

# How to run your household sewage treatment system well

## A guide and log book for owners

The advice in this guidebook and the logbook will help you manage your system as efficiently as possible and meet your legal obligations. Use the logbook to record maintenance checks you have done and the details of the waste carriers you have used.

## Do you know how your sewage is treated?

If your property is not connected to a public foul sewer, then it is likely you are connected to a private sewerage system. This might be a small package treatment plant or a septic tank, or a cesspit/cesspool. If any of these systems are **not maintained or emptied regularly**, they can become a **health hazard** to you and your family and pollute the environment. **It is your responsibility to ensure it works efficiently.** Records of maintenance must be kept for **5 years**.

**Being connected to the public foul sewer system is the best option wherever possible.**

Misconnections can be a major source of water pollution. Check you have the right connections in your home for all *surface water* and *foul water* plumbing. If you are unsure what to do, please visit <http://www.connectright.org.uk/> for more information and to find contact details for your water company or a trusted plumber near you.

### Did you know?

Maintaining your sewage system properly will save you money in the long run. If you do not fix a faulty sewage system, you're directly affecting your local environment and could face a fine of up to £50,000

## Registration and permitting – your legal responsibility

If you have a septic tank or a package sewage treatment plant, or are planning to install a new one then under the Environmental Permitting Regulations 2016, you must apply for a water discharge (if discharging to a watercourse) or groundwater activity (if discharging to ground) permit or register an Exemption (free) from the need to have one. Whether you need an exemption or a permit will depend on you meeting certain requirements.

You can apply on line on our website at <https://naturalresources.wales/permits-and-permissions/water-discharges/register-your-septic-tank-package-sewage-treatment-plant/?lang=en> to register an exemption.

Or for permit applications at <https://naturalresources.wales/permits-and-permissions/water-discharges/discharges-to-surface-water-and-groundwater/?lang=en>

### Need a new system or moving house?

Speak to Natural Resources Wales before installing a new system as you may need a permit. Speak to your local council to check your system will meet planning requirements and building regulations.

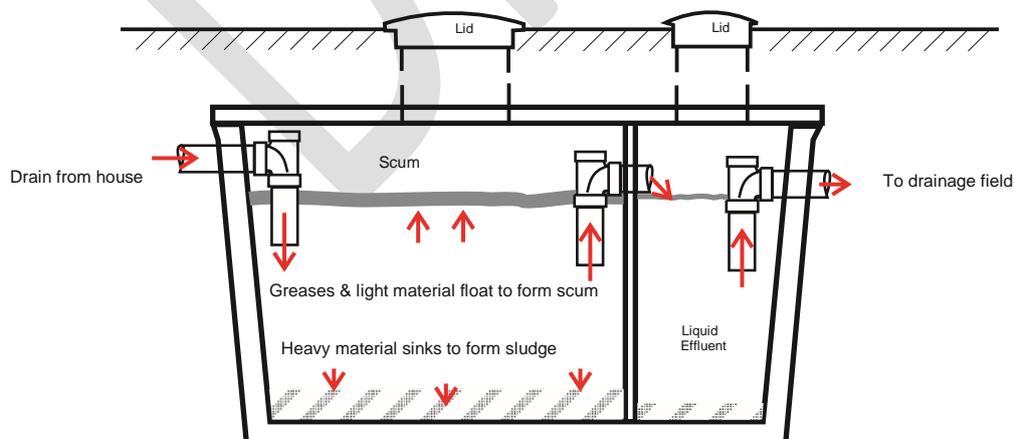
Only install equipment that meets British Standard BS EN 12566

If you sell your property, inform the buyer in writing that it has a septic tank or small sewage treatment plant

## What are Septic Tanks?

A septic tank is a watertight underground settlement tank, with an inlet and outlet pipe and 2 or more chambers (figure 1). It can be made of brick, concrete, or if more modern, plastic or glass fibre.

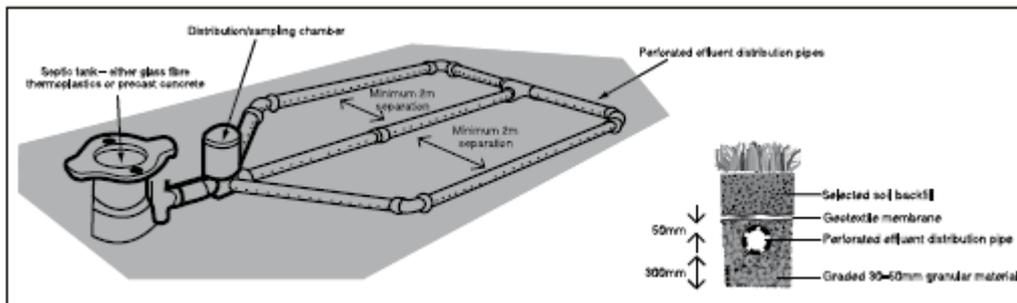
Figure 1: example of a septic tank (© Snowdonia-Active)



The primary purpose of the tank is to separate solids from the liquid. Solid material settles to the bottom of the tank to form sludge, whilst a scum is formed at the surface. The sludge and scum should be removed periodically and taken away for disposal by a registered waste carrier. The liquid effluent requires further treatment

through a drainage field before discharging to ground, or via other treatment systems such as a reed bed, gravel filter or package treatment plant where a drainage field is unsuitable (package treatment plants treat the effluent to a higher standard and may allow direct discharge to a suitable watercourse).

**Septic tank effluent must not discharge directly to surface water.**



**Figure 2: example of a typical drainage field (Building Regulations Section H2)**

The most common additional treatment for septic tank effluent is achieved by draining through a drainage field (figure 2). This allows the effluent to percolate through the soil and uses micro-organisms in the soil layer to break down impurities. The remaining treated liquid eventually passes through to the groundwater. Even when properly maintained, your drainage field may become blocked after several years usage and may require replacement.

You can find information on the design construction of infiltration systems in the Building Regulations Section H2

(<http://www.planningportal.gov.uk/buildingregulations/approveddocuments/parth/approved>).

### **Maintaining your septic tank.**

**There is no such thing as a maintenance free septic tank!**

Septic tanks are designed to collect solids – known as sludge; which builds up over time. If solid material builds up too much it can flow into the drainage field and lead to clogging. A little effort on a regular basis will save you money and significantly prolong the life of the system.

We recommend that you inspect your septic tank every month. The effluent from the outlet on your tank should be free-flowing and liquid only. **You should have your tank emptied every 12 to 24 months by registered contractor.**

You should also check the drainage field every month to make sure it is not waterlogged and the effluent is not backing up towards your tank.

### **What are Package Sewage Treatment Plants (PSTP)?**

Package treatment plants provide a much greater level of biological treatment than a septic tank and may allow direct discharge to a watercourse. A drainage field is still required if discharging to ground. There are different types of package sewage

treatment plant, but they commonly have a mechanical component that provides the bacteria/micro-organisms in the biological zone with air (oxygen) allowing them to break down organic matter in the sewage. Most PSTPs require a continual power supply.

In some environmentally sensitive areas, the effluent from a PSTP may require further treatment. Depending on the sensitivity of the receiving environment, further treatment may be achieved for example by the addition of a filtration system such as a drainage field or above ground drainage mound, a reed-bed, a wetland system, or UV disinfection.

### **Maintaining and servicing your PSTP**

Sludge and solids will build up over time in the PSTP and will affect the performance. The treatment systems will require regular desludging. Maintenance should be carried out by suitably trained and qualified personnel in line with the manufacturer's specification. – see emptying your system section for further information.

**Most PSTP require professional servicing every 12 months with a detailed check every 6 months.** This is necessary even in the first year when components are under warranty. Regular maintenance of the system must follow the manufacturer's instructions, using service operators who are experienced in dealing with sewage treatment systems. This is often through a maintenance agreement with an authorised servicing company.

We recommend that you enter into a Service Agreement with a reputable contractor. You can find a list of accredited service engineers on the British Water website <https://www.britishwater.co.uk/directory/accredited-service-engineers.aspx>

The outlet should be inspected regularly. The effluent should be free-flowing and clear. If your system discharges to a water course check the outfall monthly. If you notice grey slime on the bed of the watercourse, a bad smell or an obvious change in plant life downstream of the outfall, contact a maintenance contractor to check your system.

### **What are Cess Pit/Cess Pools – collection only systems?**

Cesspits/pools are underground tanks without an outlet, which store wastewater and are connected to the building that generates waste water by a series of drains. They should include an alarm to indicate when they are nearly full. They need regular emptying and so the site must allow tanker access. These are not allowed in some parts of the UK and are considered **a last resort in Wales**. There must be **no** liquid discharge to ground or surface waters.

### **Maintenance**

Cesspits/pools should be inspected fortnightly for overflow and emptied as required – **likely to be around 24 times per year** (but may be more or less).

For example: a household of three people may produce on average 9000 litres (approx. 2000 gallons) of waste effluent every two weeks. This is the same as the capacity of a typical tanker. If you are not having to empty the tank at a similar rate

then it is possible the tank is leaking and requires urgent attention to prevent pollution.

## Emptying (desludging) your septic tank, package sewage treatment plant or cesspit

Only use a registered contractor to empty your tank. You have a legal requirement - known as a '[duty of care](#)' to take all reasonable steps to ensure that the waste is safely disposed of by an authorised person. You can find a waste carrier in a business directory or search the web for *septic tank emptying*. Ask the Company for their registration number or you may check whether a waste carrier is registered on the Natural Resource Wales [public register](#) or call 0300 065 3000. In England, you can check on the Environment Agency's public register or call 03708 506 506. All authorised waste carriers should have a proof of registration available for inspection. If they are not registered, do not let them take the waste away and contact us immediately.

You should ensure your contractor provides you with a duty of care waste transfer note which should describe the quantity and type of waste that has been taken away and ensures that the operator is handling and disposing of the sludge correctly. **The transfer notes are legal documents which are signed by both parties and must be kept for 5 years.**

Whenever you have your tanks emptied, or any maintenance work carried out, keep a record in the logbook at the back of this guide. This will help manage your system and meet your legal requirements and be convenient to pass on to new residents should you move house. You may also be asked to make these records available for inspection by Natural Resources Wales Officers.

## Top tips for maintaining your septic tank or small treatment plant

### DO:

- **Get the sludge emptied regularly by a registered waste carrier –**
  - Empty your septic tank every 1 to 2 years
  - Desludge your package plant according to the manufacturer's instructions
- **Provide suitable access to enable the treatment systems to be emptied, desludged and maintained.**
- **Use 'environmentally friendly' cleaning products, which are labelled as suitable for septic tanks**
  - use cleaning products little and often, so that the system isn't overloaded and the helpful bacteria killed
  - try to stick to the same cleaning products, then the bacteria in your tank have the time to adapt so that they breakdown your sewage more effectively
  - use phosphate-free cleaning products. Phosphates from household cleaning products are a major pollutant of water courses
- **Keep maintenance records so you know when to service and empty your system. Keep these together with documents which list the type of**

**treatment system, size and location along with details and frequency of the required maintenance and desludging operations.**

- This will act as a prompt and help you comply with the legal requirements. It must be passed on to the new occupiers if you move house. Use the logbook to help you record these.
- **Try to use less water**
  - fit water saving devices to your toilet cistern
  - add aerators to your shower hoses & taps
  - always wash full loads in your dishwasher and washing machine
  - Have showers instead of baths
  - Using a dishwasher at full capacity uses less water than washing up
- **If your treatment system requires electricity, make sure the supply is constant.**
  - It is recommended that you fit an alarm to warn of electrical supply or mechanical failure.

**DON'T:**

- **Don't ever flush anything other than human waste and toilet paper down the toilet and remind guests to do the same**
  - Bag and bin any other items such as kitchen towel, sanitary items, cotton buds, toilet wipes, condoms, nappies – bag them and bin them
- **Never use drains to dispose of chemicals, oil solvents, grease or paintbrush cleaning fluids.**
  - The micro-organisms can be damaged by certain substances. Check the manufacturer's instructions on the use of cleaning material such as bleach.
- **Don't plant trees near your treatment system**
  - the roots can damage your system causing sewage to leak out and water to seep in
- **Do not connect roof and surface water to the treatment system.**
  - This may overload the system and stop it working efficiently
- **Don't put fats, oils or chemicals down the drain as they kill the bacteria that break-down the waste.**
  - Oil, grease, fat – wipe out pans, pour fat into a container and put it in a bin
  - Bottles of medicine, garden chemicals, anti-freeze, paints, solvents – dispose of them at a civic amenity centre
- **Do not park over a soakaway**
  - Compacted ground will not drain effectively

**Who can help?**

For further information please visit our website on:

[www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk) or you can contact us at –

Telephone number - 030 0065 3000, Monday to Friday 9 AM to 5 PM

e-mail - [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk)

Or write to us at: Customer Care Centre, Natural Resources Wales, Cambria House, 29 Newport Road, Cambria House, Cardiff CF24 0TP

To report a **pollution incident** you can call us 24-hours a day on **030 0065 3000**.

**Local Authority** – environmental health department or building regulations

**Local wastewater service companies:** Find an accredited engineer and further guidance at [www.britishwater.co.uk/engineers](http://www.britishwater.co.uk/engineers)

## Further information

- Welsh Government Circular
  - [WGC 008/2018: Planning requirement in respect of the use of private sewerage in new development, incorporating septic tanks and small sewage treatment plants](#)
- NetRegs
  - GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer. <http://www.netregs.org.uk/media/1460/gpp4-20171031-online-v1.pdf>
- British Water
  - <https://www.britishwater.co.uk/Publications/codes-of-practise.aspx>
- Building Regulations – requirements for drainage fields
  - Approved Document H – Drainage and Waste Disposal, available at <http://www.planningportal.gov.uk/buildingregulations/approveddocuments/parth/approved>
- British Standards
  - <https://shop.bsigroup.com/Navigate-by/Standards/>
- Snowdonia-Active publication ‘Looking after your septic tank: a guide and logbook for householders’ available at <http://www.loving-our-lake.org/2013/10/14/looking-after-your-septic-tank/>

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## Log book and maintenance record

You need to keep a record of the checks you have completed. If you have a maintenance contract with a contractor keep a record of any work carried out by them.



