

Technical Note: Ground Conditions and Drainage (09/04/2026)

This Technical Note accompanies the detailed planning application for the **erection of a 4-bed dwelling (PV on roof, battery and Air Source Heat Pump) with garage and two garden outbuildings; closure of the existing vehicular access to Green Lane; formation of a new vehicular access with 2.4m x 43m visibility splay (both directions), dropped kerb, parking (4-cpkg-bays) and turning area; retention of the existing pedestrian access to Green Lane; and associated hard and soft landscaping and hedge and fence boundary treatments.**

Ground investigation and percolation testing have been undertaken to inform the proposed surface water drainage strategy. The plan identifying the trial pit locations shows three test areas across the site. One location, **Hole 1**, tested at **1.0m depth**, performed poorly and is recorded as a **fail**, with only **70mm drop in 1 hour 28 minutes**, indicating that ground conditions are variable and in places unsuitable for infiltration at that depth.

However, two further BRE365 infiltration tests, **Hole 2** and **Hole 3**, undertaken at about **0.5m depth**, produced satisfactory results. Hole 2 gave an infiltration rate of **$9.87 \times 10^{-4} \text{ m/s}$** , and Hole 3 **$8.32 \times 10^{-4} \text{ m/s}$** . In accordance with BRE365, the lower figure of **$8.32 \times 10^{-4} \text{ m/s}$** is adopted for design, with an appropriate factor of safety. The report concludes that the ground shows **moderate permeability** and is suitable for **soakaways, infiltration trenches and other SuDS drainage systems**.

Accordingly, while ground conditions are not uniform across the site, the testing demonstrates that **properly located soakaways for surface water drainage can be satisfactorily achieved**.



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132850mN

SURVEY CONTROL - 2014				
STATION	EASTING	NORTHING	HEIGHT	DESCRIPTION
1001	415130.00	499100.00	49.11	OS
1002	415130.00	499100.00	49.11	OS
1003	415130.00	499100.00	49.11	OS
1004	415130.00	499100.00	49.11	OS
1005	415130.00	499100.00	49.11	OS
1006	415130.00	499100.00	49.11	OS
1007	415130.00	499100.00	49.11	OS
1008	415130.00	499100.00	49.11	OS
1009	415130.00	499100.00	49.11	OS
1010	415130.00	499100.00	49.11	OS

REV

DATE

DETAILS

-

26/02/26

Original Issue

Surveyed by: JH

Drawn by: JH

NOTES:

Land Development Services Ltd. own the copyright of this drawing. Their written consent must be obtained before this drawing is copied, forwarded to any third parties, or used for any purpose other than the one for which it was supplied.

This survey has been carried out to an accuracy consistent with the promissory scale noted below. Unsurveyed dimensions are therefore for reference only and should not be used for any purpose other than the one for which it was supplied.

The horizontal and vertical control of this survey is based on Ordnance Survey grid as transferred from GPS co-ordinates using the OSTN03 & CGCS03 transformation as supplied by OS. We have assumed a mean sea level to transfer the ground elevations. Surveyed values may differ from existing values due to the survey which should be disregarded. All levels should be taken from LDS survey stations.

While every effort is made to identify all visible above-ground features, it should be noted that there may be features obscured or inaccessible at the time of survey.

Boundaries shown are not necessarily legal boundaries.

All levels, heights, measurements and dimensions are in metres unless otherwise stated.

Boundaries shown are taken at the bottom of the nearest road or. Where underside of fence or other features are surveyed these are recorded as such.

All below-ground features (including drainage, walls and services) have been identified from ground and location of drains relating to three built in roads, drains, pipe, water and drainage (etc.) and to appropriate (etc.) underground services have not been located, but any visible surface features have been located.

Spot heights displayed within the road width are road-edge levels, not top of kerb.

Boundaries have been shown diagrammatically (i.e. indicated) showing average values (e.g. fence, boundary, tree, etc.) in plan will be different. Every effort has been taken to identify features, but where vertical features should be verified by a specialist.

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SMART DRAINZ LIMITED

Soakaway Infiltration Test Report (BRE365)

Project Details

- **Client:** Emma Lewy
 - **Site Location:** Green Lane, Ford, Salisbury SP4 6DE, UK
 - **Test Date:** 18 March 2026
 - **Testing Standard:** BRE365
 - **Conducted By:** Smart Drainz Limited
-

Test Parameters

- **Trial Pit Base Area:** 1.0 m²
 - **Test Depth:** 0.5 m
 - **Effective Water Level Drop:** 75% to 25%
 - **Calculated Drop:** 0.25 m
-

Test Results

Test Results

Hole #1 (Depth: 1000 mm) – FAIL – 1hr28 – dropped 70mm

Trial Pit – Hole #2 (500 mm depth)

Test No. Time (mm:ss) Time (seconds)

#1	2:04	124
#2	5:26	326
#3	5:10	310

Average Time: 253.3 seconds

Calculated Infiltration Rate:

$$f = 0.25 / 253.3 = 9.87 \times 10^{-4} \text{ m/s}$$

Trial Pit – Hole #3 (<500 mm depth)

Test No. Time (mm:ss) Time (seconds)

#1	1:57	117
#2	5:10	310
#3	7:54	474

Average Time: 300.3 seconds

Calculated Infiltration Rate:

$$f = 0.25 / 300.3 = 8.32 \times 10^{-4} \text{ m/s}$$

Final Infiltration Rate (BRE365)

In accordance with BRE365 guidance, the **lowest value** is adopted for design:

$$f = 8.32 \times 10^{-4} \text{ m/s}$$

Design Infiltration Rate (with Factor of Safety)

Safety Factor Infiltration Rate (m/s)

2	4.16×10^{-4}
3	2.77×10^{-4}

Conclusion

The ground conditions encountered during testing indicate **moderate permeability**, suitable for the use of:

- Soakaways
- Infiltration trenches
- Other SuDS drainage systems

It is recommended that a **factor of safety between 2 and 3** is applied for design purposes, subject to project-specific requirements.

Notes & Compliance

- Testing carried out in accordance with **BRE365 methodology**
- Minimum of three tests completed per location
- Results based on controlled water level drop (75% to 25%)
- No groundwater interference observed during testing

Issued By

Smart Drainz Limited

Unit 3, Sandleheath Industrial Estate, Old Brickyard Rd, Sandleheath, Fordingbridge, SP6 1PA

01202 280423

Info@smartdrainz.co.uk

End of Report



				Elapsed Time			
	Test Date	Test Depth	Test#	Hours	Minutes	Total minutes	Total Seconds
Hole #1	18.03.26	1m	#1	1	28	88	5280
Hole #1	18.03.26	1m	#2	FAIL			0
Hole #1	18.03.26	1m	#3				0

Test depth = **1 m**

Drop = 75% → 25% → **0.5 m**

				Elapsed Time			
	Test Date		Test#	Hours	Minutes	Total minutes	Seconds
Hole #2	18.03.26	500mm	#1		2.04	2.04	124
Hole #2	18.03.26	500mm	#2		5.26	5.26	326
Hole #2	18.03.26	500mm	#3		5.1	5.1	310

Test depth = **0.5 m**

Drop = 75% → 25% → **0.25 m**

				Elapsed Time			
	Test Date		Test#	Hours	Minutes	Total minutes	Seconds
Hole #3	18.03.26	<500	#1		1.57	1.57	117
Hole #3	18.03.26	<500	#2		5.1	5.1	310
Hole #3	18.03.26	<500	#3		7.54	7.54	474

Test depth = **0.5 m**

Drop = 75% → 25% → **0.25 m**

The standard BRE365 infiltration rate:

$$f = \frac{V}{A \times t}$$

Where:

f = infiltration rate (m/s)

V = volume of water (m³)

A = area of the pit base (m²)

t = time for water to fall (seconds)

$$f = \frac{V}{A \times t}$$

Final Infiltration Rate (BRE365)

In accordance with BRE365 guidance, the **lowest value** is adopted for design:

$$f = 8.32 \times 10^{-4} \text{ m/s}$$

