

NATIONAL RIVERS AUTHORITY

THAMES REGION



National Rivers Authority
Information Centre
Head Office

Class No

Accession No **ATFA** POLLUTION PREVENTION GUIDELINES

DISPOSAL OF SEWAGE WHERE NO MAINS DRAINAGE IS AVAILABLE

These notes are for guidance only and early consultation with your local National Rivers Authority Water Quality Office is advisable, as each site will be considered according to the individual circumstances. Details of local offices will be found at the end of these guidelines.

Please refer also to British Standards Code of Practice for the Design of Small Sewage Treatment Works and Cesspools BS 6297 : 1983.

1. CESSPOOLS

- a. A cesspool is a covered watertight tank used for receiving and storing sewage and has no outlet. It is essential that it is, and remains, impervious to the ingress of groundwater or surface water and to leakage.
- b. A cesspool requires regular emptying and should not be allowed to overflow. Emptying services may be provided by your Local Authority or a Contractor. (You are advised to check as emptying services may be non-existent or expensive in your area.)
- c. The average household of three persons will produce seven cubic metres of sewage (the capacity of a typical emptying tanker) in about three weeks. (In the region of 100-150 litres of effluent per person per day.)
- d. It is desirable that a cesspool should not be sited closer than 15 metres to any dwelling and as far away from any watercourse as possible - normally not less than 10 metres.
- e. The minimum capacity of a cesspool is prescribed by the Building Regulations as 18 cubic metres [18,000 litres] and at least 45 days storage should be provided.
- f. No consent from the National Rivers Authority is required for a cesspool.

2. SEPTIC TANKS

- a. A septic tank is typically a two or three chamber system in which the sewage sludge is retained for sufficient time and under appropriate conditions to partially break down (anaerobic decomposition) and from which an effluent discharge takes place.

- b. It is important to note that effluent from a septic tank is not suitable for discharge to a watercourse without further treatment.
- c. Effluent from a septic tank may be disposed of by soakage into the ground provided that the disposal does not generate a pollution risk to surface streams or groundwater resources (underground water).
- d. Before effluent can be disposed of by soaking away into the ground the area of land required has to be established by means of a percolation test which is described in **Appendix A**. Areas of heavy clay or steeply sloping sites are not normally suitable.
Please note that the National Rivers Authority does not carry out percolation tests.
- e. The capacity of a septic tank should be calculated using the following formula:

$$C = (180P + 2000)$$

Where

C = Capacity of the tank in litres.

P = Population served.

- f. A septic tank should be de-sludged and serviced at least every 12 months.
- g. The septic tank and soakaway area should be sited not less than 10 metres from any ditch, drain or watercourse. Soakaway pipes should be located at as shallow a depth as possible, usually within 1 metre of the ground surface.
- h. It is preferable that a septic tank and soakaway should be sited not closer than 15 metres from any dwelling.
- i. National Rivers Authority consent may be required for the discharge into the ground. See **section 5** below.
- j. Septic tanks and soakaways should not be installed in the vicinity of any well or borehole. The minimum distance required will depend on specific site conditions.

3. PACKAGE SEWAGE TREATMENT PLANTS

- a. Package sewage treatment plants are either self contained units for the treatment of sewage or units which treat effluent from septic tanks to a higher standard.
- b. The effluent from a package plant is normally suitable for discharge directly to a watercourse or into or onto land where septic tank effluent may be considered unsuitable because of pollution risks. For discharges into land, see also **section 2j** above.
- c. Most package plants require electric power to operate and all will require regular maintenance and de-sludging in accordance with the manufacturers' instructions.
- d. National Rivers Authority consent will be required for the discharge. See **section 5** below.

- e. The consent will set quality and volume limits for the discharged effluent. Therefore it is essential that assurance from the manufacturer/supplier is obtained as to the reliability and performance of the plant.

4. NEW PUBLIC SEWERS

Under certain circumstances it may be possible to "requisition" a new or extended public foul sewer from the water undertaker. For further information on this, contact your local authority or water undertaker.

5. CONSENT REQUIREMENTS

- a. Under the provisions of the Water Resources Act 1991, National Rivers Authority consent is required for any discharge of sewage effluent into a watercourse, a lake or pond and may also be required for any discharge into or onto land.
- b. Such consents are not granted automatically, and are not normally granted where a public foul sewer is available.
- c. If a discharge is to be made to a 'Main River' watercourse, a separate National Rivers Authority permission will also be required under the provisions of the Land Drainage Act 1991.
- d. Other permissions may be required, for example from a riparian owner, drainage board or Local Authority and you should contact the appropriate person/Council as soon as possible.
- e. There is an administration charge made by the National Rivers Authority for application for consent and an annual fee to cover monitoring and other costs. Full details can be supplied on request.

For further information, please contact your nearest NRA Water Quality office at:-

READING	0734 311422	OXFORD	0865 749400
WALTHAM CROSS	0992 35566	AMERSHAM	0494 722361
LONDON SE	081 310 5500	GUILDFORD	0483 577655

... or at all times on Freefone 0800-252768

Headquarters: *Kings Meadow House, Kings Meadow Road,
Reading, Berks. RG1 8DQ
Telephone 0734 535000*

Appendix A

Percolation Test

- a. Excavate a hole 300 mm square to a depth 250 mm below the proposed invert level (bottom of pipe) of the land drain.
- b. Fill the 300 mm square section with water and allow to seep away overnight.
- c. Next day, refill the test section with water to a depth of no more than 300 mm and observe the time in seconds for the water to seep away completely.
- d. Divide this time by the depth of water in millimetres placed in the hole. This answer gives the average time required for the water to drop 1 mm.

This is the percolation value (V in seconds).

- e. Carry out the test three times and take the average figure. Avoid extreme weather conditions like drought, frost and heavy rain.
- f. If the percolation value exceeds 100 sec/mm then ground conditions may be unsuitable for discharge from a septic tank system and if pursued may cause ponding of septic effluent due to inefficient soakage. An alternative means of disposal will have to be considered.
- g. The floor area of land drains required may be calculated from:

$$A = P \times V \times 0.25$$

Where

P is the number of persons served by the tank.

V is the percolation value described above.

For full details of the percolation test please consult British Standard Code of Practice for the Design and Installation of Small Sewage Treatment Works and Cesspools BS 6297:1983.

If in doubt, consult your professional advisor or local authority Building Control Officer for advice.



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