downstream.

15) Service lateral trench width must be three (3) times the diameter of the pipe. All service laterals must be bedded with six (6) inches of ¾” to 1” clean rock below, on each side, and above the pipe and the pipe must be centered in the trench. Backfill to finish grade with zero (0) to two (2) inch rock, dirt, sand, etc. in non-traffic rated areas. Traffic areas must be full depth gravel backfill meeting the requirement of the governing authority of the roadway. Gravel bedding shall be onsite and installed

under the pipe prior to and during inspections to allow inspectors to efficiently inspect the work and ensure the pipe is properly bedded.

16) For service line construction that crosses or impacts a public roadway, the contractor performing the work must obtain a permit from the governing authority of the roadway prior to beginning any work.

17) Service lines required to be installed under roadways, driveways, sidewalks, etc. must be installed utilizing a steel casing or sufficiently sized pipe with adequate wall thickness, and proper spacers around the carrier pipe, all of which is subject to the approval of the District Administrator. When boring is utilized to install service lines, the work must be completed by a qualified boring contractor experienced in the means and methods of boring utilities.

18) Manhole connections are allowed when the sewer main is ten (10) feet in depth or greater. The manhole connection must be made with an approved "A-Lok" type gasket and must provide an inside drop with a tee installed in the direction of flow and an adequate number of stainless-steel clamps to fasten the drop to the manhole wall.

19) When crossing public water mains or service lines install sewer service with eighteen (18) inch minimal separation preferably with sewer line underneath the water line. If eighteen (18) inch separation is not obtainable the sewer line shall be sleeved in a steel casing or a four (4) inch thick by eighteen (18) inch wide by ten (10) feet long concrete slab must be poured between the sewer service and public water main. The concrete slab shall be positioned along the sewer service line five (5) feet each side of where the sewer service crosses the public water main. Joints of the sewer service shall be located a minimum of five (5) feet from the public water main crossing. This work shall be visually inspected, photographed, and documented by the District.

20) When crossing a drainage ditch in solid rock the sewer service shall be entrenched with a minimum of twelve (12) inches of cover and a six (6) inch concrete cap placed at the top of the trench. When crossing a drainage ditch in materials other than rock the service shall have a minimum eighteen (18) inches of cover and encased in concrete a minimum of six (6) inches around the pipe. Concrete caps and encasements shall extend five (5) feet beyond the drainage ditch width.

21) For non-residential customers that are billed based on water usage and are on a private well, they shall install a water meter that is suitable for the application such as Epson, Neptune, or approved equal brands with low flow detection capability. The meter shall be installed on the water supply line in a pit outside of the building in a location easily accessible for reading and must report in gallons only. The water meter shall be installed and approved before a sewer connection permit can be issued. The District will read the meter each month to obtain the usage for sewer billing. The non-residential customer is responsible for maintaining the meter in good working order. The District shall have the right to inspect the meter and verify its accuracy. The customer must follow the District rules and regulations in regard to payment of sewer bills. For customers that utilize water for wash downs, etc. that does not put all water into the building sewer they are required to install a sub-meter meeting the same requirements as above and that sub-meter will be read monthly and subtracted from the reading from the main water meter serving the building and/or property.

22) Any deviations from the requirements listed in this document must be approved by the District in writing prior to the work being completed.

23) In the absence of code provisions or in amplification thereof, the materials and procedures set forth in the appropriate specification of the American Society for Testing and Materials (ASTM) or plumbing codes shall apply.

24) Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

25) The applicant for the building sewer permit shall notify the District when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the District. If the District is not notified and subsequently does not supervise the construction of the building sewer and/or connection to the public sewer, the District reserves the right to require any building sewer and/or connection to the public sewer to be uncovered in order to determine the work was constructed properly and in accordance with District approved requirements.

26) All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the District.

27) All persons, developers, plumbers, builders, or their contractors that will be performing construction of building sewers and service lines connecting to a District maintained system must be experienced, capable, and professional in performing the work in a quality, safe, and workman like manner. Contractors must maintain general liability insurance in the amounts and kinds sufficient for the type and cost of work they are performing. Contractors are responsible for all damage that may occur to the District's facilities caused by their work. At a minimum, contractors must maintain a $5,000 utility/permit bond in the District's name as security for damages that may occur to the District's facilities.

28) A connection permit is approved for one year from the date of the administrative approval and all connections approved through the permit must be made during the one year or the property owner must reapply, and the District reserves the right to revoke the capacity granted in its sewer systems. If the connection/capacity fees are waived, the waiver of said fees expires with the expiration of the permit.

29) Capacity fees are exempted for properties within an approved District capital improvement project area for one year following project substantial completion. To qualify for the fee waiver, the connection must be finalized prior to the one-year deadline.