




Drainage Strategy - Scale (1:250)



Proposed Impermeable Area Plan = 3000m² - Scale (1:150)

Key

-  Proposed Surface Water Drainage
-  Proposed Foul Water Drainage
-  Existing Private Combined

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Notes:

1. This drawing is to be read in conjunction with all relevant architect's and engineer's drawings.
2. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Drainage Strategy

The site is located within flood zone 1 with a low risk of flooding from rivers or the sea and is less than 1 hectare, therefore a site specific flood risk assessment should not be required.

The site is currently Greenfield

Under SuDs guidance the first point of discharge for surface water is percolation via soakaway. Site percolation testing was carried out 6th October 2021, and is proven that soakaways via infiltration is not viable. Please refer to Topping Engineers percolation report.

The second point of discharge is via watercourse but there are none within the vicinity of site

NPPF guidelines require that surface water arising from a developed site should as far as practicable be managed in a sustainable manner to mimic the surface water flows arising from the site prior to development.

Surface Water:

The existing site is a grassed field and overflow car park

The proposed impermeable area is 3000m².

We are proposing to discharge to the combined sewer onsite at a discharge rate of 2.5l/s this is the minimum flow rate to prevent blockages of the hydro brake manhole.

Based on a discharge rate of 2.5l/s restricted by HydroBrake MD-SHE-0072-2500-1400-2500 and an impermeable area of 3000m² the attenuation required for the peak return period of 1 in 100 year plus 30% climate change is **180m³**.


This will be achieved by Storage Crates measuring

$30 \times 5 \times 1.2\text{m} = 180\text{m}^3$

Foul Water:

The foul water is proposed to connect unrestricted to the existing sewer on site

NYMNP
26/10/2021

No.	Revision	Date	Drwn
Status: Preliminary			
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Client: J.HUDSON			
Project: COOK BAY STAITHES			
Drawing title: Drainage Strategy			
Drawn: RT	Chkd: AD	Date: 12.10.21	Scale: As Shown @ A1
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**TOPPING
ENGINEERS**

CONSULTING CIVIL &
STRUCTURAL ENGINEERS

PERCOLATION TESTING REPORT

LOCATION:

Cooks Bay, Staithes

CLIENT: J.HUDSON

DOCUMENT REF:
21619-PTR-001

REVISION/DATE:
Revision A

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NYMNPA

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Revision	Description	Date	Author	Checked
A	First Issue	October	R Thacker	A Dyson

1.0 TESTING REPORT

The Percolation Testing was carried out on site on 6th October 2021 to establish if infiltration methods were going to be a suitable solution for draining the site.

2 Trial Holes were formed with the following dimensions.

Test Pit 1	1900mm x 600mm x 1300mm deep
Test Pit 2	1900mm x 600mm x 1200mm deep

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

For Test 1 (Test Pit 1), water was filled to a depth of 600mm, after one and a half hours of testing the water level dropped 10mm.

For Test 1 (Test Pit 2), water was filled to a depth of 550mm, after one and a half hours hour of testing the water level dropped 20mm.

Test sheet 1 shows that the infiltration rates are not high enough and do not satisfy BRE 365 requirements. Therefore, Infiltration methods of drainage will not be viable for this site and strategy.

2.0 APPENDICES

Appendix A – Percolation Test Sheet

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	Cooks Bay, Staithe
Date of Test	15.10.21
Weather Conditions	Autumn - Windy
Engineer Name	Rob Thacker

SIZE OF PIT – Test Pit 1 Length	Width	Depth
1.9m	0.6m	1.3m

RESULTS

Time (mins)	Dip (mm)
0	600
5	600
10	595
15	595
20	595
25	595
30	595
35	595
40	595
45	590
50	590
55	590
60	590
75	590
90	590

SIZE OF PIT – Test Pit 2

Length	Width	Depth
1.9m	0.6m	1.2m

RESULTS

Time (mins)	Dip (mm)
0	550
5	545
10	545
15	545
20	540
25	540
30	540
35	540
40	535
45	535
50	530
55	530
60	530
75	530
90	530

3.0 APPENDICES

Appendix B – Percolation Test Pictures





4.0 APPENDICES

Appendix C – Test Location

