
**SECTION 02530
SANITARY SEWER LINE CLEANING**

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. Cleaning of Sanitary Sewer Lines to include all the equipment, labor and materials necessary to perform all work for sewer line cleaning.

1.2 MEASUREMENT AND PAYMENT

- A. Unit Prices:
 - 1. No separate payment shall be made for acceptance testing under this Section. Include payment in the unit price for work requiring acceptance testing.
 - 2. Refer to Section 01270 - Measurement and Payment for unit price procedures.
- B. Stipulated Price (Lump Sum):
 - 1. If Contract is Stipulated Price Contract, payment for work in this Section is included in Total Stipulated Price.

1.3 REFERENCES

- A. CFTS – City of Friendswood Technical Specifications.
- B. TCEQ – Texas Commission on Environmental Quality.

1.4 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. The Contractor shall submit all manufacturer's brochures and specifications for the cleaning equipment.
- C. Methods of cleaning and clearing lines shall submit for review and approval by the Project Manager.

1.5 QUALITY ASSURANCE

- A. The Contractor shall comply with all codes, laws, ordinances and regulations of the governmental authorities having jurisdiction over this work.
- B. The Contractor shall comply with the latest revision of the Occupational Safety and Health Administration manuals for construction and confined spaces.
- C. The Contractor shall comply with all rules and regulations of the Texas Commission on Environmental Quality.
- D. The sanitary sewer line cleaning shall remove foreign materials from the lines and restore the sanitary sewer to a minimum of ninety-five percent (95%) of the original carrying capacity or as required for proper seating of an internal pipe line. It is recognized that there are some conditions such as broken pipe and major blockages that prevent cleaning from

being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor shall immediately notify the Project Manager and the Contractor shall not be required to clean that section of pipe.

1.6 COORDINATION

- A. The Contractor shall completely remove and dispose of all dirt, rubbish and surplus, and unsuitable materials at the end of each work day at no additional cost to the City and in accordance of Section 01580 – Waste Material Disposal.
- B. The Contractor shall be allowed to use the City water supply for filling the tanks. The Contractor shall go to the Public Works Department and obtain, by leaving a deposit, a meter for fire hydrants. There shall be no charge for the water used during this operation. There shall be either an RPZ or and an air gap for filling of the tanks. All filling operations are to be reviewed by the Project Manager.

PART II: PRODUCTS

2.1 HIGH VELOCITY JET (HYDRO CLEANING) EQUIPMENT

- A. All high-velocity sanitary sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two (2) or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from fifteen degrees (15°) to forty-five degrees (45°) in all sizes of pipe designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floors. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, hydraulically driven hose reel and recovery tank.
 - 1. The equipment shall have a minimum of six hundred feet (600 Ft) of one inch (1 In) I.D. high pressure hose.
 - 2. The nozzles shall have a capacity of sixty gallons per minute (60 GPM).
 - 3. The minimum working pressure shall be one thousand pounds per square inch (1000 psi).

PART III: EXECUTION

3.1 CLEANING PRECAUTIONS

- A. During sanitary sewer cleaning operations, satisfactory precautions shall be taken in the use of the cleaning equipment to insure that the water pressure does not create damage or cause flooding of property or buildings being served by the sewer. Extraordinary care shall be taken to prevent the nozzle from causing damage to people, vehicles or other

property that are in the vicinity of or around the equipment.

3.2 SEWER LINE CLEANING

- A. The designated sanitary sewer sections shall be cleaned using high-velocity jet equipment. The equipment shall be capable of removing roots, dirt, grease, sand, rocks and other materials and obstructions from sanitary sewer lines and manholes. There shall be a debris catcher on the downstream manhole if the system is currently tied into the City's existing sanitary sewer system. If cleaning of an entire section cannot be successfully performed from one (1) manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If again successful cleaning cannot be performed or the equipment fails to transverse the entire section, it shall be assumed that a major blockage exists and the cleaning effort shall be abandoned after notification to and approval by the Project Manager.

3.3 ROOT REMOVAL

- A. Roots shall be removed in the sections where root intrusion is a problem. Special attention shall be used during the cleaning operation to assure almost complete removal of roots from the joints. Roots which could prevent installation of a pipe liner shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and "porcupines", and equipment such as high-velocity jet cleaners.

3.4 MATERIAL REMOVAL

- A. Sludge, dirt, rocks, sand, grease, roots and other solid or semi-solid material resulting from cleaning operation shall be captured and removed at the downstream manhole of the section being cleaned, loaded in a suitable container, transported to the nearest wastewater treatment facility and disposed of at that facility in accordance with all requirements and charges and as specified in Section 01580 – Waste Material Disposal.
- B. **UNDER NO CIRCUMSTANCES SHALL SEWAGE OR SOLIDS OR ANY OTHER TYPE OF WASTE MATERIAL FROM THIS OPERATION THAT HAS BEEN REMOVED FROM THE CITY SEWER SYSTEM, BE DUMPED ONTO STREETS OR INTO DITCHES, CATCH BASINS, STORM DRAINS, EXISTING SANITARY SEWER MANHOLES, ON THE GROUND OR INTO STREAMS.**

3.5 CLEANING WATER DISPOSAL

- A. Water used to clean the sewer lines shall be discharged into the sanitary sewer system downstream of the cleaning operation or as otherwise directed by the Project Manager.
- B. **UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR DISCHARGE WATER USED TO CLEAN THE SEWER LINES ONTO**

**STREETS OR INTO DITCHES, CATCH BASINS, STORM DRAINS,
EXISTING SANITARY SEWER MANHOLES, ON THE GROUND OR
INTO STREAMS.**

3.7 FINAL ACCEPTANCE

- A. Acceptance of sanitary sewer line cleaning shall be made upon completion of the television inspection as specified in Section 02520 – Television Inspection of Sanitary Sewer Lines. The DVD media and reports shall be reviewed and approved by the Project Manager. Any television inspection that shows the cleaning to be unsatisfactory shall require the process of re-cleaning and re-inspecting to be repeated until the sanitary sewer line cleaning is satisfactory to the Project Manager. Re-cleaning and re-inspection shall be done at no additional cost to the City.

END OF SECTION