

Sewage Treatment Plant (SAFF)

Narsi Creations, Gurgaon

Challenge

NARSI was generating 120m³ of sewage per day which was discharged into the Municipal sewer line. They had a regular need for fresh water to keep their parks green. As an area in the basement was allocated for the STP, space was definitely going to be an issue. Also there were specific guidelines by the builder that the plant should require less power as power availability would be a frequent



problem. Also that the plant was required to consume lesser chlorine, easy to run without over dependence on operators and should conform to guaranteed outlet parameters.

Solution

Fontus Water offered to treat their sewage and reuse the treated water for horticulture to reduce the load on fresh water. Considering the space constraints and limited budget & capacity of plant Submersed Aerobic Fixed Film (SAFF) based Sewage Treatment plant of capacity 120 m³/day was suggested. The basic premise for using this technology was that advanced Technology of Fixed Film biological processes having large surface area for bio-mass to grow have been used in the past to reduce both the reactor volumes as well as retention times.

Project Snapshots

Location	Gurgaon
Source	Office cum Commercial Complex
Application	Sewage Treatment
Technology	Submersed Aerobic Fixed Film (SAFF)
Capacity	120 m ³ /day
Commissioned	2003

Plant Highlights

A bar screen was provided in the beginning to remove any floating material. Then an Oil & Grease Trap Chamber was provided to trap oil & grease. Since the sewage generation pattern was not regular, an equalization tanks was also installed that was designed for a 3 hour duration of peak water flow. A SAFF Reactor was provided with special honeycomb type media for attached growth of bacteria. This resulted in reducing the retention time from 18 hours (conventional method) to 8 hours, thus reducing the tank size & eliminate the tedious task of recycling of sludge. For sludge removal, a state-of-the-art Tube settler was provided for settling of sludge that



India's Only Integrated Water Solutions Company

was generated in the process. This was specifically suggested because it would have required lesser space and moving parts as in conventional clarifiers. The treated sludge was then disinfected through chlorination (hypo solution). Dual Media Filter was provided to reduce the suspended solids for tertiary treatment which was supplemented by an activated carbon filter for removal of odour and color. For Sludge Handling, the sludge separated by the tube settler was designed to be collected in the thickener tank which reduces the quantity of sludge with a filter press provided for dewatering. The Filter press reduced the space requirement by 1/5 in comparison to Sludge drying beds.

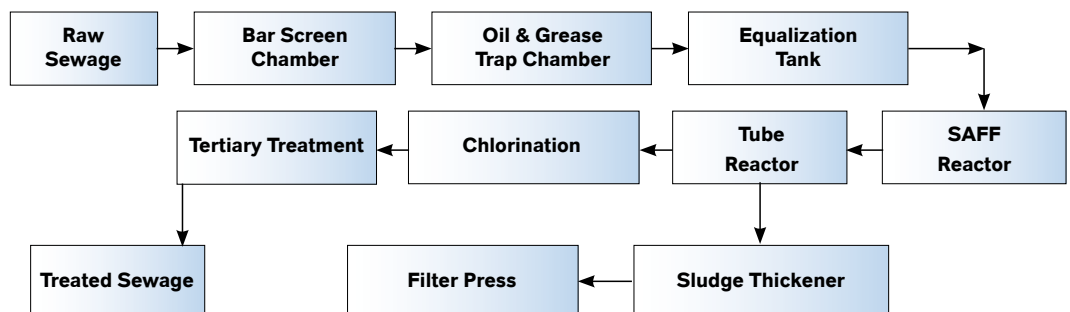
Operating Parameters

Parameter	Inlet	Outlet
pH	6.5 – 8.5	6.5 – 7.5
COD (mg/l)	600-1200	< 75
BOD (mg/l)	450	< 15
TSS (mg/l)	250	< 10
Oil & Grease (mg/l)	50	< 5

Features of the Plant

Electrical Load	10.66 kW
Hypo Solution Consumption	10 Kg/day
Land Area Used	130 Sq.m
Sewage Treatment	120m ³ per day
Treated Sewage	108m ³ per day

Process Flow



Fontus Water Ltd

A-1/152, Neb Sarai, IGNOU Road,
New Delhi 110 068

T: +91 11 43100 500 **F:** +91 11 43100 599

E: sales@fontuswater.com **W:** www.fontuswater.com

Fontus Water Limited offers the most comprehensive line of solutions available to address an extensive range of water and waste management requirements covering the entire spectrum of water technologies. Fontus Water is one of the few ISO 9001: 2000 certified companies in the buildings & industrial sector with expertise in implementing projects right from concept to commissioning with highly technologically advanced Water & Waste Management solutions. Fontus Water applies expertise to integrate world class technologies to provide optimal workable and customized environment friendly total solutions for its varied nation wide varied customers through its network of offices across the country.