

# Foul Drainage Assessment Form (FDA)

**Please note:** You should only use this form for planning related queries. You cannot use it to apply for an Environmental Permit but you may submit a copy of the information you have provided for planning purposes in support of your Environmental Permit application. Further information on [how to apply for an environmental permit](#) and [general binding rules applicable to small discharges of domestic sewage effluent](#) is available on the gov.uk website.

APPLICANT DETAILS	
Name	MR. C. & MRS. E. MARTIN
Address	WEST KIRKNEWTON FARM KIRKNEWTON, WOOLER. NE71 6XF
Telephone No	[REDACTED]
e-mail	

We will use the information you provide on this form to establish whether non-mains drainage, either a new system or connection to an existing system, would be acceptable. It is important that you provide full and accurate information. Failure to do this will delay the processing of your application.

**You must provide evidence that a connection to the public sewer is not feasible.**

Other than in very exceptional circumstances, we will not allow the use of non-mains drainage as part of your Planning or Building Regulation application unless you can prove that a connection to the public sewer is not feasible. We do not consider non-mains drainage systems to be environmentally acceptable in locations where it is feasible to connect to a public sewer. Please note that a lack of capacity in, or other operating problems with, the public sewer are not valid reasons to use a non-mains drainage system where it is otherwise feasible to connect to a public sewer.

Where connection to the public sewer is feasible, you may need to get the agreement of either the owners of any land through which the drainage will run or, if you intend to connect via an existing private drain, the owner of that private drain.

The National Planning Practice Guidance and [Building Regulations Approved Document H](#) give a hierarchy of drainage options that must be considered and discounted in the following order:

- 1 Connection to the public sewer
- 2 Package sewage treatment plant (which can be offered to the Sewerage Undertaker for adoption)
- 3 Septic Tank
- 4 If none of the above are feasible a cesspool

You must respond to all the following questions. If you wish to submit additional information please do so, marked clearly "Additional Information". **In some cases you will be required to provide further information in order to demonstrate that any non-mains foul drainage system proposed is acceptable.**

<b>Feasibility of mains foul sewer connection</b>	<b>YES</b>	<b>NO</b>
Have you provided a written explanation of why it is not feasible to connect to the public foul sewer with this form? <i>This must include a scaled map showing the nearest public foul sewer connection point - check with your local sewerage undertaker.</i>	✓	
Is the distance from your site to the closest connection point to the public foul sewer less than the number of properties to be built on the site multiplied by 30m? (see Guidance Note 2)		✓
Does your proposal form part of a phased development or planned development of a wider area? <i>If YES, please provide further details including references of any planning permissions already granted.</i>		✓

### Non-mains connection

Please provide a plan with dimensions that clearly shows the location of the whole system in relation to the proposed development and the position of the key elements e.g. septic tank, drainage fields and points of discharge.

<b>1. Existing system</b>	<b>YES</b>	<b>NO</b>
Do you intend to use an existing non-mains foul drainage system?		✓
If YES, does the system already have an Environmental Permit issued by the Environment Agency? (In the case of a cesspool write N/A)		
If YES, please provide Environmental Permit reference number.....		

<b>2. Discharge</b>	<b>YES</b>	<b>NO</b>
Do you propose to use a package treatment plant?	✓	✗
Do you propose to use a septic tank?	✗	✓
Do you propose to use a cesspool? <i>If YES go to Q4</i>		✓
Have you considered having your system adopted by the sewerage undertaker? (see Guidance Note 7).	✓	✗
Will all, or any part of, the discharge go to a drainage field or soakaway? (see Guidance Note 3) - this includes systems that combine a drainage field with a high level overflow to watercourse <i>If YES go to Q3.</i>	✓	
Do you intend to use a system that discharges solely to watercourse? (see Guidance Note 3) <i>If YES go to Q9.</i>		✓

<b>3. Water abstraction</b>	<b>YES</b>	<b>NO</b>
Do you receive your water from the public mains supply?		✓
If not, where do you get your water supply from? <i>NEW PRIVATE SUPPLY</i>		

<b>4. Cesspools (For methods other than cesspools write N/A)</b>	<b>YES</b>	<b>NO</b>
Have you provided written justification for the use of a cesspool in preference to more sustainable methods of foul drainage disposal? (see Guidance Note 4)		✓

<b>5. Drainage field design (For cesspools write N/A)</b>	<b>YES</b>	<b>NO</b>
Will the system discharge to a drainage field designed and constructed in accordance with British Standard BS6297:2007?	✓	✗
If not, why not? <i>WITHIN PRIVATE GROUNDS</i>		
Will the discharge from the system be located in a <a href="#">Source Protection Zone 1 (SPZ1)</a> ?		

6. Ground Conditions (For cesspools write N/A)		YES	NO
6a. Have you submitted a copy of the percolation test results with this form (see Guidance Note 6)?		✓	
6b. If NO please explain the justification for not undertaking or submitting these tests.			
6c. Is any part of the system in land which is marshy, water logged or subject to flooding?			✓
6d. Will the soakaway be located on artificially raised, made-up ground or ground likely to be contaminated? If YES please provide details as additional information.			✓
6e. Have you submitted the results of a trial hole at the site to establish that the proposed drainage field will be above any standing groundwater (see Guidance Note 6)?	N/A		

7. Available Land	YES	NO
Is the application site plus any available area for a soakaway less than 0.025 hectares (250m <sup>2</sup> )?		✓

8. Siting of drainage field/soakaway discharge from a septic tank or package treatment plant or other secondary treatment. <i>You may need to make local enquiries to get a full answer to these questions.</i>		YES	NO
Will it be at least 10m from a watercourse, permeable drain or land drain?		✓	
Will it be at least 50m from any point of abstraction from the ground for a drinking water supply (e.g. well, borehole or spring)? This includes your own or a neighbour's supply.		✓	
Will the discharge be within a groundwater <a href="#">Source Protection Zone 1</a> ? If yes, you will need to apply for an environmental permit			✓
Are there any drainage fields/soakaways within 50m? This includes any foul drainage discharge system (other than the subject of this application) or surface water soakaway on either your own or a neighbour's property.			✓
Will it be at least 15m from any building?		✓	
Will there be any water supply pipes or underground services within the disposal system, other than those required by the system? (For cesspools write N/A)			✓
Will there be any access roads, driveways or paved areas within the disposal area? (For cesspools write N/A)			✓

9. Siting of treatment plant, septic tank or cesspool		YES	NO
Is it at least 7m from the habitable part of a building?		✓	
Will there be vehicular access for emptying within 30m?		✓	
Can the plant, tank or cesspool be maintained or emptied without the contents being taken through a dwelling or place of work?		✓	

**10. Expected flow**

Please estimate the total flow in litres per day (see Guidance Note 5).	320 L
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11. General Binding Rules for Small Sewage Discharges		YES	NO
Does the system meet the requirements of the <a href="#">General Binding Rules for small sewage discharges</a> ?		✓	

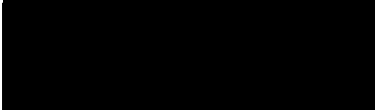
**12. Maintenance**

How do you propose to maintain the system?

HUTCHINSON DRAINAGE TO INSTALL AND SERVICE CONTRACT

### 13. Declaration

I declare that the above information is factually correct.

Name	Signature	Date
JOHN DODSON DODSONS DESIGN LTD		16. 11. 2020

#### GUIDANCE NOTES:

- 1) This form is for use with the [National Planning Practice Guidance](#), [British Standard BS6297:2007](#) and [Building Regulations Approved Document H](#). It is intended to help Local Planning Authorities establish basic information about your non-mains drainage system and decide whether you need to submit a more detailed site assessment. If a detailed site assessment is requested but not submitted, your planning application might be refused.
- 2) Where the distance from a site to the closest point of connection to the foul sewer is less than the number of properties that are proposed to be built on that site multiplied by 30m an Environmental Permit will be required and an applicant will need to demonstrate as part of any application for such a permit why connection to the public foul sewer is not feasible.  
  
Number of domestic properties served by the sewage treatment system  x 30 metres = Answer  metres
- 3) In addition to Planning Permission and Building Regulation approval **you may also require an Environmental Permit from the Environment Agency (EA). Please note that the granting of Planning Permission or Building Regulation approval does not guarantee the granting of an Environmental Permit. Upon receipt of a correctly filled in application form the EA will carry out an assessment. It can take up to 4 months before the Agency is in a position to decide whether to grant a permit or not.**
- 4) The use of cesspools is an option of last resort as set out in the non-mains drainage hierarchy of preference in [Building Regulations Approved Document H](#). In principle, a properly constructed and maintained cesspool, being essentially a holding tank with no discharges, should not lead to environmental, amenity or public health problems. However, in practice, it is known that such problems occur as a result of frequent overflows due to poor maintenance, irregular emptying, lack of suitable vehicular access for emptying and even through inadequate capacity. In addition to this the requirement for frequent emptying is usually carried out by a contractor involving road transport with associated environmental costs. For these reasons, the use of cesspools will not normally be considered to be a long-term foul sewage disposal solution. In view of the environmental risks associated with their use, any proposal to use cesspools must be fully justified to the Local Planning Authority
- 5) Package treatment plants and septic tanks should be designed and sized according to the advice given in the current edition of [Flows and Loads](#), published by British Water. Volumes for larger systems should be calculated based on expected flows arising from the development.
- 6) You should refer to [Building Regulations Approved Document H2](#) with regard to the general requirements for construction of non mains sewerage systems. **Sections 1.33 to 1.38** deal with the test requirements for trial holes and percolation tests and for convenience the text of these sections is repeated below:

- 1.33 *A trial hole should be dug to determine the position of the standing groundwater table. The trial hole should be a minimum of 1m<sup>2</sup> in area and 2m deep, or a minimum of 1.5m below the invert of the proposed drainage field pipework. The ground water table should not rise to within 1m of the invert level of the proposed effluent distribution pipes. If the test is carried out in summer, the likely winter groundwater levels should be considered. A percolation test should then be carried out to assess the further suitability of the proposed area.*
- 1.34 *Percolation test method – A hole 300mm square should be excavated to a depth 300mm below the proposed invert level of the effluent distribution pipe. Where deep drains are necessary the hole should conform to this shape at the bottom, but may be enlarged above the 300mm level to enable safe excavation to be carried out. Where deep excavations are necessary a modified test procedure may be adopted using a 300mm earth auger. Bore the test hole vertically to the appropriate depth taking care to remove all loose debris.*
- 1.35 *Fill the 300mm square section of the hole to a depth of at least 300mm with water and allow it to seep away overnight.*
- 1.36 *Next day, refill the test section with water to a depth of at least 300mm and observe the time, in seconds, for the water to seep away from 75% full to 25% full level (i.e. a depth of 150mm). Divide this time by 150mm. The answer gives the average time in seconds (V<sub>p</sub>) required for the water to drop 1mm.*
- 1.37 *The test should be carried out at least three times with at least two trial holes. The average figure from the tests should be taken. The test should not be carried out during abnormal weather conditions such as heavy rain, severe frost or drought.*
- 1.38 *Drainage field disposal should only be used when percolation tests indicate average values of V<sub>p</sub> of between 12 and 100 and the preliminary site assessment report and trial hole tests have been favourable. This minimum value ensures that untreated effluent cannot percolate too rapidly into groundwater. Where V<sub>p</sub> is outside these limits effective treatment is unlikely to take place in a drainage field. However, provided that an alternative form of secondary treatment is provided to treat the effluent from the septic tanks, it may still be possible to discharge the treated effluent to a soakaway.*

**N.B. When determining whether a discharge may be made under statutory General Binding Rules one of the requirements is that any drainage field must be designed and constructed in accordance with BS6297:2007. This specifies that the minimum percolation rate under that standard is 15s/mm and any discharge made to ground where the percolation rate is less than 15s/mm is subject to the granting of an Environmental Permit.**

- 7) Developers may requisition a sewer from the Sewerage Undertaker to connect their development to the public sewer. Should this not be feasible on the grounds of cost and practicability, on site treatment in the form of package plants and their associated sewers (if constructed to an acceptable standard) can be offered to the sewerage undertaker for adoption. This approach is in support of advice from the Government contained in the [National Planning Practice Guidance](#) Developers are urged to discuss their requirements with the Sewerage Undertaker at the earliest possible opportunity.
- 8) Glossary

#### **Package treatment plant**

A package treatment plant is a system which offers varying degrees of biological sewage treatment and involves the production of an effluent which can be disposed of to ground via a drainage field or direct to a watercourse. There are many varieties of package treatment plant but all involve settling the solids before and/or after a biological treatment stage and almost all use electricity. Package treatment plants usually treat sewage to a higher standard than septic tanks but are vulnerable in the event of power failures and require more regular servicing and maintenance to ensure that they work effectively. The type of system chosen should be appropriate to the type of development proposed and take account of variations in flow and periods of inactivity, for example where the system will serve holiday accommodation where occupation and maintenance may be more irregular.

**Septic tank**

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.

Effluent from a septic tank is normally disposed of to ground via a drainage field and receives further treatment in the soils surrounding that drainage field, so that it does not generate a pollution risk to surface waters or groundwater resources (underground water). The most commonly used form of drainage field is a subsurface irrigation area, comprising a herringbone pattern of interconnecting dispersal pipes laid in shallow, shingle filled trenches. The dispersal pipes within the drainage field should be located at as shallow a depth as possible, usually within 1 metre of the ground surface. A septic tank typically needs to be desludged at least once a year in order to ensure that it continues to work effectively.

**Cesspool**

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. It is essential that a cesspool is, and remains, impervious to the ingress of groundwater or surface water.

# How to do a Percolation (Soil Porosity) Test Holes 3 no

## Test WEST KIRKNEWTON FARM

Longback Cottage  
Mr C & Mrs E Martiz

A percolation test is carried out to determine how suitable the ground conditions are for installation of a soakaway (drainage field), for properties or sites that are unable to connect to a watercourse. Depending where the site is based, the soil conditions may allow water to freely drain, or alternatively the soil could be heavy and clay-based where water struggles to permeate.

A percolation test is also known as a soil porosity test. You can carry the test out yourself, but if you are uncertain it is always worth asking your installer to conduct this on your behalf:

- Excavate a hole 300mm square by 300mm deep below the proposed invert level of the land drain (effluent distribution pipe). This could be up to a metre below the ground, so you may need to dig a hole large enough to stand in before digging your percolation test hole.
- Fill the hole with water to a depth of 300mm and allow it to drain away overnight.
- The next day, refill the hole to a depth of 300mm and observe the time taken to drain from 75% full to 25% full level (i.e a depth of 150mm). Divide this time by 150mm - the answer gives the average time in seconds (Vp) required for the water to drop 1mm.
- Repeat this exercise at least two more times with at least two more trial holes. Calculate the average time taken for each hole. Make sure you don't carry these tests out in abnormal weather conditions such as severe frost, heavy rain or drought.

Your ground is only suitable a soakaway (drainage field) if the percolation test results show average values of Vp between 15 and 100. The minimum value ensures that untreated effluent can't percolate too rapidly into the ground water. Where the Vp is outside this range, effective percolation of the effluent is unlikely to happen in a soakaway.

The percolation test calculations for soakaway installation are as follows:

Area (A) = V x P x 0.20 for sewage treatment systems

Area (A) = V x P x 0.25 for septic tanks

V = the time in seconds for the water in the test hole to drop by 1mm

P = the maximum number of persons that the treatment system/tank is designed to serve

The calculation gives the area in square metres required for the soakaway trenches. Further calculations will be required to establish the length of pipes needed depending on the width of the trench (for example, for a 600mm wide trench, the area would be divided by 0.6)

Test hole	1	first 61 min	second 72 min	} average 63 minutes
	2	70 "	59	
	3	54 .	65	

$$(A) = V \times p \times 0.20 \text{ (sewage plant)}$$

$$A = 25.2 \times 6 \times 0.20$$

$$A = 30 \times 6 \times 0.20$$

$$A = \frac{36}{0.6} = \underline{\underline{60m}} \text{ of trench @ 600mm wide.}$$