



NATURALFLOW™

Worm-based Wastewater System
with Power-free Treatment



Owner's
Manual

NaturalFlow Wastewater Systems

Owner's Manual

To the Owner

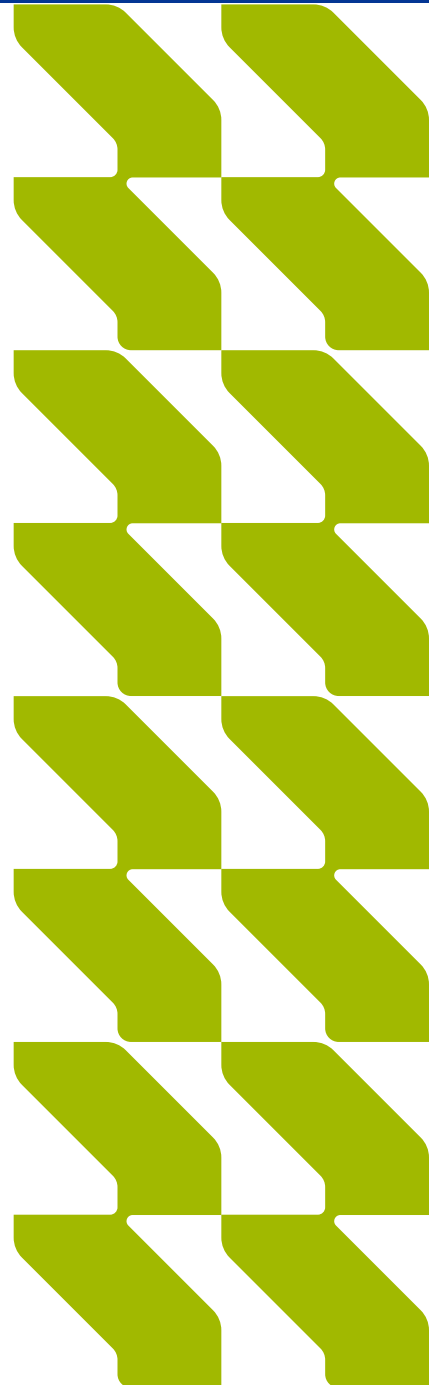
Thank you for choosing a NaturalFlow System to treat and care for your on-site sewage and wastewater.

NaturalFlow is a truly natural living system that uses well-established, sustainable processes to treat both solid and liquid waste. Nature is one huge recycling mechanism and NaturalFlow harnesses these forces that have been working together for thousands of years and continue to do so today, working with our environment, to treat your wastewater. The system does not draw on any other resources and does not use external power in any of the treatment processes.

We encourage you to monitor and care for your NaturalFlow system yourself with our backing and support and by doing so you will learn how your system works and operates and how to keep it in top working order. As with all living organisms a little care and supervision will ensure that it will run at peak performance for many years.

The system accommodates and works with all of today's conveniences such as conventional toilets, 'waste master' units from the kitchen and more. All domestic wastewater can be taken care of and even on steep and difficult sites with poor soakage; NaturalFlow will deliver consistent results year after year.

Kind regards,
The Waterflow Team



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Warranty

WATERFLOW NZ LTD warrants that the Waterflow NZ System will be free from defects in materials and workmanship for the following periods from the date of installation, under the following conditions:

1. Plastic-Moulded tanks: 15 years
2. Filter media: 5 years
3. Dosing float: 2 years
4. Electrical components and Pump: 2 years

WATERFLOW NZ LTD will, at its discretion, repair or replace any defective components with the same or equivalent part at no charge to the consumer, in accordance with the following terms:

5. Scope of Warranty: This warranty covers the repair or replacement of system components only. Labour, freight, or travel costs incurred in the repair or replacement of components are not covered unless otherwise required by the Consumer Guarantees Act 1993.

6. Conditions: This warranty is valid only for Waterflow NZ systems used to treat domestic wastewater inflow. It does not cover defects or damage arising from:

- a. The introduction of waste sources not specified in writing by Waterflow NZ or outside the written instructions provided by Waterflow NZ.
- b. Alterations to the landscape or surrounding environment (e.g., landscaping or drainage work) after system installation.
- c. Failure to use the system according to Waterflow NZ instructions, including the Owner's Manual.
- d. Failure to service the system annually, as recommended by Waterflow NZ. Annual servicing must be carried out by a Waterflow NZ accredited agent. Non-compliance will void this warranty.
- e. Events beyond Waterflow NZ's reasonable control (force majeure events), such as earthquakes, floods, storms, and electrical faults.
- f. Overloading the system beyond its hydraulic or biological design capacity.
- g. Actions by third parties, or repairs/modifications by non-accredited service technicians.

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7. Exclusions: This warranty does not cover:

a. Damage resulting from improper installation, including installations not performed by a Waterflow NZ accredited installer.

b. Damage caused by a failure of any LAS (land application system) not designed, supplied, or installed by a Waterflow NZ accredited installer.

c. Damage resulting from changes to the soil dispersal system not carried out by an accredited installer.

8. Owner Responsibilities: All charges for labour, repairs, or replacement of components not covered under this warranty are the responsibility of the owner. Owners must notify Waterflow NZ immediately upon becoming aware of any defects. Proof of purchase and relevant design, installation, and service documentation must be provided when making a warranty claim. Claims must be made before the warranty expires.

9. Payment Terms: This warranty is conditional upon full payment being received for the supply and delivery of the Waterflow NZ system.

10. Limitations: This warranty does not extend to components repaired or replaced during the warranty period.

11. Consumer Guarantees Act: The benefits under this warranty are in addition to the rights you have under the Consumer Guarantees Act 1993. If you are acquiring the Waterflow NZ system for personal, domestic, or household use, the provisions of the CGA apply. Waterflow NZ acknowledges that the CGA provides guarantees that cannot be excluded or modified by contract. Nothing in this warranty limits or restricts your rights under the CGA.

12. Exclusion of Liability: To the fullest extent permitted by law, Waterflow NZ will not be liable for any incidental or consequential loss beyond the rights guaranteed by the Consumer Guarantees Act 1993.

Dean Hoyle | Managing Director

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Servicing

Service Agent Role

It is recommended that all Naturalflow systems are serviced by a qualified professional once every twelve months, unless otherwise specified by the manufacturer.

Owner Care Role

The owner is greatly encouraged to maintain a monthly visual check of the operation of their system and to make sure their land application systems are maintained in good condition.

1. Industry recommendation is to have a maintenance contract in place at all times
2. Visual check of treatment system
3. Visual check of land application system
4. Notify Waterflow NZ of any issues

Inspection Checklist

When checking the system operation, take particular note of;

1. Wormerator build-up. Six monthly level should be no higher than 200mm below inlet pipe (simple observation through lid adequate).
2. Field performance, particularly looking for any undue odours or effluent breakout (flush field lines 2-3 monthly).
3. All electrical parts (if applicable). Ensure all pump alarms are working.
4. Check Grey Water and Dose tank outlet filter for any build-up.
5. Clean disc filter 2-3 monthly (PCDI irrigation systems only)
6. Check Aerating Bio-Filter charge tank (1200 pump) for correct operation (simple observation through lid adequate) and that the plants themselves look healthy and lush (these can be trimmed if desired to keep looking tidy).

Did you know...

...that as a homeowner you're responsible to make sure your wastewater system gets the required maintenance needed to protect the investment in your home? This guide will help you care for your wastewater system. It will help you understand how your system works and what steps you can take as a homeowner to ensure your system will work efficiently.

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Components of Your Wastewater Septic System

A typical wastewater septic system has two main components: a Wastewater and Sewage Treatment System and a Land Application System (or disposal field).

The NaturalFlow System treats and reduces the solid content of the wastewater by up to 95%. The wastewater liquid then flows to the disposal field, where it percolates into the soil, and microbes provide final treatment by removing harmful bacteria, viruses, and nutrients before it eventually reaches the ground-water ecosystem, and the cycle begins again.



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Caring for Your Wastewater System

Efficient Water Use - it really does make a difference

Average indoor water use in the typical single-family home is approximately 180ltrs per person per day. The more water a household conserves, the less water enters the septic system. Efficient water use can improve the operation of the wastewater system and reduce any risk of disposal field overload.

High-efficiency toilets

Toilet use accounts for 25 to 30 percent of household water use. Do you know how many litres of water your toilet uses to flush? Most older homes have toilets with 11+ litre reservoirs, while newer high-efficiency dual flush toilets use 6.3/5.5ltrs or down to 4.5/3ltrs of water per flush. N.B. Did you know leaky toilets can waste as much as 700ltrs each day.

Consider reducing the volume of water in the toilet tank with a volume displacer (fancy name for a brick, stone etc!) if you don't have a high-efficiency model, or replacing your existing toilets with high-efficiency models.

Check to make sure your toilet's reservoir isn't leaking into the bowl. Add five drops of liquid food colouring to the reservoir before bed. If the dye is in the bowl the next morning, the reservoir is leaking and repairs are needed.

Water fixtures

A small drip from a faucet may add many litres of unnecessary water to your system every day. To see how much a leak adds to your water usage, place a cup under the drip for 10 minutes. Multiply the amount of water in the cup by 144 (the number of minutes in 24 hours, divided by 10). This is the total amount of clean water travelling to your septic system each day from that little leak.

Faucet aerators and high efficiency showerheads

Faucet aerators help reduce water use and the volume of water entering your septic system. High-efficiency showerheads also reduce water use.

Washing machines

By selecting the proper load size, you'll reduce wastewater. Washing small loads of laundry on the large-load cycle wastes precious water and energy. If you can't select load size, run only full loads of laundry. N.B. A new Energy Star washing machine uses 35 percent less energy and 50 percent less water than a standard model.

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What goes down the drain

Watch your drains!

What goes down the drain can have a major impact on how well your wastewater system works.

What shouldn't you flush down your toilet?

Dental floss, feminine hygiene products, diapers, cotton swabs, cigarette butts, cat litter, and other kitchen and bathroom items that can clog and potentially damage septic system components if they become trapped. Flushing household chemicals, gasoline, oil, pesticides, antifreeze, and paint can also stress or destroy the biological treatment taking place in the system or might contaminate surface or ground waters.

Care for your Land Application System

Your land application system is an important part of your wastewater system. Here are a few things you should do to maintain it:

- Flush driplines regularly - every 3 months recommended
- Plant only recommended wetland plants over and near your wastewater system. Roots from nearby trees or shrubs might clog and damage the drainfield
- Don't drive or park vehicles on any part of your wastewater system. Doing so can compact the soil in your drainfield or damage the pipes, tank, or other septic system components
- Do not build any structures over it or seal it with concrete, asphalt etc
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the drainfield. Flooding the drainfield with excessive water slows down or stops treatment processes and can cause plumbing fixtures to back up
- Trees with very aggressive roots, such as willows, should be kept well away from the disposal system, see page 11 for list of recommended plantings
- A soggy drainfield won't absorb and neutralize liquid waste. Plan landscaping, roof gutters and foundation drains so that excess water is diverted away from the Land Application System

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In a nutshell...

DO

- If your system requires power supply make sure this remains on continuously
- Check faucets and toilets for leaks; make repairs if necessary
- Use low flush toilets where possible
- Use a 'displacer' to reduce the amount of water needed to flush older toilets
- Use aerators on faucets and flow reducer nozzles on showers to help lower water consumption
- Reduce water levels for small loads of laundry
- Wait until the dishwasher is full to run it
- Densely plant your field to maximise transpiration
- Perform regular monthly visual checks of your system and field
- Grass should be mowed or trimmed regularly to optimize growth and prevent the grass from becoming rank
- Use signs, fences and/or plantings to prevent any vehicle or stock access
- Keep records of all maintenance undertaken on the wastewater systems
- Monitor and care for your Wastewater System as per instructions in the home owner's manual
- You are welcome to install a Waste Master in your kitchen sink. The worms love it!!

DO NOT

- Switch off power unless servicing
- Use chlorine based disinfectant & cleaning products in the toilets or kitchen sink (Cleaners high in chlo-rine, phosphorous or ammonia must not be used)
- Over use heavy cleaners that kill beneficial bacteria in the septic system
- Pour any toxic/strong chemicals (paint, oil, grease, paint thinners or pesticides) down any drains
- Pour strong or large volumes of acid down any drains. These include: vinegar, brine, lemon juice.
- Flush down your toilet - Dental floss, feminine hygiene products, diapers, wipes, cotton swabs, cigarette butts, cat litter, dog poo, and other kitchen and bathroom items
- Discard any drugs down the sink or toilet
- Empty rubbish bags into Wormerator
- Alter or add any part of your system without Waterflow NZ LTD's approval

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Emergency Alarm Checklist

Systems with a discharge pump will have a high level alarm.

This alarm alerts the home owner that the pump out has failed, causing the water level to rise in the tanks.

There 5 simple steps to take in view of determining the cause of the problem:

1. Check the power is switched on at the pump.
2. Check the plug is firmly in the socket.
3. Check the main switch board to ensure no fuses have been tripped.
4. If your system has a disc filter, ensure that it has been cleaned. Blocked disc filters can restrict the pump and cause failure.
5. Call a NaturalFlow service technician. Our number is at the bottom of every page.



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Household Cleaning Chemicals

Effects on Wastewater and Disposal System Receiving Environments

Use of many cleaning chemicals in facilities served by on-site disposal systems, can result in high concentrations of the constituents in those cleaning agents being discharged into the receiving soils. These chemicals and constituents can have a massive impact on the quality and condition of the receiving soils over time.

Many of the chemicals can disrupt soil structure and decrease hydraulic conductivity while others can act as bactericides, destroying the essential micro-organisms required to achieve the high level of biodegradation in the treatment and disposal systems.

The following matters need to be considered when using cleaning agents in a domestic situation:

- Laundry powders are often extremely high in sodium which will destroy the salt balance in the soils. Check the labels for low sodium and phosphorous contents.
- Wastewater flow from dishwashing machines can have an impact on wastewater treatment systems, in terms of the strong cleaning chemicals used, so check labels for low sodium products
- Highly corrosive cleaners (such as toilet and drain cleaners) that have precautionary labels warning users to minimise direct contact, are an indication that they can adversely affect the wastewater treatment system. Up to 1 cup of bactericides such as bleach can be sufficient to impact on all the micro-organisms/bugs in a septic system.

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Substitutes For Household Cleaning Chemicals

Use of the following readily biodegradable substitutes for common potentially harmful household cleaning chemicals will reduce the stress on any wastewater system, significantly enhance the performance of the whole system and increase the life of the land application system, while reducing the potential effects of the receiving soils.

General Cleaners

Use soft soap cleaners and bio-degradable cleaners and those low in chlorine levels. Contact us for a new biological cleaner that will help you system.

Ammonia-Based Cleaners

Instead sprinkle baking soda on a damp sponge.

Disinfectants

In preference use Borax (sold in most Bin Inn stores): ½ cup in 4-litres of water.

Drain De-Cloggers

Avoid using de-clogging chemicals. Instead use a plunger or metal snake, or remove and clean trap. Contact us for very effective, worm friendly, drain cleaning products.

Scouring Cleaners and Powders

Instead sprinkle baking soda on a damp sponge or add 4-Tbs baking soda to 1-Litre warm water. It's cheaper and won't scratch.

Toilet Cleaners

Sprinkle on baking soda, then scrub with toilet brush.

Laundry Detergent

Choose one with a zero phosphate content and low in alkaline salts (in particular, a low sodium level) and no chlorine.

Oven Cleaners

Sprinkle salt on drips, then scrub. Use baking soda and scouring pads on older spills.



NATURALFLOW™



Need a hand? We're here to help.

0800 628 356

www.waterflow.co.nz

sales@waterflow.co.nz

