



Aerated Wastewater Treatment Plant and Aerobic Sand Filter Fact Sheet

All properties that are not connected to a Council sewer system have to treat the wastewater on the property and to do this we use on-site sewage facility. An on-site sewage facility consists of two basic parts; a treatment facility (to treat the wastewater) and a land application area (to dispose of the wastewater).



What is an Aerated wastewater treatment system (AWTS)?

Aerated wastewater treatment systems are basically a mini sewerage treatment plant in your backyard. An AWTS provides secondary and advanced secondary treatment of domestic wastewater. The system uses a series of treatment chambers to treat sewage to a level suitable for surface or sub-surface irrigation on the site.

How does an AWTS work?

Household wastewater is treated in stages across several separate chambers. The first chamber is similar to a conventional septic tank where the wastewater enters the chamber. The solids settle to the bottom and form a sludge layer. Scum collects at the top and the partially clarified wastewater flows into a second chamber.

In the second chamber, wastewater is mixed with air to help the bacteria further break down the waste.

A third chamber allows additional clarification of the wastewater through the settling of solids that are returned to the septic chamber or to the aeration chamber for further treatment. The wastewater is

disinfected with chlorine in another chamber before being pumped to the land application area.

What is an Aerobic Sand Filter System?

This system has a primary sedimentation tank as the first stage of the process after which wastewater enters a dosing tank where it is periodically pumped and dispersed into a large in ground sand filter. The filter itself is a water tight membrane filled with clean crushed rock and sand, that is strategically layered. The sand filter built in-ground is sized to suit the volume of effluent to be treated.

How does an Aerobic Sand Filter work?

Household wastewater flows into a primary septic tank where the initial treatment occurs by natural separation, sedimentation, and fermentation processes. This is where anaerobic bacterial decomposition occurs.

The effluent from the primary tank then undergoes a secondary treatment by passing into and through the sand filter. Physical and biological processes naturally occur within the filter as the wastewater passes through it. The improved wastewater is collected in the base of the filter and channelled back to the irrigation tank where it is disinfected and pumped to the land application area.



What happens to the treated wastewater?

The treated wastewater must be pumped to a designated land application area using one of the following disposal methods:

- *irrigation system*
 - surface irrigation (spray above ground);
 - sub-surface irrigation (drippers in shallow trench);
 - covered surface irrigation (drippers on natural ground covered by mulch, woodchip, etc.).
- *evapotranspiration-absorption trench/bed/mound*
 - trench or bed (embodies the principles of evaporation, transpiration, and absorption);
 - elevated sand mound (specially constructed above natural ground level).

The type of land application area will depend on the level of treatment the wastewater has received prior to disposal.

Do I need to maintain the facility?

On-site sewage facilities need regular maintenance to ensure they operate in a safe and effective manner. Poorly maintained and malfunctioning systems can impact public health, the environment and property value. Below are recommend strategies to assist in maintenance of on-site sewage facilities:

- ensure the system is not overloaded by excessive numbers of people using it;
- avoiding anti-bacterial products and using only septic safe products;
- do not allow foreign objects (eg. disposable nappies, sanitary pads, etc.) to enter the septic system. These objects will block the system;
- desludging the primary and pump tank unit every three to five (3-5) years by a licensed liquid waste contractor;
- the land application area must have the grass mowed and plants maintained;
- protect the land application area from vehicles;
- take reasonable steps to keep all plumbing and drainage on the property in good condition;
- ensure the system does not create a nuisance or pose a health risk to the surrounding area.

Do I need to service the facility?

It is very important to understand that maintenance of a treatment plant or sand filter is mandatory under the *Plumbing and Drainage Act 2018* and is essential for the satisfactory performance of the facility.

The property owner is responsible to ensure the treatment plant or sand filter is serviced at the required intervals by a licensed service agent in accordance with the manufacturer's requirements and Council's plumbing permit conditions:

- Aerated Wastewater Treatment Plant – every three (3) months; or
- Aerobic Sand Filtration System – every twelve (12) months.

Note: Servicing requirements will depend on the type of system installed, however generally the above applies.

The service agent must be engaged to carry out any repair work to the installation as well as the routine cleaning and maintenance activities. Any faults revealed in a service inspection must be repaired promptly.



Why does Council require a copy of the servicing report?

A report is prepared by the service agent after each service. A copy should be retained by the property owner and another must be forwarded to Council by the agent.

Council is required to maintain a register of OSSFs and requires service agents to submit maintenance reports regularly.

Please note that should Council become aware of a treatment plant or sand filter system not being maintained as required, enforcement action will be undertaken and penalties applied.


Where can I get more information?

For further information please contact Council's Customer Service Team on 1300 79 49 29.


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