

PERCOLATION REPORT

LOCATION:

Dale Bank, Huddersfield

CLIENT:

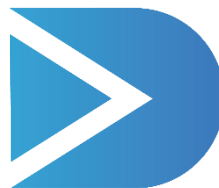
South Street Asset Management

DOCUMENT REF:

24070-PR-001

DATE:

22nd February 2024



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Revision	Description	Date	Author	Checked
A	First Issue	February 2024	E Craig	A Dyson

TESTING REPORT

1.0 TESTING REPORT

The Percolation Testing was carried out on site on 22nd February 2024 to establish if infiltration methods were going to be a suitable solution for draining the site.

1 Trial Hole was formed with the following dimensions and location shown below;

Test Pit 1 1500mm x 800mm x 1550mm

The water level drop was monitored and recorded (see test sheets attached).

TEST PIT 1:

For Test 1 (Test Pit 1), water was filled to a depth of 650mm, the water level dropped 650mm after 6 minutes of testing.

For Test 2 (Test Pit 1), water was filled to a depth of 640mm, the water level dropped 640mm after 9 minutes of testing.

For Test 3 (Test Pit 1), water was filled to a depth of 630mm, the water level dropped 630mm after 13 minutes of testing.

Calculation sheet 1 shows that the infiltration rates are high enough and do satisfy BRE 365 requirements. Therefore, Infiltration methods of drainage will be viable for this site and strategy.

Test 3 is the worst case result so will be used to calculate the required infiltration rate.

APPENDICES

Appendix A – Percolation Test Sheet METHOD (from BRE Digest 365)

- Excavate a soakage trail pit to the required depth (typically 1.0m - 2.0m deep) using minimum width (0.3m) and length (1.0m). Carefully trim sides and bottom.
- Carefully measure size of pit and note sizes below.
- Fill soakage hole briskly with water (from bowser) to at least three quarters full. Being careful not to wash away the sides. (Note: a 0.3m wide, 1m long, 1.5m deep trench needs at least 350 litres (80 gallons) of water)
- Place straight edge over top of soakage pit and measure (dip) to the top of the water.
- Record time versus dips in table below. Dip every 5 minutes for the first hour and every hour until pit is one quarter full. Repeat test 3 times in total on the same or consecutive days.

DETAILS

Site Location	Dale Bank, Huddersfield HD8 0PR
Date of Test	22/02/24
Weather Conditions	Dry - Winter
Engineer Name	Ed Craig

SIZE OF PIT 1

Length	Width	Depth
1.5m	0.8m	1.55m

Test 1 RESULTS

Time (mins)	Dip (mm)
0	650
5	130
6	0

Test 2 RESULTS

Time (mins)	Dip (mm)
0	640
5	220
9	0

Appendix A

Percolation Test Sheet Pit 1

**Test 3
RESULTS**

Time (mins)	Dip (mm)
0	630
5	350
10	110
13	0

TEST PIT 1:





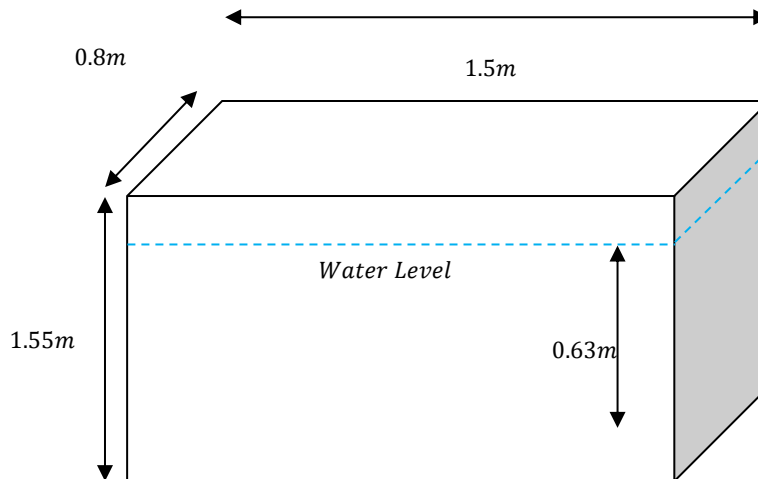
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TEST PIT LOCATION:



Project				Job Ref.	
DALE BANK, HUDDERSFIELD				24070	
Section				Sheet no./rev.	
Calc. by	Date	Chk'd by	Date	App'd by	Date
EC	FEB 24	AD	FEB 24		

Test 3,
Test Pit 1)



Soil Infiltration rate(ms^{-1}):
$$\frac{V_{(P75-25)}}{t_{(P75-25)} \times a_{(P50)}}$$

V = Effective storage volume between 75 – 25%

$a_{(P50)}$ = Surface area of the pit (50% effective depth) + box area

$t_{(P75-25)}$ = Time for water to fall from 75 – 25%

$$V_{(p75-25)} = (0.63 \times 0.5) \times 1.5 \times 0.8 = 0.378m^3$$

$$a_{(p50)} = 1.5 \times 0.8 + 2((0.63 \times 0.5) \times 1.5) + 2((0.63 \times 0.5) \times 0.8) = 2.177m^2$$

$$t_{(p75-25)} = 780s$$

Soil Infiltration rate (m/s):

$$\frac{0.378}{780 \times 2.177} = 2.23 \times 10^{-4}m/s$$

Soil Infiltration rate (m/hr):

$$2.23 \times 10^{-4} \times 3600 = 0.801 m/hr$$