

Auckland Regional Council Technical Sheet I-1

HOW TO AVOID PROBLEMS WITH ON-SITE WASTEWATER TREATMENT AND DISPOSAL SYSTEMS – Key Maintenance Requirements

Domestic wastewater is wastewater generated in domestic dwellings, institutions, commercial and residential facilities, which predominantly originates from bathrooms, kitchens, and laundries. On-site disposal and is the discharge of wastewater to land within the property boundaries of its place of origin. The traditional on-site treatment system consists of a septic tank and a soil absorption field. A septic tank system includes all tanks, beds, drains, pipes, fittings, appliances and land used on the site in connection with the system. The septic tank through which effluent/domestic wastewater is passed, is the primary stage in any treatment process. It allows solid:liquid separation and retention of the settled solids and floating scum and the settled solids that then undergo anaerobic bacterial digestion.

To be effective septic systems must be adequately sized to accommodate the wastewater flows from the buildings being served and have been properly installed and maintained. The longer the resident time within the septic tank the better for providing optimum adequate separation and to reduce resuspension of solids when there are new plug flows into the tank. Tanks of 4 to 5 days peak flow volume are ideal.

Many conventional septic tank systems fail due to a variety of causes. A key reason is that they are undersized for wastewater flow volumes from modern facilities, connection of garbage grinders, and lack of maintenance. Lack of maintenance can lead to build up of sludge and scum in septic tanks, which can result in lack of separation in the tank, solids carryover, increased odours of raw sewage, clogged absorption fields. Problems with the land disposal area can also be a result of hydraulic overloading caused by increased occupancy and/or greater water use.

Malfunctioning on-site wastewater treatment and disposal systems can contribute to environmental pollution and can become potential health risks. Ignoring system maintenance requirements will lead to signs of system failures which can then lead to further significant problems such as health risks from pathogens, odours, contamination of groundwater and surface water, attraction of flies and rodents, and decreased property value. Proper maintenance of septic systems not only lessens environmental pollution and aesthetic value of a property, but also lessens potential costs that could be incurred when a damaged system needs to be repaired or replaced.

MAINTENANCE AND ENHANCEMENT OF EXISTING ON-SITE SEPTIC SYSTEMS:

All Septic Tank owners are strongly encouraged to:

- **PUMP-OUT SEPTIC TANK**
 - Check the respective depths of sludge, liquid wastewater and scum in the septic tank at least once per year.
 - Pump out the tank once the combined depth of sludge and scum occupies 50% of the tank depth. For a standard household, this should be in the order of once every 3 to 5 years. (This may be required more frequently where houses are fully occupied and/or there is no outlet filter and for tanks serving public toilets, and less frequently, up to once every 5 years or longer, where occupancy is low or intermittent, and/or where an effective outlet filter has been maintained).
- **INSTALL AND MAINTAIN AN OUTLET FILTER**
 - In the Auckland region, these are required to be installed on all new septic tank systems and are **STRONGLY** recommended to be retrofitted to old septic tanks. They are often the most effective and cheapest option for improving the performance and life of a wastewater system. They ensure all solids of 3mm diameter or greater are retained and biodegraded within the septic tank, and do not access or clog the soakage lines. Supplier details can be obtained from your local council).
 - Check the biomat build up on the filter regularly, at least once per month, and clean it as required to avoid excessive build up affecting filter performance.
 - To clean the filter, remove it from the septic tank and hose down, discharging the rinse water back into the septic tank, or elsewhere into dense vegetation where it will not cause any nuisance, and reinstate the filter into the septic tank.

- **AVOID USE OF TOXIC SUBSTANCES**
 - Non-biodegradable chemicals, e.g. don't use drain cleaners or disinfectants.
 - Sanitary napkins, other hygienic products, dental floss, kitty litter, etc.
 - Oil and fat flushed into the system.
 - Detergents (toxic detergents and other household cleaners should be avoided as they kill the bacteria in the septic tank).
 - Do not use or minimise use of garbage disposal units.
 - Compost food scraps or put them in the rubbish.

- **MINIMISE WATER USAGE / IMPROVE WATER CONSERVATION**
 - Particularly important on sites where area available for wastewater disposal and the system's capacity constrained, where any seepage or run off could access natural water and affecting water quality or where disposal areas may be accessed by children.
 - Install water reduction fixtures on water outlets and/or low flush toilets (This is particularly important on small sites and/or where there is high occupancy in the dwelling where the system disposal system capacity is threatened).
 - Do not leave taps running for long periods.
 - Install push button taps on public facilities.
 - Fix water leaks.
 - Do not connect rain gutters or stormwater drains to septic tanks.

- **ENHANCE EVAPOTRANSPIRATION AND DISCOURAGE ACCESS TO DISPOSAL AREAS**
 - Densely plant the disposal area, maintain plantings and check regularly for even wastewater distribution and even plant growth.
 - Where the disposal area is grassed, it should be regularly mowed to optimise growth and prevent the grass from becoming rank.
 - Do not pave the disposal area.
 - Use planting, low chain, signage and/or a small fence to discourage access in public areas.
 - Use signs, low fences and plantings to prevent any vehicle or stock access.

Records should be kept of all maintenance undertaken on the wastewater systems, particularly when contractors are involved. This includes tank pump outs, tank inspections, and access openings. **Do not** add or alter any part of your system without Council approval.