Site Investigation Report

WHC reference: 7815

Job information

Client:	Crawford & Company
Client reference:	SU2207198
Visit date:	24th October 2023
Report date:	30th November 2023

Job Summary

Address: 49 & 49a Gloucester Crescent, London, NW1 7EG

Services Utilised:

Trial Hole
Actioned: Yes
Number: 1

Borehole
Actioned: Yes
Number: 1

Dynamic or Mackintosh probe
Actioned: No
Number: 0

CCTV survey
Actioned: Yes

Drainage repairs
Actioned: No

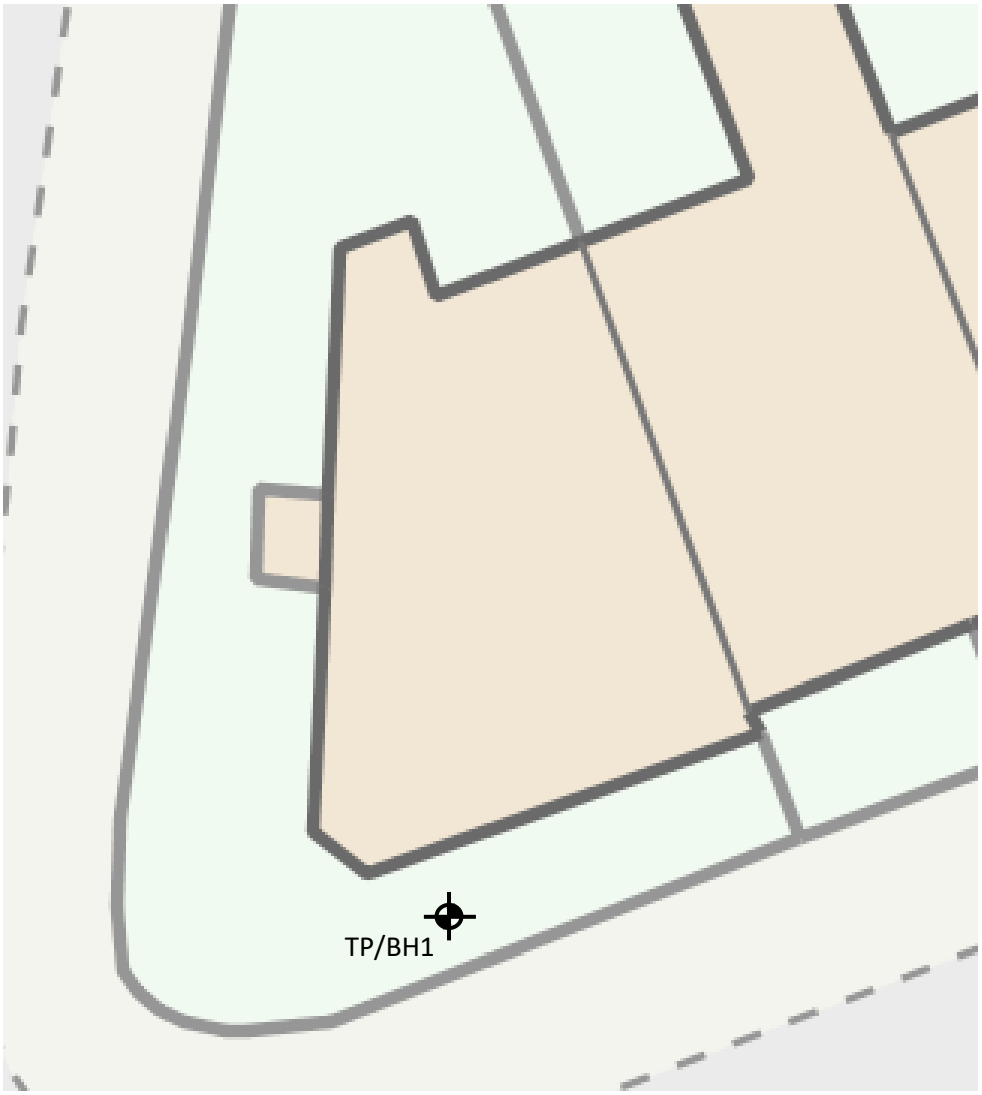
Root samples taken
Actioned: Yes

Soil samples taken
Actioned: Yes

Contact us
Read below

Plans

Site Plan:



Key

Datum Point		Combined Drains		Foul Pipe	
Dynamic Probe		Foul Drains		Storm Pipe	
Trial Pit		Storm Drains		Foul Gulley	
Borehole		Unsurveyed Drains		Storm Gulley	
Trial pit/BH		Property Boundary		Area of Damage	

Job Information

Job Overview:

Brief

William Hunt Consulting were commissioned by Crawford & Company to undertake a site investigation within the area of concern, located at the front elevation of the property. Site Investigations to consist of 1No. Borehole together with 1No. Trial Pit alongside Moisture contents and Atterberg limit laboratory testing, Root identification and a CCTV Drainage Layout.

Findings:

Borehole Findings

Borehole Findings can be found in Appendix A, where in borehole 1, Concrete was found present from ground level to 0.15m below ground level, followed by Soft to Firm Clay to a depth of 0.31mbgl. Firm dark brown Clay was then recorded to a depth of 1.31mbgl, becoming light brown at 0.81m. Below this, light brown/grey firm Clay was then encountered to a depth of 1.81m below ground level, followed by stiff to very stiff light brown Clay to 2.31mbgl. Very stiff dark brown Clay was found to be present to a depth of 3.31m below ground level, at which point the borehole was terminated. Borehole did not encounter groundwater.

Root Identification

Root Identification Results can be found in Appendix B, where in borehole 1, multiple TILIA (Lime) roots were found at depths 0.65m – 0.80m and 1.00m - 1.20m. Furthers roots were found at 0.65m – 0.80m and 1.00m – 1.20m, being identified as either the subfamily POMOIDEAE or PRUNUS.

Trial Pit Records

Trial Pit Details can be found in Appendix C where in trial pit 1, no foundation or projection were found to be present, with the retaining wall extending 0.31m below ground level.

Soil Sample Testing

Laboratory Testing Results can be found in Appendix D.

CCTV Drainage Layout

CCTV Drainage Layout can be found in Appendix E.

Photographs

Images:

Photo 1 – Area of Works

Photo 2 – Trial Pit 1

Photo 3 – Trial Pit 1

Photo 4 – BH1 Cores (0.00m – 1.50m)

Photo 5 – BH1 Cores (1.50m – 3.00m)

Photo 6 – TP/BH1 Reinstatement

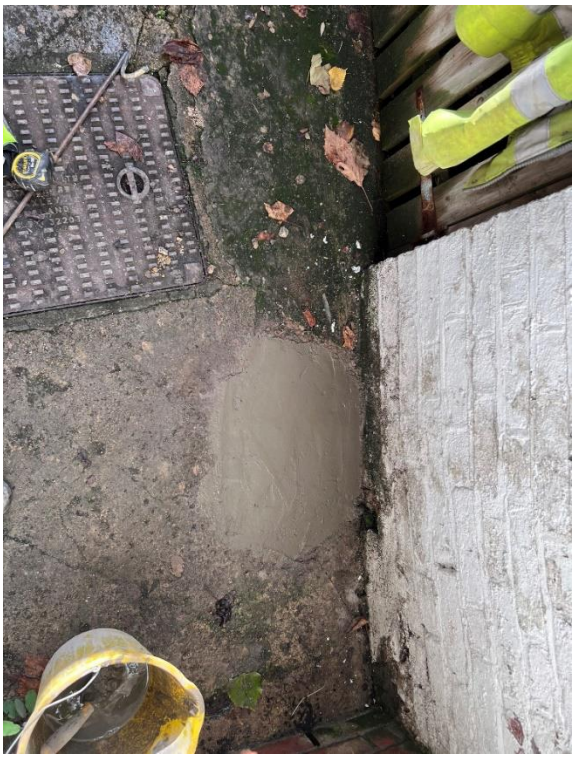


Photo 7 – Manhole 1

Appendices

Appendix A – Borehole Logs

WILLIAM HUNT CONSULTING

Hand Auger Log

Project Name: 49 & 49a Gloucester Crescent	Client: Crawford & Company	Date: 24/10/2023
Location: 49 & 49a Gloucester Crescent, London, NW1 7EG	Contractor: WHC	Drilling Equipment: Hand Auger
Project No. : 7815	Crew Name: ABW & JK	

Borehole Number	Hole Type		Logged By	Scale	Page Number
BH1	HA		ABW	1:18	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Legend	Stratum Description
		Depth (m)	Type	Results			
					0.15		Concrete
					0.31		Clay
		0.50	D				Very firm dark brown Clay
							Becoming light brown
		1.00	D				
					1.31		Light brown/grey firm Clay
		1.50	D				
					1.81		Very stiff light brown Clay
		2.00	D				
					2.31		Very stiff dark brown Clay
		2.50	D				
		3.00	D				
					3.31		End of Borehole at 3.310m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at 3.31m. Borehole did not encounter groundwater, with roots being found at 0.65m-0.80m and 1.00m-1.20m

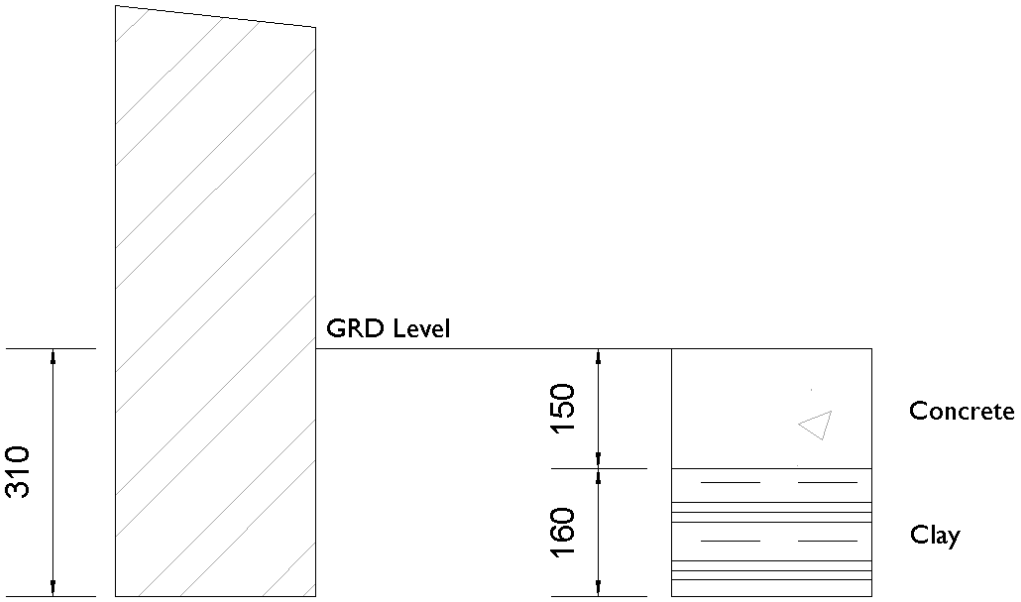
Appendix B – Root Identification Results

49 & 49A Gloucester Crescent NW1 7EG

The samples you sent in relation to the above on 27/10/2023 have been examined. Their structures were referable as follows:

BH1, 650-800mm	
2 no.	Examined root: TILIA (Lime). A POOR sample.
2 no.	Examined root: could be the family Rosaceae, EITHER the subfamily POMOIDEAE (a group of closely related trees: Malus (Apple), Pyrus (Pear), Crataegus (Hawthorn), Sorbus (Rowan, Whitebeam, Service tree), Mespilus (Medlar), and some shrubs (Pyracantha (Firethorn), Chaenomeles (Japonica), Cydonia (Quince), Amelanchier, Cotoneaster)) OR [the related] PRUNUS (Cherries, Plums and Damsons, Almonds, Peaches and Apricots, Blackthorn/Sloe, as well as the shrubby Cherry-laurel and Portugal-laurel). A POOR sample, with NO BARK.
4 no.	All pieces of BARK only - not enough material for identification.
4 no.	Unfortunately all with insufficient cells for identification.
BH1, 1000-1200mm	
3 no.	Examined root: another POOR sample, without any BARK. Referable to TILIA (Lime).
3 no.	Examined root: again POOR in condition, and with NO BARK. Could be family Rosaceae, EITHER the subfamily POMOIDEAE - or - PRUNUS (see lists above).

Trial Pit 1



Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
34338	49 & 49a Gloucester Crescent, London NW1 7EG	Samples received	06/11/2023
		Schedule received	06/11/2023
Project No.	Client	Project started	07/11/2023
7815	William Hunt Consulting	Testing Started	18/11/2023

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
BH1	-	0.00	0.50	D	Brown silty CLAY with rare fine gravel	31					
BH1	-	0.50	1.00	D	Orangish brown slightly mottled dark grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	35	96	72	35	37	
BH1	-	1.00	1.50	D	Brownish grey mottled grey silty CLAY	35					
BH1	-	1.50	2.00	D	Light orangish brown slightly mottled grey silty CLAY	33	100	75	30	45	
BH1	-	2.00	2.50	D	Brownish grey mottled grey silty CLAY with occasional pockets of brown silt / fine sand	28					
BH1	-	2.50	3.00	D	Orangish brown slightly mottled grey silty CLAY with scattered of selenite crystals	32	100	68	29	39	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3, 4.4 and 5.0
These results only apply to the items tested

NOTE: The report shall not be reproduced except in full without authority of the laboratory

Checked and Approved
Initials J.P
Date: 21/11/2023

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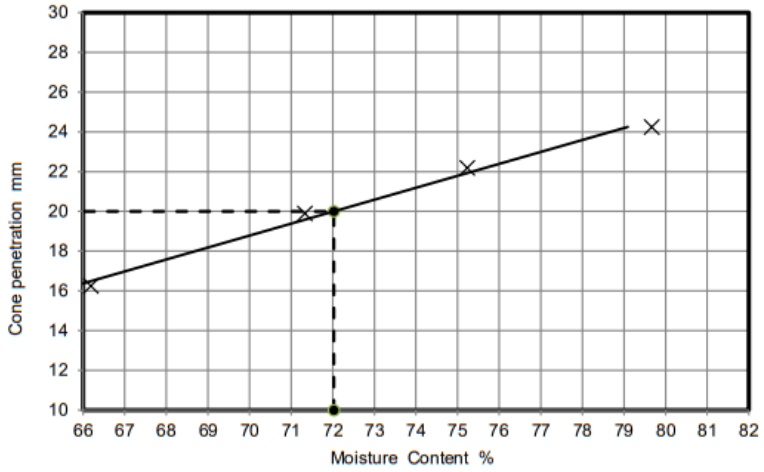
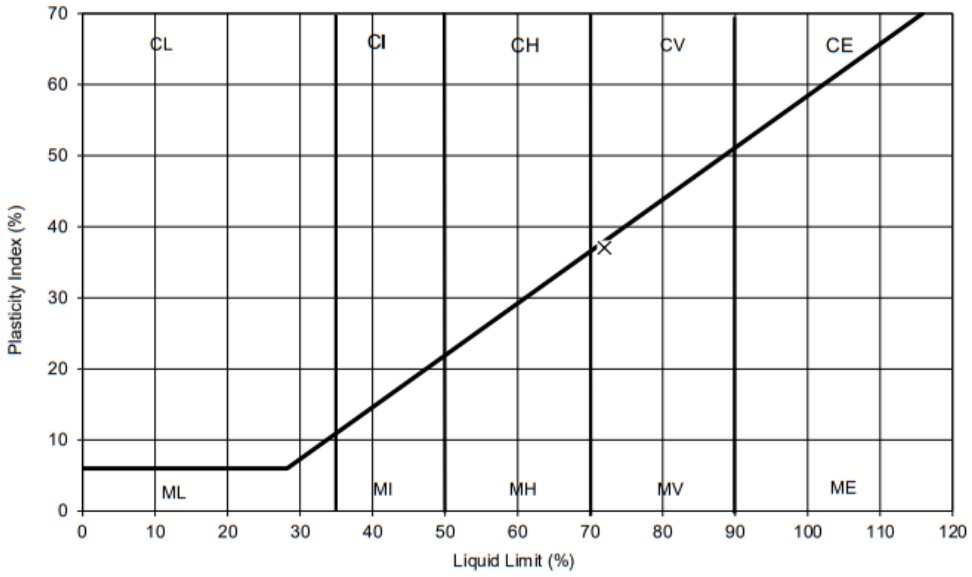
	LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX			Job No.	34338
				Borehole/Pit No.	BH1
Site Name	49 & 49a Gloucester Crescent, London NW1 7EG			Sample No.	-
Project No.	7815	Client	William Hunt Consulting	Depth Top	0.50 m
Soil Description	Orangish brown slightly mottled dark grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)			Depth Base	1.00 m
				Sample Type	D
				Samples received	06/11/2023
				Schedules received	06/11/2023
				Project Started	07/11/2023
				Date Tested	18/11/2023



NATURAL MOISTURE CONTENT	**35**	**%**
% PASSING 425µm SIEVE	**96**	**%**
LIQUID LIMIT	**72**	**%**
PLASTIC LIMIT	**35**	**%**
PLASTICITY INDEX	**37**	**%**

Remarks

PLASTICITY INDEX



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TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method
BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index
BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Initials: J.P
Date: 21/11/2023

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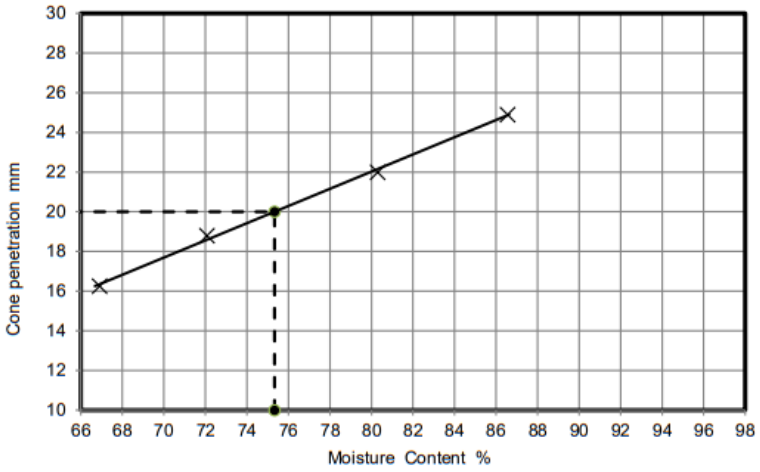
LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

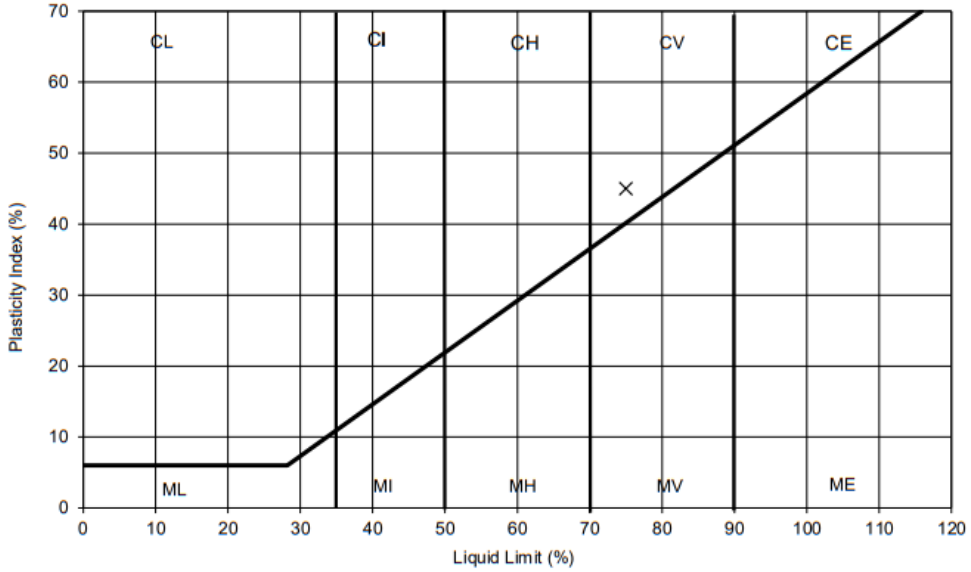
				Job No.	34338
				Borehole/Pit No.	BH1
Site Name	49 & 49a Gloucester Crescent, London NW1 7EG			Sample No.	-
Project No.	7815	Client	William Hunt Consulting	Depth Top	1.50 m
Soil Description	Light orangish brown slightly mottled grey silty CLAY			Depth Base	2.00 m
				Sample Type	D
				Samples received	06/11/2023
				Schedules received	06/11/2023
				Project Started	07/11/2023
				Date Tested	18/11/2023



NATURAL MOISTURE CONTENT	33	%
% PASSING 425µm SIEVE	100	%
LIQUID LIMIT	75	%
PLASTIC LIMIT	30	%
PLASTICITY INDEX	45	%

Remarks

PLASTICITY INDEX



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TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method
BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index
BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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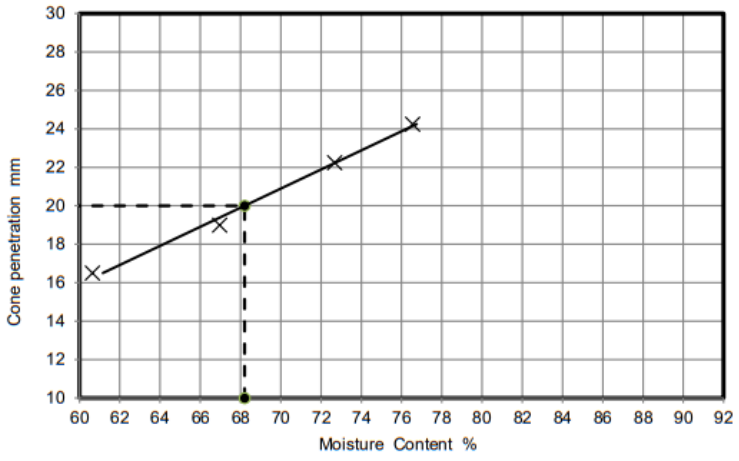
LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

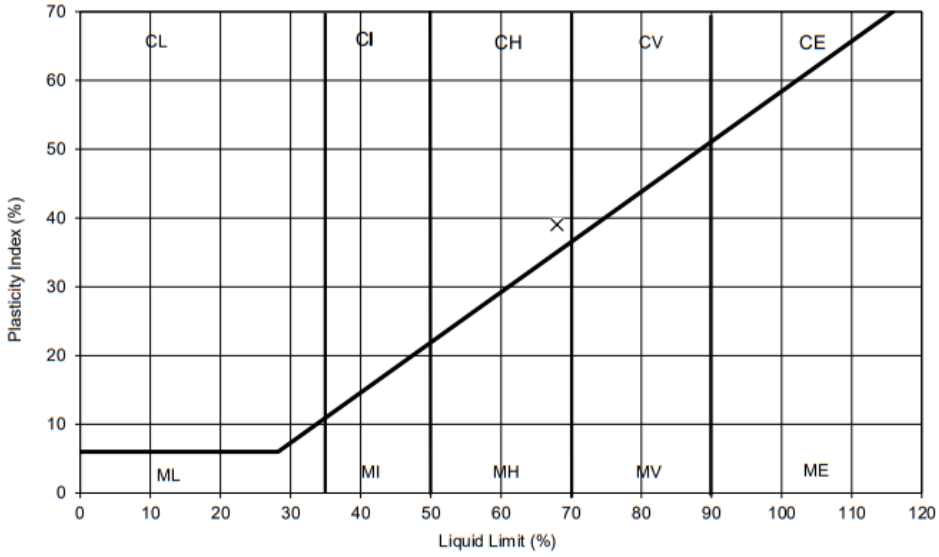
				Job No.	34338
				Borehole/Pit No.	BH1
Site Name	49 & 49a Gloucester Crescent, London NW1 7EG			Sample No.	-
Project No.	7815	Client	William Hunt Consulting	Depth Top	2.50 m
Soil Description	Orangish brown slightly mottled grey silty CLAY with scattered of selenite crystals			Depth Base	3.00 m
				Sample Type	D
				Samples received	06/11/2023
				Schedules received	06/11/2023
				Project Started	07/11/2023
				Date Tested	18/11/2023



NATURAL MOISTURE CONTENT	32	%
% PASSING 425µm SIEVE	100	%
LIQUID LIMIT	68	%
PLASTIC LIMIT	29	%
PLASTICITY INDEX	39	%

Remarks

PLASTICITY INDEX



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TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method
BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index
BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

Initials: J.P
Date: 21/11/2023

MSF-5 R2

Summary of One-Dimensional Swell/StrainTests

Job No.	Project Name	Programme	
34338	49 & 49a Gloucester Crescent, London NW1 7EG	Samples received	06/11/2023
		Schedule received	06/11/2023
Project No.	Client	Project started	07/11/2023
7815	William Hunt Consulting	Testing Started	13/11/2023

Notes: Heave potential (Dd) expressed in mm and corrected by 0.1 mm to take account of disturbance during sample preparation
Dd is calculated based on the difference in depth between samples. A shrinkage factor of 0.5 has been assumed

Hole No.	Sample			Soil Description	Strain	Corrected Dd	Moisture Content	Bulk Density	Dry Density	Remarks
	Ref	Depth	Type		%	mm	%	Mg/m3	Mg/m3	
BH1	-	0.50	D	Orangish brown slightly mottled dark grey slightly gravelly silty CLAY (gravel is fm and sub-angular to rounded)	0.035	8.63	**34**	1.94	**1.45**	
BH1	-	1.50	D	Light orangish brown slightly mottled grey silty CLAY	0.032	15.95	**33**	1.96	**1.47**	
BH1	-	2.50	D	Orangish brown slightly mottled grey silty CLAY with scattered of selenite crystals	0.031	15.62	**30**	2.16	**1.66**	

Predicted total free surface heave over depth of exploratory position **40.20** **mm**

UKAS TESTING

Test Method
In House Method K4 001, January 2012.
Preparation in accordance with
BS1377:1990 Part 5

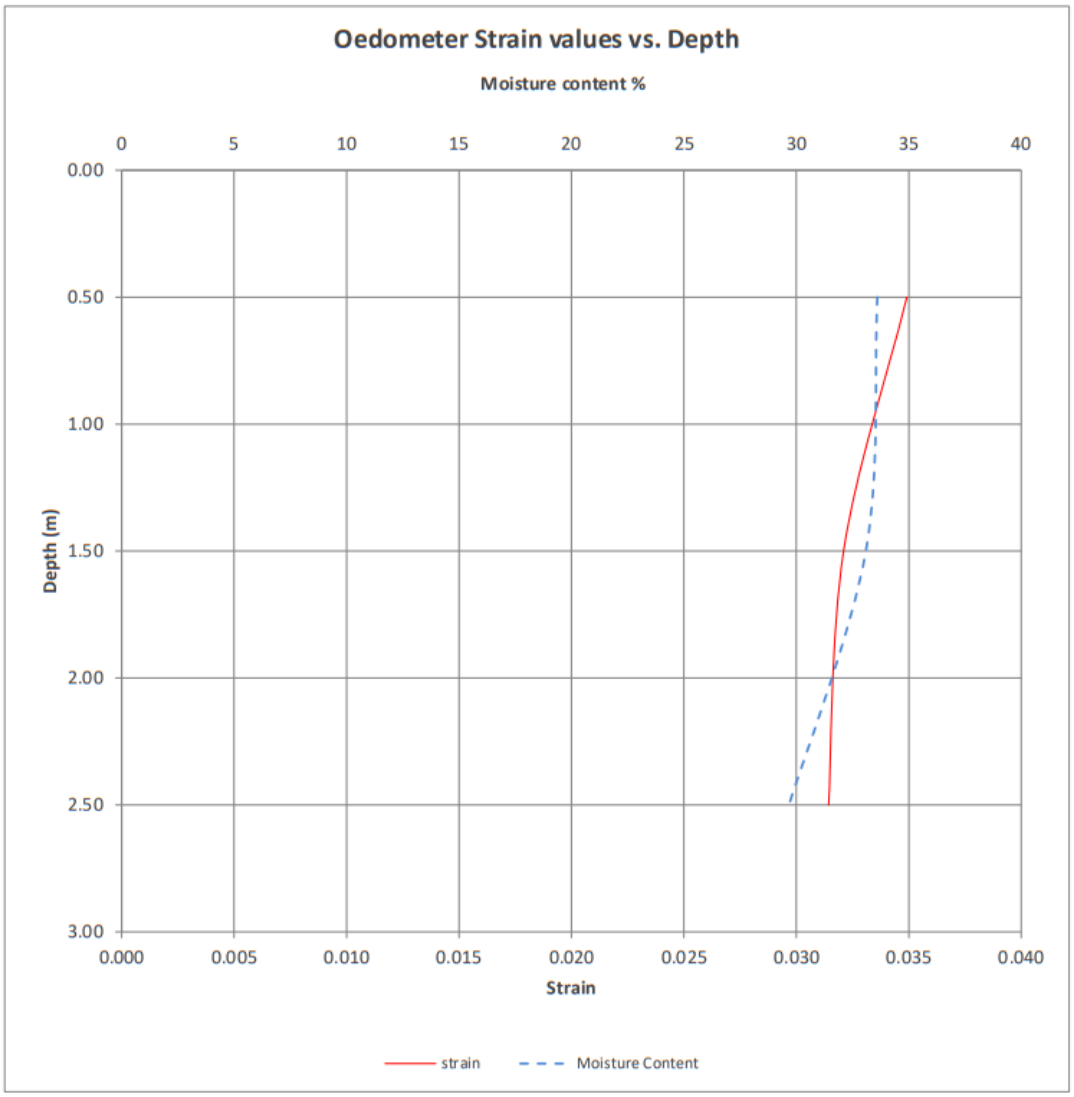
Checked and Approved

Initials **K.P.**

Date: 21/11/2023

Summary of One Dimensional Swell/Strain - Plots

Job No.	Project Name	Programme	
34338	49 & 49a Gloucester Crescent, London NW1 7EG	Samples received	06/11/2023
		Schedule received	06/11/2023
Project No.	Client	Project started	07/11/2023
7815	William Hunt Consulting	Testing Started	13/11/2023



UKAS TESTING
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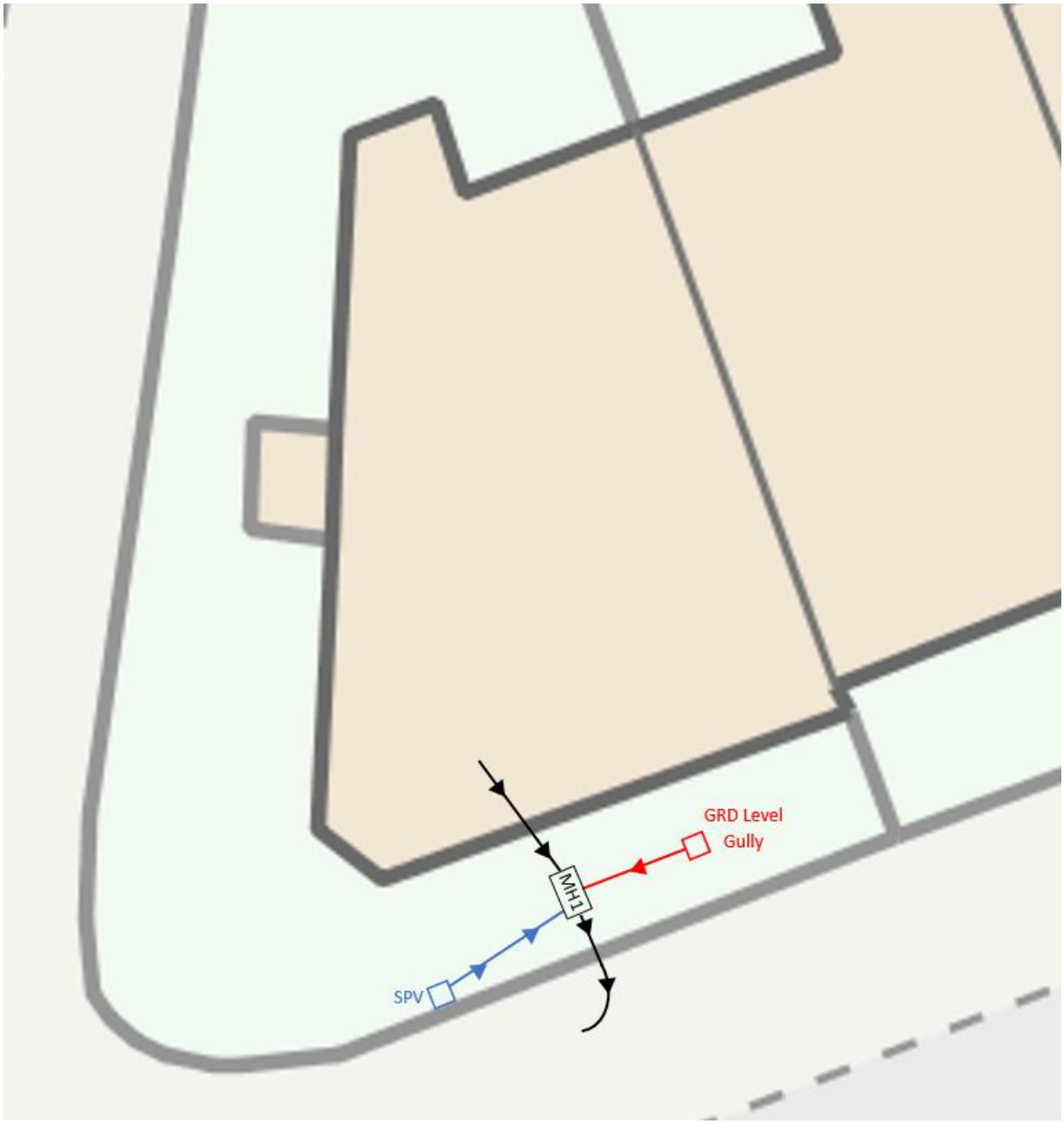
Test Method
In House Method K4 001, January 2012.
Preparation in accordance with
BS1377:1990 Part 5

Checked and Approved

Initials K.P.

Date: 21/11/2023

Appendix E – CCTV Drainage Layout



Contact us

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