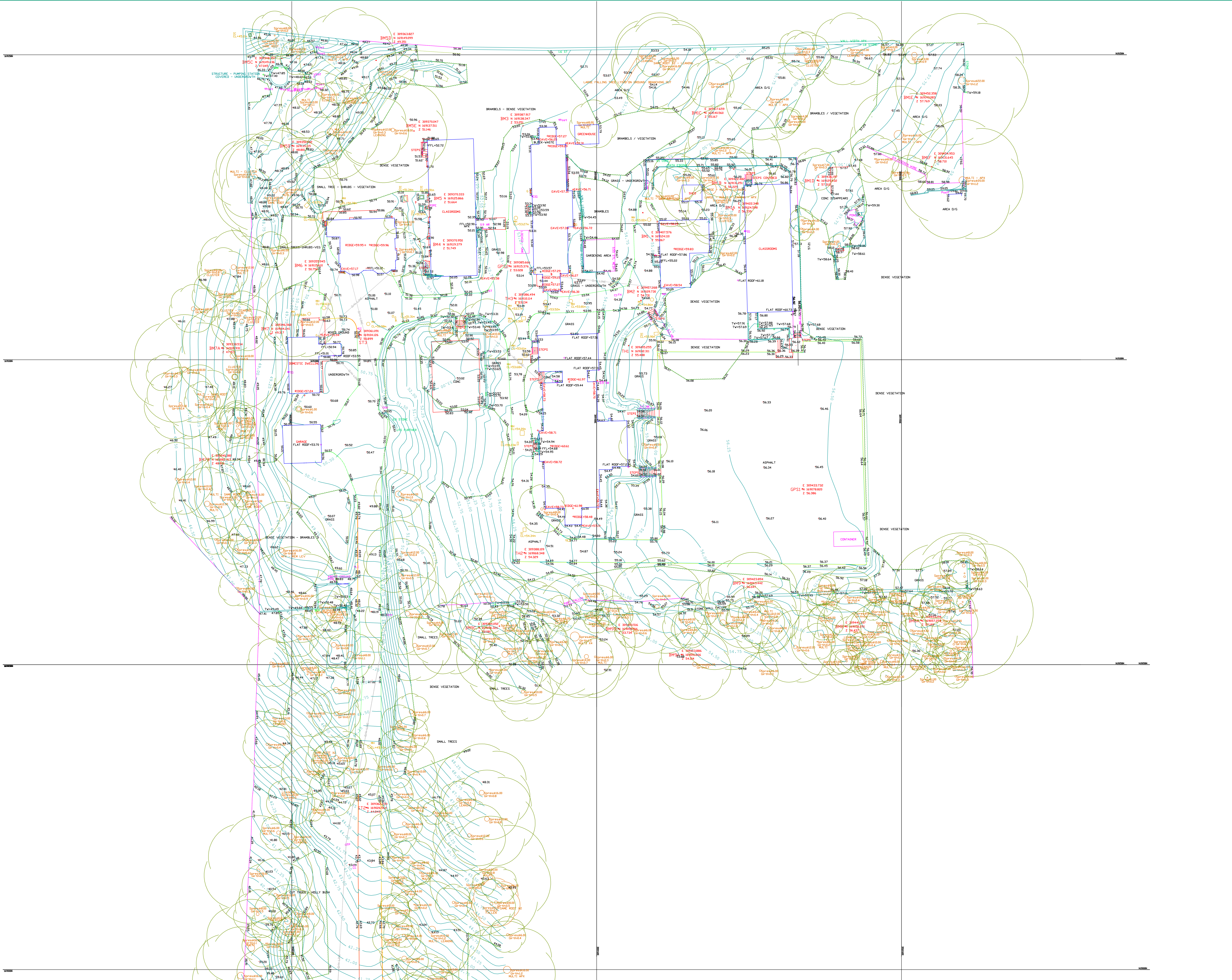


Appendix B Topographical Survey



Rev	Amendments	Date	By

Do not scale this drawing
This drawing is copyright.

NOTES:
1. SITE GRID AND LEVELS ARE BASED UPON
ORDNANCE SURVEY VIA THE ACTIVE GPS
NETWORK.

KEY:

	BOTTOM OF BANK		BENCH MARK
	CABLE		BOUNDARY
	FENCE		DRAINAGE GULLY
	GAS MAINS		DRAINAGE PIPE
	CABLE TV		DRAINAGE CHANNEL
	DRAINAGE LINE		DRAINAGE POND
	GAS VALVE		DRAINAGE COLUMN
	DRAINAGE PIPE		DRAINAGE METER
	DRAINAGE PIPE		DRAINAGE VALVE
	DRAINAGE PIPE		DRAINAGE STOP
	DRAINAGE PIPE		DRAINAGE STOP
	DRAINAGE PIPE		DRAINAGE STOP

Alpha Land Surveyors Ltd.
Tower Business Centre,
Hirwaun Industrial Estate,
Aberystwyth,
Ceredigion, SA71 3BP
Tel: 01598 814544
Mob: 07980 454208
j.prior@alpsurveyors.co.uk

CLIENT:
LITCHFIELDS

PROJECT:
TOPOGRAPHICAL SURVEY AT
CARDIFF & VALE COLLEGE CAMPUS,
WEYCOCK CROSS,
WENVOE.

Surveyed by BM Date 26/04/2022
Drawn BM Date 29/04/2022
Scale 1:200@A0 Checked TC
Project Reference No. ALS4496
Drawing Number LFWC/01

Rev	Amendments	Date	By

Do not scale this drawing
This drawing is copyright.

NOTES:
1. SITE GRID AND LEVELS ARE BASED UPON
ORDNANCE SURVEY VIA THE ACTIVE GPS
NETWORK.



KEY

BOTTOM OF BANK	TOP OF BANK	BENCH MARK
CAB	CORNER	SURVEY STATION
TREE	POINT OF SALE	TREE MARK
P/N	GRILL	POINT OF ROAD
BT	GRILL	POINT OF ROAD
CATV	GRILL	POINT OF ROAD
LEG	GRILL	POINT OF ROAD
G.V.	GRILL	POINT OF ROAD
LEG	GRILL	POINT OF ROAD
LEG	GRILL	POINT OF ROAD

North arrow
 Alpha Land Surveyors Ltd.
 Tower Business Centre,
 Hiveson Industrial Estate,
 Hiveson,
 Aberystwyth,
 Ceredigion.
 Tel: 01985 814544
 Mob: 07980 454208
 j.lorinc@alpha-land-surveyors.co.uk

CLIENT:
LITCHFIELDS

PROJECT:
**TOPOGRAPHICAL SURVEY AT
CARDIFF & VALE COLLEGE CAMPUS,
WEYCOCK CROSS,
WENVOE.**

Surveyed by BM	Date	26/04/2022
Drawn BM	Date	29/04/2022
Scale 1:200@A0	Checked	TC
Project Reference No. ALS/4496		
Drawing Number	LFWC/02	



Appendix C Soakaway Investigation

Our Ref: MP/17992/Let1

Your Ref: 17992-V1

Contact: Morgan Peregrine

28th September 2023

SLR Consulting Ltd
3rd Floor, Brew House, Jacob Street,
Bristol
United Kingdom
BS2 0EQ

For the attn. of Nick Bosanko

Dear Nick

DRAFT SITE INVESTIGATION: Land off Weycock Road, (A4226), Barry, CF62 3AA.

We confirm that the required investigation has been completed at the above site and report the following:

1.0 Introduction

TFW Group Limited (Terra Firma) were commissioned by SLR Consulting Limited (The Client) to undertake an exploratory investigation of the geotechnical properties of the ground beneath their property at land off Weycock Road, (A4226), Barry, CF62 3AA.

It is understood that the development proposal is to build seven residential buildings on the site.

The main objectives of the geotechnical site investigation were to:

- Investigate the permeability characteristics of the shallow superficial and underlying solid geology

In order to achieve the above objectives, Terra Firma carried out a field investigation to determine the prevailing ground conditions and also to collect and analyse soil samples from selected locations around the site.

The annotated site layout is presented on **Drawing 01**.

1.1 Limitations

The exploratory investigation was conducted, and this report has been prepared for the sole internal reliance of the client and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Terra Firma. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill.

The report represents the findings and opinions of experienced geotechnical consultants. Terra Firma does not provide legal advice and the advice of lawyers may also be required.

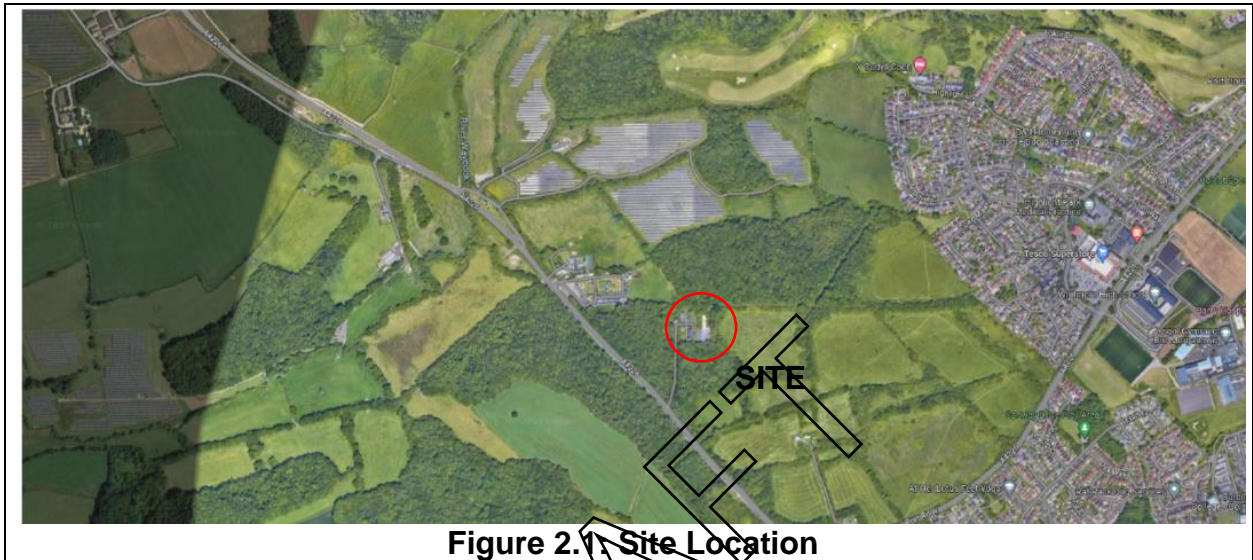
The subsurface geological profiles are generalised by necessity and have been based on the information found at the location of the exploratory holes and depths tested.

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2.0 Site Summary

2.1 Site Description

The site is located at land off Weycock Road, (A4226), Barry, CF62 3AA and is approximately centralised at a National Grid Reference of 309388, 169101. The location of the site is shown in **Figure 2.1** below. One residential property on site is currently occupied.



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3.0 Geology

The 1:50,000 scale (Sheet 263 Cardiff) geological map of the area shows the site to be underlain by rocks of the Lavernock Member and Porthkerry Member of the Blue Lias Formation. These rocks of the Early Triassic are thinly interbedded limestone (laminated, nodular, or massive and persistent) and calcareous mudstone or siltstone (locally laminated). Individual limestones are typically 0.10-0.30m thick and in some areas, intervening mudstone units have relatively few limestone beds.

The 1:10,000 Solid and Drift map (Sheet St06NE) shows local geology appears to dip at approximately 13° to the north. Several faults are located within the local area, in particular an east to west orientated fault located approximately 100m south of the site.

No superficial deposits are recorded on site, however bedrock of the Lavernock and Porthkerry Members are likely to weather into a residual soil at the near surface.

Some made ground of unknown depth is also anticipated at the site.

4.0 Site Works

The site works were undertaken on the 31st September 2023 and comprised the excavation of 2No. trial pits and 2No. soakaway infiltration tests.

Trial pits referenced TP01 to TP02, were formed using a 5-tonne tracked excavator with a 0.70m wide bucket.

On completion all trial pits were backfilled with materials arising compacted in layers using the excavator bucket. The ground surface was reinstated.

The trial pit logs are presented in **Annex A**.

Soakaway tests were carried out in trial pits TP01 and TP02 in general accordance with BRE DG 365:2016. The excavation sides were squared using the excavator bucket and dimensions recorded within the test section. The trial pit was partially filled with clean water using a dedicated bowser with a 75mm diameter outlet and the fall in level recorded against time. The results are presented in **Annex A**.

4.1 Ground Conditions

The ground conditions encountered by the exploratory holes can in general be summarised as shown in **Table 3.1**.

Table 3.1 Summary of Typical Ground Conditions – Behind Wall

Depth (m)			Thickness (m)	Stratum
0.00	-	0.2-0.3m	0.2-0.3	Brown organic rich slightly clayey SAND AND GRAVEL . Gravel is fine to coarse sub angular to sub rounded of sandstone and flint. Sand is fine to coarse.
0.2-0.3	-	>1.50m	>1.2-1.3	Stiff grey mottled brown gravelly slightly sandy CLAY with moderate cobble content. Cobbles and gravels are fine to coarse sub angular to sub rounded of sandstone. Sand is fine to coarse.

4.2 Groundwater

Groundwater inflows were not encountered in any of the trial pits.

4.3 Obstructions and Stability

All exploratory locations were stable during excavation and during the soakaway tests, and no obstructions were encountered.

5.0 Soil Property Testing

5.1 In-situ Permeability Testing

During the site investigation two trial pit soakaway tests were undertaken in TP01 and TP02 and carried out in general accordance with BRE DG 365:2016.

Soakaway test results are summarised in **Table 6.1**.

Table 6.1 Summary of Soakaway Results

Trial Pit	Depth Range of Test (m)	Infiltration Rate (ms ⁻¹)
TP01	1.0-1.5	Insufficient infiltration rate
TP02	1.0-1.5	Insufficient infiltration rate

The test results are discussed in **SECTION 5.4** and the calculation sheets may be found in **Annex B**.

6.0 Engineering Recommendations

6.1 Storm Water Drainage

During the site investigation two soakaway test was undertaken in general accordance with BRE DG 365:2016. The soakaway test was carried out in trial pit TP01 and TP02 within natural materials.

The soakaway test recorded insufficient infiltration and was subsequently terminated early. It is considered that soakaway drainage is unsuitable at the locations and depths tested.

We trust that the above is to your satisfaction, however, should you have any queries or require any further information please do not hesitate to contact us.

Yours sincerely

For: TFW Group Ltd



Mr Morgan Peregrine

Enc.

Annex A – Exploratory Hole Logs

Annex B – Soakaway Results

Drawing 01 – Exploratory Hole Locations

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**ANNEX A
Exploratory Hole Logs**

Trial Pit Log

Trial Pit No:
 TP01
 Sheet 1 of 1

Project Name: Weycock Cross

Project No:
 17992

Co-ords: -
 Level:


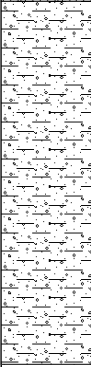
Date:
 31/08/2023

Location: Land off Waycock Road, (A4226), Barry, CF62 3AA

Dimensions:
 Depth 1.50
 0.70 1.50

Scale:
 1:25
 Logged:
 MP

Client: SLR Consulting Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.30			Brown organic rich slightly clayey SAND AND GRAVEL. Gravel is fine to coarse sub angular to sub rounded of sandstone and flint. Sand is fine to coarse.
				1.50			Stiff grey mottled brown gravelly slightly sandy CLAY with moderate cobble content. Cobbles and gravels are fine to coarse sub angular to sub rounded of sandstone. Sand is fine to coarse.
							End of Pit at 1.500m

DRAFT

Stability: Stable

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated to perform infiltration test. 4] Trial pit backfilled with arisings on completion of test.

Trial Pit Log

Trial Pit No:
 TP02
 Sheet 1 of 1

Project Name: Weycock Cross

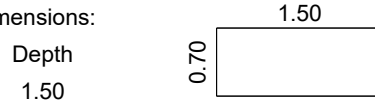
Project No:
 17992

Co-ords: -
 Level:

Date:
 31/08/2023

Location: Land off Waycock Road, (A4226), Barry, CF62 3AA

Dimensions:


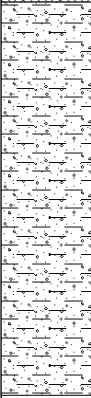


Scale:

1:25

Logged:
 MP

Client: SLR Consulting Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			Brown organic rich slightly clayey SAND AND GRAVEL. Gravel is fine to coarse sub angular to sub rounded of sandstone and flint. Sand is fine to coarse.
				1.50			Stiff grey mottled brown gravelly slightly sandy CLAY with moderate cobble content. Cobbles and gravels are fine to coarse sub angular to sub rounded of sandstone. Sand is fine to coarse.
							End of Pit at 1.500m

DRAFT

Stability: Stable

Remarks: 1] Consistency, strength and density indicators are based upon field judgement. 2] Density indicator is in brackets and is for guidance only, and is not in accordance with BS 5930:2015. 3] Trial pit terminated to perform infiltration test. 4] Trial pit backfilled with arisings on completion of test.

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ANNEX B
Soakaway Results

SOAKAWAY TEST



Site Name: Weycock Cross
Project Number: 17992
Date: 31.08.2023
Engineer: MP

TrialPit: TP01

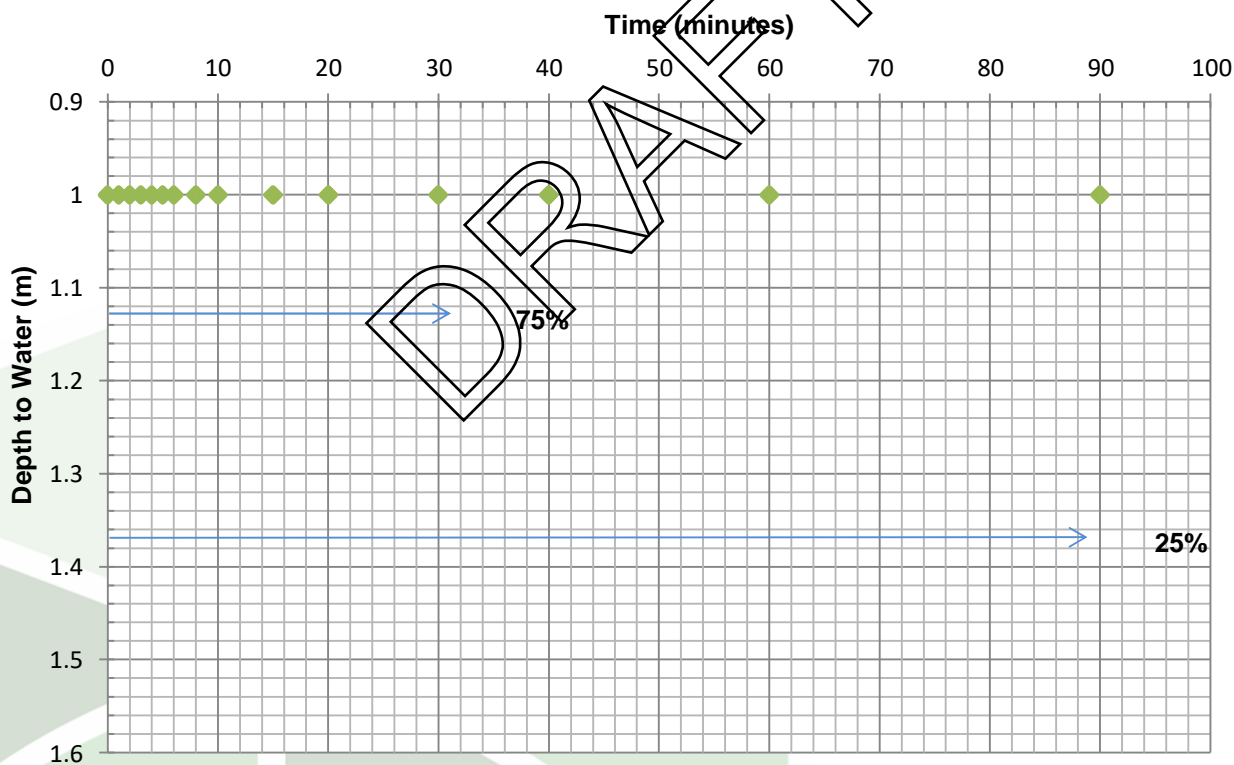
TEST 1

Length	1.50 m
Width	0.50 m
Depth	1.50 m
Fill Level	1.00

V_{p75-25} 0.049 m³
 a_{p50} 0.589 m²
 t_{p75-25} 0 minutes

Soil Infiltration Rate, f

insufficient flow to calculate infiltration rate



REMARKS:

Insufficient infiltration observed, test cancelled.

SOAKAWAY TEST



Site Name: Weycock Cross
Project Number: 17992
Date: 31.08.2023
Engineer: MP

TrialPit: TP02

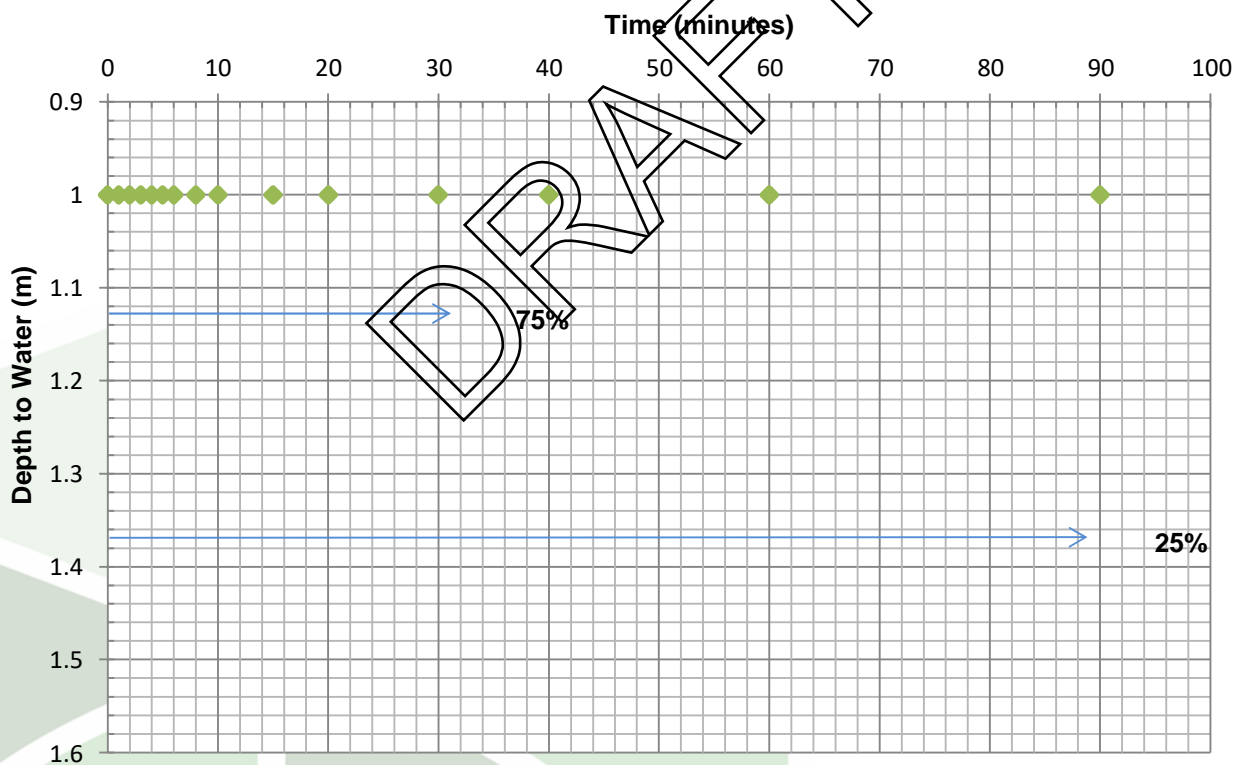
TEST 1

Length	1.50 m
Width	0.50 m
Depth	1.50 m
Fill Level	1.00

V_{p75-25} 0.049 m³
 a_{p50} 0.589 m²
 t_{p75-25} 0 minutes

Soil Infiltration Rate, f

insufficient flow to calculate infiltration rate



REMARKS:

Insufficient infiltration observed, test cancelled.

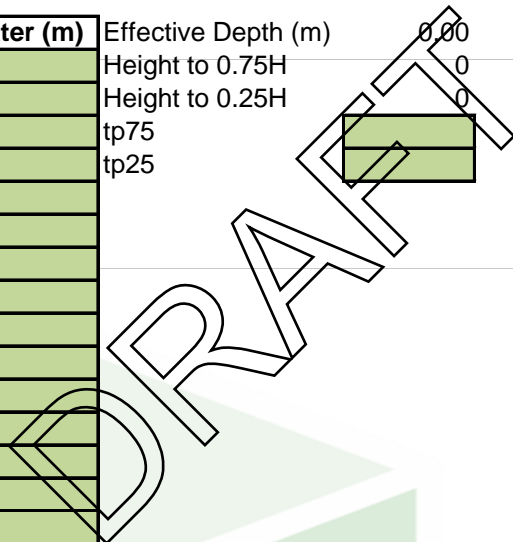


SOAKAWAY TEST

Time (mins)	Depth to Water (m)	Effective Depth (m)	0.50
0	1	Height to 0.75H	1.125
1	1	Height to 0.25H	1.375
2	1	tp75	
3	1	tp25	
4	1		
5	1		
6	1		
8	1		
10	1		
15	1		
20	1.000		
30	1		
40	1		
60	1.000		
90	1.000		

Time (mins)	Depth to Water (m)	Effective Depth (m)	0.00
0		Height to 0.75H	0
		Height to 0.25H	0
		tp75	
		tp25	

Time (mins)	Depth to Water (m)	Effective Depth (m)	0.00
0		Height to 0.75H	0
		Height to 0.25H	0
		tp75	
		tp25	



DRAFT

Drawings