

# Necessary, Inc.

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## **Operation and Maintenance Guide for On-site Sewage Facilities with Aerobic Treatment Units and Spray Irrigation**

### **The Aerobic Treatment Unit**

A maintenance contract with a qualified maintenance company authorized to service your particular aerobic treatment unit (ATU) must be in effect at all times. The maintenance company will make service checks of your aerobic treatment unit three times each year, and may make recommendations for additional service or repairs needed. It is important to follow all the recommendations made by the maintenance company.

The “trash” tank receives all the sewage and wastewater from your household use of toilets, kitchen sink, garbage disposal, dishwasher, bathtubs, showers, clothes washers, and other plumbing fixtures. Solids will accumulate in the “trash” tank. From the “trash” tank, effluent flows to the ATU. The second compartment of the ATU is the treatment compartment. Oxygen is introduced into the wastewater by means of an agitator or diffuser. Aerobic microorganisms in the sewage digest the suspended solids and reduce the biological oxygen demand (BOD) in the sewage. The final compartment of the ATU, or clarifier, provides final filtration of the effluent, and allows sludge to return to the treatment chamber. In some units, this is also where the effluent is chlorinated.

When a large amount of solids accumulate in the “trash” tank or the primary compartment or the ATU, they must be pumped out before they are introduced into the treatment chamber or the disposal field. The “trash” tank and the primary compartment of the ATU should be pumped every two to three years by a licensed pumping service or more often if recommended by the maintenance company. No structures or driveways should be built over the aerobic treatment unit, and no traffic should be allowed over the aerobic treatment unit.

The owner should strictly limit the amount of non-digestible and hard to digest wastes introduced into the “trash” tank, including but not limited to grease, colored toilet paper, sanitary napkins, tampons, coffee grounds, disposable diapers, paper towels, cigarette butts, photographic wastes, plastics, paints, varnishes, solvents, oils, pesticides, medical wastes, metals, and large amounts of solids generated by garbage grinders. The back-flush from water softeners should not be introduced into the aerobic treatment unit or disposal field. Normal household use of soaps, detergents, bleach and other cleaning agents will not impair the functioning of the ATU.

The disinfection unit **MUST** be stocked with the appropriate type of chlorine tablets (NOT swimming pool chlorine) at all times. Failure to do so may result in spraying pathogenic bacteria and viruses in your yard!!

The ATU is followed by a pump tank. A submersible pump delivers sewage effluent to the spray area. It is equipped with a timer and a float switch that turn the pump on and off, and another float switch mounted higher in the tank which will activate a high water alarm, should the pump fail. The alarm turns on a light or a buzzer, which should be checked daily. If the alarm for the pump tank OR the alarm for the ATU goes off, contact the maintenance company. Please keep in mind that, in the event of a

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power failure to the house, neither the pump nor the alarm will function. The electrical connection for the pump and alarm should be kept free of ants.

## **The Disposal Area**

The disposal fields dispose of the effluent by spraying it onto the lawn. If there is a timer, it will turn the pump on to spray once in 24 hours, usually at night. Otherwise, the pump will activate on demand (when the pump tank fills to the correct level). The disposal fields must be kept vegetated. It is suggested that the fields be over-seeded with winter rye in the fall to provide good transpiration (loss of water through plant respiration). No structures, sidewalks, patios, decks or driveways should be built in the spray area, and no traffic should be allowed in the spray area.

## **Water Conservation Tips:**

- Leaky toilets and faucets can inundate an on-site sewage facility in a short time and cause its failure by overflow of sewage. Turn off the water supply to a leaking or dripping fixture until it can be fixed or replaced. If any toilets must be replaced, the new unit should use 1.6 gallons of water or less. Water can also be conserved by replacing showerheads with low water use models, and adding aerators to faucets.
- Check toilets periodically for leaks by adding food color to the tank. If there is a leak, the color will appear in the bowl without flushing.
- Scrape dishes before placing them in the dishwasher and wash only full loads. Water saving dishwashers are available which use about 1/3 the water used by conventional dishwashers.
- Wash only full loads of clothes if your washing machine does not have an adjustment setting for smaller loads. Wash clothes throughout the week, not all on one day. If the clothes washer is to be replaced, replace it with a front-loading washer. Water saving clothes washers are available which use about 1/3 the water used by conventional washers.
- Avoid running the water continuously while rinsing dishes or washing fruits and vegetables.
- Avoid running the water continuously while brushing teeth or shaving.