

# JAWAHARLAL NEHRU HOMOEOPATHIC MEDICAL COLLEGE

## Visit To Sewage Treatment Plant

### ● GENERAL DETAILS:-

- **Course/Department:** Community Medicine Department
- **Year:** 4<sup>th</sup> year BHMS
- **Date of Visit:** 14/12/2016
- **No. of Students:** 102
- **Time:** 10:00AM to 2:00PM
- **Name of accompanying teacher:** Dr. Zankhana Desai
- **Name & Address of Sewage Plant:** Sewage Treatment Plant, Tarsali, Vadodara.

### INTRODUCTION

- Vadodara City is one of the privileged cities in India that has an underground drainage system built in the year 1894. The sewage is collected through a system comprising underground drainage network, Sewage Treatment Plant, auxiliary pumping stations (APS), pressure mains and disposal into the natural nallahs and rivers after treatment.
- Wastewater generated from all this developments is collected by a network of underground sewers and pumping stations and conveyed to sewage treatment works for physical and biological treatment to meet the parameters prescribed by the Gujarat Pollution Control Board before discharge into nearest water course.
- Vadodara Municipal Corporation has three drainage zones for sewerage system based on the natural topography of the city. Each of the drainage zones has a sewage treatment plant (STP). The sewage from drainage zones-I and II is disposed into the Ruparel Kaans, which meets the Jambuva River and ultimately joins the river Vishwamitri. The sewage from drainage zone-III is disposed into river Vishwamitri.

Our college visit is at the zone – I sewage treatment plant.

<b>Drainage Zones</b>	<b>Collection Area</b>	<b>Sewage Treatment Plant</b>	<b>Sewage Treated in (MLD)</b>
Zone - I Ward (4,12)	All the area to the south of meter gauge railway line and east of river Vishwamitri.	Tarsali	52

## **FUNCTIONS**

- Sewage Disposal Works Department of the Vadodara Mahanagar Seva Sadan includes 6 Sewage Treatment Plants (STP) & 49 Auxiliary/Main Pumping stations (APS/MPS). The sole function of this department is to operate and maintain these STPs & APSs/MPSs. All the STPs & 24 APSs/MPSs are operated and maintained by private contractors. Supervision and monitoring of it is done by Engineers of the department. Remaining 25 APSs are operated and maintained by the employees of Sewage Disposal Works department.
- In the Auxiliary Pumping Station (APS), the waste (Sewage) water which comes from various part of the cities, is collected in the wet well of the APS and then it is pumped to the Main Pumping Station and ultimately to the STP for treatment.
- In the Sewage Treatment Plant (STP), the waste water is treated to non hazardous level as per Gujarat Pollution Control Board (GPCB) norms and then is released to nearby natural drain/river.
- All the physic chemical parameters are strictly maintained in the treatment procedure so that the sewage water must not be released untreated.

<b>NAME OF STP</b>	<b>Ph</b>		<b>TSS</b>		<b>COD</b>		<b>BOD</b>	
<b>Outlet data</b>	<b>6.5-7.8</b>		<b>&lt; 30</b>		<b>&lt; 20</b>		<b>&lt; 100</b>	
<b>Inlet data</b>	<b>6.5-7.8</b>		<b>&lt; 456</b>		<b>&lt; 412</b>		<b>&lt; 655</b>	
	<b>outlet</b>	<b>Inlet</b>	<b>outlet</b>	<b>inlet</b>	<b>outlet</b>	<b>inlet</b>	<b>outlet</b>	<b>Inlet</b>
<b>Approx every year</b>	<b>7.4</b>	<b>7.07</b>	<b>20</b>	<b>196</b>	<b>19</b>	<b>162</b>	<b>76</b>	<b>378</b>

- In this treatment of sewage water, solid bio organic waste which comes out as a by- product, is collected in the drying beds in the STP & then it is sold to a company for the production of low nutrient fertilizer and thus reduce health risks related to direct usage of the sludge as a fertilizer.

### **Tarsali Zone – I Description**

- **Total nos. Of STP :-** Tarsali 52 MLD STP
- **Total nos. Of APS :-** 10 nos. of APSs
- **Total nos. Of MPS: -** 01 no. MPS

### **Sewage Pumping Stations:**

- The developed area of the zone has been provided with total 11 numbers of sewage pumping stations at different locations and 1 Main pumping station.

### **Sewage Treatment Plant:**

- A sewage treatment plant of capacity of 52 MLD based on the Conventional Activated Sludge Process was completed and commissioned in 2001 at Tarsali.

## **Pumping Stations:**

<b>Sr.No.</b>	<b>TARASALI ZONE 1</b>	<b>MLD</b>
<b>1</b>	<b>TARASALI PUMPING STATION</b>	<b>12</b>
<b>2</b>	<b>GIDC NEW PUMPING STATION</b>	<b>25</b>
<b>3</b>	<b>GIDC OLD PUMPING STATION</b>	<b>40</b>
<b>4</b>	<b>MANJALPUR PUMPING STATION</b>	<b>15</b>
<b>5</b>	<b>DANTESHWAR PUMPING STATION</b>	<b>10</b>
<b>6</b>	<b>MANEJA PUMPING STATION</b>	<b>18</b>
<b>7</b>	<b>LALBAG APS-10</b>	<b>10</b>
<b>8</b>	<b>SHARADNAGAR APS</b>	<b>10</b>
<b>9</b>	<b>MAKARPURA APS</b>	<b>30</b>
<b>10</b>	<b>JAMBUA APS</b>	<b>15</b>
<b>11</b>	<b>VADSAR APS</b>	<b>15</b>

## **MILESTONES:**

- Vadodara city has received following National Awards under JnNURM by GOI for the year 2009-10 :
  - “Best City for Improvement in Water Supply & Waste Water Sector”

&

“Best City for Implementation of Project”





Fourth B.H.M.S. Students with HOD of Community Medicine Dr. Zankhana Desai

- We are very thankful to Ms. Mittal Gajera & Mr. Sanjay Patel for their kind co-operation during visit. They explained in detail about the Sewage Treatment Plant.
- We are thankful to principal of JNHMC Dr. Poorav Desai & Management for giving us this opportunity.

Report Prepared by –



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