



**Land at Greenmans Lane
Off Sodam Lane
Dauntsey
SN15 4HN**

51.532451, -2.006916

BRE 365 Soak-Away Test Report

**S25-148/365
April 2026**

Revision 2

Prepared by :

**Southwest Environmental Limited
80-83 Long Lane
London
EC1A 9ET**

On behalf of :

**Frank Lee
Purdy's Farm
Wood Lane
Braydon**



**Land at Greenmans Lane
Off Sodam Lane
Dauntsey
SN15 4HN**

51.532451, -2.006916

BRE 365 Soak-Away Test Report

**S25-148/365
April 2026**

Chapters and Appendices

1.0 Introduction

2.0 Site Geology

3.0 Site Works

4.0 Results

5.0 Certification

Appendix 1 Plans

Appendix 2 Calculations

Appendix 3 Photos

1.0 Introduction

This report was commissioned in order to provide infiltration data and soak-away design in line with BRE 365. Southwest Environmental Limited was commissioned by Frank Lee to undertake this report.

1.1 The Development

The proposed development is an equine area with barns and stables.

Address	Land at Greenmans Lane Off Sodam Lane Dauntsey
Postcode	SN15 4HN
Grid Ref	51.532451, -2.006916

A location plan is shown in **Appendix 1**.

1.2 Terms of Reference

This report has been prepared following BRE Digest 365.

2.0 Site Geology

Oxford Clay Formation - Mudstone. These sedimentary rocks are shallow-marine in origin. They are detrital, ranging from coarse- to fine-grained (locally with some carbonate content) forming interbedded sequences with beds of argillaceous limestone nodules. Dates back to the Jurassic period (Collovian to Oxfordian). Thickness ranges from 120 m to 240 m, depending on region.

There are several boreholes in the vicinity and we see from these records that ground water is just below surface at this location, with one borehole record being noted as 'dry' with no water level (BGS ID: 398032). The other two boreholes have the groundwater level recorded at 0.45m (BGS ID: 398033) and 0.45m (BGS ID: 398034). This would indicate that water levels on site are minimal, at a maximum 0.45m below ground level.

3.0 Site Works

Site works comprised of 3no. trial pits with 3 soak away tests conducted in each area. The positioning of these pits were sited in to match site layout, and as such should reflect proposals accurately.

Holes were dug using a mini excavator as this was the largest possible machine we could use owing to access constraints. It took around 3 hours to dig the trial hole, as the digging was fair

going. Care was taken to keep the sides vertical. This is important so as to be able to deduce an accurate volume, and pit internal surface area.

The location of the pits can be viewed on the location plan in **Appendix 1**. Trial pit dimensions can be seen on the calculation sheets in **Appendix 2**.

4.0 Results

For each area, calculations show that based on a 1 in 100 year rainfall event, allowing for a 50% increase in rainfall events owing to climate change, that a swale soakaway could provide adequate infiltration drainage for surface water from the proposed development:

- Area 1: 41.54m³
- Area 2: 69.45m³

Dimensions are listed in **Appendix 2**.

5.0 Certification

This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it. Reliance on this report is limited to one year from date of publishing.

The conclusions and recommendations given in this report are based on our understanding of the future plans for the site. If, however, the site is developed for a different use, then a different interpretation might be appropriate. This is a planning strategy report, designs will be required to be verified prior to producing construction drawings.

It necessarily relies on the co-operation of other organizations and the free availability of information and total access. No responsibility can, therefore, be accepted for conditions arising from information that was not available to the investigating team as a result of information being withheld or access being denied.

This planning document cannot be relied upon in the gauging of negative value impacts of surrounding property as a result of negative drainage impacts resulting from the proposed development.

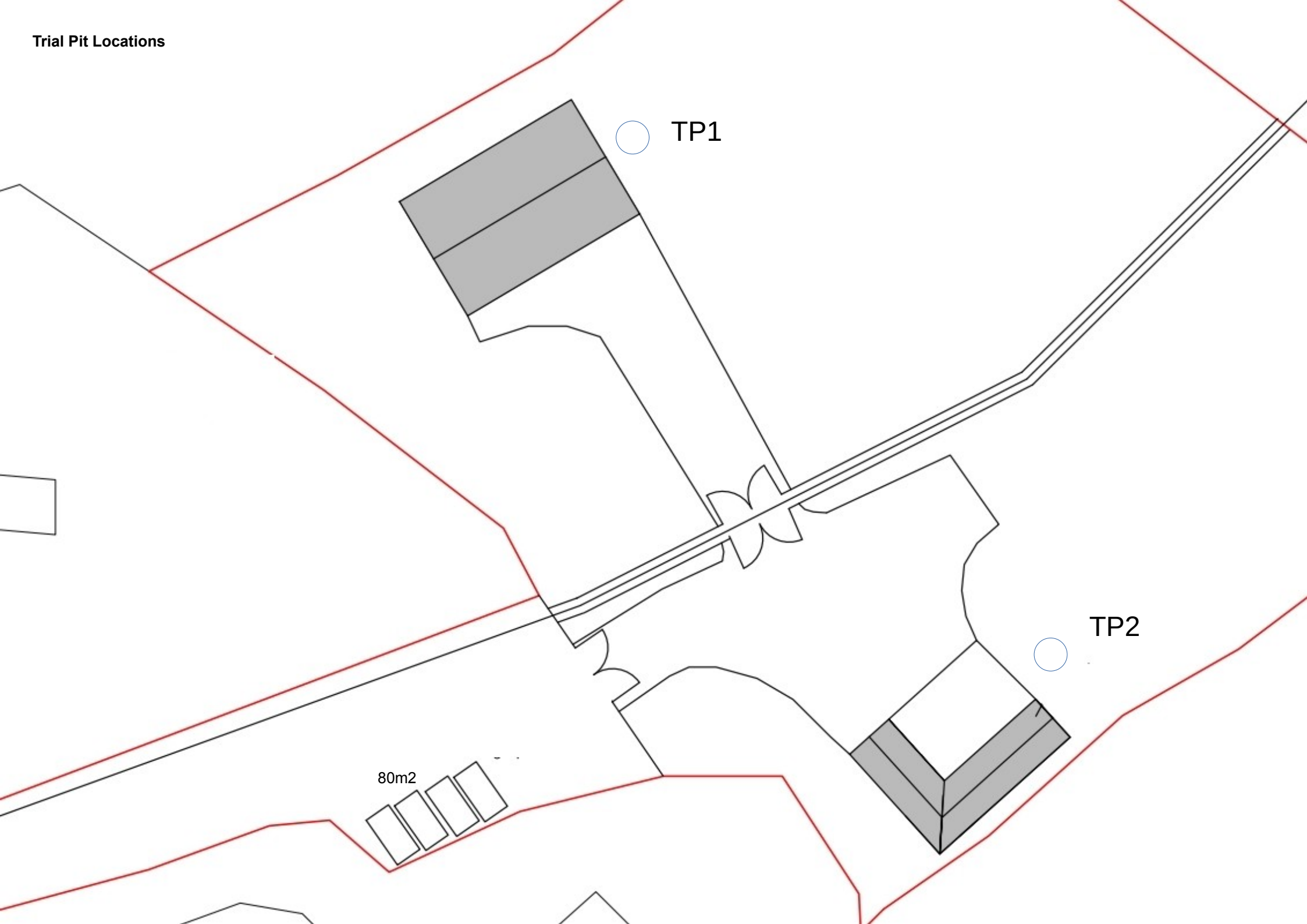
The scope of this assessment was discussed and agreed with the Client. No responsibility is accepted for conditions not encountered, which are outside of the agreed scope of work.



Appendix 1

Trial Pit Locations

Trial Pit Locations



TP1

TP2

80m2



Appendix 2

Calculations

**Southwest Environmental Limited**80-83 Long Lane
London
EC1A 9ET

Revision

Job No:

S25-148

Page:

C/01

Section:

Greenmans Lane - TP2

Prepared By:

WT

Date:

29/04/2026**SUMMARY OF CALCULATIONS**

critical design rainfall duration ' t_{crit} ' =	600	min
required storage volume ' V_{req} ' =	69.44	m ³
provided storage volume ' V_{prov} ' =	69.45	m ³
utilisation factor =	1.00	.OK
required time to discharge 50% ' t_{50} ' =	21.35	hours
utilisation factor =	0.89	.OK

[mm]:

[m]:

[mm]:

[m]:

GENERAL DATAsite location: **England and Wales**soakaway type: **infilled pit or trench**impermeable area drained to soakaway ' A ' [m²] = **850**60 min rainfall depth of 5 year return period ' R ' [mm] = **20**M5-60 to M5-2d rainfall ratio ' r ' = **0.42**allowance for climate change: **50%****SOAKAWAY DATA**soakaway width ' W ' [m] = **3.80**soakaway length ' L ' [m] = **8.60** t_{int} [mm] =total depth from ground level ' D_b ' [m] = **3.00**depth to drain invert level ' D_d ' [m] = **0.50**soakaway effective depth ' D_{eff} ' [m] = 2.50free volume in infill aggregate [%] = **85****SOIL INFILTRATION DATA**allowance for infiltration through soakaway base: **No**available on-site infiltration test results: ☒ Yes ☐ No

use soakage trial pit table below [m/s] =

internal surface area of trial pit ' a_{p50} ' [m²] = 2.44storage volume between 75-25% ' V_p ' [m³] = 0.29time for water to fall from 75-25% ' t_p ' [min] = 135.00soil infiltration rate ' f ' [m/s] = 1.46E-05**SOAKAGE TRIAL PIT DATA**soakage trial pit width ' W ' [m] = **0.40**soakage trial pit length ' L ' [m] = **1.60**total depth from ground level ' D_b ' [m] = **1.90**depth to pipe invert level ' D_{ip} ' [m] = **1.00**soakage trial pit effective depth ' D_{eff} ' [m] = 0.90free volume in infill aggregate [%] = **100**

NOTE: faces of excavation assumed to be vertical

REQUIRED STORAGE CAPACITY PER RAINFALL DURATION

rainfall duration [min]	rainfall factor Z1	M5-D rainfalls [mm]	M100-D			ignore			ignore			outflow from soakaway [m ³]	required storage [m ³]
			Z2	rainfalls [mm]	inflow [m ³]	Z2	rainfalls [mm]	inflow [m ³]	Z2	rainfalls [mm]	inflow [m ³]		
5	0.38	7.60	1.85	21.12	17.95							0.14	17.81
10	0.53	10.60	1.92	30.52	25.94							0.27	25.67
15	0.64	12.80	1.95	37.53	31.90							0.41	31.50
30	0.81	16.20	2.00	48.59	41.30							0.81	40.49
60	1.00	20.00	2.03	60.90	51.77							1.63	50.14
120	1.20	24.00	2.01	72.50	61.63							3.25	58.38
240	1.42	28.40	1.98	84.47	71.80							6.50	65.29
360	1.57	31.40	1.96	92.26	78.42							9.76	68.66
600	1.74	34.80	1.93	100.83	85.71							16.26	69.44
1440	2.16	43.20	1.86	120.81	102.69							39.03	63.66

* Z2 is a growth factor from M5 rainfalls

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N°:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	10	20	30	60	90	120	150	180	210	240	300	360						
	depth to water [m] =	1.10	1.12	1.12	1.13	1.15	1.17	1.17	1.18	1.20	1.22	1.23	1.24	1.28						
Soakage Trial 2	time [min] =	0	10	20	30	60	90	120	150	180	210	240	300	360						
	depth to water [m] =	1.11	1.12	1.12	1.13	1.14	1.16	1.18	1.18	1.19	1.22	1.22	1.25	1.27						
Soakage	time [min] =	0	10	20	30	60	90	120	150	180	210	240								



Appendix 3

Photos



Area 1 – Soakaway Test Trial Hole



Area 2 - Soakaway Test Trial Hole