

# GUIDE FOR SEPTIC TANK REPLACEMENT

The septic tank is a vital component of your home's wastewater treatment system. Its primary purpose is to receive all of the wastewater generated in your home and retain the wastewater for at least 24 hours:

During the retention period, solids present in the wastewater will settle to the tank bottom if they are heavier than water (the sludge layer), or rise to the top of the tank if they are lighter than water (the scum layer). The liquid in the clear zone (between the sludge and scum layers) is discharged from the septic tank to other components of system, and ultimately to the drainfield. The tank must have sufficient capacity to store the accumulated sludge and scum for several years. Periodically, the tank must be pumped to remove the solids before they are discharged from the tank and cause damage to the drainfield or other vital system components. After many years, some septic tanks (especially those made of metal) deteriorate to the extent that they are no longer water-tight and/or they are no longer structurally sound.

*When the useful life of the septic tank has been reached, it must be replaced.*

## **SEPTIC TANK SELECTION:**

- The septic tank that serves a single family dwelling must have a minimum volume of 1,000 gallons.
- A home with more than 4 bedrooms must use a tank having a minimum volume of 1,500 gallons. The tank must be on the DEQ list of Approved Tanks and Distribution Units.
- Be aware that some DEQ approved tanks may not be suitable for your site based on groundwater condition.

## **SEPTIC TANK PLACEMENT FOR SYSTEMS THAT WERE BUILT AFTER JUNE OF 1977:**

INSTALLATION GUIDE: Each tank manufacturer has prepared an installation guide that provides instructions to follow when placing that manufacturer's tank. It is very important that the manufacturer's guide be closely followed to insure the tank remains structurally sound and water-tight after it is placed in the ground. The tank location must be excavated large enough to accommodate the tank.

SETTING THE TANK: Bedding material (for example, pea gravel) is placed in the bottom of the excavation to provide a stable leveling base. The tank must be placed level from side-to-side and end-to-end. The depth of excavation must be determined before setting the tank to insure that the building sewer pipe can maintain the minimum/maximum grade set by the plumbing code once it is connected to the tank inlet fitting.

GRAVITY OR PUMP: Similarly, the effluent sewer pipe that connects to the tank outlet fitting must have a minimum fall of 2 inches, and maintain a minimum grade of 4 inches per 100 feet. Be aware that the tank outlet must also be at least 2 inches higher than the top of the gravel in the first or highest dispersal trench. A pump will be required to lift sewage to the drainfield if the minimum fall and grade requirements for the effluent sewer pipe can not be met.

## **SEPTIC TANK PLACEMENT FOR SYSTEMS THAT WERE BUILT BEFORE JULY OF 1977:**

If it is reasonably possible to do so, the tank placement must meet with same standards for placement as described above for systems built after June of 1977. Clackamas County has found that some septic systems built prior to July of 1977 do not have sufficient fall between the septic tank and the drainfield to meet the current DEQ requirement. When this minimum

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elevation difference can't be met, it is possible to comply with the DEQ standard by using a pump to lift septic tank effluent to the drainfield, however at significant additional cost.

However, in consideration of several factors, including the system's age, its expected useful life, and the cost for installation of a pump and its associated components, the County may issue a minor repair permit for a septic tank replacement without requiring a pump if all the following requirements are met:

- A. The system must have been installed prior to July of 1977, substantially in compliance with the standards that were in effect at the time of installation;
- B. The system serves an owner-occupied single family residence;
- C. The septic tank installer must check and verify that the effluent sewer pipe between the septic tank and the drainfield has at least two inches of fall;
- D. The property owner(s) must submit a signed affidavit on a County form stating that the installation of a pump (and other necessary components) to lift septic tank effluent to the drainfield is an unreasonable requirement, and that he/she understands that the useful life of the system may be significantly reduced without the pump. Additionally, the property owner(s) shall hold harmless the county, its employees and agents if the system should fail or otherwise not perform in a satisfactory manner.

**MAINTAIN SETBACKS:** When a septic tank is replaced, it must meet established minimum setbacks from buildings, property lines, wells and other features that may be present on the landform if it is reasonably possible to do so. Please refer to the attached table of minimum separation distances. If you determine that the tank must be located closer to an item than listed in the table, written approval from the County must be obtained before placing the tank.

**SERVICE ACCESS RISER AND COVER REQUIREMENT:** The septic tank must have at least one service access riser assembly and cover that extends to finished grade or higher. The riser must be securely attached to the septic tank and be water-tight. It must be at least 20 inches in diameter when the soil cover over the tank does not exceed 36 inches of depth. The minimum diameter of the riser must be at least 30 inches if the backfill depth exceeds 36 inches. Multi-compartment tanks must have the above-described riser above each compartment. The riser cover must have a gasket for odor control, and it must be securely fastened to the riser to prevent unauthorized access.

**SEPTIC TANK ANTI-FLOTATION REQUIREMENT:** A septic tank that is placed at a location where a groundwater table is present at any time during the year may be required to have anti-flotation measures. The need to use anti-flotation may not be apparent until after the tank has been placed and inspected by the County. The tank manufacturer has prepared instructions to follow if anti-flotation measures are required. Please be aware that some septic tanks can not be used at locations where the groundwater level rises higher than the bottom of the septic tank.

## TESTING THE TANK FOR LEAKAGE:

**THE 24 HOUR WATER TEST:** After the septic tank has been installed, following the manufacturer's guidelines, it must be tested to demonstrate that it is water-tight by the test procedure established by DEQ.

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1. The tank must be filled with water to a level that is 2 inches higher than the point of connection of the riser to the top of the tank. **CAUTION, THE TANK CAN BE DAMAGED IF IT IS FILLED WITH WATER ANY HIGHER THAN 2 INCHES ABOVE THE RISER/TANK TOP JOINT.**
2. Mark the water level, time, date and your initials using a permanent marker.
3. After 24 hours, check the water level.
4. If it has dropped more than one inch over the test period, the cause of the loss must be determined and fixed.
5. The tank must successfully pass the water test before calling the County for an inspection.
6. Do not remove or add any water to the tank during or after the 24 hour test so that the inspector can check the tank.

**TANK DECOMMISSIONING:** The tank that has been replaced must be decommissioned in accordance with standards established by DEQ. The tank must be pumped by a licensed sewage disposal service pumping service to remove all of the septage. The tank must then be removed from the property and disposed of properly, or it must be filled with reject sand or bar-run gravel. The tank installer must provide the **County** with a completed Tank Decommissioning Certificate and the pumping receipt.