



Planning Dept,
Wrexham County Borough Council
Lord Street
Wrexham
LL11 1LG

09 August 2024

Dear Sir / Madam,

**PROPOSED CONVERSION OF BARN TO ONE DWELLING AT MOUNT PLEASANT FARM,
PLASSY LANE, WILLINGTON, MALPAS, SY14 7LT.**

In preparing this note, regard has been had to the following:

- NRW latest guidance for planning applications (Version 4)
- Building Regulations (Part H)
- BS 6297:2007
- British Flows and Loads

Nearby Sewer

There are no public sewers in the area. The nearest is 3km away in Hanmer, so a private drainage system is the only feasible option. Therefore, a new package treatment plant (PTP) system is proposed.

Background.

As Mount Pleasant has its own drainage system which would be close by the proposed, then it is proposed to combined the two systems. **THIS HAS THE BENEFIT**, that existing brick septic tank serving Mount Pleasant will be replaced with a modern treatment plant. The existing septic tank is an antiquated systems having being installed when Mount Pleasant Farm House was originally constructed.

Tests.

Soakaway tests have been completed in accordance with Part H of Building Regulations and the relevant BS standard which confirm that the site will support infiltration drainage – see attached together with drainage field calculation.

Sizing.

With reference to 'British Flows and Loads 4', the population equivalent for the 2no four bed dwelling is 12(P)

A 'GRAF Wastewater Treatment System one2clean plus with Phosphate Remova' system is proposed as this has one of the lowest phosphorous discharge concentrations for a biological system. No chemical dosing is proposed or required. A 3800 litre system is proposed (12 (P) x 150 + 2000 freeboard (as required by building regs) = 3800 litres)

The peak daily discharge from the development will be 1.8 cubic metres per day and so an Environmental Permit is not required.

Compliance.

The system also meets NRW exemptions for determining there will be no likely significant effect on the Special Area of Conservation as a result of increased phosphorus levels. In this instance the SAC is the River Dee, located 4km metres east of the application site. In particular:

- The drainage field is more than 40 metres from any surface water feature and over 50 metres from the SAC.
- There are no other hydrological pathways to local watercourses and the SAC
- There is a nearby property, Mayfield, which being an old property one assumes has a private drainage system. This is about 110m away. Although this is within 200m, there is currently a septic tank drainage system at Mount Pleasant which is currently 90m away from the one at Mayfield, so after this proposal it will mean the replacement system is 20m further away, however, by replacing the septic tank at Mount Pleasant with a treatment plant there is a betterment over the current arrangements, together with a slight increase in separation distance.

Conclusion & Betterment.

Overall, the system is not likely to impact the Special Area of Conservation as set out above and as a result of this proposal it will provide the opportunity to removal the old septic tank system from Mount Pleasant, hence providing a betterment.

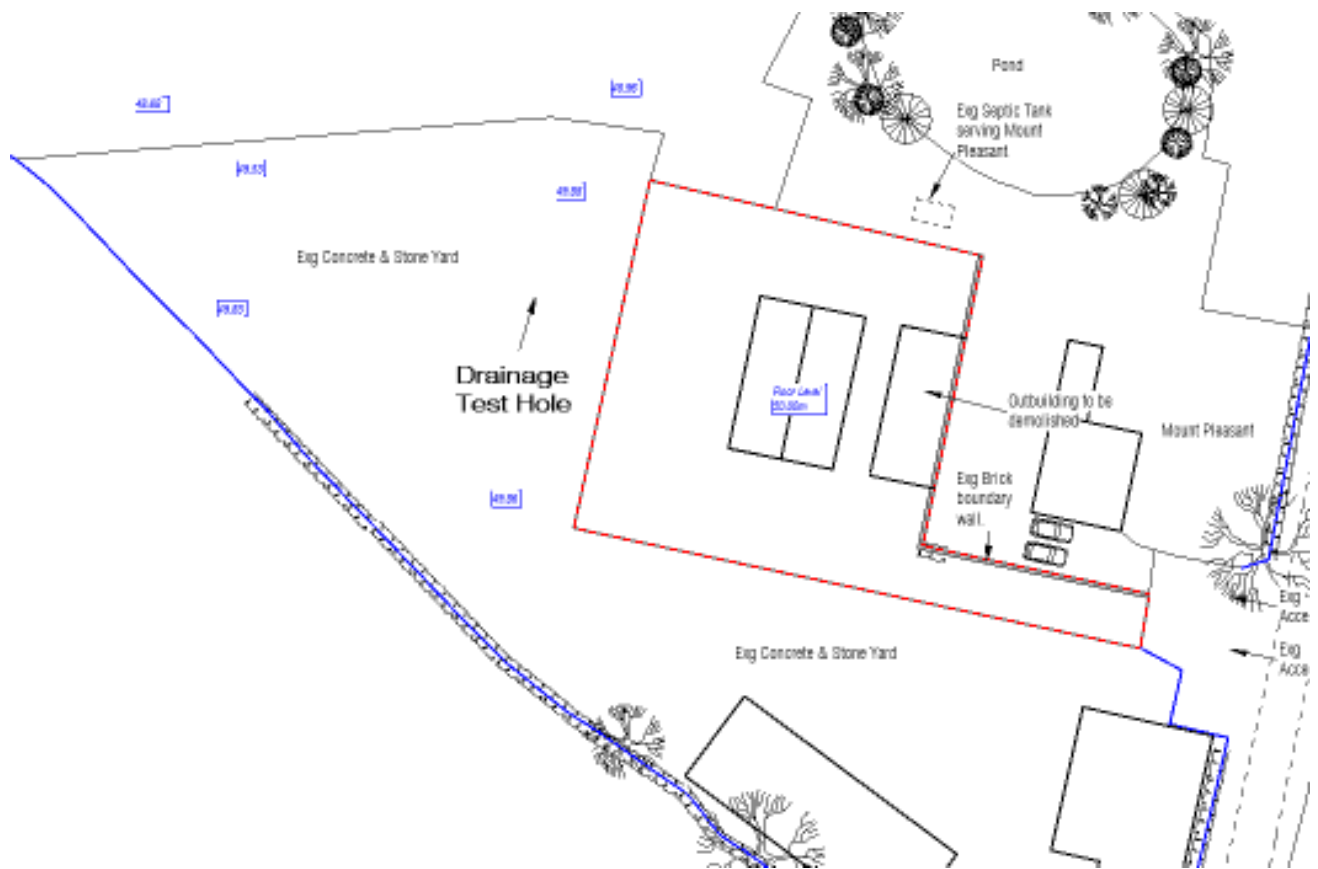
Hopefully the above alongside attached plans and drainage calculations are sufficient but please come back if you require any further information.

Yours sincerely,

G Chesters

Gary Chesters BSc MRICS

TEST HOLE



DRAINAGE CALCS.

DRAINAGE TEST

Angela Hughes <office@opalwindows.co.uk>

Fri 09/08/2024 10:47

To: Gary Chesters <nook-lane@hotmail.co.uk>

Gary,

Drainage tests carried out as follows:-

Hole 30cm deep x 25cm x 25cm

Day 1 19.07.24

Start 8.30am

Finish 11.10am

0 mins 30cm deep

60 mins 20cm deep

105 mins 10cm deep

160 mins empty

Day 2 20.07.24

Start 8.30am

Finish 11.30am

0 mins 30cm deep

55 mins 22cm deep

110 mins 11cm deep

180 mins empty

Day 3 21.07.24

Start 8.30am

Finish 11.40am

0 mins 30cm deep

60 mins 18cm deep

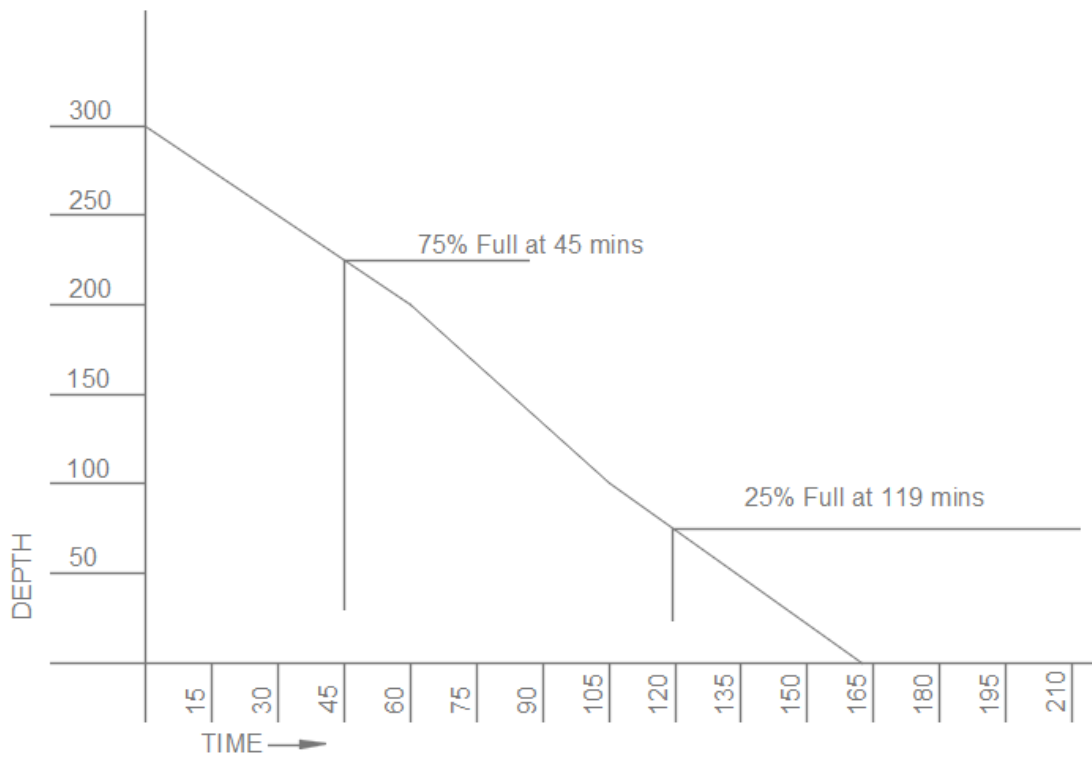
115 mins 10cm deep

170 mins 2cm deep

190 mins empty

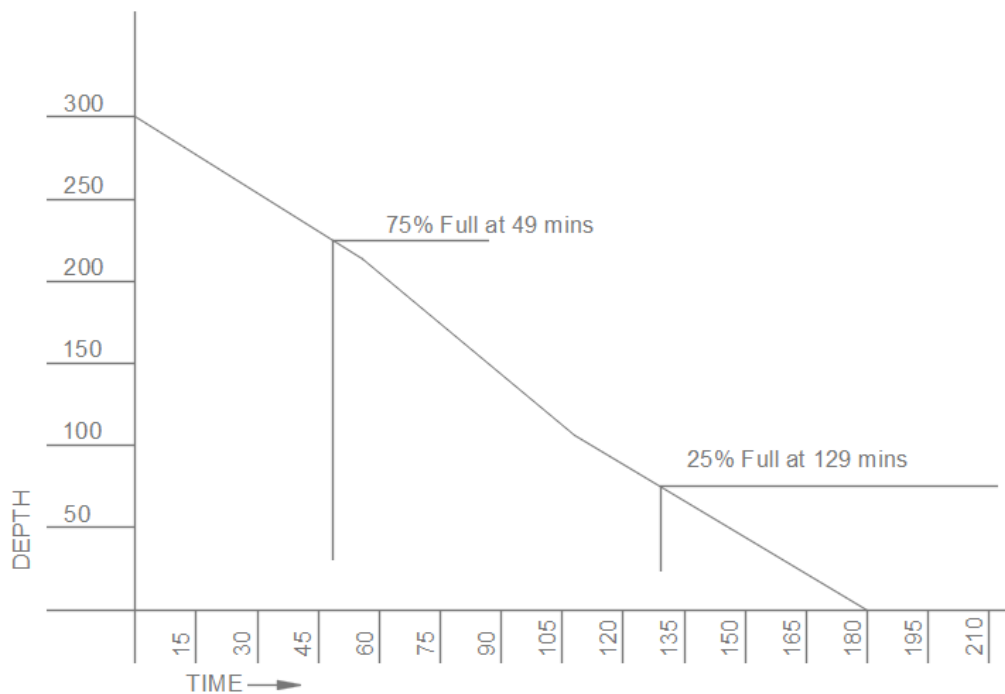
Thanks,

Rich



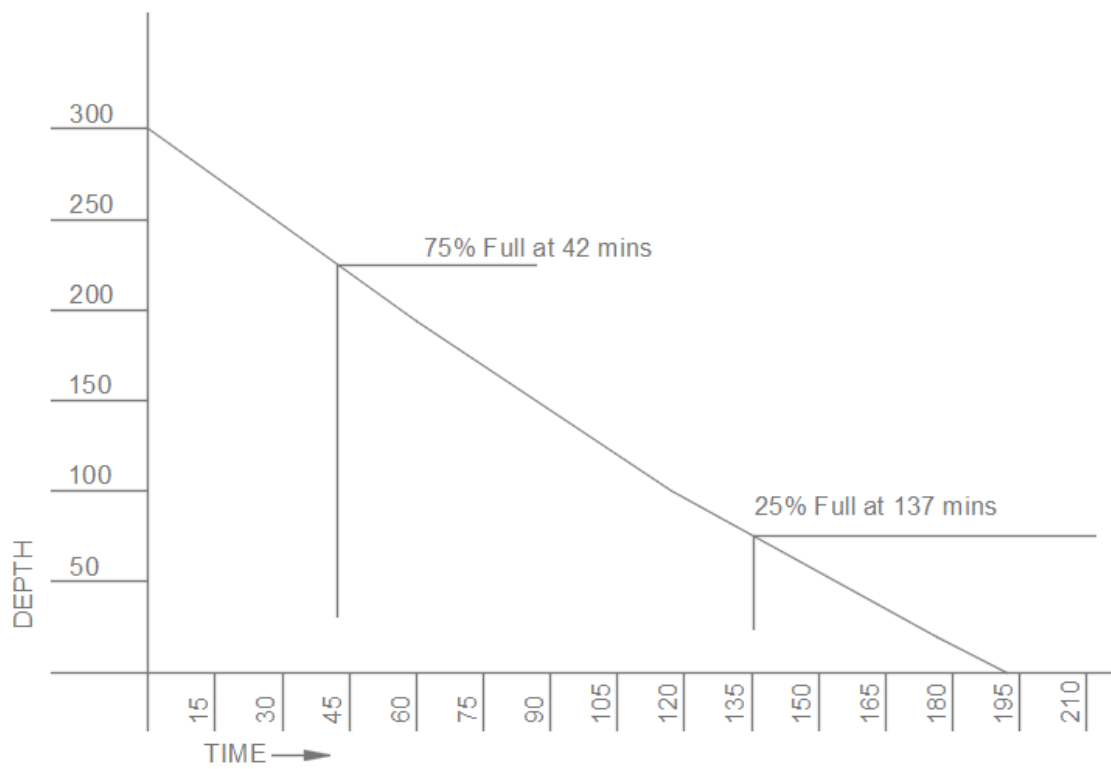
TEST HOLE 1

75% full to 25% = 74mins



TEST HOLE 2

75% full to 25% = 80mins



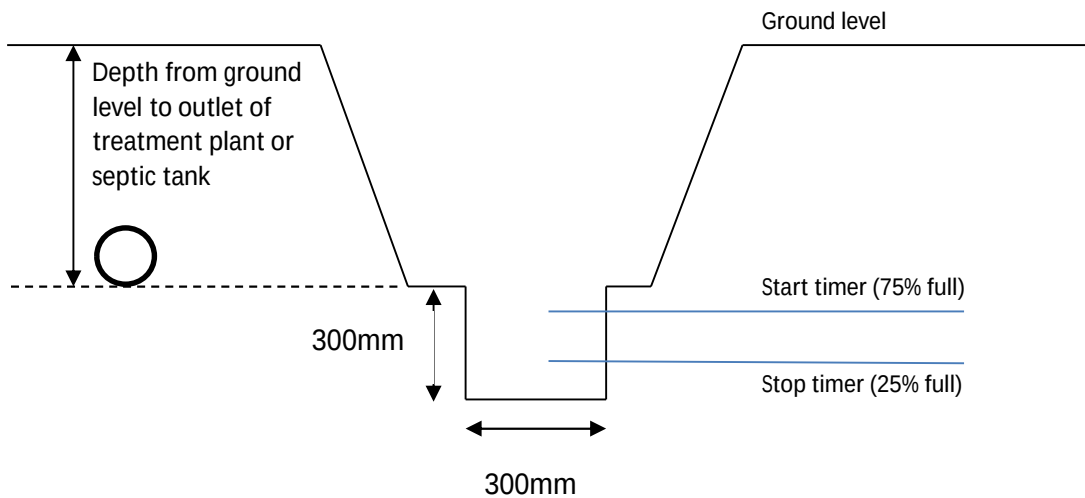
TEST HOLE 3

75% full to 25% = 95mins

Percolation test



1. Dig 300mm x 300mm x 300mm hole below level of outlet pip
2. Fill with water and leave overnight
3. Fill with water and time the drop in water from 75% full (225 to 25% full (75mm)
4. Repeat in 2 further trial holes in the location of the proposed drainage field. Enter the result into "Step 1"



STEP 1 - Trial Hole Results:

Fill in the results from your percolation tests

1	Trial Hole 1	Hours =	0	Minutes =	74	Nett =	74
2	Trial Hole 2	Hours =	0	Minutes =	80	Nett =	80
3	Trial Hole 3	Hours =	0	Minutes =	95	Nett =	95

Enter 1 for successful hole, 0 for unsuccessful hole (did not drain)

guide

STEP 2

ge. Select whether you are using a sewage treatment plant or septic tank

imm)

Sewage Treatment

 ← Select Drop Down

d STEP 3 - Select number of population

Population:	12
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[Population taken from sizing sheet](#)

Trial Hole 1	4440	Seconds
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Trial Hole 2	4800	Seconds
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Trial Hole 3	5700	Seconds
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Average rate	2490.00	Seconds
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VP Rate	16.60
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(VP has to be between 12 and 100 to pass)

Area required	39.84	m2
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Percolation Test has: **Passed**

STEP 4 - choose a trench width

minutes

Trench Width	600
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 (mm)

minutes

Required trench length	66.40
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 metres

minutes