PROJECT BRIEF
The Indian Institute of Public Health in Gandhinagar needed a wastewater treatment facility for their new building comprising of an administrative block, research center and training institute.

JMC Projects Pvt. Ltd. Mumbai is responsible for the construction of the Utility Building and DEWATS Treatment unit for the institution.

PROJECT OUTCOMES
• To meet the regulatory norms of the Gujarat Pollution Control Board (GPCB) for wastewater treatment and reuse
• To prevent pollution of environment because of greywater contamination
• Provide water for landscaping & gardening.

SYSTEM IN BRIEF
The wastewater from sources is conveyed to treatment unit through sewer network. Treatment system consists of 4 modules:

1. Settler - a sedimentation tank for retaining articles by settling, over a specific time frame
2. The Anaerobic Baffle Reactor - ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
3. The Anaerobic Filter - comprises of filter bed for treatment of dissolved organic matter. Wastewater comes in contact with active bacterial mass which grows on filter material.
4. Planted Gravel Filter: is used as tertiary treatment unit where aerobic and facultative degradation of dissolved organic occurs.

SALIENT FEATURES
Source: Domestic sources from the IIPH campus
Design Capacity: 35 m³/day
Peak Flow: 8 hours
Influent Quality: BOD : 350 mg/l  
COD : 750 mg/l
Effluent Quality: BOD : <30 mg/l  
COD : <100 mg/l
Efficiency: BOD – 91.5%  
COD – 86.6%

PROJECT SPECIFICATION
Funding Agency: IIPH
Implementing Agency: JMC, Projects Pvt. Ltd. Mumbai
Supporting Agency: CDD Regional Office, Nagpur
Construction Period: 7 months
Construction start date: August 2014
Construction end date: February 2015
Current status: Commissioned & operational
Construction Cost: Rs. 20 lacs
Operation Cost: Rs. 60,000 p.a.

MODULES ADOPTED
Settler
Volume: 26.40 m³
Area of Construction: 16.53 m²

Anaerobic Baffled Reactor + Anaerobic Filter
Volume: 56 m³
Area of Construction: 45.22 m²

Planted Gravel Filter
Volume: 43.2 m³
Area of Construction: 82.81 m²

Built up Area: 145 m²
OPERATION AND MAINTENANCE

The wastewater treatment plant is operated and maintained by IIPH. A regular schedule is followed for maintenance, involving periodic check and removal of sludge in baffle reactor.

Regular harvesting of plants is done in the PGF and the filter media will be washed once every four/five years.

REUSE OPTIONS

Treated wastewater is reused for non-human contact purpose i.e. for green area irrigation.

LEARNINGS

- Selection of reputed company & contractor save monitoring & supervision time as well as ensure quality construction.
- O&M training to client is essential for ensuring effective operation of the plant.
- Trained team of maintenance worker ensures the efficient functioning of the project.

PERFORMANCE OF DEWATS

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<th>Sample points</th>
<th>COD mg/l</th>
<th>BOD mg/l</th>
<th>TSS mg/l</th>
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