

# THE STORY OF YOUR SEPTIC TANK SYSTEM



ALL YOU NEED  
TO KNOW ...

**nzwwa**



New Zealand Water & Wastes Association  
Waiora, Aotearoa



Ministry for the  
Environment  
Mauriō Ma Te Taiao

# What do you know about your septic tank system?

For the purposes of this booklet, a septic tank system refers to any kind of on-site sewage management system including traditional septic tanks, pump-outs, composting toilets, secondary and tertiary treatment systems as well as sand and fabric filters.

Just like your car and other belongings, your septic tank system is important in the daily functioning of your household. This booklet has been written for you, a septic tank system owner, so that you can learn how to keep your septic tank system happy.



# Parts of your septic tank system: The Septic Tank

There are many of different types of septic tank system. You may have:

- ▶ a single chamber septic tank,
- ▶ a multi chamber septic tank
- ▶ an aerated system
- ▶ a pumped system or,
- ▶ a siphon dosing system.

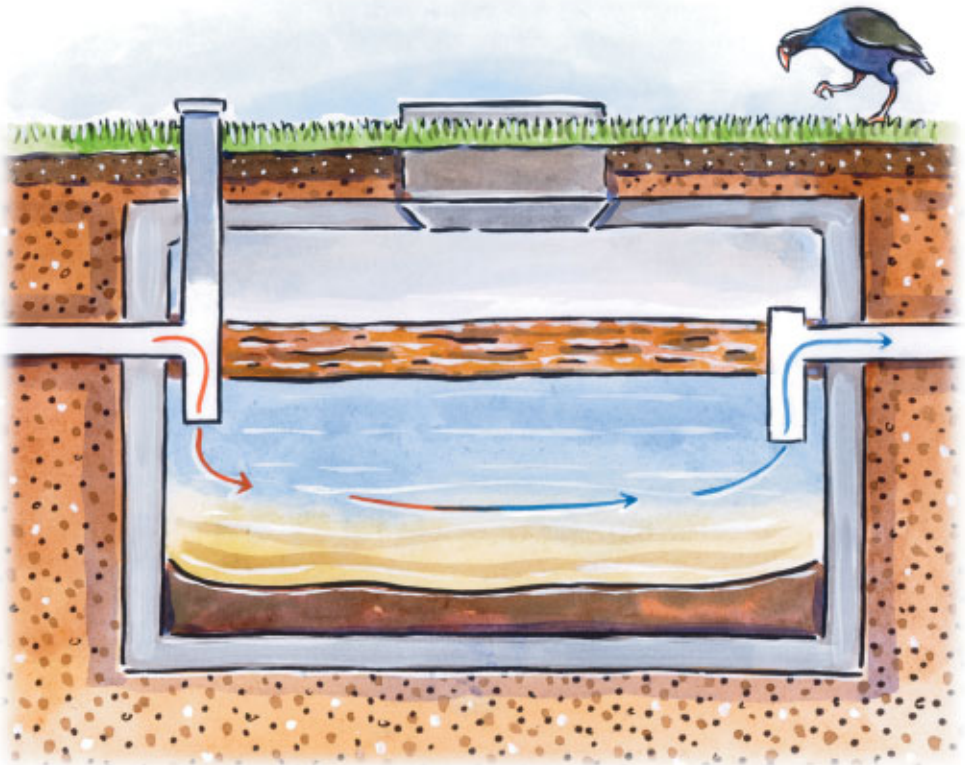
Whatever system you have, the wastes from your kitchen, bathroom, toilet and laundry enter the septic tank where the separation of liquids and solids occurs.

The light solids such as fats float to the top, producing a scum layer which prevents odours escaping. The heavy solids sink to the bottom where they form a sludge layer.

The organics in the wastewater are broken down by bacteria in your septic tank system.

Once the organics are broken down, the liquid part leaves the septic tank where it flows by gravity or is pumped to the land application system.

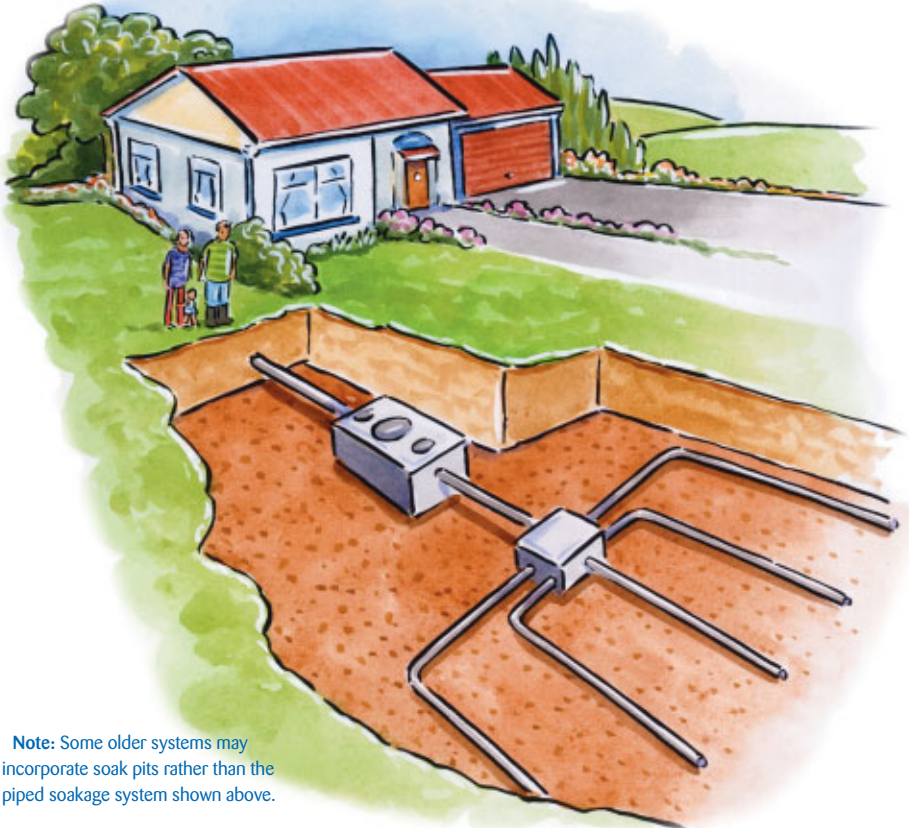
The figure below shows the processes which occur in a simple septic tank system.



# Parts of your septic tank system: The Land Application System (Drainfield)

Like septic tanks, there are several land application options including dripline irrigation systems, ETS (evapo-transpiration-seepage) beds, LPED (low-pressure-effluent-distribution) trenches and “Wisconsin Mounds”. The type of system you have will depend primarily on the type of soil you have and the requirements of your regulatory authority.

In a land application system, the treated wastewater from your septic tank is discharged into the soil. This disposes of the liquid and reduces the nutrients and bugs (pathogens). Away from the warmth of the human body and in the soil, bugs are killed and more nutrients are broken down. Over a period of time the liquid evaporates, is taken up by plants or soaks into the ground. The picture below shows what your land application system may look like.



**Note:** Some older systems may incorporate soak pits rather than the piped soakage system shown above.

## Failure!



Your septic tank system may be failing if:

- ▶ A foul, rotten-egg smell is noticed around your septic tank or land application area
- ▶ Your tank overflows, perhaps through the vent
- ▶ The land around your septic tank is soggy
- ▶ Your drains and toilets are running slowly or overflow
- ▶ There is a gurgling noise when the bath plug is pulled
- ▶ A foul smelling liquid seeps out
- ▶ There is a lot of dark green grass growing on your land application area
- ▶ There is wet, black ooze around trenches
- ▶ There is an overflowing gully trap or tank mushroom

Your septic tank system may fail for any of the following reasons:

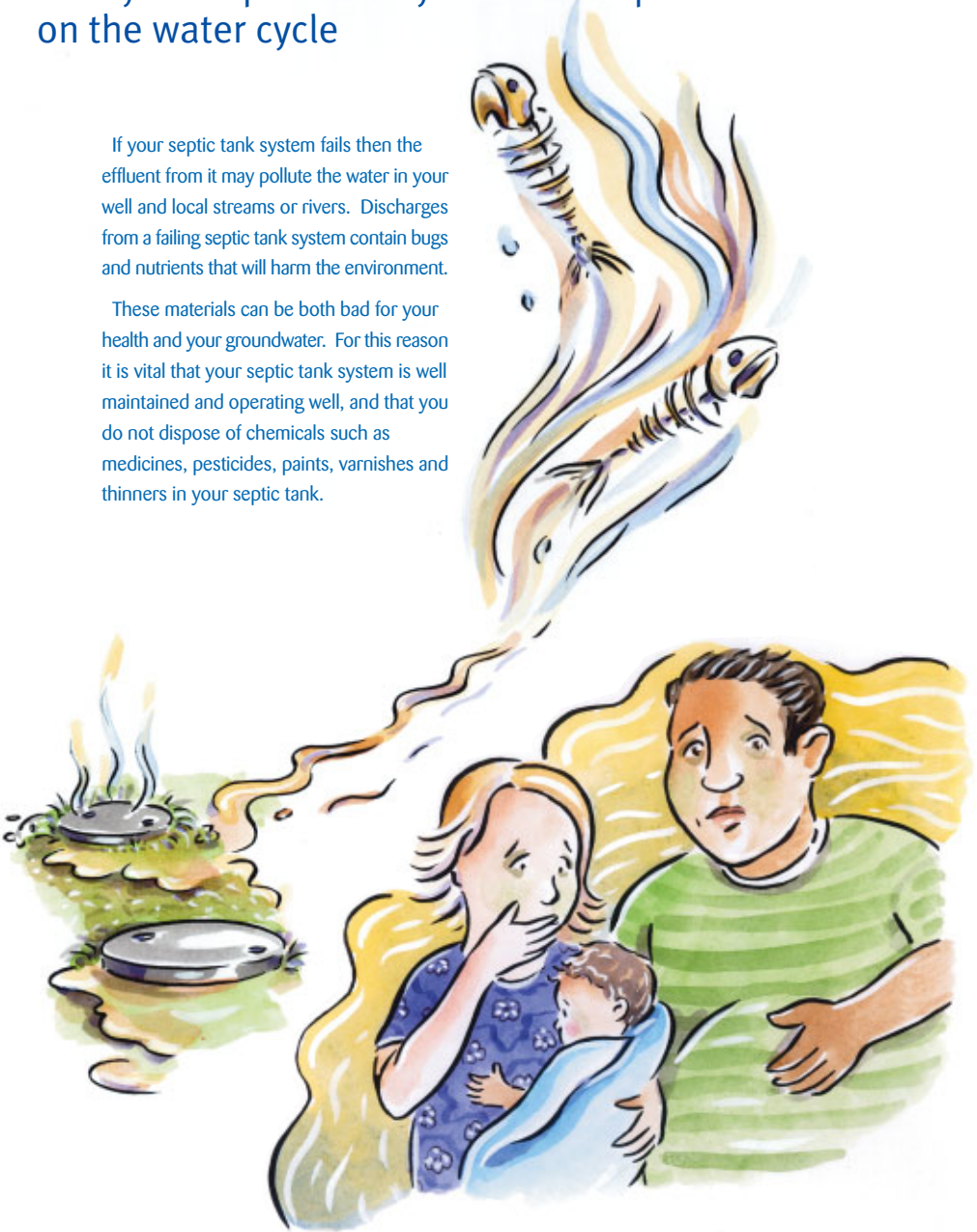
- ▶ Your land application system is not coping
- ▶ Your septic tank is too full – get it pumped out!
- ▶ Your septic tank contains too much sludge and scum – have your tank pumped/desludged
- ▶ There is too much water going into your septic tank – use less water and check for stormwater infiltration
- ▶ Toxic chemicals are going into your septic tank system – reduce your use of harsh detergents



# How your septic tank system can impact on the water cycle

If your septic tank system fails then the effluent from it may pollute the water in your well and local streams or rivers. Discharges from a failing septic tank system contain bugs and nutrients that will harm the environment.

These materials can be both bad for your health and your groundwater. For this reason it is vital that your septic tank system is well maintained and operating well, and that you do not dispose of chemicals such as medicines, pesticides, paints, varnishes and thinners in your septic tank.



# Keeping your septic tank system happy – what to put in, what to leave out



You can put wastewaters from your sinks, baths, showers, toilets, washing machine and dishwasher into your septic tank system.

The following substances will damage your septic tank system:

- ▶ Bleaches, whiteners, nappy soakers, stain removers and disinfectants (in excessive volumes)
- ▶ Cold water soap powders with enzymes
- ▶ Antibiotics
- ▶ Chemicals, pesticides and oils
- ▶ Grease
- ▶ Paints, varnishes and paint thinners
- ▶ Sanitary pads, tampons, disposable nappies, condoms or coffee grinds

Be aware that kitchen insinkers should not be installed to a standard septic tank system as it overloads the treatment stage and increases the frequency of servicing required.



# Keeping your septic tank system happy – ideas for a happy system

Here are some ideas to help keep your septic tank system happy:

- ▶ Scrape all your dishes to minimise the grease, fats and solids entering your septic tank system
- ▶ Shake all the dirt and sand off your clothes before washing them
- ▶ Use laundry detergents and bathroom cleaners in moderation
- ▶ Install and use dual flush toilets and only operate your washing machine and dishwasher when full to conserve water
- ▶ Use appliances labelled as water efficient
- ▶ Divert roof drains and surface water from areas around your septic tank system
- ▶ Install a filter on the outlet of your septic tank as this may improve the life of your land application system
- ▶ If poisons such as oil, petrol, paint are poured down the sink they will damage your septic tank system and this may lead to the need for purchasing a new septic tank system

## And perhaps most importantly:

- ▶ Learn the location of your septic tank system and how maintain it.





# Safety notes for your septic tank system

There are some septic tank system safety notes that you should be aware of:

- ▶ Never enter your septic tank – toxic gases in the septic tank can kill in minutes.
- ▶ Never smoke around or near septic tank openings
- ▶ Keep your appliances, tools and electrical lights away from the septic tank and water, or wet ground, near the system
- ▶ Keep your septic tank's manhole locked or heavy enough to avoid children from opening it. Limit access to your septic tank system, by animals and people.
- ▶ Always wear eye protection and gloves when working around your septic tank system and wash your hands thoroughly after you finish
- ▶ Be careful of overhead and underground power lines when locating your septic tank
- ▶ Cover your septic tank securely but allow for easy access for future servicing



# How to locate your septic tank system

The best way to determine where your septic tank is located is to visit your local council to see if they have plans of your septic tank system.

You may be able to find an air vent or “mushroom” somewhere on your property. Your septic tank system is likely to be close to this.



If a plan of your septic tank system is not available then please consult your liquid and hazardous waste contractor who will locate it for you.

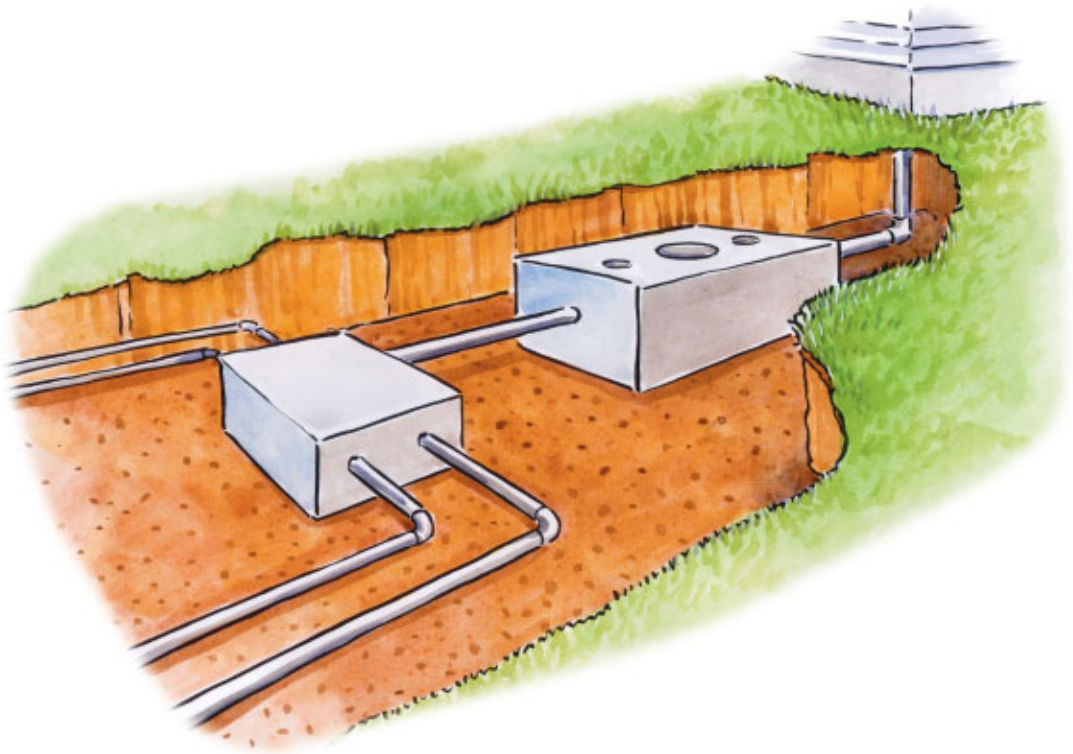
It is not recommended that you actively locate your septic tank system yourself as you may puncture underground pipes.

Once you locate your septic tank system, install a lid for future servicing. You may require more than one lid if your septic tank has more than one chamber.

## Locating Your Distribution Box and Land Application Area

Each month the land application area should be changed. Alternating the disposal field allows it time to rest and recover. Otherwise, progressive failure will lead to clogging, smells and finally, complete failure of your system.

If you cannot find your distribution box you may not have one. The introduction of a distribution box may increase the life of your land application area. To install one, please speak to a liquid and hazardous waste contractor.



# Good and Bad Plants to Plant near your Septic Tank System

Some plants will enhance the soakage available in the soakage area and some may actively damage the tank or pipe work.

Refer to your local/regional council or landcare group for planting advice.



# Location of your septic system

A large grid of graph paper consisting of 20 columns and 20 rows of squares, intended for plotting the location of a septic system.

# Maintenance of your septic tank system

Just as your car requires regular maintenance, so does your septic tank system. As a general rule, your septic tank should be inspected annually and pumped out every 3-5 years or more often if necessary.

Your land application system generally won't need any maintenance except a quick check that there are no soggy areas.

Remember when choosing a contractor to empty your septic tank, always ensure you employ a certified contractor.







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