

# DEWATS FOR AZIM PREMJI FOUNDATION SCHOOL, YADGIR, KARNATAKA

## PROJECT BRIEF

Yadagiri district is one of 30 districts of Karnataka. This district was carved out from the erstwhile Gulbarga district as the 30th district of Karnataka. Ajim Premji Foundation, through its CSR funds, has constructed a school for poor children who otherwise cannot afford to go schools through payment. Yash Consultant had contacted CDD Society, for treatment of wastewater generated at a school. The institute is estimated to generate 30 m<sup>3</sup> of wastewater as per the client. The client wanted to use the treated wastewater for flushing and landscaping.

## PROJECT OUTCOMES

- Efficient management of wastewater, which is collected from the school campus leading to an improved sanitation situation.
- Usage of treated wastewater for gardening.

## SYSTEM IN BRIEF

The wastewater from the kitchen, toilets, and wash area is conveyed to a treatment unit through a sewer network. The treatment system consists of 4 modules:

1. **Settler:** a sedimentation tank for retaining articles by settling over a specific time frame
2. **Baffle Reactor:** ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
3. **Planted Gravel Filter:** used as tertiary treatment unit.
4. **Collection tank:** for storing the treated wastewater.

## SALIENT FEATURES

**Source:** Kitchen, Toilets and Wash Area

**Design capacity:** 30 m<sup>3</sup>/d

**No of users:** 1,528

**Peak flow:** 6 hours

**Influent quality:** 300mg/l BOD &  
600mg/l COD

## PROJECT SPECIFICATIONS:

**Kind of Project:** Small Medium Enterprise (SME)

**Funding Agency:** Azim Premji Foundation (APF)

**Implementing Agency:** Mittal Construction Unit

**Construction Period:** 8 months

**Start of Operation:** 2017

## MODULES ADOPTED

### Settler

Volume: 30 m<sup>3</sup>

Area of construction: 26.24 m<sup>2</sup>

### Anaerobic Baffle reactor

Volume: 30.78 m<sup>3</sup>

Area of construction: 39.47 m<sup>2</sup>

No. of chambers: 4

### Anaerobic Filter

Volume: 29.16 m<sup>3</sup>

Area of construction: 27.77 m<sup>2</sup>

No. of chambers: 3

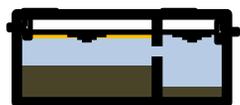
### Planted Gravel Filter

Area of implementation: 130.48 m<sup>2</sup>

Plants used : Canna Indica, Cyperus papyrus

**Built up area : 223.96 m<sup>2</sup>**

## PROCESS FLOW DIAGRAM



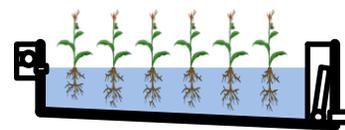
Settler



Anaerobic Baffle Reactor (ABR)



Anaerobic Filter (AF)



Planted Gravel Filter (PGF)

## OPERATION AND MAINTENANCE

The wastewater treatment plant is operated and maintained one operator.

- A regular maintenance is like, wastewater flow checking in all units and clearing the blockages in all chambers (registers).
- Regular operation of pumping of wastewater from Balancing tank and also for reuse purpose is needed.
- Periodical maintenance is like removal of sludge in settler and baffle reactor chambers once in two to three years.
- Replacement of filter media should be done in once in five years in the filter chambers.
- Trimming of plants in PGF should be done.

## REUSE OPTIONS

The treated wastewater is being used for gardening and irrigation

## PERFORMANCE OF DEWATS

Sample points	COD mg/l	BOD mg/l	TS mg/l	E. Coli CFU/100ml
<b>Date of Sampling:</b> 16-02-2019				
Settler in	180	75	1,547	N/A
ABR in	192	75	1,463	N/A
AF out	63	12	1,487	N/A
PGF out	40	9	1,357	