



# INFILTRATION TESTING REPORT

Report Reference: 511 – R1

PROPOSED CONVERSION OF EXISTING  
AGRICULTURAL BUILDINGS INTO A WEDDING  
VENUE AT TYDDYN Y GWYNT, MOELFRE

**MÔN CIVILS**  
LIMITED

**April 2025**  
**Revision P02**

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## 1.0 Introduction

This report has been compiled to supplement the proposed drainage strategy for the proposed conversion of existing agricultural buildings into a wedding venue located at Tyddyn Gwynt, Moelfre, LL72 8NN. (grid reference: **SH49956 86794**). The location and site boundary of the site is illustrated on the attached plan contained within **Appendix A**.

### 1.1 Scope of Report

In accordance with CIRIA C753 'SuDS Manual' 2015 and The Statutory SuDS Guidance for Wales 2018, surface water run-off generated from all new developments should consider a discharge into the ground via a proposed soakaway as the highest priority. In order to confirm the sites suitability infiltration testing should be undertaken.

This report provides a summary and conclusion of the infiltration testing carried out on site.

## 2.0 Infiltration Testing

Infiltration testing has been undertaken on the 17<sup>th</sup>/03/2025 however, additional testing was undertaken on the 6<sup>th</sup>/01/2026 where the foul infiltration test was conducted within TP3 & TP4. Therefore, four trial holes were excavated within the site, referenced TP1, TP2, TP3 & TP4 excavated to a maximum depth of 1.500m below ground level. Infiltration testing was conducted within both trial holes, no ground water was encountered during the intrusive investigation. The location of the trial pits is indicated on the trial pit location plan contained within **Appendix B**.

A trial pit log along with comments and photographs of the trial hole is contained within **Appendix C**. The below ground strata located within the site consisted of red damp CLAY.

In accordance with BRE digest 365 which outlines the best practice procedure for undertaking porosity tests, each trial pit should be filled and the rate in which the water level drops should be recorded until it is dry, this should be repeated for three consecutive tests. The design of any proposed soakaway structures should then be based upon the poorest infiltration rate of the three tests.

The test results of the infiltration tests undertaken are summarised within **Tables 1 – 2**.

### **TP1**

**Table 1.** TP1 – Test 1 results

<b>Time</b>	<b>Duration (mins)</b>	<b>Depth to water from GL</b>	<b>Drop in water level (mm/min)</b>
12:50	0	940mm	-
13:20	30	940mm	0.000mm
13:50	60	940mm	0.000mm
<b>Infiltration Rate (<i>f</i>)</b>		<b>Test Abandoned</b>	

**TP2****Table 2.** TP2 – Test 1 results

<b>Time</b>	<b>Duration (mins)</b>	<b>Depth to water from GL</b>	<b>Drop in water level (mm/min)</b>
12:40	0	420mm	-
13:20	40	420mm	0.000mm
13:40	60	420mm	0.000mm
<b>Infiltration Rate (<i>f</i>)</b>		<b>Test Abandoned</b>	

**2.1 Result Discussion**

Due to the lack of infiltration recorded within both trial holes a second and third fill of water, in accordance with the standard procedure set out in BRE Digest 365, was not possible and all tests were abandoned after 2 hours of recording. Therefore, alternative methods of surface water disposal in accordance with the SuDS hierarchy should be explored.

## 2.2 British Standard Foul Infiltration Testing

The porosity test was undertaken in accordance with the recommended method within BS 6297: 2007 and the Building Regulations, Approved Document Part H, a trail pit was excavated to a depth of 700mm below ground level and a 300mm x 300mm hole was excavated a further 300mm deep within the base of the trail hole.

The 300mm cube in the base of the trail hole was then filled with water and left to drain completely, this was then re-filled in order to conduct a test. The time between 75% full (225mm depth of water) and 25% full (75mm depth of water) was recorded, the results of the test are highlighted within the tables 7-12 below.

**Table 3.** TP3 – Test 1 results

Time	Percentage full	Duration (mins)	Duration (Seconds)
09:00	100%	0	-
09:22	75%	22	1,320
09:56	50%	56	3,360
10:18	25%	78	4,680
10:40	0%	100	6,000

$$V_p = (75\% - 25\%) / 150$$

$$V_p = (4,680 - 1,320) / 150$$

$$V_p = 22.4 \text{ s/mm}$$

**Table 8.** TP3 – Test 2 results

<b>Time</b>	<b>Percentage full</b>	<b>Duration (mins)</b>	<b>Duration (Seconds)</b>
10:50	100%	0	-
11:14	75%	24	1,440
11:48	50%	58	3,720
12:28	25%	98	5,880
12:40	0%	110	6,600

$$V_p = (75\% - 25\%) / 150$$

$$V_p = (5,880 - 1,440) / 150$$

$$\mathbf{V_p = 29.6 \text{ s/mm}}$$

**Table 9.** TP3 – Test 3 results

<b>Time</b>	<b>Percentage full</b>	<b>Duration (mins)</b>	<b>Duration (Seconds)</b>
13:00	100%	0	-
13:25	75%	25	1,500
14:02	50%	62	3,720
14:42	25%	102	6,150
15:06	0%	126	7,560

$$V_p = (75\% - 25\%) / 150$$

$$V_p = (6,150 - 1,500) / 150$$

$$\mathbf{V_p = 31.0 \text{ s/mm}}$$

**Table 10.** TP4 – Test 1 results

<b>Time</b>	<b>Percentage full</b>	<b>Duration (mins)</b>	<b>Duration (Seconds)</b>
09:02	100%	0	-
09:25	75%	23	1,380
09:58	50%	56	3,360
10:18	25%	76	4,560
10:39	0%	97	5,820

$$V_p = (75\% - 25\%) / 150$$

$$V_p = (4,560 - 1,380) / 150$$

$$V_p = 21.2 \text{ s/mm}$$

**Table 11.** TP4 – Test 2 results

<b>Time</b>	<b>Percentage full</b>	<b>Duration (mins)</b>	<b>Duration (Seconds)</b>
10:53	100%	0	-
11:18	75%	25	1,500
11:39	50%	46	3,720
12:00	25%	93	5,580
12:35	0%	102	6,600

$$V_p = (75\% - 25\%) / 150$$

$$V_p = (5,580 - 1,500) / 150$$

$$V_p = 27.2 \text{ s/mm}$$

**Table 12.** TP4 – Test 3 results

<b>Time</b>	<b>Percentage full</b>	<b>Duration (mins)</b>	<b>Duration (Seconds)</b>
13:03	100%	0	-
13:30	75%	27	1,620
14:00	50%	57	3,420
14:42	25%	99	5,940
15:07	0%	124	7,440

$$V_p = (75\% - 25\%) / 150$$

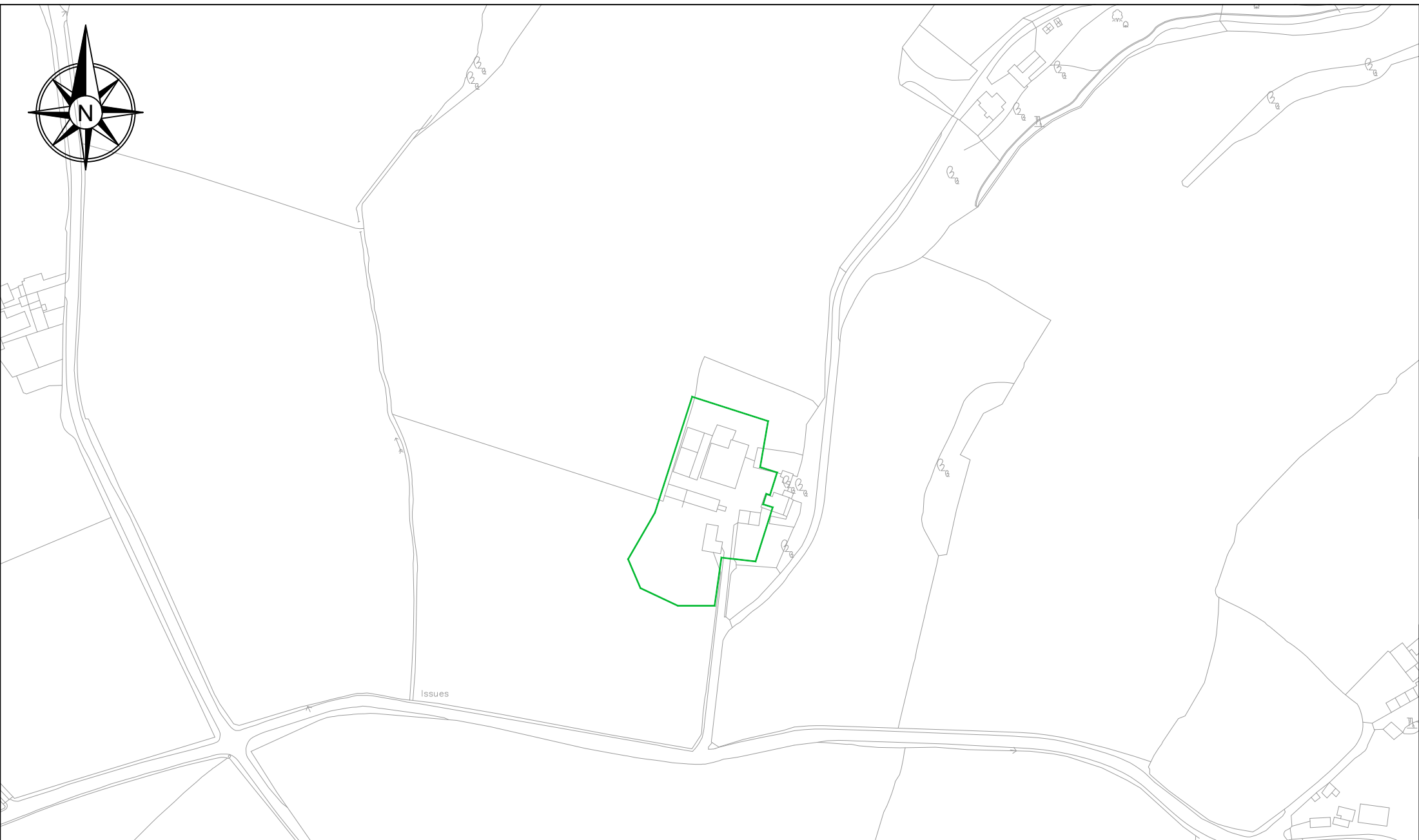
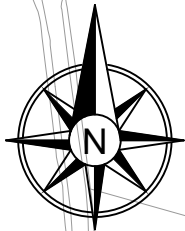
$$V_p = (5,940 - 1,620) / 150$$

$$\mathbf{V_p = 28.8 \text{ s/mm}}$$

# APPENDICES

# **APPENDIX A**

## **Site Location Plan**

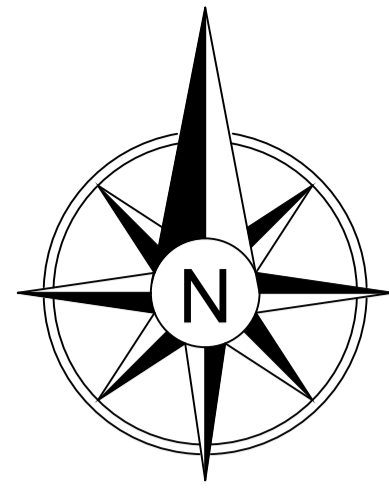


<b>GRID REFERENCE</b>	<b>SH49956 86794</b>	P01	28.04.2025	PRELIMINARY ISSUE	KB	BT	SCALE @ A3: 1:2,500	DESIGNED: BT	DRAWN: KB	CHECKED: KB	APPROVED: BT	DATE: APRIL 2025
		REV	DATE	DESCRIPTION	BY	APP						
<b>EASTING</b>	<b>249956</b>	<b>PROJECT: TYDDYN Y GWYNT, MOELFRE</b>										
<b>NORTHING</b>	<b>386794</b>	<b>TITLE: SITE LOCATION PLAN</b>										
<b>POSTCODE</b>	<b>LL72 8NN</b>	<b>STATUS: S2</b>	<b>PROJECT No: 511</b>	<b>DRAWING No: 001</b>								<b>REV: P01</b>


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# **APPENDIX B**

## **Trial Pit Location Plan**



**LEGEND**

 DENOTES SITE BOUNDARY

 TP1 DENOTES TRAIL PIT LOCATION.

P03	21.01.2025	VIEWPORT MOVED TO SHOW LOCATION OF TP4	KB	BT	BT
P02	07.01.2025	UPDATED TO REFLECT ADDITIONAL TESTING	KB	BT	BT
P01	28.04.2025	FIRST ISSUE	KB	BT	BT
REV	DATE	DESCRIPTION	BY	CHK	APP

DRAWING STATUS: **PRELIMINARY**

CLIENT: CAE'R BORTH PARTNERSHIP

ARCHITECT: MAREDUDD AB IESTYN RIBA

PROJECT: TYDDYN Y GWYNT, MOELFRE

TITLE: TRAIL PIT LOCATION PLAN

STATUS:	PROJECT No:		REV:
S2	511	002	P03

SCALE @ A1:	DESIGNED:	DRAWN:	CHECKED:	APPROVED:	DATE:
1:200	BT	KB	KB	BT	APRIL 2025

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# **APPENDIX C**

## **Trial Pit Logs**

## Trial Pit 1 (TP1)

0.000m – 0.400m	Topsoil: loses sandy, SILTY gravels medium to small sub rounded, dark brown in colour.
0.400m – 1.200m	Reddy brown, damp gravely CLAY. Gravels are medium sized rounded to sub-rounded.

### Comments

1. Trial pit dimensions: 1.300m (L) x 0.700m (W) x 1.200m (D)
2. No ground water was encountered within the trial pit.
3. Sides of trial pit where stable throughout.



## Trial Pit 2 (TP2)

0.000m – 0.400m Topsoil: loses sandy, SILTY gravels medium to small sub rounded, dark brown in colour.

0.400m – 1.500m Reddy brown, damp gravely CLAY. Gravels are medium sized rounded to sub-rounded.

### Comments

1. Trial pit dimensions: 1.700m (L) x 0.700m (W) x 1.500m (D)
2. No ground water was encountered within the trial pit.
3. Sides of trial pit where stable throughout.



## Trial Pit 3 (TP3)

0.000m – 0.400m	Topsoil: loses sandy, SILTY gravels medium to small sub rounded, dark brown in colour.
0.400m – 1.000m	Reddy brown, damp gravely CLAY. Gravels are medium sized rounded to sub-rounded.

### Comments

1. Trial pit dimensions: 1.100m (L) x 0.800m (W) x 1.000m (D)
2. 0.300m (L) x 0.300m (W) x 0.300m (D) cube excavated in base of trail hole from 0.70m bgl to 1.0m
3. A separate hole was dug to a depth of 2.2m and no ground water was encountered within the trail pit reference image 3.
4. Sides of trail pit where stable throughout.



**Image 1**



**Image 2**



**Image 3**

## Trial Pit 4 (TP4)

0.000m – 0.400m                      Topsoil: loses sandy, SILTY gravels medium to small sub rounded, dark brown in colour.

0.400m – 1.000m                      Reddy brown, damp gravely CLAY. Gravels are medium sized rounded to sub-rounded.

### Comments

1. Trial pit dimensions: 1.100m (L) x 0.800m (W) x 1.000m (D)
2. 0.300m (L) x 0.300m (W) x 0.300m (D) cube excavated in base of trail hole from 0.70m bgl to 1.0m
3. No ground water was encountered within the trial pit.
4. Sides of trail pit where stable throughout.

