

Subsurface Wastewater Disposal System Use and Maintenance Guidelines

Overview: The intent of these guidelines is to provide information for septic system owners and users so they are aware of appropriate actions to take to avoid misuse of the system, and to enhance and maintain system operation and longevity. It is the system owner's or user's responsibility for proper use and maintenance of the system to avoid potential health hazards, high costs, and disruption caused by a premature system malfunction.

There are many simultaneous processes affecting a septic system. Many of these are beneficial, i.e. they facilitate the decomposition of organic waste and the distribution of the liquid for absorption and purification by the soil. Others, however, are detrimental to the functioning of the septic system and may cause the system to malfunction many years before the end of the system's expected design life.

There are five main reasons why properly designed and installed septic systems become ineffective. These are:

- Lack of maintenance,
- Excessive water,
- Detrimental materials that are flushed or dumped down household drains,
- Agents that kill beneficial bacteria, and
- Physical damage to the system components.

Any or all of these factors may contribute to a steady decline in the effective functioning of a septic system. By taking the following action steps, users can extend the functional life of the septic system by many years.

System Maintenance: Maintenance of a septic system is critical. Because the system is underground, conditions may develop that are undetectable until malfunction symptoms appear. By then, it may be too late to avoid a costly and disruptive system replacement. The following actions are recommended for proper septic system maintenance:

Safety Note: Use extreme caution when opening the septic tank as it contains dangerous gases and bacteria. Always wear protective clothing and wash with antibacterial soap after coming in contact with any part of the septic system.

- Pump the septic tank when the accumulation of solids is equal to no more than 1/3 of the volume of the tank or no closer than 12" to the bottom of the outlet tee which ever is less. Generally, pumping should be done every 2 to 5 years, depending on how heavily the system is used.
- If a garbage disposal or grinder unit ("dispose-all") is used with the system, pump the septic tank every year, because of the rapid solids buildup in the tank. Be sure that an effluent filter is present at the outlet of the tank. Garbage disposals should not be used.

- Be present when the tank is being pumped and ask the pumper to check the condition of the inlet and outlet baffles.
- If the tank is more than 12" below the ground surface, install a service access riser and cover to facilitate pumping. Deep tanks are often ignored because of the additional expense of exposing the cover.
- If an effluent filter is installed in the septic tank, clean the filter at least annually, and install a service access riser and cover for easy access to the filter.
- Maintain a written record of all pumping and other service.
- If a system site plan does not exist, create one by recording the location of the septic tank, pump chamber, distribution box and disposal field. Include reference distances so each component can be easily located for future inspections.
- Have the entire septic system inspected by a qualified inspector every five years to detect any adverse conditions that, if found early, can be corrected thereby preventing the need for a costly, disruptive system replacement.
- If an effluent pump is a component of the system, open the pump chamber every year and visually check the piping, electrical connections, floats and alarm for proper operation.

Excessive Water: Reducing the amount of water flowing into the septic tank at any one time will result in cleaner effluent leaving the septic tank and reduce the likelihood of organic clogging of the disposal field. Preventing excessive water from entering the septic system's disposal field will reduce the likelihood of saturation of the underlying soil. Actions to prevent excessive water from entering the disposal system include:

- Install low-flow devices in showerheads and aerators on faucets.
- Install new washers in all leaking faucets and toilets.
- Install low-flow toilets or add a displacer in the tank of existing ones.
- Install a drain-limiting valve on all bathtubs equipped with jets.
- Front-loading clothes washing machines use less water than top-loaders.
- Set water level in washing machine appropriate for the amount of clothes to be washed, or wash only full loads.
- Avoid doing multiple loads of laundry over a short period of time; instead, space out laundry loads over the course of a week.
- Take shorter showers.

- When doing household or personal tasks, avoid letting the water run continuously unless it is absolutely necessary.
- Drain appliances one at a time.
- Divert gutter downspout discharges, sump pump discharges, floor drains, and house footing drains, away from the septic system
- Grade the area or install a curtain drain to divert surface water away from the septic system.
- If adding bedrooms to the dwelling, check to make sure the septic system is designed to handle the expected additional wastewater flow, and have the system expanded if necessary.

Detrimental Materials: Nothing should go into the septic tank except wastewater from the drains, human waste, and toilet paper. There are items that will not break down and will simply fill up the tank and reduce its volume. Many household chemicals and compounds stay either in solution or in suspension, which may be carried into and clog the disposal field, or may leach into the underlying soil and enter the groundwater as contaminants. Following is a partial list of things that should be kept out of the disposal system:

- All paper products including tissues, wipes, napkins, paper towels, cardboard tubes, newspaper, etc.
- Personal products such as razor blades, tampons, condoms, disposable diapers, floss, etc.
- Hair from human and pet combs or brushes.
- Plastic or cellophane wrappings.
- Cigarette butts.
- Coffee grounds.
- Laundry lint (installation of a laundry lint filter on the washing machine is an important and pro-active preventative measure).
- Powdered laundry detergents (use liquid instead).
- Chemicals other than normal household cleaners, such as paints, solvents, oils, greases, degreasers, and photographic developing solutions. These substances are prohibited.
- Products containing phosphorous.
- Grease associated with food preparation.
- Grease emulsifiers.
- Plate scrapings.
- Food preparation wastes.
- Cat litter.
- Deceased animals or animal parts.
- Additives intended to promote bacterial activity or to "clean" the septic tank. They are unnecessary and may harm the septic system. Human waste contains ample bacteria to maintain the decomposition process within the septic tank. Cleaning additives may liquefy the sludge and scum in the tank, which then exit the tank

and end up clogging the disposal field, and causing a malfunction.

- Avoid using a garbage disposal unit, but if used, it should be used sparingly. Heavy use will lead to rapid filling of the septic tank with solid organic matter. Use of a garbage disposal unit is not permitted for a septic system unless the septic tank has an effluent filter and the tank and distribution area capacities are oversized to accommodate the additional volume of organic material.

Antibacterial Agents: There are microbes throughout the septic system that are digesting solids, consuming pathogens, and helping to purify the water as it returns to the groundwater. There are many common chemical compounds, which when introduced to the septic system, are lethal to these bacteria and should be avoided. The following products should be disposed of sparingly, if at all:

- Strong lye-based drain cleaners or clog removers.
- Oven cleaners.
- Chlorine bleach.
- Toilet bowl cleaners that discharge bleach with each flush.
- Antibacterial cleansers.
- Solvents.
- Any root killer or product containing copper sulfate.
- Outdated or surplus medicines.

Detrimental Uses: Home businesses and uses:

- Home beer brewing.
- Salons or use of hair permanents or coloring.
- Elderly care facilities.
- Frequent or daily use of medications or pharmaceuticals.
- Home bakery businesses.

Physical Damage to System Components: The components of a modern septic system are very durable and will last for decades. However, they are very susceptible to physical damage when subjected to conditions for which they were not designed.

- Do not place structures over the septic system as they may block access for service and inspection, or interfere with evaporation and the transfer of oxygen into the soil.
- Avoid driving any vehicle or machinery over the septic system, unless it is specifically designed to bear the weight. The weight of vehicles will compact the soil and may crush tight lines, laterals, chambers, tubes, or other components.
- Avoid allowing livestock to graze over the disposal area.
- Avoid planting shrubs with deep roots or trees in or near the disposal area. The roots will eventually enter the pipes or chambers and may create blockages.

- **Safety Note: Exercise care when digging in the area of an effluent pump chamber, since there is a live buried electrical line that may be severed.**

Signs of a septic system malfunction: If any of these conditions occur, a professional should be contacted to evaluate the situation and determine the appropriate corrective action:

- Wastewater backing up into toilets, tubs, or sinks, or seepage into parts of buildings below ground.

- Slowly draining fixtures, particularly after it has rained.
- Raw sewage odors accompanied by extremely soggy soil over the disposal field.
- Ponding or outbreak of wastewater on the surface of the ground at the septic tank or disposal field.
- Contamination of nearby water supply wells or waterbodies/courses.

RECORDS:

Septic Tank or other component inspection

Date	Hauler-Inspector Agent - Engineer Name-Address	Phone	Activity	Notes

Other Activities

Date	Activity	Notes

Disclaimer: This O&M information is provided for educational purposes. The function of individual septic systems is the sole responsibility of the owner's. Clear Water Environmental takes no responsibility for individual septic system operation whether or not these guidelines are made use of. For specific questions or problems call CWE or your local health/code enforcement office. It is the individual owner's responsibility to know the local and state regulations that apply to their system. The guidelines presented here are general in nature and more stringent rules may apply.