

Ref: C3424

David Simpson & Phil Marshall

18th December 2024**Re: Old Park Lodge, Warninglid– Soakaway Testing – Infiltration Test Result Summary**

The following investigation was carried out at the above location in accordance with our quotation.

1. Site Works

The aim of this investigation is to provide soakaway test data in accordance with the guidance outlined in BRE Document 365 (Soakaway Design). The test was conducted at a location corresponding to the proposed locations for potential infiltration devices.

The accompanying drawing shows the location of the test pit. The BRE365 pit was excavated to a depth of 0.9m, consistent with the anticipated depth of a possible infiltration feature.

The testing commenced on 5th December 2024 with three tests being undertaken in accordance with BRE 365.

2. BRE 365 Soakaway Test Findings

The SAT 1 test, was conducted on subsoils identified as very thick clay, and yielded a BRE 365 design infiltration rate of 1.00×10^{-6} m/s. This was the slowest rate of among the three tests performed. The infiltration rate confirmed poor infiltration characteristics.

3. BRE 365 Soakaway Test Results

Test Pit No	Infiltration Rate (1-3 Tests)			Depth of Test	Soil Type
SAT1	1.78×10^{-6} m/s	1.57×10^{-6} m/s	1.00×10^{-6} m/s	0.9m	Very thick clay

Appendix A – Soakaway Test Location Plan





Consulting Civil Engineers

Appendix B – Site Photographs

Old Park Lodge, Warninglid- Infiltration Test Photographs



Old Park Lodge, Warninglid- Infiltration Test Photographs



Old Park Lodge, Warninglid- Infiltration Test Photographs





Consulting Civil Engineers

Appendix C – Soakaway Test Results

SAT1

Job: Old Park Lodge, Warringlid - Test 1

Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25} = Effective storage volume between 75% and 25% effective depth

a_{p50} = Internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = The time for the water level to fall from 75% to 25% effective depth

f = Infiltration rate

Trial pit width	=	0.3
Trial pit depth	=	0.9
Trial pit length	=	1

a_{p50} = 1.47 m/squared

t_{p75-25} = 51650 seconds

V_{p75-25} = 0.135 m/cubed

F =

1.78E-06

Job: Old Park Lodge, Warrnglid - Test 2

Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25} = Effective storage volume between 75% and 25% effective depth

a_{p50} = Internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = The time for the water level to fall from 75% to 25% effective depth

f = Infiltration rate

Trial pit width	=	0.3
Trial pit depth	=	0.9
Trial pit length	=	1

a_{p50} = 1.47 m/squared

t_{p75-25} = 58650 seconds

V_{p75-25} = 0.135 m/cubed

F =

1.57E-06

Job: Old Park Lodge, Warringlid - Test 3

Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25} = Effective storage volume between 75% and 25% effective depth

a_{p50} = Internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = The time for the water level to fall from 75% to 25% effective depth

f = Infiltration rate

Trial pit width	=	0.3
Trial pit depth	=	0.9
Trial pit length	=	1

a_{p50} =

1.47

 m/squared

t_{p75-25} =

91700

 seconds

V_{p75-25} =

0.135

 m/cubed

F =

1E-06