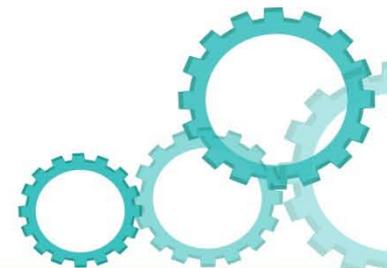
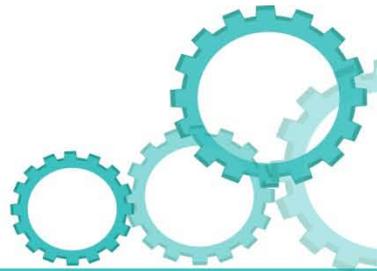




A Brief about Grey water Treatment !!





Shubham is in the business of making this planet water secure.....



Shubham Inc. is the leading EPC contractor of Water and Sewage Water Treatment Plants. We use the best-in-class technology and cutting-edge tools to foster high-quality, sustainable, community-level water supply projects.

We design, engineer, and deliver the most innovative, cost-effective solutions for managing your most challenging water woes!



## Product Portfolio

### Membrane and separation

- Reverse Osmosis Plant
- UF Plants

### Media Filters

- Activated Carbon Filters
- Dual Media Filters
- Multigrade Filters
- Pressure Sand Filters
- Side Stream Filters

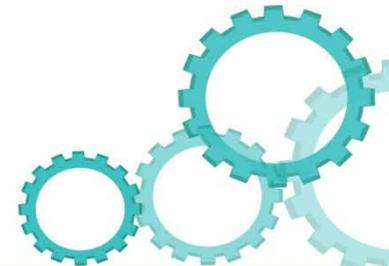
### ION exchange

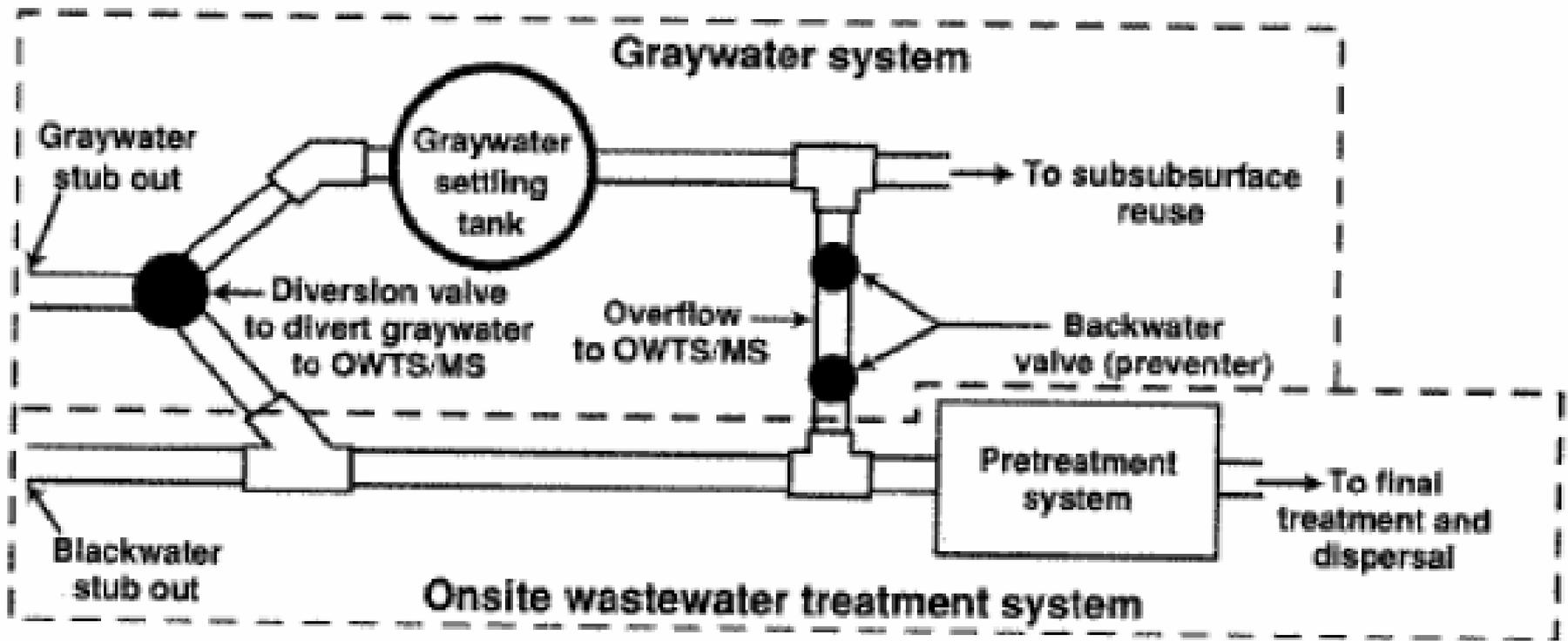
- DM Plants
- Softening Plants
- Mixed Bed units

### Waste Water Treatment

- Septic Tanks
- Sewage Treatment Plants [ Civil & Modular ]
- Bio Accelerator 360<sup>o</sup>™
- Electra Rapid™
- Bio Memclean™
- Bio Synthesis
- Effluent Treatment Plant (ETP)
- Grey Water Treatment (GWT)
- Laundry Water treatment

- Swimming Pool
- Operation & Maintenance

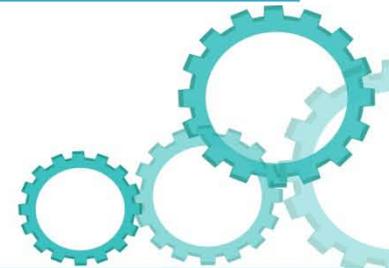




*Figure 4. Diverted graywater plumbing system.*

## Gray water sources and percent of household flow

Source	Percent	Category
Toilet	40	Black water
Kitchen waste	10	
Misc	5	Gray water
Laundry	15	
Bath/shower	30	



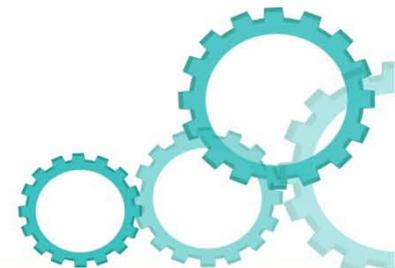
## Various sources of contamination

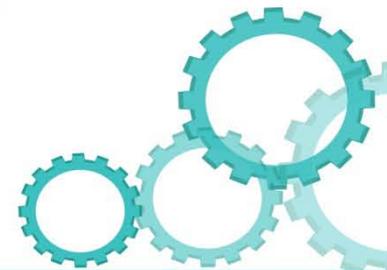
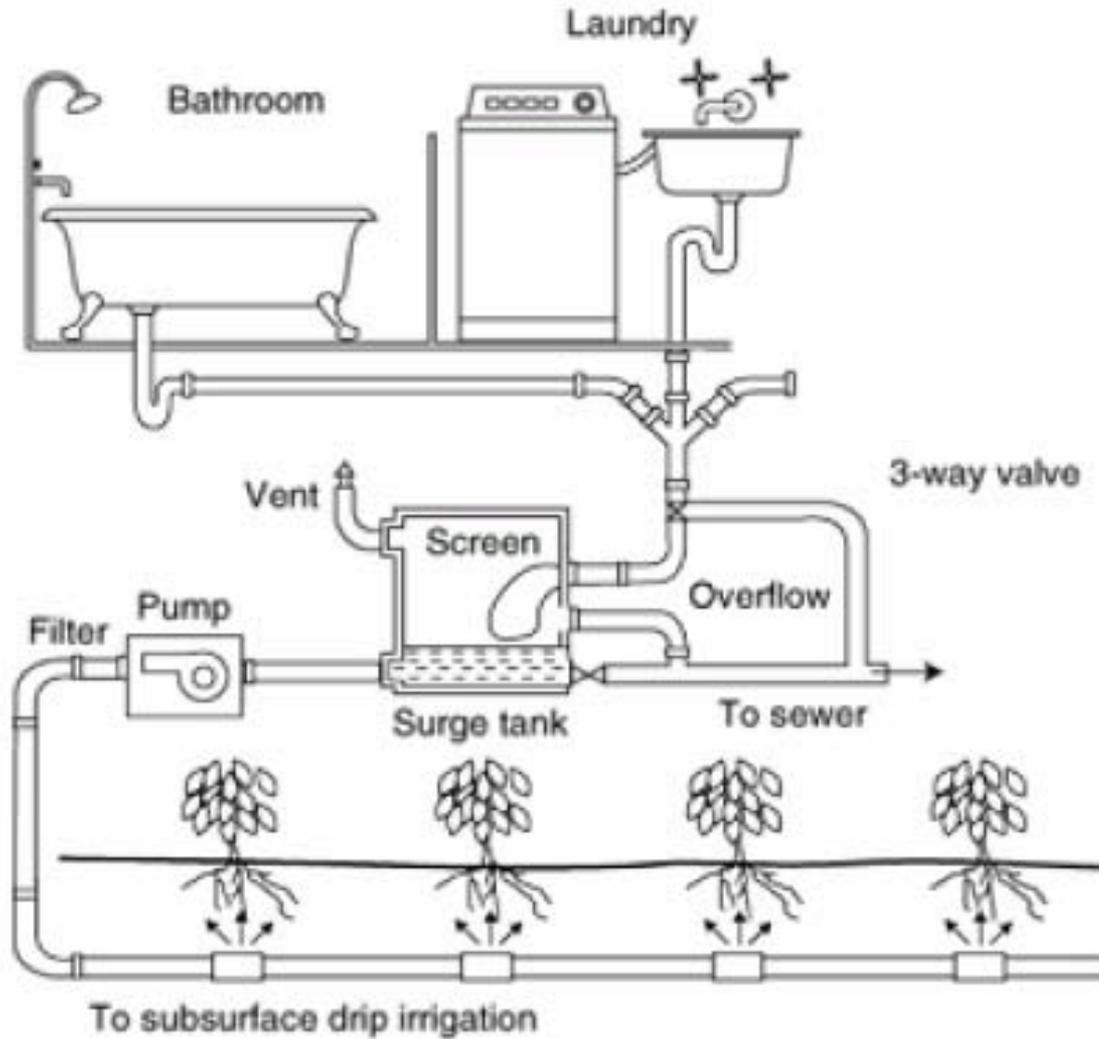
- Biological
  - Microorganisms
- Chemical
  - Dissolved salts – sodium, nitrogen, phosphates, chloride
  - Chemicals – oils, fats, milk, soap, detergents
- Physical
  - Soil
  - Food
  - Lint

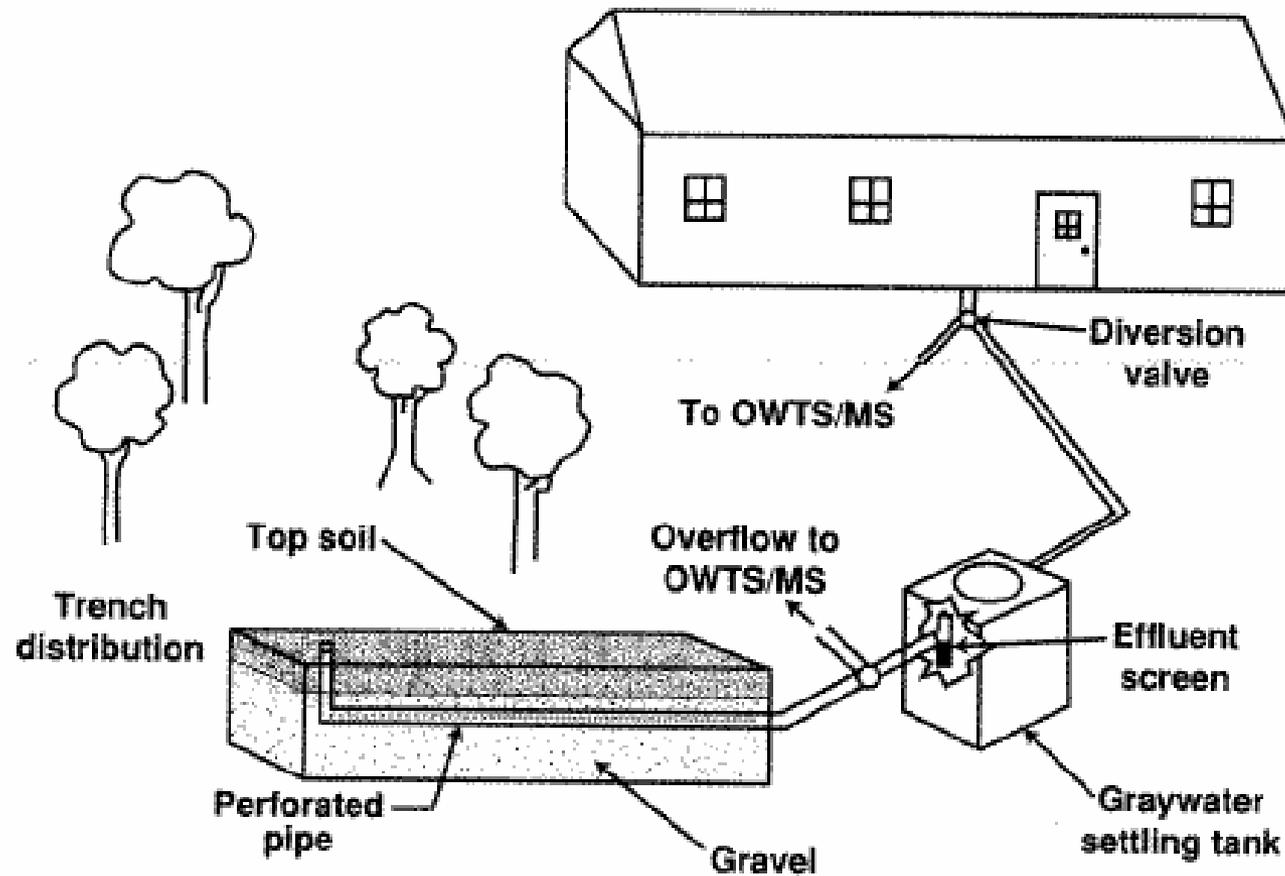


## Gray water treatment

- Source and application affects treatment
- Subsurface needs some treatment
- Above surface
  - Only laundry wastewater
  - Other has to be treated







*Figure 9. Graywater system with gravity distribution through a gravel media trench.*

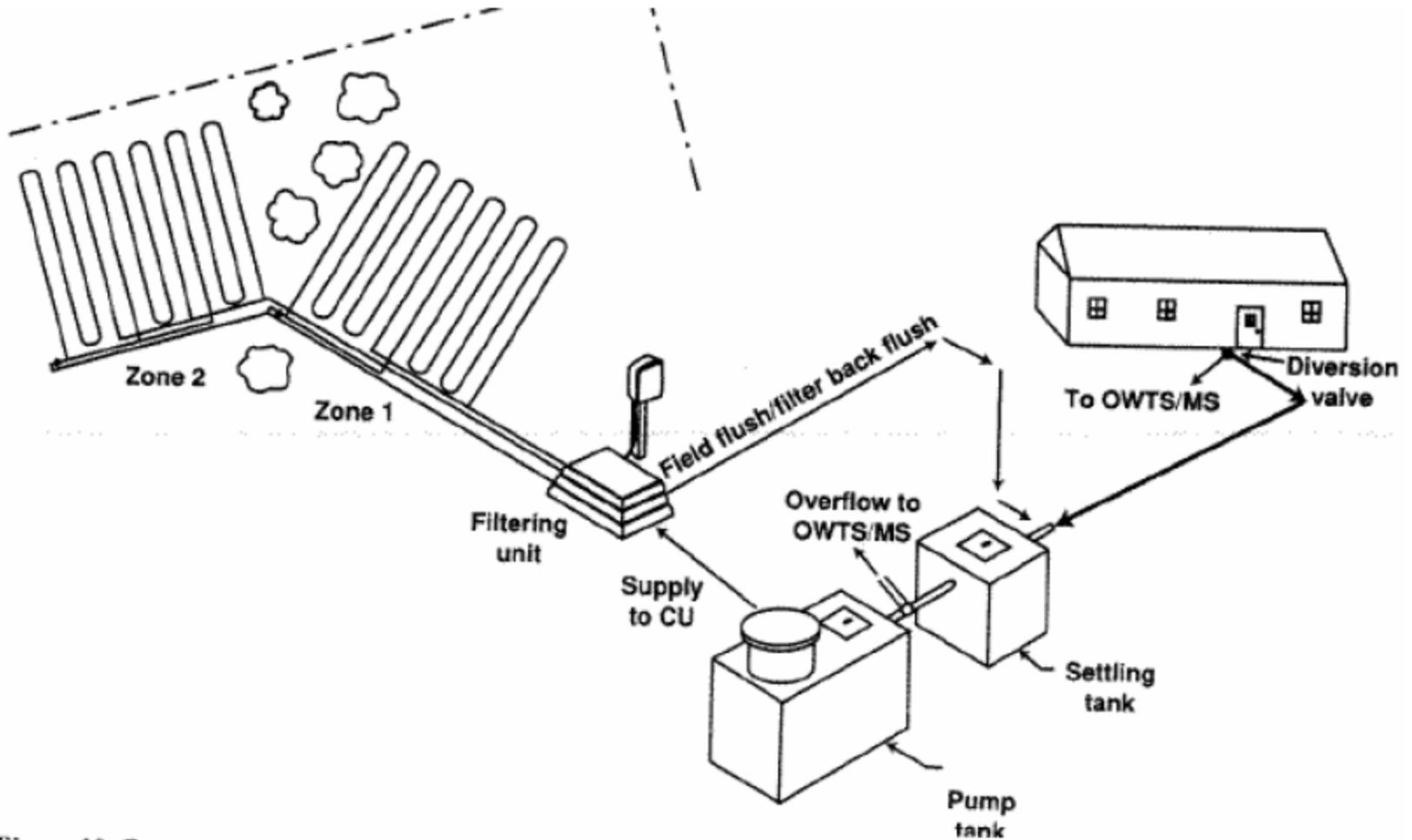
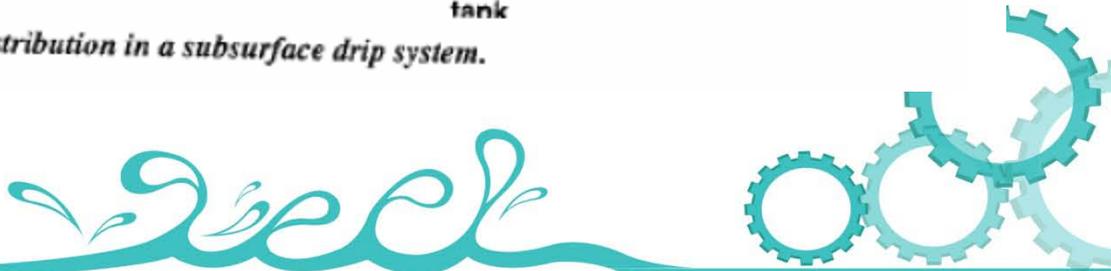


Figure 10. Graywater system using pressurized distribution in a subsurface drip system.



- **In-facility Use**

- **Use greywater for toilet and urinal flushing**

- Treatment and disinfection

- **Two levels**

- Individual buildings
    - Cluster water reuse system

- **Total Recycle/Non-Discharging/Closed Loop**

- No water enters or leaves the system

- Drawback: potential accumulation of contaminants due to repeated passage of water through the system



## Pre requisites for Grey Water for Individual Building System

- Collect wastewater from sinks separately
- Each building has its own reclamation system
- Each building has dual plumbing system

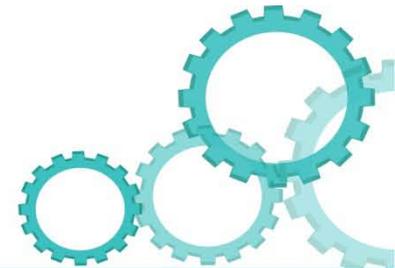
### Using Graywater

- **Advantages**

- Saves water
- Less discharge – more ecologically sound

- **Disadvantages**

- More costly



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