



Consortium for
DEWATS
Dissemination
Society

DEWATS AT AISHWARYA EMPIRE TOWNSHIP, RAIPUR, CHHATTISGARH

PROJECT BRIEF

Aishwarya Empire is spread over 18 acres of prime land between old Raipur and New Raipur - next to St. Xavier's High School, Avanti Vihar Colony, Telibandha. The Township is designed on eco-friendly principles. With beautifully landscaped gardens it encloses sundecks, avenue plantations, natural water, forest, fountain, sculptures and nature trails. The demand for water is higher, in order to maintain the greenery within the Township.

An eco-friendly decentralised treatment system for treating the wastewater is required. DEWATS System is selected due to Low Maintenance cost as well as its efficiency to work without any electrical or mechanical energy.

PROJECT OUTCOMES

- Efficient management of wastewater which is collected from the Apartment building.
- To meet the regulatory norms of PCB of wastewater treatment and reuse.
- To protect the environment from direct pollution
- To treat and reuse the treated wastewater for non-human contact purpose

SYSTEM IN BRIEF

The wastewater from toilets is conveyed to treatment unit through sewer network. Treatment system consists of 3 modules:

- **Settler** - a sedimentation tank for retaining articles by settling, over a specific time frame
- **The Anaerobic Baffle Reactor** - ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
- **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.

SALIENT FEATURES

Source : Toilets
Design capacity : 81 m³/d
No of users : 1,760
Peak flow : 8
Influent quality: BOD: 350mg/l
 COD: 700mg/l
Effluent Quality (after secondary treatment):
 BOD: 29mg/l
 COD: 82mg/l
Efficiency: BOD – 91.7%
 COD – 88.2%

PROJECT SPECIFICATIONS

Funding Agency : Sankalp Homes, Raipur
Implementing Agency : Sankalp Homes, Raipur
Construction Period : 10 months
Construction start date: May 2018
Construction end date: February 2019
Current status: Commissioned & operational
Construction Cost: Rs.32 lacs
Operation Cost: Rs.70,000 p.a.

MODULES ADOPTED

Settler
 Volume : 145.6 m³
 Area of construction : 41.6 m²
Anaerobic Baffled reactor
 Volume: 230.73 m³
 Area of construction: 60.72 m²
 No. of chambers: 4
Anaerobic Filter
 Volume: 210.67 m³
 Area of construction: 55.44 m²
 No. of chambers: 2

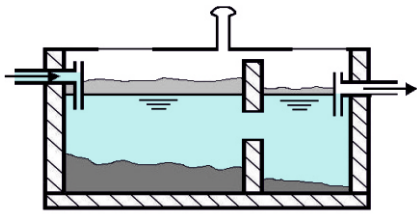


Consortium for
DEWATS
Dissemination
Society

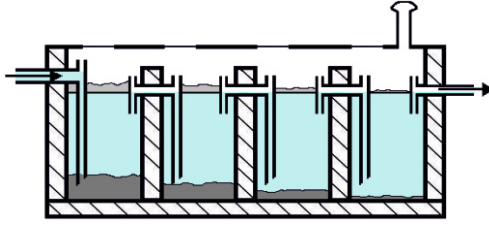
Survey No.205 ,Opp. Beedi Workers Colony, Kommaghatta Road, Bandemath,
Kengeri Satellite Town, Bengaluru, Karnataka 560 060 E : bangalore@cddindia.org
P : +91 80 2848 6700/ 2194/ 2274/ 2262 | F : +91 80 2848 2144 |

Follow us on
 @cddsociety
 /CDDsocietyIndia
 @CDDsociety

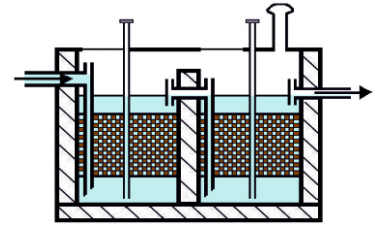
PROCESS FLOW DIAGRAM



Settler



Anaerobic Baffle Reactor (ABR)



Anaerobic Filter (AF)

OPERATION AND MAINTENANCE

- The wastewater treatment plant is operated and maintained by the client.
- A regular schedule will be followed for maintenance, like periodic check, removal of sludge in baffled reactor and other required tanks.
- The filter media in the Anaerobic Filter will be washed once in 5-7 years

REUSE OPTIONS

- The treated wastewater will be discharged into the open Nallah

LEARNINGS

- Designing the DEWATS in order to reutilize the super surface area for multi-level parking.
- Challenge to convince the client to adopt decentralized treatment option within city limit.
- Decentralized treatment proved to be the best solution for such type of mega townships by avoiding large conveyance system and electro-mechanical parts.

