DEWATS FOR KAMAL SOLAR FACTORY, BANGALORE

PROJECT BRIEF
Established in the 1998, Kamal Solar Factory manufactures water heaters. The company’s commitment to quality and excellence at every stage is recognized through the prestigious ISO 9001:2008 certification for quality systems. They have qualified trained technicians and a service department that continue to contribute to the growth of company.

PROJECT OUTCOMES
• To ensure wastewater is being disposed off safely in compliance with safety standards.
• To reuse treated wastewater for gardening purposes and conserve fresh water

SYSTEM IN BRIEF
The wastewater streams are channeled from all the sources of the factory and collected in a common register near the treatment system, which consists of: Prefabricated Settler, Anaerobic Baffle Reactor followed by constructed Planted Gravel Filter and Collection Tank (where water is stored).

• 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.
• The Planted Gravel Filter: is used as a tertiary treatment unit where aerobic and facultative degradation of dissolved organic matter occurs.

SALIENT FEATURES
Source: Toilets, bathrooms, urinals and Canteen
Design capacity: 7.5 m³/d
No of Users: 100
Peak flow: 8 hours
Influent Quality: BOD - 140 mg/l
COD - 200 mg/l
Effluent quality: BOD -15 mg/l
COD - 30 mg/l
Efficiency: 98%

PROJECT SPECIFICATIONS:
Kind of Project: SME- DEWATS for Domestic Wastewater
Implementing Agency: L&S Architects
Supporting Organization: CDD Society
Construction Period: 2 months
Start of Operation: 2012

MODULES ADOPTED
Settler
Volume: 3.5 m³

Anaerobic Baffle Reactor
Volume: 7.5 m³
Area of prefab modules: 16 m²

Planted Gravel Filter
Plants to be used: Reed Juncas, Colacasia
Area: 37 m²

Collection Tank
Volume: 2 m³
OPERATION AND MAINTENANCE

The wastewater treatment plant is operated and maintained by a maintenance person of Kamal Solar Factory.
- Regular maintenance activities involve: removal of scum and solid waste in the settler and Anaerobic Baffle Reactor
- In the Planted Gravel Filter, regular harvesting of plants is done
- Once in 2-3 years, desludging of the Anaerobic Baffle Reactor and Collection Tank is carried out
- The filter materials are cleaned and replaced once in 4 years

REUSE OPTIONS

The treated wastewater is being reused for gardening

Learnings:
1. First PreFab DEWATS installation for a project.
2. The system has been operational for more than 5 years with not much trouble

PERFORMANCE OF DEWATS

<table>
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<tr>
<th>Sample points</th>
<th>COD, mg/l</th>
<th>BOD mg/l</th>
<th>TSS mg/l</th>
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<td>02/05/2014</td>
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<tr>
<td>Inlet Settler</td>
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<tr>
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<td>Outlet to drain*(PGF Out)</td>
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<td>13</td>
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