DEWATS FOR MUTTEN MARKET,
WARORA

PROJECT BRIEF
Warora is a town, located 90 km from Nagpur, with a population of more than 25,000. The client for this project is Warora Municipal Council. The Chief Officer was well aware of multiple benefits of DEWATS (Low maintenance, Low cost & efficient treatment), from his previous experience with Umred DEWATS plant. The construction of Plant is completed and not yet commissioned.

PROJECT OUTCOMES
• Efficient management of wastewater collected from the Slaughter House & Mutton Market
• To meet the regulatory norms of PCB for wastewater treatment and reuse
• To protect the environment from direct pollution.
• To safely dispose the treated wastewater.

SYSTEM IN BRIEF
The wastewater streams are channeled from the Slaughter House and Mutton Market collected in a common register near the treatment system, which consists of following modules:
1. **Biogas Settler**: is a gas tight dome structure, which accumulates gas for utilization. It also acts as a sedimentation tank for retaining heavier and lighter particles by sedimentation & floatation.
2. **Anaerobic Baffle Reactor**: ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
3. **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: Slaughter House & Mutton Market Warora
Design capacity: 10 m³
No of users: Nearby population of 5,000 will be benefitted from foul smell.
Peak flow: 8 hrs
Influent quality: BOD: 2,000 mg/l
COD: 4,000 mg/l
Effluent Quality: BOD: 18 mg/l
COD: 60 mg/l
Efficiency: BOD – 95.0% (expected)
COD – 98.0% (expected)

PROJECT SPECIFICATIONS:
Funding Agency: Warora Municipal Council
Implementing Agency: Shri Ram Constructions Pvt. Ltd.
Supporting Agency: CDD Regional Office, Nagpur
Construction Period: 13 months
Construction start date: May 2018
Construction end date: May 2019
Current status: Construction completed, not commissioned
Construction Cost: Rs. 23.01 lac
Operation Cost: Rs. 40,000 p.a.

MODULES ADOPTED
**Bio-Gas Settler**
Volume: 72.05m³
Area of construction: 23.1 m²
**Anaerobic Baffle Reactor**
Volume: 40.924 m³
Area of construction: 11.931 m²
No. of chambers: 5
**Anaerobic Filter**
Volume: 49.926 m³
Area of construction: 14.56 m²
No. of chambers: 3
**Planted Gravel Filter**
Volume: 97.34 m³
Area of Construction: 40.224 m²
OPERATION AND MAINTENANCE

- The wastewater treatment plant is operated and maintained by Warora Municipal Council with Municipal Sanitary Staff.
- A regular schedule is followed for maintenance, like periodic check, removal of sludge in Biogas Settler & Baffle reactor.
- In the planted gravel filter, regular harvesting of plants is done and the filter media is washed once in 4-5 years.

REUSE OPTIONS

The treated water after Planted Gravel Filter (PGF) will be disposed safely into the open drain near the Mutton Market.

LEARNINGS

- Successfully implementation of demo project helps to replicate the project on different project sites.
- Successful functioning of the project depends on quality of construction work.