

**CONSTRUCTION STANDARD SPECIFICATION**

**SECTION 02956**

**SEWER CLEANING**

	<u>Page</u>
 <u>PART 1 - GENERAL</u>	
1.01 Summary .....	2
1.02 System Description .....	2
1.03 Submittals .....	2
1.04 Project Conditions .....	3
 <u>PART 2 - PRODUCTS</u>	
2.01 Materials .....	3
2.02 Equipment .....	3
2.03 Water .....	3
 <u>PART 3 - EXECUTION</u>	
3.01 Examination .....	4
3.02 Application .....	4
3.03 Field Quality Control .....	5
3.04 Cleaning .....	5

**CONSTRUCTION STANDARD SPECIFICATION**

**SECTION 02956**

**SEWER CLEANING**

PART 1 - GENERALPART I - GENERALPART I - GENERALPART I - GENERAL{tc \1 1  
"PART I - GENERAL"}

1.01 SUMMARY

- A. Section includes sewer line cleaning, manhole cleaning, and internal obstruction removal.
- B. Related Sections: Refer to the following sections for related work:
  - 1. Section 02955, "Sewer Flow Control".
  - 2. Section 02959, "Television Inspection".
  - 3. Section 02957, "Sewer Pipe Lining".
  - 4. Section 02958, "Manhole Rehabilitation".

1.02 SYSTEM DESCRIPTION

- A. Cleaning shall remove sediment, rocks, debris, roots, grease accumulations and obstructions from length of sewer and manholes to be lined.
- B. Cleaning of sewer and manhole walls in vicinity of lining shall remove grease, scale, encrustation and loose mortar so that no foreign intrusion shall cause imperfections in lining (e.g. bumps, folds, dimples).
- C. Sewer cleaning methods shall be washing with high pressure water or other as approved by Sandia Delegated Representative (SDR).

1.03 SUBMITTALS

Submit letter that identifies methods that will be used to remove sediment, debris, grease, scale, encrustations, loose concrete, and roots throughout section of sewer to be cleaned. Include the following:

- A. Detailed explanation of cleaning process.
- B. Schedule of activities.
- C. References where identified cleaning method has been used successfully in the past by Contractor.
- D. List of the actions to mitigate impact to Sandia National Laboratories (SNL) during cleaning operation.

#### 1.04 PROJECT CONDITIONS

Access to manholes shall be provided by SNL.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

Do not use chemicals without written approval of SDR. Do not use chemical which may be considered hazardous or detrimental to organisms or equipment of wastewater treatment plant.

#### 2.02 EQUIPMENT

High-Velocity Hydraulic (Hydro-Cleaning) Equipment: Equipment shall be capable of removing dirt, grease rocks, sand, roots, and other materials and obstructions from sewer lines and manholes.

- A. Equipment shall have selection of two or more high-velocity nozzles.
  - Nozzles shall be capable of producing scouring action from 15 to 45 degrees in all size lines designated to be cleaned, with nozzle capable of producing flows from fine spray to solid stream.
- B. Equipment shall carry its own water tank, auxiliary engines, and high pressure water pump.
- C. Combination Unit Pump: Capable of pumping at least 80 gallons per minute (300 liters per minute) at 2,000 psi (13.8 MPa), measured at beginning of hose reel.
- D. Water Pump: Able to run at 2,000 psi (13.8 MPa) while pulling full vacuum, completely independent from vacuum system, with ability to vary vacuum without affecting water pressure.

#### 2.03 WATER

- A. When water from fire hydrants is necessary, apply to SNL for permission to use potable water source.

- B. Provide temporary piping, valves, certified reduced pressure backflow preventors, equipment, and other items for handling potable water and wastewater.
- C. Do not utilize water source until it has been approved for use by SDR.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

Contractor shall be aware of flow conditions, and be able to identify potential access problems to sewer access points.

#### 3.02 APPLICATION

- A. Line Cleaning: Clean designated sewer lines using approved methods and equipment.
  - 1. Remove internal obstructions such as roots or gaskets by trenchless techniques when obstruction encountered prevents further pipe cleaning.
    - a. Provide special attention during cleaning operation to assure almost complete removal of roots from joints.
    - b. Procedures to remove internal obstructions may include use of equipment such as rodding machines, root saws, bucket machines and winches using root cutters, porcupines, and jet machines equipped with hydraulically driven cutters.
  - 2. If cleaning of entire section cannot be successfully performed from one manhole, set up equipment at other manhole and attempt cleaning again.
    - a. If successful cleaning cannot be performed or equipment fails to traverse entire sewer line section, it will be assumed that major blockage exists.
    - b. Temporarily suspend cleaning effort and immediately notify SDR.
    - c. Upon removal of obstruction, complete cleaning operation.
  - 3. Employ satisfactory precautions to protect sewer line from damage that might be inflicted by improper use of cleaning equipment.
    - a. Immediately notify SDR if fresh soil, pieces of pipe, or other visible signs of potential problems occur during cleaning operation.
    - b. Insure that water pressure created does not cause damage due to flooding of property being served by sewer section(s) involved.
- B. Manhole Cleaning: Include entire manhole interior, including manhole benches and walls. Incorporate into line cleaning operation by scouring walls with high velocity nozzle after pipe segment cleaning operation is complete.

- C. Removal of Debris: Flush debris downstream and do not remove. In the event that debris removal is necessary, SDR will coordinate requirements with SNL Waste Management Liaison.

Do not discharge sewage or solids removed from downstream manholes, onto streets, or into ditches, catch basins or storm drains.

### 3.03 FIELD QUALITY CONTROL

- A. Inspection: Provide television inspection per Section 02959, "Television Inspection."
- B. Where cleaning is in preparation for sewer line rehabilitation, cleaning shall pass Mandrel test in accordance with Division 2, "Sewer Pipe Lining".
- C. Where cleaning is in preparation for manhole rehabilitation, comply with requirements of Section 02958, "Manhole Rehabilitation".

### 3.04 CLEANING

- A. Keep premises free from accumulations of waste materials, rubbish and other debris resulting from Work.
- B. Remove waste materials, rubbish, and debris from and about premises.
- C. Remove tools, construction equipment and machinery, and surplus materials.
- D. Restore to original condition portions of site not designated for alterations by Contract Documents.

END OF SECTION