



DEWATS FOR DWARKA CITY, KATNI, MADHYA PRADESH

PROJECT BRIEF

Dwarka City, Katni is located 90 kms from Jabalpur, Madhya Pradesh. It has more than 750 flats with a combination of row houses, duplex bungalows and multi-storey apartments.

The project area of Dwarka City is divided into two parts for the treatment of wastewater. The quantum of wastewater generated and treated from Part 1 will be 110 m³ with 1,250 users and treated from Part 2 will be 215 m³ with 2,500 users. Construction of the first DEWATS unit (i.e. for 110 m³, up to secondary treatment is completed & commissioned).

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 dispose the treated wastewater safely in the environment.

SYSTEM IN BRIEF

The wastewater from Apartments Building 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: Domestic sources from DWARKA City

Design Capacity: 110 m³/day

Peak Flow: 8 hours

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

Kind of Project: DEWATS for domestic wastewater

Funding Agency: DWARKA Infraventures Pvt. Ltd.

Executed by: DWARKA Group

Supporting Agency: CDD Regional Office, Nagpur

Construction Cost: Rs.56 lakhs

Construction Period : 11 months

Start of construction: April 2014

End of construction: February 2015

Current status: Commissioned & operational

MODULES ADOPTED

Settler

Volume: 105.60 m³

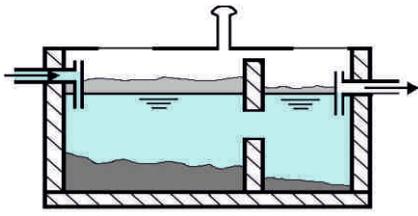
Area of Construction: 56.82 m²

Anaerobic Baffled Reactor + Anaerobic Filter

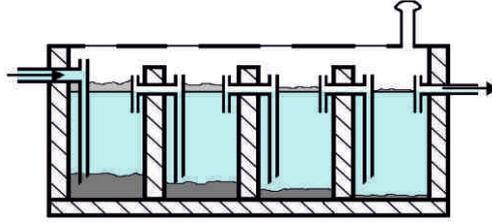
Volume: 226.05 m³

Area of Construction: 154.06 m²

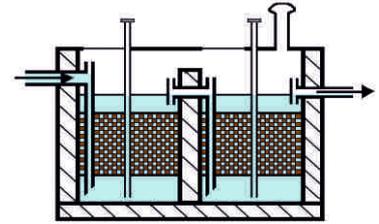
PROCESS FLOW DIAGRAM



Settler



Anaerobic Baffle Reactor (ABR)



Anaerobic Filter (AF)

OPERATION AND MAINTENANCE

- The wastewater treatment plant is operated and maintained by the care taker of Dwarka City
- A regular schedule is followed for maintenance, like periodic check treatment modules, removal of sludge in baffle reactor
- The filter media of AF unit will be washed once every 4-5 years.

REUSE OPTIONS

- Treated wastewater is safely disposed off in a nearby natural stream.

LEARNINGS

- Well experienced construction team enhances the work quality and minimizes unnecessary expenses.
- Developing knowledge understanding of client regarding technology is very essential for smooth implementation of project.
- Decentralized treatment proved to be the best solution for such type of mega townships by avoiding large conveyance system and electro-mechanical parts.

