

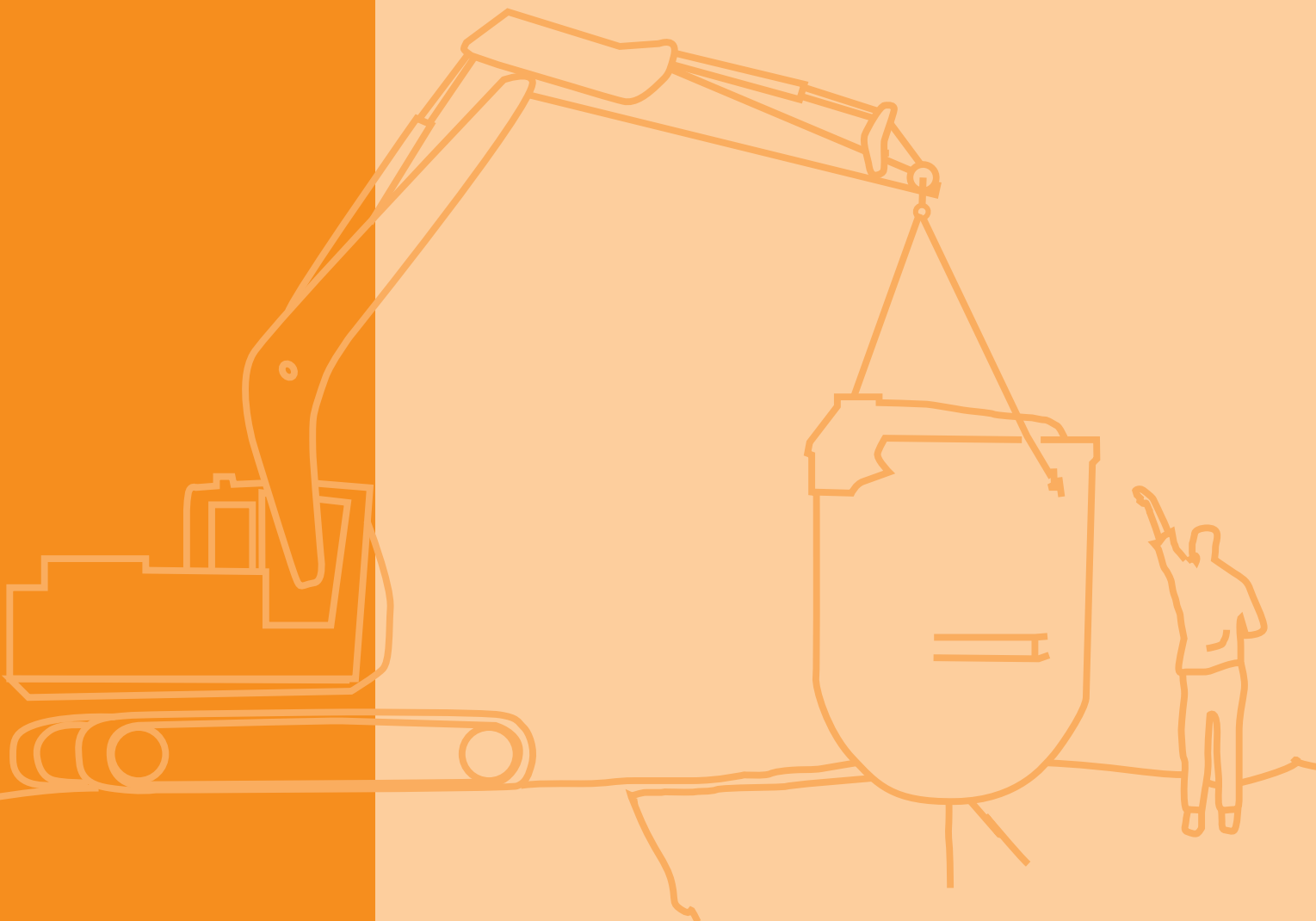


BRITISH WATER



Code of Practice

Guide to the Installation of Sewage Treatment Systems





Guide to the Installation of Sewage Treatment Systems

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Please note: *The environmental regulators the Environment Agency, the Environment and Heritage Service (Northern Ireland) and the Scottish Environment Protection Agency support the use of this code of practice, but the Agencies do not specifically endorse any particular manufacturer's product.*

1. Scope

This guide outlines the installation requirements and process of installing a small sewage or wastewater treatment system (plant).

2 Introduction

This guide has been created to enable owners and users to understand the installation of small wastewater treatment systems. It is not a detailed installation guide but a check list of the factors that should be considered by the owner and the contractor before a sewage (wastewater) treatment plant or system is installed.

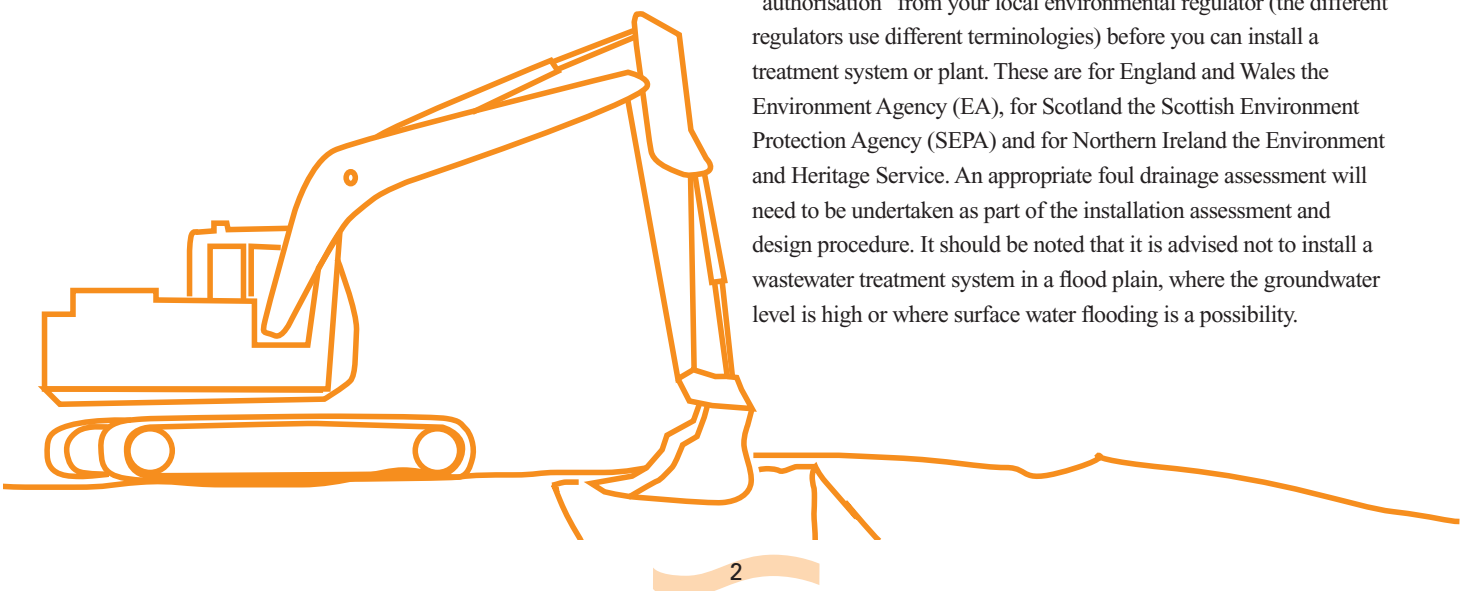
It is not a definitive document but it does provide an appropriate outline of the factors which need to be considered and so provides an understanding of the process of installing a wastewater treatment plant. It should be read in conjunction with the manufacturers' literature and other supporting guidance documentation.

There are requirements in standards and regulatory documents and it is important that these are adhered to in the design and installation of non-mains wastewater treatment systems. The documents are listed in the notes at the end of this publication.

When installing a sewage treatment plant or employing a contractor to install a sewage treatment plant we do recommend that you consider all of the factors listed in this guide.

3 Discharge consent or authorisation

You will need a "discharge permit", "consent to discharge" or an "authorisation" from your local environmental regulator (the different regulators use different terminologies) before you can install a treatment system or plant. These are for England and Wales the Environment Agency (EA), for Scotland the Scottish Environment Protection Agency (SEPA) and for Northern Ireland the Environment and Heritage Service. An appropriate foul drainage assessment will need to be undertaken as part of the installation assessment and design procedure. It should be noted that it is advised not to install a wastewater treatment system in a flood plain, where the groundwater level is high or where surface water flooding is a possibility.





4 Position of plant

The positioning of the plant will need to take into account the following:

- **The periodical removal of solids** from inside the treatment plant to ensure that the plant continues to operate satisfactorily. This will require a convenient route for the piping from a tanker to the treatment plant and importantly a suitable hard standing for the tanker which is no more than 30 metres from the plant.
- **The positioning of the discharge point** for the treated wastewater. The plant should preferably be installed in ground falling away from the house so that the treated wastewater drains away from the house and if possible from regularly used parts of the garden.
- **Consider the potential for noise.** Site the plant to minimise the impact of any noise from an integral motor or pump.
- **Necessary venting.** The plant will require venting and the vent should preferably be out of sight and downwind from the house or occupied buildings to minimise the possibility of odour problems.
- **Use of the garden.** The potential impact of possible noise and odours on use of the garden should be taken into account and minimised by careful planning and positioning of the treatment plant.

5 Power supply sighting of services

It is probable that the plant will require power and so there is a need to consider the source, route, physical protection of the cable and positioning of any service box. The power supply will need to conform to the relevant regulations, for example provision of a power breaker. A power supply will be required to comply with the relevant Building Regulations.

6 Depth (invert level) of treatment plant

The depth of the incoming wastewater drainpipe from the building will influence the depth and position of the treatment plant. The final discharge point of the treated wastewater may also influence the depth of the plant.

7 Discharge level

The discharge point for the final treated effluent needs to be convenient and safe. The level of the discharge point relevant to the treatment plant may require a pump to raise the treated effluent to enable it to be discharged satisfactorily. These factors may also influence the selection of the most suitable type of treatment plant for the situation. It should be noted that in preference the plant should be sited so that a requirement for a pumping system is avoided.

8 Access for contractors

The contractor will need to off-load the treatment plant and other equipment and so a convenient hard standing will be needed. They will need to have access to the site for an excavator and possibly other machinery to help with positioning and final installation of the plant and associated pipework. It would be beneficial that these factors are considered during the planning process and before work is scheduled to start.

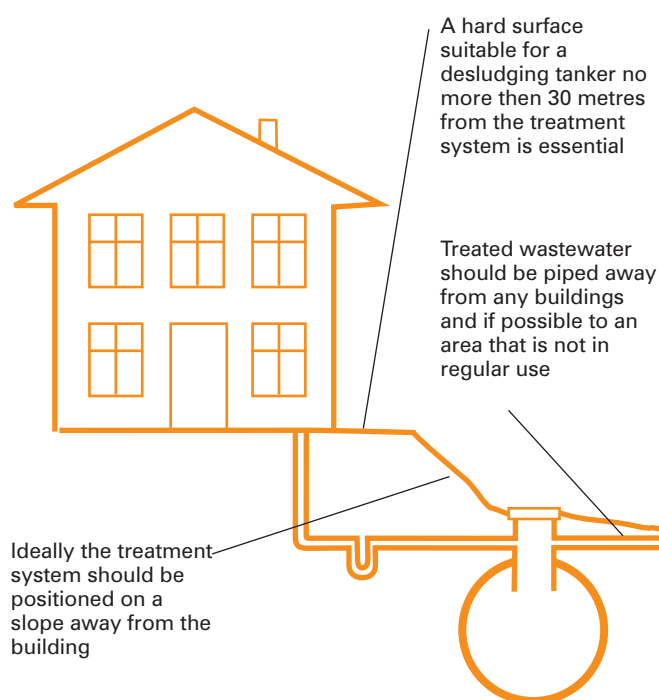
9 Disposal of the excavated material and site waste

Excavated material will need to be disposed of and probably offsite. Plans for the correct disposal need to be included in the contract and it is wise to ensure that any disposal charges are included in price. Some of the excavated material, especially the surface soil, may be reused to landscape around the installed treatment system.

10 Ground conditions

The geology and structure of the ground in which the plant is to be sited will have an impact on the method of installation. Specific factors are:

- The level of the water table, especially if there is a high water table
- The presence of underlying rock close to the surface
- The strength of the ground, sandy soils with the prospect of “running sand” will require specific installation methods





11 Backfill

Material used to surround the treatment plant to support, stabilise and maintain its position firmly in the ground, should be of the type specified by the manufacturer. The material used may be influenced by ground conditions, generally the manufacturer will give recommendations and the effect on the warranty of using non listed materials as backfill should be checked.

12 Check the qualification/references of the installing contractor

It is wise to check that the contractor has suitable regard for regulatory compliance, Health and Safety, correct disposal of excavated material and good working practices. The provision of references where they have installed other sewage treatment plants and who have agreed that they can be contacted will be helpful.

Please note:

1. The sewage treatment system should be sized in accordance with the British Water design Code of Practice Flows and Loads 3 which can be downloaded from
http://www.britishwater.co.uk/publications/publications_and_technical_guides.aspx
2. It is advisable that a service agreement is entered into with a company with suitably qualified staff, preferably staff who are listed on the British Water list of Accredited Service Engineers which can be viewed at
http://www.britishwater.co.uk/ptp_engineers/Accredited_Service_Engineers.aspx
3. Use of the design Code of Practice and accredited service engineers is recommended in the UK Environment Agencies Pollution Prevention Guidelines Number 4 (PPG4) which can be accessed at
<http://publications.environment-agency.gov.uk/pdf/PMHO0706BJGL-E-E.pdf>
4. BS 6297:2007+A1:2008 Code of practice for the design and installation of drainage fields for use in wastewater treatment.
5. BS EN 12566:2005 Small wastewater treatment systems for up to 50PT (Parts 1,3,4 & 6)
6. BS EN 12255: 2002-2005 Wastewater treatment plants (Parts 1 – 16)
7. Building Regulations – Approved Document H 2002 (England & Wales)
8. Building Regulations (Northern Ireland) 13990 –Technical Booklet N
9. Scottish Planning Policy documents 1: The Planning system 2002 & 7: Planning and Flooding 2004

Other British Water publications available at www.britishwater.co.uk are:

- A. Code of Practice: Guide to Desludging Sewage Treatment Systems
- B. Code of Practice: A Guide for Users of Sewage Treatment Systems

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