



Surat Municipal Corporation

Sewer Cleaning and Maintenance

Action Plan

Contents

1. Introduction.....	3
2. Sewer Cleaning & Maintenance.....	4
3. Schedule of Process for Cleaning.....	5
4. Equipment used for Cleaning.....	6
5. PPE provisions.....	6

Action Plan: Sewer Cleaning and Maintenance

1. Introduction

Surat is a city located on the western part of India in the state of Gujarat and has a prime location along the best developed region in the state i.e. along the Ahmedabad - Mumbai corridor, linking the major industrial urban centres like Ahmedabad, Vadodara, Ankleshwar, Surat, Vapi etc.

To provide sewerage related basic amenity to the citizen of Surat city, the Drainage Department of Surat Municipal Corporation provides the necessary infrastructure to carry the sewerage from domestic and treated waste water from industrial establishments of the city to the sewage treatment plants, treating it and then disposing it safely.

Sewerage system mainly comprises of sewerage network, sewage pumping stations, pumping main line, sewage treatment plants & disposal line.

At present, there are 11 Sewage Treatment Plants with installed capacity of 1173 MLD & 60 Sewage Pumping Stations with installed capacity of 2038.50 MLD working for the effective collection & treatment of the Sewage generated in the City. The total length of sewerage network is more than 1955 km. About 191 sq. km. i.e. 94 % of present habitable area of @ 204 sq.km. & 99.5 % of total present population is covered under comprehensive sewerage system. Remaining area / population has been covered under faecal sludge management system.

Surat Municipal Corporation cleans this Sewerage Network daily by using various mechanized machineries like Super Sucker machine, Sewer jetting machine, Gulper machine, Desiltman etc.



Action Plan : Sewer Cleaning and Maintenance - Surat Municipal Corporation

2. Sewer Cleaning & Maintenance

Sewer cleaning can be defined as the process of cleaning sewer pipelines that carry waste water of the city. For inspection & maintenance of sewer line access points i.e. Manholes along the line are provided to remove blockage due to solid waste or overflow.

Surat Municipal Corporation is well equipped with modern mechanised equipments to resolve sewer line overflowing, blockage complaints within SLA. Sewers are inspected using mechanically operated vehicles. In places where blockage or damage is found, cleaning is undertaken. Usually, where blockage in sewers is found, a nozzle is inserted into the manhole (access point) nearest to the blockage and water is released at high pressure that pushes the blockage into the sewer pipeline system.

Sometimes, the blockage includes gravel, sand and other such debris pushed into the sewer system. In such cases, vacuum equipment mounted trucks are employed that suck up the stuck debris and dirt and dispose them in a landfill.

Surat Municipal workers clean out the debris and blockage using mechanically operated vehicles to keep the sewer in good condition to prevent overflow. Septic tanks / soak pits are also cleaned periodically.



3. Schedule of Process for Cleaning

Routine inspection & Cleaning of Sewer System

The objective of a sewer cleaning and maintenance program is to operate and maintain the wastewater collections system, so that it will function well.

Routine inspection & cleaning of a sewer system is carried out regularly by the Surat Municipal Corporation so that sewer system can work properly.

Cleaning

Surat Municipal Corporation has prepared preventive maintenance schedule of 15 days and accordingly cleaning schedule is maintained. Meanwhile, any other complaints from citizen are also attended.

Surat Municipal Corporation gets drainage overflowing complaints through complaint redressal system via whatsapp, Social media, telephonic, written letter and application in person. This overflowing complains resolved within 24 hours. There are sufficient manpower along with the advanced mechanically operated vehicles deployed for solving complains. After getting complains from applicant, it is bifurcated and distributes to the concern cleaning team. The team visit the location & analyse the problem. Before starting the cleaning work always safety precautionary steps are followed i.e. location is barricaded by necessary safety boards. Cleaning team is also provided with safety boots, helmet, jacket, etc.

Based on the problem, first of cleaning team tries to resolve the problem by use of sewer road, if it does not succeed then either high-pressure water jetting or a high-flow vacuum source used to scour pipes clean and vacuum up the material causing blockages to restore and maintain normal sewer flow. Complaints report from complainant is collected for records purpose. And if the problem does not resolve by use of machineries then team finally approach to the technical person for further necessary action.

Further, Surat Municipal Corporation has more than 1955 km of main sewerage network excluding sewerage network on the society road. Based on geographical data, Surat Municipal Corporation has already identified some hot spots, which required frequent cleaning of sewer line. Accordingly, Surat Municipal Corporation has prepared maintenance schedule for such location.

Action Plan : Sewer Cleaning and Maintenance - Surat Municipal Corporation

4. Equipment used for Cleaning

It is safer to equip the cleaning team with a sewer cleaning machineries than to have to enter into the sewer system to remove blockages manually. So cleaning team will be less exposed to sewer methane gas emissions.

The Surat Municipal Corporation cleans the sewerage network daily by using various advanced mechanized machineries like high-pressure Sewer jetting machine, high-flow vacuum Gulper machine, Desiltman machines.

Surat Municipal Corporation has 785 numbers of workers for effective cleaning of sewer line with the use of various machineries. Surat Municipal Corporation has following types of machineries for cleaning of sewer line and about 120 rmt pipe line & 06 numbers of manholes are clean daily by Surat Municipal Corporation.

Sr.No.	Zone	Sewer Jetting Machine (In Nos.)		GULPER Machine (In Nos.)	Desiltmen (In Nos.)	Super Sucker (In Nos.)	Total (In Nos.)
		8000 Ltr. Capacity	3500 Ltr. Capacity				
1	NORTH ZONE	05	01	04	02	01	13
2	WEST ZONE	02	04	02	03	01	12
3	EAST ZONE A & B	04	03	03	03	01	14
4	SOUTH EAST ZONE	05	02	05	07	01	20
5	SOUTH ZONE	05	04	04	02	01	16
6	SOUTH WEST ZONE	03	04	04	02	01	14
7	CENTRAL ZONE	09	03	08	04	01	25
	Total	33	21	30	23	7	114

5. PPE provisions

PPE is equipment that protects the user against health or safety risks at work. Surat Municipal Corporation provides PPE items such as safety helmets, gloves, eye protection, safety foot wear and safety harness, respiratory protective equipment (RPE) to the member of cleaning team.

In addition to proper use, PPE are being handled and disposed of properly. Trainings on standard hygiene practice for sewer workers were conducted periodically by qualified safety and health professionals to cover the risks and policies and procedures.

Action Plan : Sewer Cleaning and Maintenance - Surat Municipal Corporation



The following instructions followed to prevent illness to workers in hazardous environments:

- Using of gloves to prevent skin abrasion and create a barrier between skin and surfaces exposed to wastewater and debris.
- Avoid touching, face, mouth, eyes, nose, genitalia, or open sores and cuts while working with wastewater and debris.
- Washing of hands thoroughly with soap and water after contact with wastewater and debris and washing of hands before eating, drinking and before and after using the bathroom.
- Eating of food in designated areas away from wastewater and debris.
- No smoking or chewing of tobacco or gum while working with wastewater and debris.
- Removal of access wastewater and debris from foot gear prior to entering a vehicle or a building.
- Keeping wounds covered with clean, dry bandages.
- Thoroughly but gently washing of eyes with water if wastewater and debris contact eyes.
- Change into clean work clothing on daily basis and reserve foot gear for use at work sites or during wastewater and debris transport.
