

PREFABRICATED DEWATS FOR PUBLIC TOILET AT M.G. METRO STATION & ANIL KUMBLE CIRCLE, BANGALORE

PROJECT BRIEF

Bangalore Metro Railway Corporation Limited (BMRCL) has constructed 2 public toilet complexes along with wastewater treatment units - one at Anil Kumble Circle and the other for metro commuters adjacent to M.G. Road Metro Station. 2 prefabricated DEWATS units have been installed under the pathway for both toilet complexes.

The treated wastewater is being disposed into the nearby drain as per Pollution Control Board norms.

PROJECT OUTCOMES

- Safe disposal of treated wastewater
- To reduce the wastewater load on the centralized system and avoid environmental pollution
- To provide efficient containment systems for hygienic disposal of treated wastewater

SYSTEM IN BRIEF

The wastewater streams are channeled from the toilet and collected in a common register near the treatment system, in which wastewater first flows into an integrated settler and then to an Anaerobic Baffled Reactor and is then finally disposed safely into a nearby drain.

SALIENT FEATURES

Source: Toilets, Urinals

Design Capacity: 7.5m³/unit

No of users: 1,000

Peak flow per unit: 1.5 m³/hour

Influent quality: BOD: 450mg/l
COD: 900mg/l

Kind of Project: Prefabricated DEWATS

Implementing Agency: BMRCL

Supply and installation: CDD Society

Installation Period: 1 week

Installation Cost: Rs. 5,03,000/ unit

Number of units: 2

Start of Operation: 2013

MODULES ADOPTED

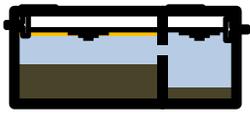
Integrated Settler + ABR (2 units)

Volume per unit: 7.5 m³

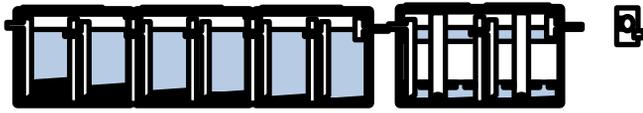
Installation area per unit: 12 m²

Built up area per unit: 12 m²

PROCESS FLOW DIAGRAM



Settler



Anaerobic Baffle Reactor (ABR)

Anaerobic Filter (AF)

Drain

The Settler is a sedimentation tank for retaining particles 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.

OPERATION AND MAINTENANCE

The wastewater treatment plant is operated and maintained by a trained operator of public toilet facilities. A regular schedule is followed for maintenance involving, wastewater flow checking in interconnection sewer systems and inside the treatment unit. There are periodic checks like the removal of sludge in the settler and the baffle reactor.

REUSE OPTIONS

The treated wastewater is safely disposed into the nearby drain.

LEARNINGS:

- Gained experience in strategic planning required during prefab DEWATS installation. (A stormwater drain had to be intercepted for DEWATS installation. The excavated area for installation was flooded due to night rains which left the modules floating.)

TREATED WASTEWATER QUALITY

Sample points	COD mg/l	pH
Date of sampling: 24-06-2014		
Inlet to plant (BGS) (Anil Kumble circle)	5,973	7.23
ABR (out)	412	7.31
Inlet to plant (BGS) (MG Road Metro station)	1,760	7.3
ABR (out)	348	7.4