

**Effluent Land Drainage System Details to Accompany  
Planning Application for Septic Tank Drainage**

1. Location of proposed development: Tenement,  
Cefn-y-Coed,  
Montgomery,  
Powys,  
SY15 6LR.
2. Site plan included: Yes.
3. Description of soil: 250mm topsoil over 650mm stony clay subsoils.
4. Percolation test - BSI code of practice BS6297: 1983 Test procedure carried out -
  - a) Excavate a hole 300mm square to a depth 250mm below the proposed invert level of the land drain.
  - b) Fill the 300mm section completely with water and allow to seep away overnight.
  - c) Next day, refill the test section with water to a depth 250mm and observe time in seconds for water to seep away completely.
  - d) Divide this time by the depth in mm of the water placed in hole. Carry out test three times and take the average figure.

Hole One

$$\text{Test 1 } \frac{9,300 \text{ secs}}{250\text{mm}} = 37.20$$

$$\text{Test 2 } \frac{7,400 \text{ secs}}{250\text{mm}} = 29.60$$

$$\text{Test 3 } \frac{8,200 \text{ secs}}{250\text{mm}} = 32.80$$

$$\text{Average result} = 33.20$$

Hole Two

$$\text{Test 1 } \frac{9,900 \text{ secs}}{250\text{mm}} = 39.6$$

$$\text{Test 2 } \frac{8,000 \text{ secs}}{250\text{mm}} = 32.00$$

$$\text{Test 3 } \frac{7,200 \text{ secs}}{250\text{mm}} = 28.80$$

$$\text{Average result} = 33.47$$

Contd.

Contd.

Hole Three

$$\text{Test 1 } \frac{8,800 \text{ secs}}{250\text{mm}} = 35.20$$

$$\text{Test 2 } \frac{8,200 \text{ secs}}{250\text{mm}} = 32.80$$

$$\text{Test 3 } \frac{7,800 \text{ secs}}{250\text{mm}} = 31.20$$

$$\text{Average result} = 33.07$$

$$\text{Overall average reading} = \frac{33.20 + 33.47 + 33.07}{3} = 33.25$$

From the readings obtained the floor area of subsurface drains required to disperse effluents from a septic tank may be calculated as follows:

$$A_t = P \times VP \times 0.25$$

where

P is the number of persons served by the tank and VP is the average percolation value obtained


Therefore

$$A_t = 6 \times 33.25 \times 0.25$$

$$A_t = 49.88$$

Therefore a soakaway giving a surface area of 50m<sup>2</sup> is appropriate in this instance.

I have supervised the above test and certify that the results are correct.

Signed.....  ..... (Ian H. Pryce)

Qualification: Member Architecture and Surveying Institute (MASI)  
Member Chartered Institute of Building (MCI OB)

On behalf of: J.Hamer

Date of test: 10<sup>th</sup>/11<sup>th</sup>/12<sup>th</sup> May, 2021