



**SCOPE OF WORK  
SEWER LINE CLEANING  
FOR CITY OF THE OF HUNTINGTON BEACH PROPERTY**

- A. General** – The City of Huntington Beach is an urban city with a population of 197,000 residents. It contains approximately 17,730 acres, or 28 square miles, of which 97 percent is developed for residential, commercial, industrial, institutional, public, and street/highway use. Residential use is the largest single land use in the City. Huntington Beach is surrounded by Westminster to the north, Fountain Valley to the northeast, Costa Mesa to the east, Newport Beach to the southeast, Sunset Beach to the northwest, and the Pacific Ocean to the west. Elevations vary from sea level to approximately 200 feet above sea level.

The City is responsible for operating and maintaining 28 sewer lift stations, 360 miles of sewer line, and 10,091 manholes that comprise the Wastewater Collection System. Pipe size ranges from 6 to 30 inches in diameter, and collectively they transport the 18 million gallons of wastewater generated each day in Huntington Beach. The lift stations vary in capacity from approximately 80 to 1,800 gallons per minute, and assist in transporting roughly a third of the city's wastewater. After rehabilitation of the city's oldest pipelines and structures, the average age of the collection system is now 36 years.

Sewer lines to be cleaned are VCP, DIP, and PVC and range in sizes from 6 to 30 inches in diameter. Lengths shown are approximate. Payment will be for actual footage cleaned.

6"	=	3,671 ft.
8"	=	35,313 ft.
10"	=	15,495 ft.
12"	=	15,668 ft.
14"	=	439 ft.
15"	=	7,419 ft.
18"	=	4,715 ft.
21"	=	21 ft
24"	=	1,392 ft.
27"	=	2,658 ft.
30"	=	1,313 ft.

Work crews shall be on site between 7:30 a.m. to 3:30 p.m., Monday through Thursday. Sewers are the property of the City of Huntington Beach and located in the city shown on atlas maps provided to the Service Provider. These sewer lines are located on arterial streets Edwards St. to PCH from Bosla Ave. South Slater Ave. **Attachment A.**



The Contractor shall be licensed in the State of California as a General Engineering Contractor, General Building Contractor, or C42 Specialty Contractor with current and valid certificates of license. Additionally, the Contractor shall submit a sample DVD or CD and related documentation of a CCTV inspection to be used in determining the quality of the Contractor's work. The City reserves the right to disqualify and reject the proposal of any Contractor who submits a sample showing an inspection that does not meet the specifications provided herein. Approximately 10% of sewer lines cleaned will be CCTV inspected on a DVD or CD, this shall be used for comparison with work performed under this Contract to determine if the Contractor is delivering promised quality. The Contractor shall submit the digital recording on DVD or CD with any invoices. The City's representative shall select which lines will receive CCTV verification. NASSCO Certified operators and PACP Wincan Version 8 or Graite XP Version 7 is the only format acceptable for the CCTV Inspection. If it is determined that any sewer line has not been cleaned 100%, It is at the expense of the contractor to re clean and CCTV inspect the line again at no cost to the City.

## **B. Cleaning Equipment**

1. Combination of high velocity hydro-cleaning and vacuum removal equipment shall be utilized and shall have the following features as a minimum:
  - a. A minimum of 800 feet of 1-inch diameter high-pressure hydro flushing hose.
  - b. Two or more high velocity nozzles capable of producing a scouring action from 15 degrees to 45 degrees in all size lines to be cleaned. Nozzle skirts shall be used for the appropriate size of pipe being cleaned.

Note: Service Provider and City of Huntington Beach representative to ensure jet diameter not to exceed 0.860-inch diameter shall inspect Nozzle jet orifices periodically. Nozzle jets will be considered worn if a 3/32" drill bit can be inserted into the jet orifice. The nozzle shall then be removed from service. For nozzles with replaceable jets, the oversize jets shall be replaced before the nozzle can be used again.

- c. At least one root cutter attachment for 8" through 15" pipe.
- d. A high-pressure handgun for washing and scouring manhole walls, channels, shelves, and manhole cover frames.
- e. A 1,500-gallon minimum water tank, pump and a hydraulically driven hose.
- f. Equipment operational control located above ground.
- g. Minimum working pressure of 1,500 pounds per square inch at 80 G.P.M. rate.
- h. Positive displacement blower vacuum equipment suitable to remove all debris at the downstream manhole while the hydro flushing is being performed.
- i. Two (2) two-way hand held radios for communication in easements.



- C. Cleaning Precautions** – During sewer cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment to ensure that the water pressure or head created does not damage or cause flooding of public or private property being served by the sewer. Care shall be exercised in the selection and use of the cleaning tools to avoid pipe damage. Use of a nozzle skid is required to prevent accidental entry of nozzle into house connections.
- D. Sewer Cleaning Procedures** – The designated sewer line segments will be cleaned using combination high-velocity jet with vacuum removal. The normal cleaning operation shall be to jet from the downstream manhole towards the upstream manhole thereby pulling any debris back to the downstream manhole. If no debris is present then a single pass shall be sufficient. If debris is encountered the entire run shall be made repeatedly until debris is no longer present. Cleaning 100% of all debris. At any sign of significant dirt and gravel the cleaning operation for that pipe shall cease and City of Huntington Beach shall be notified of a possible line break.

Once the appropriate traffic control has been placed the Service Provider shall wash the upstream manhole with the high-pressure water gun while being cautious not to spray any surrounding vehicles or pedestrians. Any major defects in the manhole or the frame and cover shall be noted and brought to the attention of City of Huntington Beach.

Selection of the equipment used will be based on the conditions of the sewer lines at the time work commences. The equipment and methods selected must be satisfactory to City of Huntington Beach's representative(s). The equipment shall be capable of removing dirt, grease, roots, calcium and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from the downstream manhole, the equipment will be set up on the upstream manhole and cleaning will again be attempted. If successful cleaning again cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the Service Provider will notify City of Huntington Beach's representative(s) of this condition immediately for further instructions. Pullback rate on jetting shall not be greater than three feet per second.

The cleaning method shall be to jet from the upstream manhole down slope for washing purposes on pipeline segments with extremely steep slopes where the jitter nozzle fails to climb to the upstream manhole. Contractor would jet from the downstream manhole upslope so that the cleaning directions overlap. Water for cleaning will be from the closest available fire hydrant. The Service Provider shall make arrangements with the local water agency (City of Huntington Beach, Treasurers Office, 2000 Main St., H.B. Ca. 92648) for the water meters and any other equipment needed to get water from the agency.

Enhanced areas and siphon lists are in **Attachment B**. If there are any questions regarding these lists or previous cleaning data, they should be directed to Mark Birchfield, Maintenance Supervisor. May be contacted at (714) 536-5921. City of Huntington Beach crews will be cleaning/maintaining siphon and Enhanced areas on a routine basis, typically a 1-12 month frequency. However, the Service Provider is still required to provide line cleaning in these areas as shown in the cleaning sequence.



- E. Permits and Access** – Service Provider shall acquire all required fees and licenses. For any encroachment permits required by the City of Huntington Beach when cleaning and inspections are necessary on their right-of-ways. City of Huntington Beach will reimburse Service Provider for permit fees. Coordination of sewer cleaning will be made through the City of Huntington Beach’s representative Mark Birchfield at (714) 375-5041. Mark Birchfield shall be notified one week in advance of the Service Provider’s anticipated cleaning area. Atlas will be provided to the Service Provider. A sewer atlas with the Enhanced areas and siphons highlighted will be provided to the Service Provider.
- Easements requiring additional manpower for making turns in manholes or for pulling the jetter hose, coordination will be made through City of Huntington Beach’s contact Mark Birchfield at (714) 375-5041. Two-way hand held radios may be needed for communication.
- F. Material Removed** – The Service Provider shall be responsible for the removal of debris from the pipeline and cleaning and/or relearning the pipe wall to City of Huntington Beach’s satisfaction. All sludge, dirt, sand, rocks, roots, grease and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which may cause line stoppages, shall not be permitted.
- G. Material Disposal** – Liquids shall be decanted and drained back to the sewer. All solids or semisolid resulting from the cleaning operations will be removed from the work site and disposed of at no added cost to the Service Provider, to the Orange County Sanitation District’s plant located at 22212 Brookhurst Street, Huntington Beach, California. All materials will be removed from the work site at the end of each workday. Under no circumstances will the Service Provider be allowed to accumulate debris, etc. on the site of work beyond a single workday, except in totally enclosed leak and odor proof containers and as approved by City of Huntington Beach’s representative(s). **See Attachment C** “Sewer Grit Disposal Procedure”.
- H. Spill Reporting and Handling** – Service Provider shall immediately notify City of Huntington Beach’s representative(s) of any manhole overflow or interruption/backup of customer service and Service Provider shall be responsible for any fines levied by others as a result of the Service Provider’s work.

**Attachment D is the “Notification Guidelines for a Spill”** which includes the telephone numbers of the various agencies. Ultimately, if the Service Provider is involved with a spill, he must:

1. First and immediately notify City of Huntington Beach at (714) 536-5921. City of Huntington Beach will then make the required notifications.
2. Secondly, the Service Provider must attempt to contain the spill to isolate it from entry to any storm drain systems or waterways.
3. Thirdly, the Service Provider must attempt to relieve the spill. Once the spill has been contained and relieved, the area must be cleaned up.
4. Lastly, follow-up reports must be made after spill has been stopped and cleaned up detailing amount of spill, amount of wash water used and final destination of the sewage.



Service provider shall be responsible for any fines levied by others, reimbursement of any agency incurred costs, damage, cleanup, restoration of flow, and any disruption of service costs to customers as of a result of Service Provider's work. The customer in addition to any and all costs incurs this.

Service Provider shall also notify City of Huntington Beach immediately of any apparent non-Service Provider related spills and/or any abnormal conditions.

- I. **Confined Space Issues and Safety Issues** – All manholes in this work are defined as Title 8 Permit Required Confined Spaces. The Service Provider's attention is directed to the General Industry Safety Orders of the State of California, Article 108, Confined Spaces, Section 5157 (Title 8 of California Code of Regulations, Sections 5167, 5157, 5158). Service Provider shall attend a safety meeting at City of Huntington Beach with the Safety and Emergency Response Division prior to award for the purpose of reviewing the Service Providers safety manuals his knowledge of Title 8 and to discuss all safety aspects of the job.

All work shall be conducted from above ground. Manhole entry, if required, shall be conducted in strict accordance with permit required confined space entry regulations. These regulations include, at a minimum: entry permit, trained authorized entrants(s), attendant(s), entry supervisor(s), full body harness (with life line), mechanical retrieval device, continued force air ventilation, continuous air monitoring, communication system (minimum two types), and all other protective equipment that may be required. Work shall be conducted in accordance with all Federal, State, and local laws and regulations.

- J. **Traffic Control** – All traffic control shall be in accordance with the latest American Public Works Association WATCH handbook and City of Huntington Beach Maintenance Work Traffic Control Manual and based on the speed limits posted in the work zones. Flagmen may be required in some locations. Additional local regulations shall have precedence. Service Provider shall apply for all traffic control permits and pay all fees and permits for said permits. Safe and adequate pedestrian and vehicular access shall be provided in accordance with Section 7-10 of the Standard Specifications for Public Works Construction, 2005 Edition.

**NOTE – Inadequate or improper signing and delineation for traffic control may be cause for the cancellation of the contract.**

- K. **Work Plan** – The Service Provider shall prepare a weekly work plan and submit it one (1) week in advance to City of Huntington Beach representative Mark Birchfield for review and approval at (714) 375-5041. The plan shall verify the cleaning sequence and identify all the line sections to be cleaned based on City of Huntington Beach maps and sequence data provided. Plan may be amended for weather or local road maintenance or construction issues discovered by either party.
- L. **Work Documentation** – Daily reports based on the work plan shall be submitted for City of Huntington Beach review with the invoice for payment. Service provider's log sheets, with a section by section breakdown including comments, shall be maintained on site, in a legible manner, for review at all times. Comments on log sheets include notice of badly worn frames and covers and of badly deteriorated manhole concrete structures.



- M. Crew Size** – Service Provider shall provide a minimum of a three-person crew at all times, one person shall witness the jetting nozzle reach the upstream manhole. A crew of three shall be utilized for all work in confined spaces. Additional personnel shall be utilized when needed for traffic control flagmen.

**Sewer Atlas (Map)** – A \$500.00 deposit is required for a set of two Sewer Atlases: This deposit will be refunded provided both are returned in clean condition and within thirty (30) days following the bid opening. Maps not returned within the thirty (30) day time period will be considered as purchased and deposits will be processed accordingly. City of Huntington Beach shall make no obligation to notify bidders that the thirty (30) day refund period is, or has elapsed. No exceptions will be made.

Contact Eric, Powell at 714-536-5500 to arrange for a Sewer Atlas (Map) pick-up.

- N. Emergency Response** – Contractor shall be able to respond to an Emergency Call out within 1 hour from the time the call was placed. Failure to do so would terminate the contract.
- O. Contract term** – This will be a one (1) year contract. If it is mutually agreeable to both the City of Huntington Beach and the successful bidder, this contract may be renewed for up to four (4) additional years in one (1) year increments.