

Wastewater Explained

The South Australian Government's Health Department defines wastewater as:

"The used water arising from domestic activities in dwellings, institutions or commercial facilities consisting of all wastewater, grey water or black water, or as approved by the relevant authority."

According to the Department of Environment and Heritage Protection, domestic households produce an average of 200-300L of wastewater per person every day. However, only one percent of this wastewater is contaminated by waste, approximately 35 litres is black water and 95 litres is considered grey water.

Wastewater can be broken down into two categories:

- Black water, which is commonly referred to as sewerage, is the wastewater from toilets or water contaminated by human waste matter.
- Grey Water is wastewater typically from the kitchen and laundry areas of the house.

As ninety-nine percent of domestic wastewater is water and not waste, wastewater systems are put in place to treat

the wastewater in order to dispose it safely back into the environment.

On-site Wastewater Disposal

To safeguard the health of the community and protect the environment, wastewater needs to be safely collected, treated and disposed or reused (where possible).

For those living in the Greater Adelaide Region and connected to main sewerage system, SA Water takes care of wastewater services in these seweraged areas. Wastewater from the main sewerage system is treated mainly at the three metropolitan coastal treatment plants in Bolivar, Christies Beach and Glenelg. The wastewater treatment plants (WWTPs) treat the sewerage to make it safe to release back into the environment.

However, not everyone is in the situation where they can be connected to the main sewerage system of their city/region. If connection to a South Australia Water Sewer is not feasible, where possible, local councils in SA will provide wastewater services in the form of Community Wastewater Management Schemes (CWMS). CWMS come in different forms, currently in SA the most common type of reticulated CWMS is a Septic Tank Effluent Disposal Scheme (STEDS).

For simplicity, we will use what the Alexandrina Council in South Australia does as the example of this common type of CWMS.

STEDS rely on privately owned household septic tanks to provide primary treatment of the household waste. After being treated by household septic tanks, the wastewater is drained away using a gravity collection system. The main collection point of the sewerage is lower than where the septic tanks are, hence using gravity to drain; and is on council property where they deal with the maintenance and removal of waste.

As per the Alexandrina website, the council workers, “maintain the gravity drainage network within the road reserve, easements and maintain each property’s allotment connection up to the property boundary.” It is then only within each personal property, that the ownership and maintenance of internal drains and the septic tank are the responsibility of the land owner.

There are a couple combinations and variations in the approach to on-site wastewater disposal. However, if the situation doesn’t allow for CWMS, then the two main on-site wastewater disposal, treatment and reuse options become:

- Septic tanks and subsurface disposal systems with drainage fields on individual

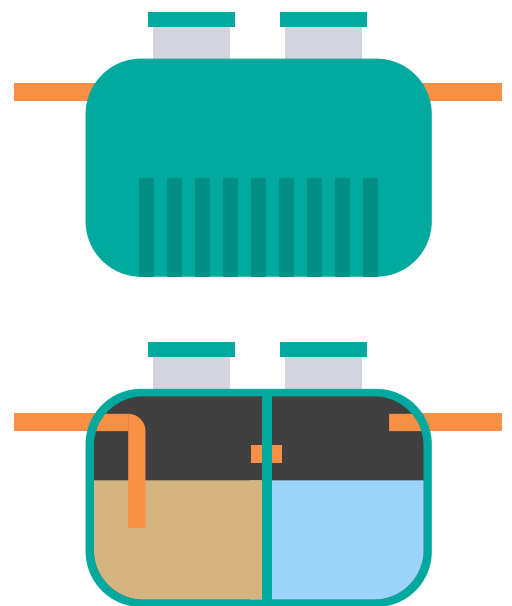
properties (most common).

- Aerobic treatment units (ATUs) with designated irrigation areas

Conventional On-Site Wastewater Disposal Systems.

Septic System Basics

Septic tanks are an on-site waste disposal system for liquid waste. Septic tanks retain solid waste from black water and greywater in an onsite wastewater treatment system, where the partial treatment (partial decomposition by anaerobic bacterial action) of the sewage takes place to improve its sanitation.



Drain field

Drain field is the generic term for the disposal of septic effluent. It usually refers to “conventional-design” septic leach fields. To ease confusion, it is synonymous with: septic leaching beds, leach fields, septic leach lines, septic gravity trenches, septic seepage beds or septic system drain-away fields.

Warning

For safety (and legal reasons) homemade septic tanks should not be attempted!

Alternative On-site Wastewater Disposal Systems

When considering an alternative to the standard septic tank wastewater disposal system, there are a couple things to remember. Different septic systems are better suited to certain areas and situations. Also, the levels of treatment vary among the different onsite waste disposal system types.

Aerobic Treatment Units (ATUs)

ATUs are self-contained electrical wastewater (sewage) treatment systems. ATUs have been gaining popularity in the last ten years and are disguisable by the

visible tank top with power connected to it. There are several designs approved for single houses in Western Australia. Note that other states refer to ATUs as aerated wastewater treatment systems (AWTS).

Septic Tank Cleaning

What it involves

Firstly, we require access to your tank lid. This will involve you locating it and digging access to it, where necessary, before our operators arrive. Your tank lid is made from concrete or plastic and is around 2 feet in diameter. Sometimes you will see one or two rectangular concrete slabs near ground level, this is not your tank lid, but the covering of your septic tank riser. The tank lid will be found a couple of feet below these concrete slabs. Please note – septic tanks are found below the level of your house foundation. If you are struggling to find your tank lid, please contact us on **08 8260 7660** and we can help you over the phone.

Nitschke Liquid Waste’s role in the pumping of your septic tank is quite simple. Once the lid to your septic tank has been found, our operator will remove the lid, lower the drainage pipe into the tank and begin pumping out the waste. Pumping from the tank lid and not the inspection point allows the operator to remove and break up the solids as well as the liquids.

Frequency

You will know that your septic tank needs to be emptied and a cleaned if:

- If you have bad smells coming from your septic tank outside your house, or inside your house from toilets, sinks and drains.
- If your toilet and drains take a long time to empty, or they do not drain at all.
- A plumber needs to do some work on it.
- It has been 4 years since your last service. It is recommended under the Government of South Australian SA Health guidelines, that all septic tanks are cleaned and pumped out every four years. This reduces bad smells, maintains a healthy septic system and reduces risk to the public and small children.

Legalities

There are legal ramifications associated with wastewater disposal, treatment and use. Here is a basic breakdown of the laws that apply in South Australia. These laws will vary between states. It is always a good idea to check with your local council and the Australian government website to check the laws surrounding renovation, construction and all things waste.

Before you install a septic tank on your private property, an investigation of the site will need to be undertaken to establish the suitability of the site. The relevant authority will then have to be contacted with

a formal application before the installation can be approved. Approval is also needed for alterations of an on-site wastewater system, installations of permanent greywater systems and connections to a CWMS.

The relevant authority for advice on design, installation and operation of your on-site wastewater system is your local council (for the area in which your system will be located). You can visit the Local Government Association website for information on council locations. It will be the same council that you will then have to submit approval plans to.

Warning: Under the power of the Wastewater Regulations, the relevant authority can demand rectification of illegally (without approval) or incorrectly installed wastewater systems and/or disconnection from the CWMS. Penalties would also apply for these infringements.

Refer to the South Australia Government Health Department for more details on legal requirements and application processes.

Has it been more than four years since you've had your tank pumped? To avoid damage, leaks and smells your septic tank does need to be cleaned regularly. So, put your mind at ease by getting your septic tank pumped this week.

*Call us on **08 8260 7660** for a free quote and to book your septic tank in to be pumped.*