

Infiltration Test

BRE Digest 365



**STINGRAY ENVIRONMENTAL
ENGINEERING**
Protect Our Water

Reference Number: SEE-S486

Project: 6 Knocklyon Cottages, Knocklyon Road,
Dublin 16, D16K5C1, X312646, Y227437

Client: Louise Kelly & Niall Heavin

February 2023

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Introduction

This report is based on the findings of a soil infiltration tests examination as per BRE Digest 365, carried out by Stingray Environmental Engineering Ltd. on the 22nd of February 2023.

As required by South Dublin County Council, this report provides calculations for soil infiltration rate in line with test requirements of BRE365.

1. Site Specific Information

Information supplied by client /architect

- 📍 Site Address: **No.6 Knocklyon Cottages, Knocklyon Road, Dublin 16, D16K5C1, X312646, Y227437**
- 📍 Client: **Louise Kelly & Niall Heavin**

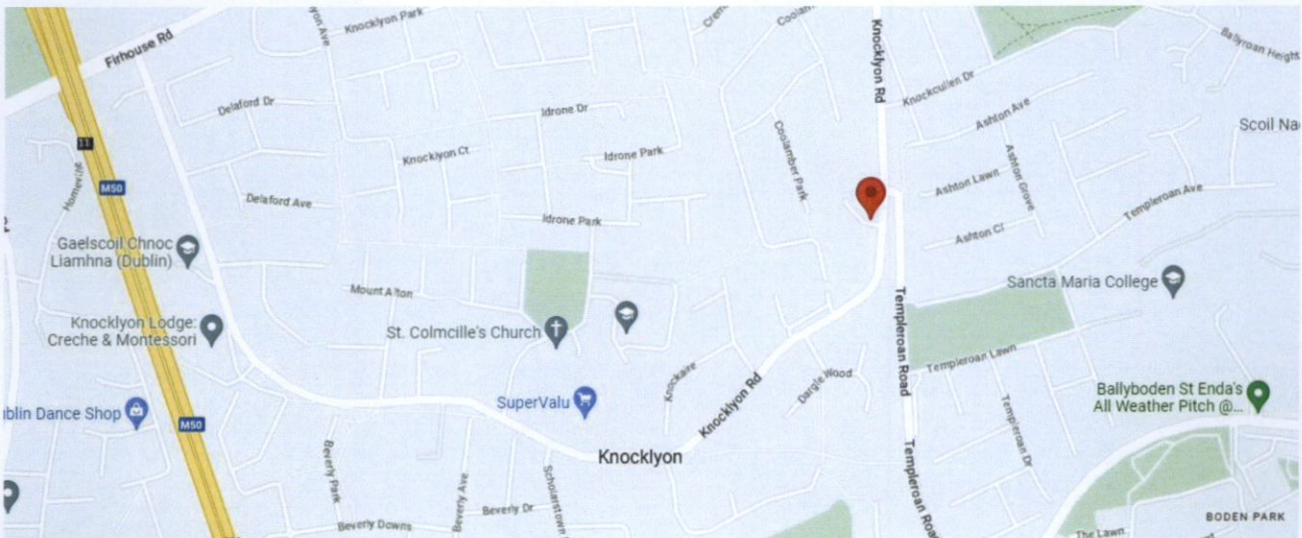


Fig 1. Site Location: D16K5C1

2. Infiltration Test BRE Digest 365

- 📍 Dimensions of the infiltration test pit: **L 1200mm x W 300mm x D 1300mm**
- 📍 Effective Depth adopted: **1000mm BCL.**

Soil Infiltration rate calculated as per BRE365 soakaway test:

INFILTRATION TEST PIT A:

$$\text{📍 } f = V_{75-25} / (a_{50} * t_{75-25}) = 1.46628E-05 = \underline{\underline{0.000015\text{m/sec}}}$$

where:

$$\text{📍 } V_{75-25} = 1200\text{mm} * 300\text{mm} * 500\text{mm} = 0.18\text{m}^3$$

$$\text{A}_{50 \text{ base}} = (2 * 1200\text{mm} * 500\text{mm}) + (2 * 300\text{mm} * 500\text{mm}) + (1 * 1200\text{mm} * 300\text{mm}) = 1.86\text{m}^2$$

$$\text{Fill 1 } t_{75-25} = 80\text{min} = 4800\text{sec}$$

$$\text{Fill 2 } t_{75-25} = 95\text{min} = 5700\text{sec}$$

$$\text{Fill 3 } t_{75-25} = 110\text{min} = 6600\text{sec}$$

| | Date | T ₇₅ =ED-250mm | T ₂₅ =ED-750mm | T ₇₅₋₂₅ [min] |
|--------|------------|---------------------------|---------------------------|--------------------------|
| Fill 1 | 22/02/2023 | 10:00 | 11:20 | 80 |
| Fill 2 | 22/02/2023 | 11:30 | 13:05 | 95 |
| Fill 3 | 22/02/2023 | 13:10 | 15:00 | 110 |



Fig 2. Infiltration test hole location



Fig 3. Site View North



Fig 4. Site View South



Fig 5. Site View West



Fig 6. Site View East



Fig 7. Infiltration test location 22-02-2023



Fig 8. Infiltration test 22-02-2023



Fig 9. Infiltration test 22-02-2023



Fig 10. Infiltration test 22-02-2023

3. Trial Pit

✚ Dimensions of the Trial Pit: **L 1200mm x W 300mm x D 1500mm**

The main findings of the trial pit examination were as follows:

- Groundwater was not-encountered on-site at a depth of 1500mm below ground level.
- Bedrock was not-encountered on-site at a depth of 1500mm below ground level.
- Vulnerability Rating Low which would normally indicate bedrock in the area at the depth > 3m BCL.

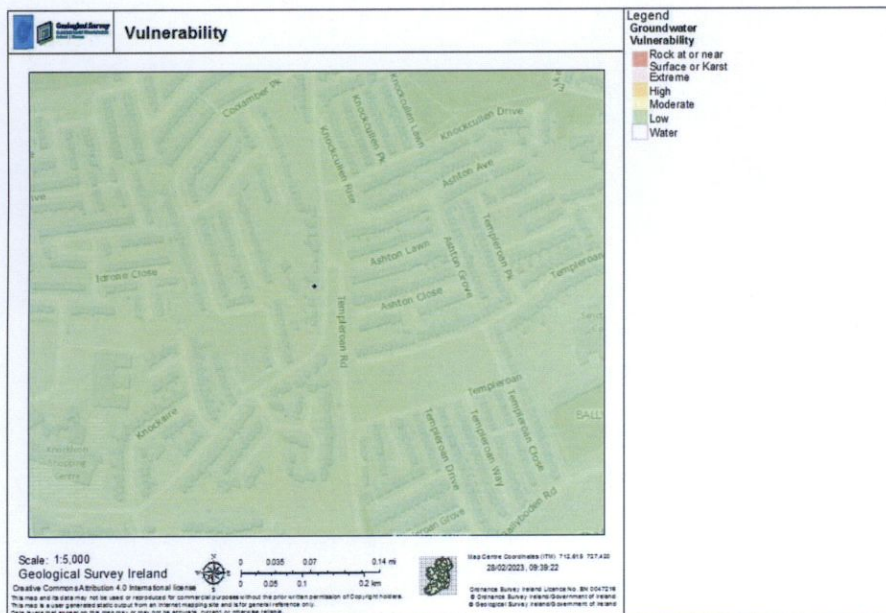


Fig 11. Vulnerability Low



Fig 12. Trial Pit 22-02-2023

Signed: *Waldemar Debowski* Date: 27 February 2023

Qualifications: B.Eng. P.Grad.Dips. FETAC Cert MIEI MIAH



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