



**ENVIRONMENT
AGENCY**

Our Ref : AN/2006/015725-1/1

Your Ref : 2005/2022

Date : 27 January 2006

Development Control Team
North Lincolnshire Council
Church Square House
PO Box 42
Scunthorpe
North Lincolnshire
DN15 6XQ

DEVELOPMENT CONTROL SECTION	
30 JAN 2006	
DATE RECEIVED	
Referred To	MS

Dear Sir/Madam

**CONVERSION OF BARN TO DWELLING:
LANGHOLME FARM, LANGHOLME, NORTH LINCOLNSHIRE.**

Thank you for referring the above application which was received on 19/1/06.

The Agency **OBJECTS** to the proposed development for the following reasons:

The use of a cesspool for the disposal of foul water drainage at this site is not in line with the Department of the Environment, Transport and the Regions (DETR) circular 03/99.

With regard to the use of cesspools, the Circular provides the following advice:

- the first presumption must always be to provide a system of foul drainage discharging into a public sewer. If this is not feasible, a package sewerage treatment plant incorporating a combination of treatment processes should be considered.

Furthermore, Policy DS14 of NLC's adopted Local Plan (2003) requires satisfactory provision to be made for the disposal of foul and surface water drainage. The Agency does not consider that the current proposal is in line with this.

The Agency accepts and acknowledges the distance of the site from the mains sewer, however in the absence of any supporting justification statement to indicate why a cesspool is proposed instead of a package treatment plant, the application in its current format is contrary to both Government advice and, in the Agency's opinion, Local Plan policy, and were it to proceed pollution of controlled waters could result (as recognised in paragraph 8 of Circular 03/99).

The Agency considers that an acceptable method of foul drainage disposal would be the provision of a package sewage treatment plant or if that is not possible, then a septic tank to soakaway.

The Agency has issued a series of downloadable Pollution Prevention Guidelines (PPG's) which are accessible at www.environment-agency.gov.uk/business and then following the links to > Improving your Environmental Performance > Preventing Pollution > Pollution Prevention Guidance Notes. Each PPG is targeted at a particular industrial sector or activity and aims to provide advice to developers on their statutory responsibilities and good environmental practice. Given the nature of the proposed development, it would be advisable that the applicant refer to these notes for further information - specifically PPG 4. Subject to availability, hard copies of each PPG can also be obtained by contacting the Agency at the address below.

Use of Soakaways

Subject to the approval of the Local Authority's Building Regulations team, a percolation test should be undertaken in accordance with BRE Digest 365 to ensure that soakaways will work adequately in adverse conditions. If, after tests, it is found that soakaways do not work satisfactorily, alternative surface water drainage proposals should be submitted. Only surface water from roofs and paved areas not accessible to vehicles, should be discharged to soakaway.

Flood Risk Assessment

I can confirm that we have received a Flood Risk Assessment (FRA) submitted to support the application. We consider that the details in the FRA have been undertaken in line with the fluvial main river aspect of flood risk guidance contained in Appendix F of PPG25, and these are considered appropriate for the scale and nature of the proposed development.

Please note that our advice has not considered the risk of flooding from ground water, drainage systems, reservoirs, canals or ordinary watercourses. The Local Planning Authority will therefore need to be satisfied that the proposed development is also in accordance with other requirements of PPG25 'Development and Flood Risk'.

Accordingly, the Environment Agency has no objection to the flood risk element of the proposal, subject to the actions/mitigation measures identified in the approved FRA being secured by a planning condition to ensure that flood risk is adequately mitigated for the lifetime of the development.

It should be noted that this site may have a residual risk of flooding from flood events exceeding the mitigated design standards used.

The Environment Agency provides extra information about how to protect property from flooding and what to do if affected. Further information can be obtained from our website, at www.environment-agency.gov.uk/subjects/flood and following the link to 'Floodline'.

Cont/

If you are minded to approve this application contrary to the Agency's objection, I would be grateful if you could re-consult the Agency for you to advise which material planning considerations outweigh the Agency's objection, and to give the Agency the opportunity to make further representations.

In the event that the applicant appeals a refusal of this application (where the Agency's objection has been cited as a reason for refusal), the Agency would be prepared to fully support your Authority and provide evidence at any public inquiry or hearing.

Please could you forward a copy of the Decision Notice to the Environment Agency for the purpose of monitoring in line with DEFRA High Level Targets.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact Nick Feltham on the number below.

Yours faithfully



RF
ROGER ASHFORD
Area Planning & Corporate Services Manager

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email: nick.feltham@environment-agency.gov.uk

DISPOSAL OF SEWAGE WHERE NO MAINS DRAINAGE IS AVAILABLE: PPG4

ENVIRONMENTAL ALLIANCE – WORKING TOGETHER

POLLUTION PREVENTION GUIDELINES

These notes are for guidance only. They are produced by the Environment Agency for England and Wales, the Scottish Environment Protection Agency and the Environment and Heritage Service in Northern Ireland, jointly referred to as the Agency or Agencies. Each site will be considered according to local circumstances, and early consultation with your local Agency Office is advisable. Contact details will be found at the end of these guidelines.

1. NEW PUBLIC SEWERS

Under many circumstances, it will be possible to require the provision of (or "requisition") a new or extended public foul sewer from the local sewerage undertaker. For further information on this, contact your Local Authority or sewerage undertaker. This is the preferred disposal option for sewage. If a sewer connection is not possible, then the following options should be considered: septic tank, package treatment plant, reed bed system, waterless toilet, cesspool, or a combination of these.

2. SEPTIC TANKS

- a. A septic tank is a two or three chamber system, which retains sewage from a property for sufficient time to allow the solids to form into sludge at the base of the tank, where it is partially broken down. The remaining liquid in the tank then drains from the tank by means of an outlet pipe.
- b. Effluent from a septic tank is normally disposed of by soakage into the ground, provided that the disposal does not generate a pollution risk to surface waters or groundwater resources (underground water). The most commonly used form of soakaway is a subsurface irrigation area, comprising a herringbone pattern of land drains laid in shallow, shingle filled trenches. The soakaway drains should be located at as shallow a depth as possible, usually within 1 metre of the ground surface.
- c. Before effluent can be disposed of by soaking away into the ground, the area of land required for the soakaway has to be established by means of a percolation test which is described in **Appendix B**. It is recommended that the test is conducted by an independent professional who is able to provide a certificate stating whether or not the ground is suitable for a soakaway and that the test had been conducted according to BS 6297: 1983. Areas of heavy clay, steeply sloping sites or sites where the water table is less than 1 metre below the bottom of the soakaway are not normally suitable. Please note that the Agency does not carry out percolation tests.
- d. For domestic properties, 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. (i.e. number of people in the house)

See Appendix A for suggested volume requirements for non-domestic properties.

- e. A septic tank should be desludged and serviced on a regular basis to ensure the effective operation of the system. Desludging should normally take place every 12 months and should be carried out by an operator registered for the carriage of such waste by the Agency. This may be the local sewerage undertaker or a private contractor. A check on the nature of the effluent draining from the tank can indicate whether it needs emptying. Normally, the effluent will be light grey in colour. However, as the sludge content of the tank increases, the effluent will increasingly contain dark solids.
- f. The septic tank and soakaway area should be sited not less than 10 metres from any ditch, drain or watercourse and preferably not closer than 15 metres to any dwelling. It is important that there is sufficient vehicular access to allow tank emptying.
- g. 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 but will never be less than 50 metres.
- h. An Agency consent may be required for a discharge to a soakaway. (See Section 7) In some cases, a Prohibition Notice containing conditions relating to the construction of the soakaway may be issued.
- i. It is extremely important that clean uncontaminated roof or surface water is excluded from the septic tank as this effectively reduces the tank's capacity and can cause solids to be flushed out of the tank. This may contravene the Agency's consent and will impair the operation of the soakaway.

- j. It is not considered good practice to discharge septic tank effluent to a watercourse without further treatment. However, there are exceptional situations where the Agency may consider consenting an isolated discharge, provided that there is adequate dilution in the receiving watercourse (>400 times) and that the outfall is satisfactorily located and designed to ensure that there is no visible plume at the outfall. Consent for the discharge of effluent from septic tanks which do not comply with BS6297:1983 is not usually granted.

3. PACKAGE SEWAGE TREATMENT PLANTS

In the majority of cases where a septic tank and soakaway is not a viable option, then effluent must be treated to a higher standard. This can be achieved by means of a package treatment system or a reed bed system (see Section 4).

- 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. They must be properly installed in order to operate effectively.
- b. The effluent from a package plant is normally suitable for discharge directly to a watercourse, or into or onto land, where a direct septic tank effluent discharge may be considered unsuitable because of pollution risks. However, if the discharge is made to a watercourse, an Agency consent will be required by the discharger and this may also be the case for discharges into a soakaway (see Section 7).
- c. The consent will set quality and volume limits for the discharged effluent. It is important that Agency advice is sought on the likely effluent quality standard required before ordering the plant, although advice on makes and models of package plant cannot be offered. Assurances should then be sought from the manufacturer that the plant will consistently comply with this standard.
- d. Most package plants require electric power to operate and all will require regular maintenance and desludging in accordance with the manufacturer's instructions in order to ensure that the system operates effectively and the effluent complies with the consent conditions. A maintenance agreement with a suitable contractor may be useful, and the installation of an alarm to warn of power or plant failure is recommended.
- e. Most sewage systems use biological treatment which is vulnerable to abuse. Check with the manufacturer's instructions on the use of cleaning materials, such as bleach, and do not use the drains as a means of disposal for chemicals, oils, solvents or paint brush cleaning fluids. These materials can impair the treatment process and may even damage the plant. Care should be taken to prevent the discharge of grease to the treatment plant as this may also reduce the efficiency of the treatment process.

4. REED BED SYSTEMS

- a. Reed beds are specially designed and constructed plots with a gravel medium and an impermeable base which can be used to improve effluent quality. They have the advantage of having no moving parts and require less maintenance than package treatment plants. Reed beds rely on the ability of certain reeds to absorb and transport oxygen through their stem system to the root zone, where it can be taken up by the organic material present in the sewage and hence effect purification of the effluent.
- b. Before installing a reed bed, the Agency should be consulted to determine whether it will be a satisfactory means of treating the effluent given the local circumstances. Any reed bed should be properly designed, constructed and maintained.
- c. In some cases, a reed bed system may be a satisfactory means of treating the effluent from a septic tank or package plant before discharge to a watercourse. In all cases, a discharge from a reed bed to controlled waters will require consent (See Section 7).

5. WATERLESS TOILETS

a. Chemical toilets

Waterless chemical toilets are self contained systems which rely on biocides, in one form or another, to control the production of foul odours. They are used on campsites, construction sites and at large events. It is recommended that either the foul sewer or a centralised waste collection/disposal facility is used as a means of disposing of chemical toilet wastes. Should this not be possible, the Agencies should be contacted for advice on disposable options and legislative requirements.

b. Composting toilets

These use natural processes to convert waste matter into compost and do not involve a liquid discharge. They are particularly useful at remote sites, such as a nature reserve, where there is no mains water supply or sewer.

6. CESSPOOLS

- a. In Scotland, the Building Regulations do not permit the use of cesspools.
- b. A cesspool is a covered watertight tank used for receiving and storing sewage and has no outlet. It relies on road transport for the removal of raw sewage and is therefore the least sustainable option for sewage disposal. Because of this, a cesspool is best regarded as a temporary measure pending a more satisfactory solution, such as the provision of mains drainage. It is essential that a cesspool is, and remains, impervious to the ingress of groundwater or surface water and has no leaks.

- c. A cesspool requires regular emptying and must not be allowed to overflow. The installation of a level warning device is recommended. Emptying services may be provided by your local authority or a contractor. (You are advised to check, as emptying services may be nonexistent or expensive in your area.)
- d. The average household of three persons will produce 7,000 litres of sewage in about two weeks, the capacity of a typical emptying tanker. (See Appendix A for non-domestic premises).
- e. 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.
- f. 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.
- g. No consent from the Agency is required for a cesspool.

7. CONSENT REQUIREMENTS

- a. Under the provisions of the Water Resources Act 1991 in England and Wales, the Control of Pollution Act 1974 (as amended) in Scotland and the Water Act 1972 in Northern Ireland, a consent from the relevant Agency is required for any discharge of sewage effluent into "controlled waters". "Controlled waters" include all inland watercourses, coastal waters and groundwaters. A consent may also be required for any discharge into a soakaway or a self contained pond. The holder of the discharge consent for a sewage treatment plant is responsible for ensuring that the plant is well maintained and that the effluent complies with the consent conditions. Such consents are not granted automatically, and are not normally granted where a public foul sewer is available. Except in Northern Ireland, there is an administration charge made by the Agency for application for consent and an annual fee to cover monitoring and other costs. Full details can be supplied on request.
- b. If a discharge is to be made to a 'Main River' watercourse, separate Environment Agency permission for the outfall structure will also be required under the provisions of the Water Resources Act 1991. This provision does not apply in Scotland and Northern Ireland.
- c. Other permissions may be required, for example from a riparian owner, drainage board or Local Authority and you should contact the appropriate person/Authority as soon as possible. In particular, approval for the construction and installation may be needed from the Local Authority's building control department.

8. USEFUL REFERENCES

- 1. Code of Practice for the Design of Small Sewage Treatment Works and Cesspools. BS6297:1983: British Standards Institute: Telephone 020 8996 9001
- 2. Septic Tanks and Small Sewage Treatment Works, A Guide to Current Practice and Common Problems: 1993: CIRIA Technical Note 146: Construction Industry Research and Information Association: Telephone 020 7222 8891
- 3. Septic tank systems: A users guide: CIRIA
- 4. On site sewage disposal: Options: CIRIA
- 5. Septic tank systems: Design and installation: CIRIA
References 3-5 are available from your local Environment Agency/ SEPA / Environment and Heritage Service office
- 6. Policy and Practice for the Protection of Groundwater; ISBN 1-873160-37-2: The Stationery Office, Tel: 08706 005522
- 7. Groundwater Protection Strategy for Scotland, SEPA

Appendix A

Guideline Per Capita Sewage Volumes

Property	Per Capita Volume (litres per day)	Property	Per Capita Volume (litres per day)
Domestic	180	Offices	55
Hotels	200	Factories	65
Resturants	25	Public Houses	15
Campsites	75	Caravans	120
Dayschool	50	Rest Homes	300
Boarding school	180	Hospitals	450

Note: Particular care is needed in designing treatment systems for catering establishments, where significant quantities of grease and cooking oil may be present in the effluent. If these pass into treatment plants or soakaways, they may interfere with treatment and block drains and soakaways. It is recommended that expert advice is sought.

Appendix B Percolation Test

Avoid carrying out this test in extreme weather conditions such as drought, frost and heavy rain.

- a. Excavate three holes 300mm square to a depth 250mm below the proposed invert level (bottom of pipe) of the land drain and space them evenly along the proposed line of the subsurface irrigation system.
- b. Fill each hole with water and allow to seep away overnight.
- c. Next day, refill each hole with water to a depth of no more than 300mm and observe the time in seconds for the water to seep away completely.
- d. Divide each figure by the depth of water in millimetres placed in the hole. This answer gives the time required (in seconds) for the water to drop 1mm.

This is the **percolation value** (in seconds).

- e. The average figure for the percolation value (**V**) is obtained by summing all three values and dividing by three.
- f. If the percolation value exceeds 100sec/mm, then ground conditions may be unsuitable for discharge from a septic tank system and an alternative means of disposal will have to be considered to avoid ponding of septic effluent on the surface due to inefficient soakage.
- g. For domestic premises, the floor area of soakaway land drains (**A** in square metres) 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.

If in doubt, consult your professional advisor or Local Authority building control officer for advice.

All the Agencies' pollution prevention guidance notes are available on the web sites listed below.

ENVIRONMENT AGENCY

HEAD OFFICE

Rio House, Waterside Drive, Aztec West
Almondsbury, Bristol BS32 4UD.
Tel: 01454 624 400 Fax: 01454 624 409
World Wide Web: <http://www.environment-agency.gov.uk>

REGIONAL OFFICES

ANGLIAN

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: 01733 371 811
Fax: 01733 231 840

MIDLANDS

Sapphire East
550 Streetsbrook Road
Solihull B91 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

NORTH EAST

Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: 0113 244 0191
Fax: 0113 246 1889

NORTH WEST

Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

SOUTHERN

Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 01903 832 000
Fax: 01903 821 832

SOUTH WEST

Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: 01392 444 000
Fax: 01392 444 238

THAMES

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: 0118 953 5000
Fax: 0118 950 0388

WELSH

Rivers House
St Mellons Business Park
St Mellons
Cardiff CF3 0EY
Tel: 029 2077 0088
Fax: 029 2079 8555

SCOTTISH ENVIRONMENT PROTECTION AGENCY

HEAD OFFICE

Erskine Court
The Castle Business Park
Stirling FK9 4TR
Tel: 01786 457 700
Fax: 01786 446 885
World Wide Web: <http://www.sepa.org.uk>

REGIONAL OFFICES

NORTH REGION HQ

Graesser House
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Tel: 01349 862 021
Fax: 01349 863 987

WEST REGION HQ

SEPA West
5 Redwood Crescent
Peel Park
East Kilbride G74 5PP
Tel: 01355 574 200
Fax: 01355 574 688

EAST REGION HQ

Clearwater House
Heriot-Watt Research Park
Avenue North
Riccarton
Edinburgh EH14 4AP
Tel: 0131 449 7296
Fax: 0131 449 7277

ENVIRONMENT & HERITAGE SERVICE

Calvert House,
23 Castle Place,
Belfast
BT1 1FY
Tel: 028 9025 4868
Fax: 028 9025 4777

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water in England, Wales, Scotland and Northern Ireland.

EMERGENCY HOTLINE

0800 80 70 60



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ENVIRONMENTAL ALLIANCE - WORKING TOGETHER



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Update to PPG 4

This update applies to PPG4 version HO-9/99-20K-C-BASB (see back page, bottom right-hand corner)

1. In **England & Wales** changes to the Building Regulations* now require higher standards for non-mains sewerage systems than stated in PPG 4.

PPG 4 can be used as general guidance on options available for the disposal of sewage where no-mains drainage is available. However, any proposals for non-mains sewerage systems must take account of the requirements of Building Regulations and should be discussed with the local planning authority at an early stage and well before any planning application is made.

** DETR Planning Circular 03/99 the Building Regulations (England & Wales) 2002 and guidance "Wastewater Treatment Systems and Cesspools" The Requirement H2*

2. In **Northern Ireland** application fees are now charged for discharge consents or for the review of an existing consent. The Water Act 1972 was repealed and re-enacted by the Water (Northern Ireland) Order 1999.

A revised PPG4 should be available by January 2005.

Further advice: Environment Agency 08708 506 506
Environment and Heritage Service 028 9025 4868
Scottish Environment Protection Agency 01786 457700

September 2004

Development Standards

DS14 - Foul Sewage and Surface Water Drainage

The Council will require satisfactory provision to be made for the disposal of foul and surface water from new development, either by agreeing details before planning permission is granted, or by imposing conditions on a planning permission or completing planning agreements to achieve the same outcome.

DS15 - Water Resources

Development will not be permitted which would adversely affect the quality and quantity of water resources or adversely affect nature conservation, fisheries and amenity by means of:

- i) pollution from the development; or**
- ii) water abstraction**

unless adequate measures are undertaken to reduce the impact to an acceptable level.

17.43 *Groundwater resources are a vital component of drinkable water supplies but once polluted the damage is irreversible. Flood risk and ground pollution also results from inadequate drainage provision. It is essential therefore that development should not threaten resources, create drainage problems or create problems for the local drainage infrastructure.*

Flood Risk

17.44 Two major rivers, the Trent and the Humber, and the smaller River Ancholme fall within North Lincolnshire. The Isle of Axholme in particular is protected by a sophisticated network of flood

defence works and drainage measures. The method by which the flood plains of these rivers is protected, especially the Humber Estuary, is important.

DS16 - Flood Risk

Development will not be permitted within floodplains where it would:

- i) increase the number of people or buildings at risk; or**
- ii) impede the flow of floodwater; or**
- iii) impede access for the future maintenance of watercourses; or**
- iv) reduce the storage capacity of the floodplain; or**
- v) increase the risk of flooding elsewhere; or**
- vi) undermine the integrity of existing flood defences**

unless adequate protection or mitigation measures are undertaken.

17.45 *New development should not be at risk from flooding. Flood plains and areas of low-lying land adjacent to a watercourse are by their very nature liable to flood under certain conditions. Flood plains also provide for the storage of floodwater, so development can reduce this storage capacity and hence increase the risk of flooding elsewhere. The local planning authority will publish, as supplementary planning guidance, the area of flood risk where policy DS16 is to be applied.*