



Design information for a single or a group of houses, hotels, communities.

The system proposed consists of:

- Raw sewage collected in a septic tank
- Grey water from the septic tank fed through pumps or overflows to bioreactors
- Aerobic bioreactors

Septic tank

This acts as a pretreatment tanks and prevents any solids, plastics etc getting into the plant. It also has reserve capacity to prevent overflows in case of electrical cutouts.

Bioreactors:

Design parameters:

This information is primarily for engineers familiar with conventional sewage treatment plants. The information can be compared to design parameters used for architectural standards.

The lab. results of the treated water comply with the new NEMA regulation of Kenya on water disposal in the environment and gardening.

To and from the plant

1. Sewage flows in the 3 chambers septic tank.
2. The volume of the septic tank is designed to give a residence time of 18 - 24 hours

In the plant

1. Dissolved oxygen will allow aerobic bacteria to survive in the bioreactors
2. Each blower constituting the aeration system is capable of delivering dissolved oxygen, through the aeration system.
3. Sludge cleaning option from reactors (needed after 4/5 years) and foam exoust to prevent anaerobic conditions and odours.
4. Complete independent air distribution system in each reactor
5. Volume of the bioreactors gives a 24 hour retention

Aeration system

In line with our design philosophy of a simple low maintenance system which avoids specialised equipment, the aeration system is a unique system using **single or 3phase Blowers** to mix and aerate the effluent .

The dissolving of oxygen is enhanced by utilising air diffusers in the bioreactors feed by blowers.

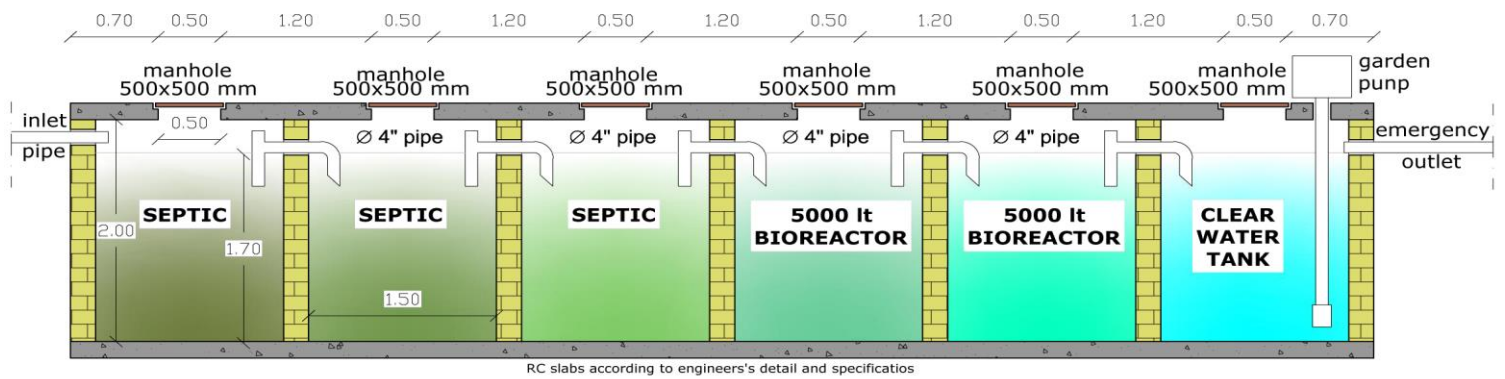
Single phase Blowers are the best aeration suppliers for small systems and **3 phase Blowers** are for systems above the 20,000 lts.

The **System is modular** and can purify effluent from hotels or communities: Hospitals, schools, factories or single houses and group of villas.

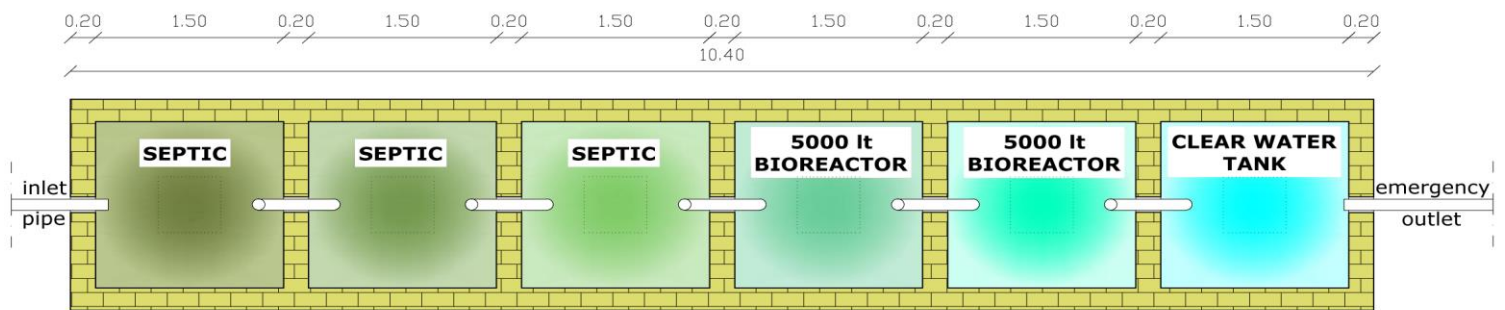
Underground Systems are invisible and can be covered with grass or used on top as parking area.

Containerized Systems are mobile and can be transported from a site to another simply disconnecting inlet/outlet pipes and power.

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SECTION



PLAN