



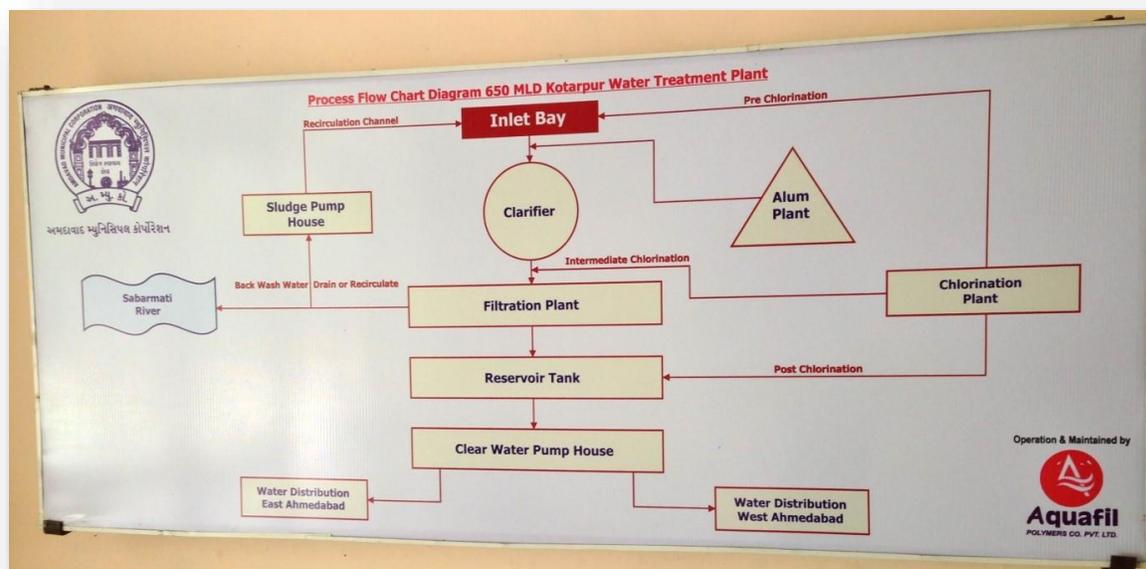
# Institute of Infrastructure Technology Research And Management

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## Field Visit to Kotarpur Water Works 4<sup>th</sup> April & 18<sup>th</sup> April, 2015

On April 4 and 18, 2015, second semester students of IITRAM visited the Kotarpur Water Works, the Asia's biggest water treatment plant, established to fulfil the huge water demand of Ahmedabad city. Designed by Tata Consultancy Engineers and later commissioned and installed by Canon & Dunkerlay Company Pvt Ltd in nineties, Kotarpur Water Works is set to provide more than 500 million litres of water a day to old city of Ahmedabad.

The water treatment plant is feded both by Narmada and Sabarmati rivers. Water is brought to plant under gravity effect from Narmada. The remaining amount of water is fetched from the Sabarmati by pumping. On a routine day, water received at plant mainly contains impurities due to floating objects, dissolved solids and bacteria. The water goes through various processes like screening, Alum addition, clarriflocculation, filtration, disinfection (chlorination) and distribution. Following figure illustrates the schematic of processes:



Mechanical screeners remove the floating material from the incoming water. For removing the dissolved solids, water is channelized into alum addition plant and then passed to 12 circular sedimentation tanks working in parallel constructed with slope floor towards the center from the periphery. Sludge, formed by sediments and floccs in tanks, containing 70% impurities of water, is collected at the center and water is propelled to filtration plant. Rapid gravity sand filters, employed for filtration, clear 30% of impurities. After few uses of sand beds in filtration processes, filters are cleaned by air and water jets in reverse gravity direction by high pressure pumps. Finally, before distribution, water is disinfected by appropriate chlorine doses in an underground chlorination plant.

Kotarpur Water Works is also capable of meeting surge like requirements under adverse situations. During summers, when water demands are exorbitantly high, this water treatment plant successfully delivered more than 700 million liters of water in a day. Even in monsoon, when water is mostly infected by carried bacteria and contains 1500 NTU of hardness, this water treatment plant delivers the water of highest standards. All arrangements, equipment and devices used for water treatment are supported by spares and additional machinery to rescue any emergency. All this makes the Kotarpur Water Work a round the clock unit aimed to supply purified water.

Kotarpur water works, as a water treatment plant, have been under use for providing the safe and usable water since last 15 years. Working across the hours, days and now years, Kotarpur Water Treatment Plant is determined to meet the demands and serve the community by challenging all possible limits of performances.