



# Drainage Field Siting and Percolation Test Calculation Form

**NB – Development proposing the use of non-mains drainage schemes will only be considered where connection to the mains sewer is not feasible**

## 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

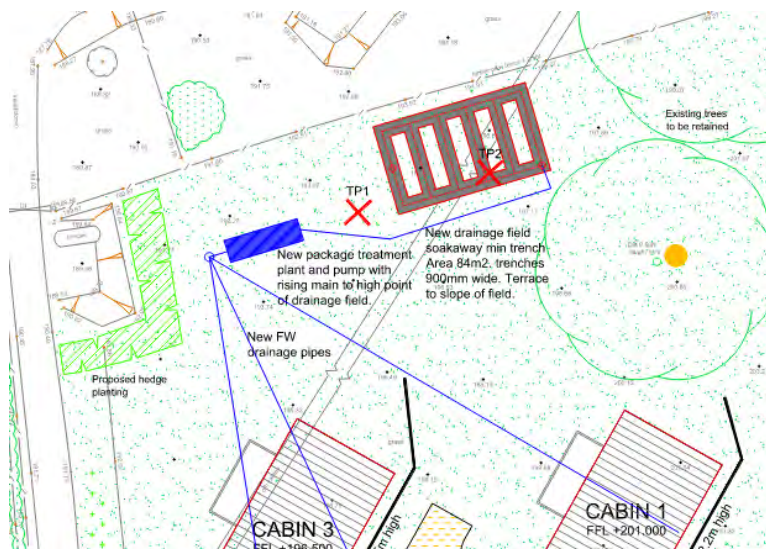
## Conducting the main percolation test

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 soakaway 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. (i.e. a depth of 150mm)
5. Extreme weather conditions should be avoided when testing.

**# please complete the below diagram and form overleaf and return to appointed planning officer and ensure that the porosity test holes are left open for inspection.**

## Drainage scheme siting diagram



I, (name) **Richard Morgan** on behalf of (applicant) **Mervyn Jones**, have carried out percolation tests in accordance with the guidance provided with this form on **19.5.2022** in respect of premises at:

- **Valley View Retreat, Llanidloes**

Description of ground strata:

**300-400mm agricultural stock field grass & topsoil. 400mm of clayey soil turning to loose slate at base of test holes.**

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

Test Hole 1	Test Hole 2	Test Hole 3
600mm	800mm	

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**

The results of the percolation tests were: **Fully drained**

Test Hole 1				Test Hole 2			
	Time in Seconds		V <sub>p</sub>		Time in Seconds		V <sub>p</sub>
Test 1	55min 10 secs = 3310	÷150	22	Test 1	48 min 6 sec = 2886	÷150	19.2
Test 2	50min 40 secs = 3040	÷150	20.3	Test 2	49 min 35 sec = 2975	÷150	19.8
Test 3	60 min 10 secs = 3610	÷150	24	Test 3	52 min 48 sec = 3168	÷150	21.1
<b>Test Hole 1 – Average V<sub>p</sub></b>			<b>22.1</b>	<b>Test Hole 2 – Average V<sub>p</sub></b>			<b>20</b>

<b>Average V<sub>p</sub> of Test Holes</b>	<b>21</b>	<b>Note:</b>
<b>Use this averaged V<sub>p</sub> figure in the following formula <math>P \times V_p \times 0.25 = A</math></b>		

For 4 holiday let units use British Water Loads & Flows guidance for small apartment P=4 per unit.  
For 4 units x 4 = Total Design Population **P=16**

Calculating the drainage field area							Key	
P	X	V <sub>p</sub>	X	0.25	=	A		P = no of people served by the tank A = floor area of the drainage field (in square metres) V <sub>p</sub> = Percolation Value TW= Trench width in metres L = length of the drainage field (in metres)
16	X	21	X	0.25	=	84	m <sup>2</sup>	
Calculating the linear drainage field length								
A	÷	TW	=	L				
84	÷	0.9	=	93	m			
Note: In accordance with BS 6297: 2007 this overall length can be constructed to 3 rows with 1m in between each row. 31m overall								

Signed: **Ben Miller Senior Civil Engineer B Eng (Hons) Civil** Date: **31/05/2022** Tel No: **01686 610311**

Address: 29 Broad Street, Newtown, SY16 2BQ

## Appendix 1 - Test Photos



**Photo 1** – Location of test holes northwest corner of site at low point



**Photo 2** – Test hole 1 – 600mm deep. 300mm water level.



**Photo 3** – Test hole 1 spoil. Clayey soil leading to alluvial slate/shale at base



**Photo 4** – Test hole 2 – 800mm deep. Water level at 300mm



**Photo 5** – Spoil from test hole 2 – clayey soil with alluvial rounded weathered shale/slate