

SAN ANTONIO RIVER AUTHORITY
UTILITIES DEPARTMENT

SECTION 33-01-30
SEWER MAIN CLEANING

PART 1 GENERAL

1.1 DESCRIPTION:

A. RELATED WORK SPECIFIED ELSEWHERE:

Section 01-33-00 - Submittals
Section 33-01-31 - Sewer Main TV Inspection
Section 33-31-00 - Sanitary Sewers

B. SCOPE:

This item shall govern for the cleaning of sanitary sewer lines. Prior to commencing operations for the television inspection, slip lining, or other related activities such as grouting or internal sewer line rehabilitation, it shall become the responsibility of the CONTRACTOR to clean the line of any protrusions, solids, or any other extraneous materials, that might prevent the pulling of the television camera, liner pipe or other related equipment through the existing sewers.

PART 2 EXECUTION

2.1 GENERAL

- A. The designated sanitary sewer manhole sections and manholes shall be cleaned using hydraulically propelled or high velocity sewer cleaning equipment. Selection of the equipment shall be based on the condition of the lines at the time the work commences. The equipment and methods selected shall be approved by the OWNER.
- B. Satisfactory precautions shall be taken to protect the sewer lines from damage that might be inflicted by the improper use of cleaning equipment. Any damages done to a sewer main and/or structure by the CONTRACTOR shall be repaired by the CONTRACTOR at no additional cost and to the satisfaction of the OWNER. Cleaning shall also include the manhole wall washing by high pressure water jet.
- C. All sludge, dirt, sand, rocks, grease and other solid or semi-solid material resulting from the cleaning operation shall be removed at the downstream manhole of the line section being cleaned. Passing of debris from manhole line section to manhole line section shall not be allowed.
- D. All debris from manholes shall also be removed either manually or mechanically prior to the commencement of other related activities connected with the work. When hydraulic cleaning equipment is used, a suitable sand trap, weir or dam shall be constructed in the downstream manhole in such a manner that the solids shall be trapped. All solids or semi solids resulting from the cleaning operations shall be removed from the site and disposed of. It is the responsibility of the CONTRACTOR to secure a legal dump site for the disposal of this material. Under no circumstances shall sewage or solids be removed during the course of these operations be dumped into streets or into ditches, catch basins, storm drains, sanitary sewer manholes, rivers, or streams.

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- E. The OWNER makes no guarantee that all of the sanitary sewers to be entered are clear for the passage of cleaning equipment. The methods used for securing passage of the cleaning equipment are to be at the option of the CONTRACTOR and subject to the approval of the OWNER. The cost of retrieving the cleaning equipment and related apparatus, should it become lodged, by any means, during the cleaning process, shall be the responsibility of the CONTRACTOR.
- F. If the CONTRACTOR removes or damages any portion of an existing manhole to get equipment into or out of the line, they must replace that portion of the manhole to existing or better condition as directed by the OWNER.

2.2 HYDRAULIC CLEANING:

- A. Hydraulic-propelled devices which require a head of water to operate must utilize a collapsible dam. The dam must be easily collapsible to prevent damage to the sewer main, property, etc.
- B. Whenever hydraulically propelled cleaning tools, which depend upon water pressure to provide their cleaning force or any tools which retard the flow of water in the sewer lines are used, precautions shall be taken to ensure that the water pressure does not cause any damage or flooding to public or private property being served by the manhole line section involved.
- C. The flow of sewage present in the sewer lines shall be utilized to provide the necessary fluid for hydraulic cleaning devices whenever possible. When an additional quantity of water from fire hydrants is necessary to avoid delay in normal working procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed or used when there is a fire in the area. Before using any water from the public water supply system, the CONTRACTOR shall apply for and receive permission from the managing water utility. He shall be responsible for the water meter and related charges for the set up including the water usage bill. All expenses shall be considered incidental to cleaning.

2.3 HIGH VELOCITY CLEANING:

- A. Cleaning equipment that uses a high velocity water jet for removing debris shall be capable of producing a minimum volume of 50 gpm, with a pressure of 1,500 psi, for the sanitary sewer line and 3,500 psi for the (manhole) structure at the pump. Any variations to this pumping rate must be approved, in advance, by the OWNER.
- B. To prevent damage to older sewer mains and property, a pressure less than 1,500 psi can be used.
- C. A working pressure gauge shall be used on the discharge of all high-pressure water pumps.
- D. The CONTRACTOR shall use, in addition to conventional nozzles, a nozzle which directs the cleaning force to the bottom of the pipe for sewers 18" and larger in diameter.
- E. The CONTRACTOR shall operate the equipment so that the pressurized nozzle continues to move at all times. The pressurized nozzle shall be turned off or reduced anytime the hose is on hold or delayed in order to prevent damage to the line.

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2.4 MECHANICAL CLEANING:

- A. Mechanical cleaning, in addition to normal cleaning when required, shall be with approved equipment and accessories driven by power winching devices. The CONTRACTOR shall submit the equipment manufacturer's operational manual and guidelines to the OWNER, which shall be followed strictly unless modified by the OWNER.
- B. All equipment and devices shall be operated by experienced operators so that they do not damage the pipe in the process of cleaning.
- C. Buckets, scrapers, scooters, porcupines, kites, heavy duty brushes, and other debris-removing equipment/accessories shall be used as appropriate and necessary in the field, in conjunction with the approved power machines. The use of cleaning devices such as rods, metal pigs, porcupines, root saws, snakes, scooters, sewer balls, kites, and other approved equipment, in conjunction with hand winching device, and/or gas, electric rod propelled devices, shall be considered normal cleaning equipment.

2.5 INSPECTION:

- A. Inspection of the line cleanliness will be by the television inspection in the next phase of work.
- B. CONTRACTOR to notify OWNER 48 hours prior to conducting work, to ensure an OWNER's representative is on site.

PART 3 PRODUCTS

See San Antonio River Authority approved products and materials list.

PART 4 MEASUREMENT AND PAYMENT

No separate payment will be made for any items of work, materials, parts, equipment, supplies, or related items required to perform and complete the requirements of this section. The costs for all such items required shall be considered subsidiary to other items of this Contract and shall not be paid for separately.

END OF SECTION