Foul Drainage Specification & Percolation Testing

Lunt's Old Dairy
Top House Farm
Arowry
Hanmer
Whitchurch

Conversion of Traditional Agricultural Building into a Residential Dwelling House

Mr T Hanmer

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Roger Parry & Partners LLP
www.rogerparry.net
mail@rogerparry.net
Tel: 01691 655334

Introduction

This Foul Drainage Specification has been prepared and submitted in support of planning application ref: P/2024/1527, for the residential conversion of the Old Dairy at Top House Farm.

Package Treatment Plant

It is proposed to install a Klargester BA Biotec Package Treatment Plant to serve the proposed dwelling; details of which are below:

KLARGESTER BIOTEC SEWAGE TREATMENT PLANT, GRAVITY DISCHARGE

Specification | Delivery | Returns Information

Product Specification

Product Code: **KLA**

Customer Offloading: **Customer Offloading**

Free Delivery: **Free Delivery**

Free Site Survey: **Free Site Survey**

HIAB Available: **HIAB Available**

Tank Use: **Below Ground, Sewage**

Warranty: **Klargester 2 years**

Product Description

The Klargester BioTec is the economical off-mains solution for single or multiple houses and uses the tried and tested aerobic biological process for the treatment of domestic sewage.

Klargester BioTec sewage treatment systems are ideal for single/multiple houses and employ the well proven aerobic biological trickling filter process for the treatment of sewage.

Drainage Field

The package treatment plant would discharge wastewater to ground via a new drainage field constructed on-site. Soil percolation tests have been undertaken and the results are provided below for the review of the Local Planning Authority and any relevant consultees. These results confirm the ground conditions on-site would support a drainage field in this location.

The drainage field would be constructed and built in accordance with the requirements of BS 6297:2007+A1:2008. The system would also be constructed in-line with Approved Document H 2010 (Wales), Section H2 of the Building Regulations.

The drainage field would be constructed in excess of 15m from the proposed dwelling, 10m from any watercourse and 50m from any well or borehole. The system would also avoid any trees or tree roots.

The drainage field will be very carefully constructed using 110mm downward facing perforated pipes laid in trenches with a uniform gradient not steeper than 1:200. The trenches will be between 300mm and 900mm wide and minimum 1m wide strips of undisturbed ground shall be maintained between parallel trenches. The pipes shall be laid on a 200- 300mm layer of clean gravel granular fill material graded either 16-32mm or 20-50mm. The trenches shall be filled with the same material to a level 50mm above the pipe and covered with geotextile material to prevent the entry of silt. The remainder of the trench can be filled with normal soil. Pipes will be laid at a minimum depth of 200mm below the surface.

The system will be installed by a building contractor with experience of installing package treatment plants and drainage fields.

Percolation Test Results

Guidance Notes:

The following table provides details of siting distances contained in Approved Document H 2010 (Wales), Section H2 of the Building Regulations.

Siting of septic tanks, treatment plants and soakaways			
Distance from	**Dwelling**	**Watercourse**	**Borehole/well**
Drainage field	**15m**	**10m**	**50m**
Septic Tank	**7m**	**10m**	**50m**
Treatment plant	**7m**	**10m**	**50m**

Conducting the main percolation test

The percolation test should be carried out in accordance with Approved Document H 2010 (Wales), Section H2 of the Building Regulations.

1. These tests should be carried out within and be representative of, the proposed soak-away area.
2. Excavate at least 2 percolation holes 300mm square to a depth of 300mm below the proposed invert level of the effluent distribution pipe. Where deep holes 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.
3. Fill the 300mm square section of the holes to a depth of at least 300mm with water and allow it to seep away overnight.
4. Next day, refill the test sections with water to a depth of at least 300mm and observe the time (T) in seconds, for the water to seep away from 75% to 25% full level. (ie a depth of 150mm)
5. Extreme weather conditions should be avoided when testing.

Results:

Percolation tests in accordance with the guidance provided with this form on 19/01/2025 in respect of premises at: Land at Top House Farm, Big Arowry, Hanmer, Whitchurch, SY13 3EQ.

Description of ground strata: **moderately draining ground.**

The overall depth of the test holes dug were: (*state in metres/millimetres*):

Test Hole 1	Test Hole 2
1m	1m

I confirm that the water table did not rise to within 1 metre of the invert of the proposed land Irrigation scheme.

The weather conditions on the day were: **dry but overcast**

The results of the percolation tests were:

Test Hole 1				Test Hole 2			
	Time in Seconds		V_p		Time in Seconds		V_p
Test 1	**6620**	÷150	**44.1**	Test 1	**6840**	÷150	**45.6**
Test 2	**6280**	÷150	**41.9**	Test 2	**6510**	÷150	**43.4**
Test 3	**6140**	÷150	**40.9**	Test 3	**6030**	÷150	**40.2**
Trial Hole 1 – Average V_p			**42.3**	**Trial Hole 1 – Average Vp**			**43.0**

Average V_p of Test Holes 1 & 2	42.7	