

SITE INVESTIGATION FACTUAL REPORT

Report No: 772377
Client: Crawford Claims Management
Site: 38 Holyrood Close, Reading

Client Ref: SU2003018
Date of Visit: 06/11/2020



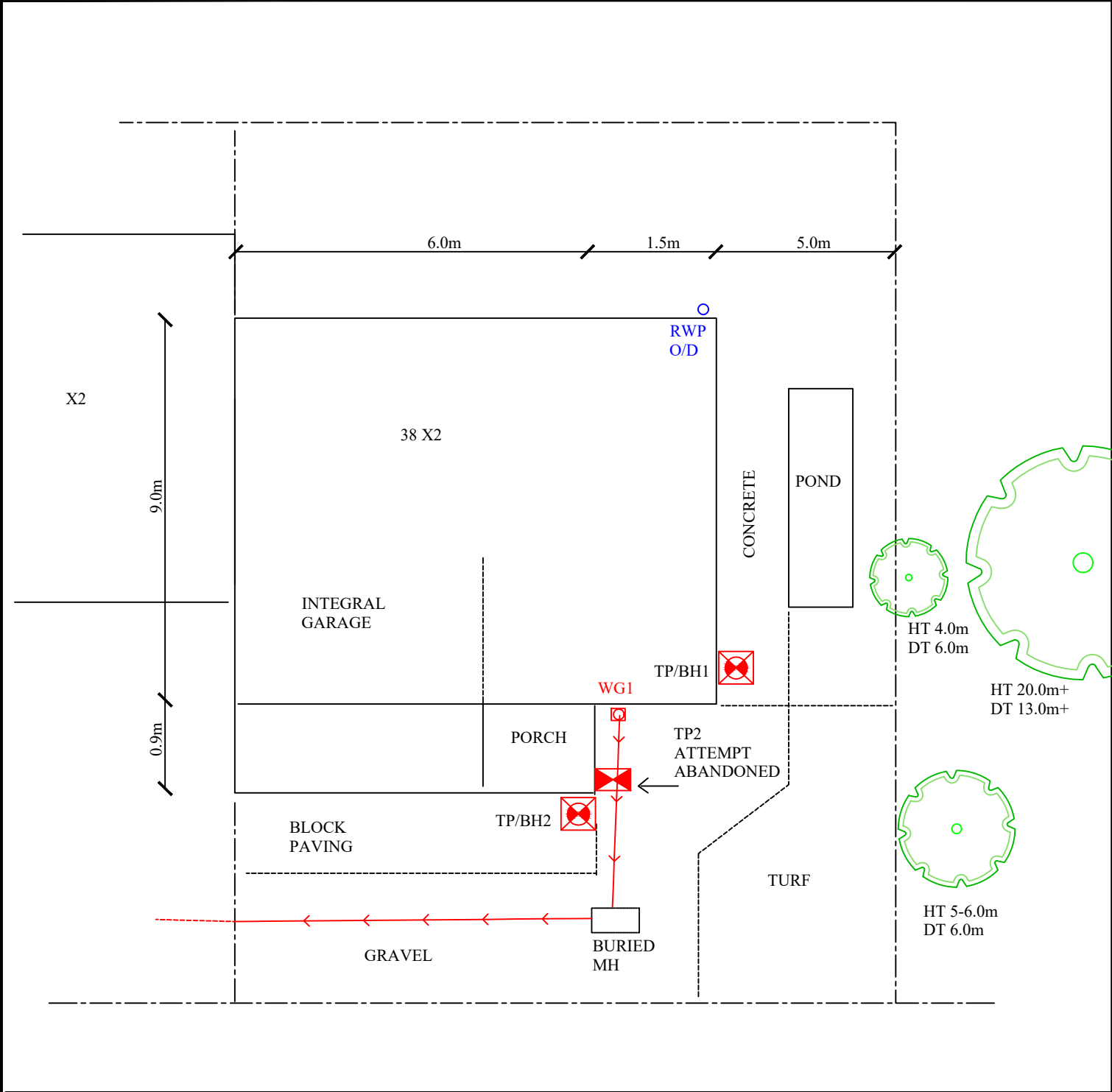
Home Emergency Response - Subsidence Investigation - Drainage Services – Crack & Level Monitoring – Property Video Surveys

Unit 4, Boundary Court
Willow Farm Business Park, Castle Donington
Leicestershire, DE74 2NN

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💻 www.cet-uk.com

CET is the trading name of CET Structures Ltd
Registered in England No. 02527130

Investigation Layout Plan			Sheet: 1 of 1	Site: 38, Holyrood Close, Reading
			Job No: 772377	
			Date: 06/11/20	Work carried out for: Crawford Claims MGMT SUS
SP (SI)	SA (Checked)	Jo (Drawn)	Weather: Dry	



DRAIN RECOMMENDATIONS

Run 1 WG1 downstream - external excavation to expose hidden chamber on gravel driveway at 2.7 metres. when exposed root cut upstream. Install a 2metre 100mm liner upstream of chamber.

Surface Water Drain

Foul Water Drain

Scale:

N.T.S.

TEST REPORT: Trial Pit

REPORT NUMBER: C1047795 / 118883.1.1.1

TRIAL PIT REF: Tp1

DATE: 06/11/2020

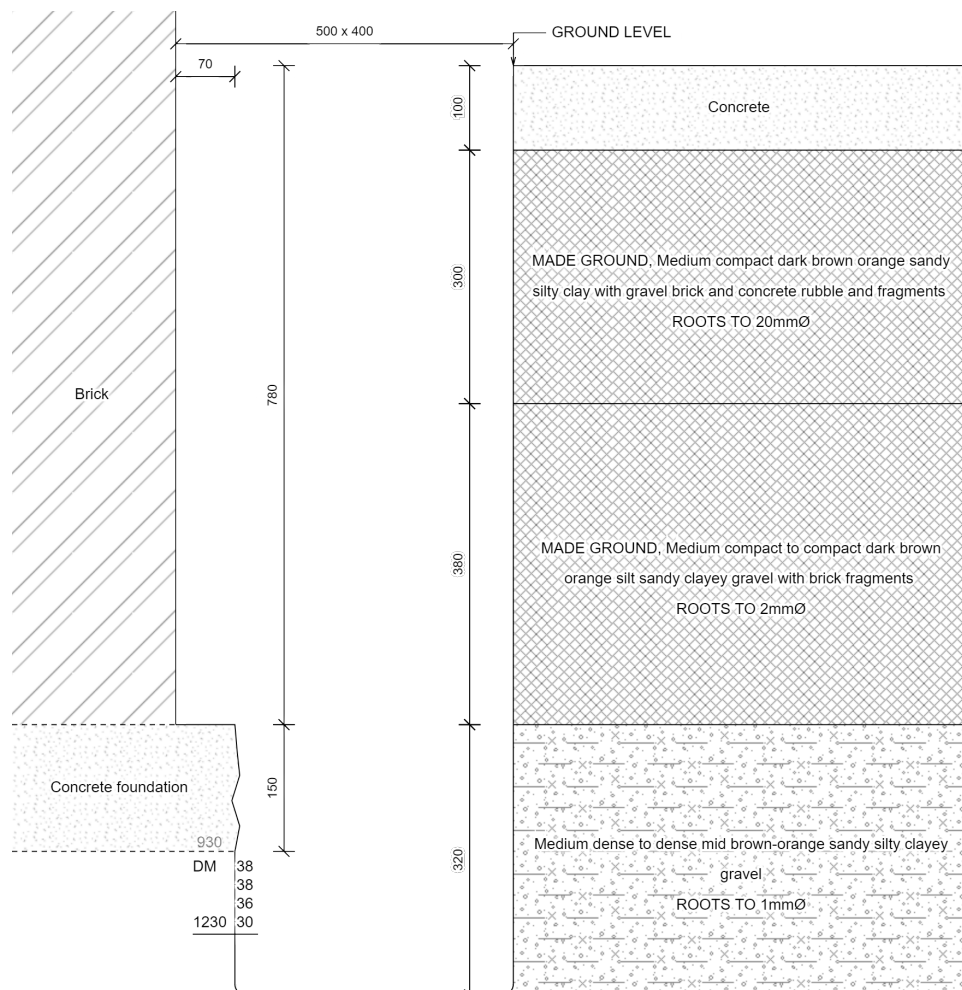
CLIENT: Crawford & Co

SITE: 38 Holyrood Close

JOB NO: 772377

WEATHER: Dry

EXCAVATION METHOD: Hand tools



For Strata below 1100mm see Bore Hole log

Key:

D Small disturbed sample J Jar sample
B Bulk disturbed sample V Pilcon vane (kPa)
W Water sample M Mackintosh probe
TDTD Too dense to drive

Remarks:

Test results reported relate only to the items tested.
This report shall not be reproduced except in full without approval of the Laboratory.

For and on behalf of CET
Scott Alger - Lab

Report Format:

DE74 2UD

Approved Signatory
10-Nov-20

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Report version 1

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Borehole		1		Sheet:	1 of 1	Site:	38 Holyrood Close										
				Job No:	772377												
				Date:	06/11/2020												
Boring Method:	Rotary Auger			Ground Level:		Client:	Crawford Claims Management										
Diameter (mm):	100	Weather:	dry														
Depth (m)	Soil Description					Thickness	Legend	Samples and Tests									
0.00	See Trial Pit					1.10		Depth	Type	Result							
1.10	Stiff grey silty CLAY					1.90	⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘	1.50	D								
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘	2.00	DV	130+							
							⌘ — ⌘			130+							
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘	2.50	D								
							⌘ — ⌘										
							⌘ — ⌘										
							⌘ — ⌘										
							3.00	End of BH							3.00	DV	130+ 130+
							Remarks: BH ends at 3.0m.BH dry and open open completion,no roots observed below 2.2m.					Key: D - Disturbed Sample B - Bulk Sample W - Water Sample Roots J - Jar Sample Roots V - Pilcon Shear Vane (kPa) Roots M - Mackintosh Probe Depth to Water (m) TDTD - Too Dense To Drive					To Depth (m)
Logged:	sp	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.										

TEST REPORT: Trial Pit

REPORT NUMBER: C1047795 / 118883.1.1.2

TRIAL PIT REF: Tp2

DATE: 06/11/2020

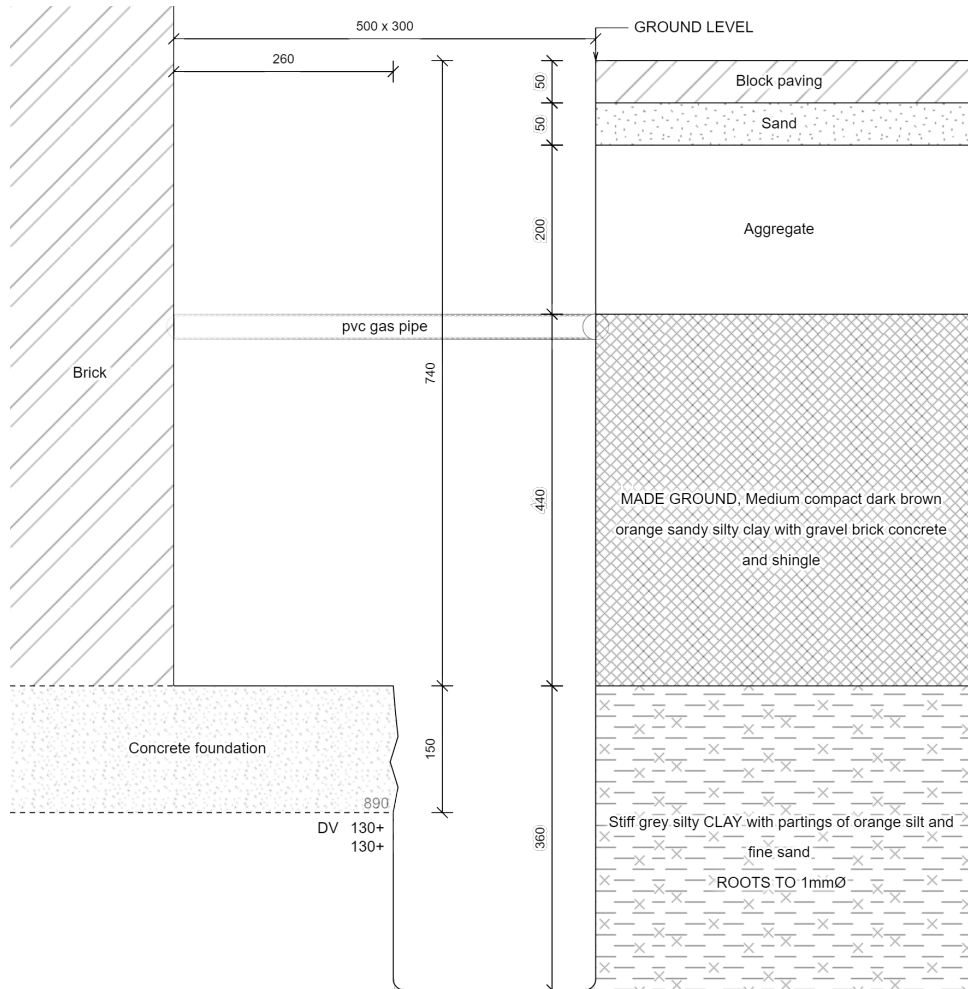
CLIENT: Crawford & Co

SITE: 38 Holyrood Close

JOB NO: 772377

WEATHER: Dry

EXCAVATION METHOD: Hand tools



For Strata below 1100mm see Bore Hole log

Tp abandoned in original tp position due to mass concrete and underground drainage (wg1)

Key:
D Small disturbed sample J Jar sample
B Bulk disturbed sample V Pilcon vane (kPa)
W Water sample M Mackintosh probe
TDTD Too dense to drive

Remarks:
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For and on behalf of CET
Scott Alger - Lab

Report Format:

Approved Signatory
10-Nov-20

DE74 2UD

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Report version 1

Page 1 of 1

[illegible]

Laboratory Summary Results

Our Ref : 772377

Date Sampled: 06/11/2020

Location : 38, Holyrood Close, Reading

Date Received : 10/11/2020

Client: Crawford Claims Management

Date Tested : 10/11/2020

Address: Cartwright House, Tottle Road, Riverside Business Park, NG2 1RU

Date of Report : 18/11/2020

Sample Ref		Type	Moisture Content	Soil Fraction > 0.425mm (%) [2]	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity * Index	Modified * Plasticity Index (%) [6]	Soil * Class	Filter Paper Contact Time (d)	Soil Sample Suction (kPa) [8]	Oedometer Strain	Estimated * Heave Potential (Dd) (mm)[10]	In situ * Shear Vane Strength (kPa) [11]	Organic * Content	pH * Value	Sulphate Content * (g / l)		* Class
TP/BH No	Depth (m)																	SO3 [14]	SO4 [15]	
1	U/S 0.93	D	9.87	72	Not suitable for further testing- ENP															
	1.5	D	24	<5																
	2.0	D	17	<5	43	13	30	0.13	30	CI	7	1380			> 130					
	2.5	D	21	<5																
	3.0	D	23	<5	72	28	44	-0.12	44	CV	7	1130			> 130					

Test Methods / Notes

[1] BS 1377 : Part 2 : 1990, Test No 3.2

[2] Estimated if <5%, otherwise measured

[3] BS 1377 : Part 2 : 1990, Test No 4.4

[4] BS 1377 : Part 2 : 1990, Test No 5.3

[5] BS 1377 : Part 2 : 1990, Test No 5.4

[6] BRE Digest 240 : 1993

[7] BS 5930 : 2018 : Figure 8 - Plasticity Chart for the classification

of fine soils

[8] In-house method S9a adapted from BRE IP 4/93

[9] In-house Test Procedure S17a: One Dimensional Swell/Strain Test

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CET using

a Pilcon hand vane or Geonor vane (GV).

[12] BS 1377 : Part 3 : 1990, Test No 4

[13] BS 1377 : Part 2 : 1990, Test No 9

[14] BS 1377 : Part 3 : 1990, Test No 5.6

[15] SO₄ = 1.2 x SO₃

[16] BRE Special Digest One (Concrete in Aggressive Ground) August 2005

Note that if the SO₄ content falls into the DS-4 or DS-5 class, it would be prudent to consider the sample as falling into the DS-4M or DS-5M class respectively unless water soluble magnesium testing is undertaken to prove otherwise.

* These tests are not UKAS accredited

Full reports can be provided upon request.

Key

D Disturbed sample (small)
 B Disturbed sample (bulk)
 U Undisturbed sample
 W Groundwater sample
 ENP Essentially Non-Plastic by inspection
 U/S Underside of Foundation



Test results reported relate only to the items tested.

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Construction Testing Solutions Ltd t/a CET Infrastructure - Lawness Barns, Mountnessing Road, Billericay, Essex CM12 0TS

Version: 5BH V1 - 11.11.20

0927

Our Ref : 772377

Location : 38, Holyrood Close, Reading

Client: Crawford Claims Management

Address: Cartwright House, Tottle Road, Riverside Business Park, NG2 1RU

Laboratory Testing Results

Date Sampled : 06/11/2020

Date Received : 10/11/2020

Date Tested : 10/11/2020

Date of Report : 18/11/2020

Sample Ref.		Type	Moisture Content (%) [1]	Soil Fraction > 0.425mm (%) [2]	Liquid Limit (%) [3]	Plastic Limit (%) [4]	Plasticity Index (%) [5]	Liquidity * Index [5]	Modified * Plasticity Index (%) [6]	Soil * Class [7]	Filter Paper Contact Time (d)	Soil Sample Suction (kPa) [8]	Oedometer Strain [9]	Estimated * Heave Potential (Dd) (mm)[10]	In situ * Shear Vane Strength (kPa) [11]	Organic * Content (%) [12]	pH * Value [13]	Sulphate Content * (g / l)		* Class [16]
TP/BH No.	Depth (m)																	SO3 [14]	SO4 [15]	
2	U/S 0.89	D	24	<5	81	27	54	-0.06	54	CV	7	887			> 130					
	1.5	D	17	<5											> 130					
	2.0	D	25	<5	68	23	45	0.05	45	CH	7	1000			> 130					
	2.5	D	24	<5											> 130					
	3.0	D	17	<5	73	23	50	-0.12	50	CV	7	1120			> 130					

Test Methods / Notes

[1] BS 1377 : Part 2 : 1990, Test No 3.2

[2] Estimated if <5%, otherwise measured

[3] BS 1377 : Part 2 : 1990, Test No 4.4

[4] BS 1377 : Part 2 : 1990, Test No 5.3

[5] BS 1377 : Part 2 : 1990, Test No 5.4

[6] BRE Digest 240 : 1993

[7] BS 5930 : 1981 : Figure 31 - Plasticity Chart for the classification of fine soils

Test results reported relate only to the items tested.

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[8] In-house method S9a adapted from BRE 19 493

[9] In-house Test Procedure S17a: One Dimensional Swell/Strain Test

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CET using a Pilcon hand vane or Geonor vane (GV).

[12] BS 1377 : Part 3 : 1990, Test No 4

[13] BS 1377 : Part 2 : 1990, Test No 9

[14] BS 1377 : Part 3 : 1990, Test No 5.6

[15] SO₄ = 1.2 x SO₃

[16] BRE Special Digest One (Concrete in Aggressive Ground) August 2005

Note that if the SO₄ content falls into the DS-4 or DS-5 class, it would be prudent to consider the sample as falling into the DS-4M or DS-5M class respectively unless water soluble magnesium testing is undertaken to prove otherwise.

* These tests are not UKAS accredited

Full reports can be provided upon request

Key

D Disturbed sample (small)

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U Undisturbed sample

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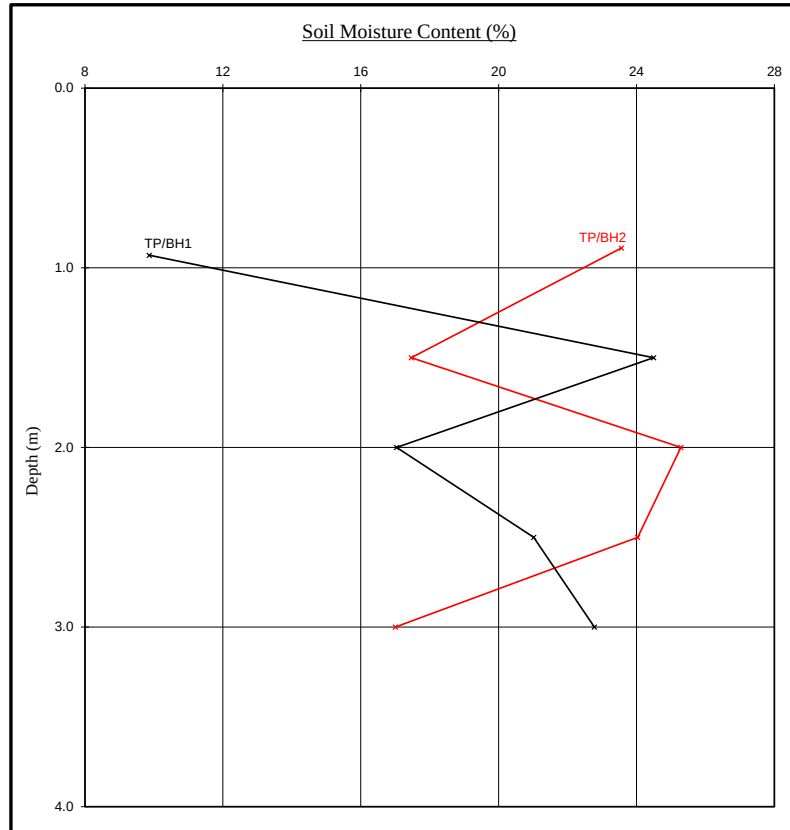
ENP Essentially Non-Plastic by inspection

U/S Underside of Foundation



Moisture Content Profiles

Our Ref : 772377
 Location : 38, Holyrood Close, Reading
 Work carried out for: Crawford Claims Management

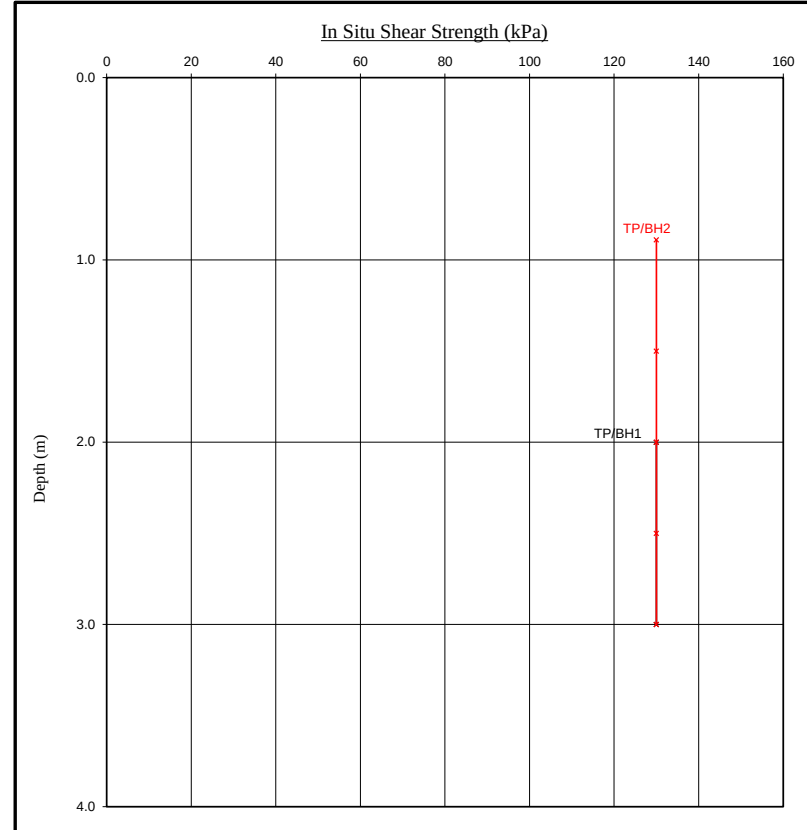


Notes

1. If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

Shear Strength Profiles

Date Sampled : 06/11/2020
 Date Received : 10/11/2020
 Date Tested : 10/11/2020
 Date of Report : 18/11/2020

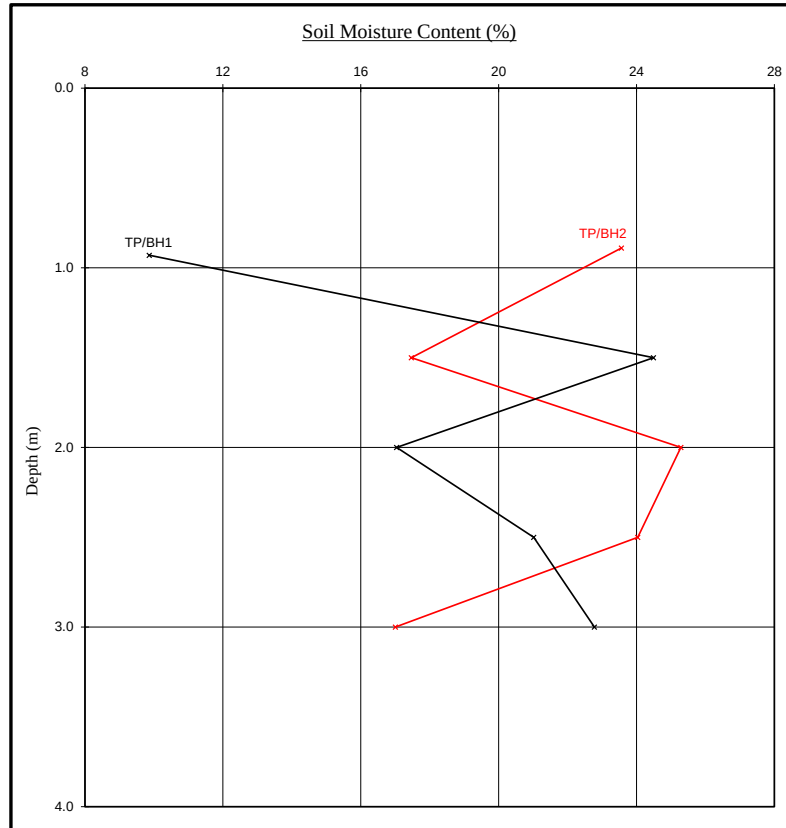


Note

1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Pilcon Hand Vane the calibration of which is limited to a maximum reading of 130 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

Moisture Content Profiles

Our Ref : 772377
 Location : 38, Holyrood Close, Reading
 Work carried out for: Crawford Claims Management

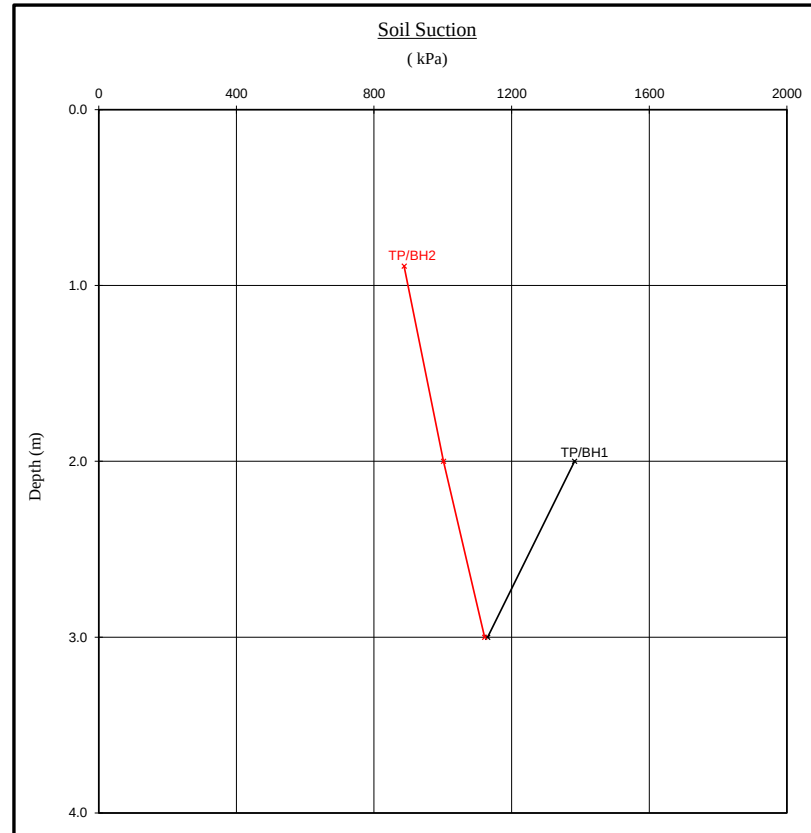


Notes

1. If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

Soil Suction Profiles

Date Sampled : 06/11/2020
 Date Received : 10/11/2020
 Date Tested : 10/11/2020
 Date of Report : 18/11/2020



Note

When shown, the theoretical equilibrium suction profiles are based on conventional assumptions associated with London Clay (and similarly overconsolidated clays) at shallow depths. Note that the sample disturbance component is dependant on the method of sampling and any subsequent recompaction. The above plots show this to be 100kPa which is the value suggested by the BRE on the basis of their limited number of tests on recompacted samples. This may or may not be appropriate in this instance and judgement should be exercised.

EPSL**European Plant Science Laboratory**

Sheet: 1 of 1

Job No: 772377

Date: 13/11/2020

Order No: 1639129

EPSL Ref: R39175

Site: 38 Holyrood Close,

Work carried
out for: Crawford Claims MGMT SUS***Certificate of Analysis***

The following work was commissioned by CET on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.

The results were as follows -

<u>Trial pit/ Borehole number</u>	<u>Root diameter (mm)</u>	<u>Tree, shrub or climber from which root originates</u>	<u>Result of starch test</u>
TP1 (USF)	2 mm	Quercus spp. 2 roots	Positive
TP1 (USF)	1 mm	Fraxinus spp.	Positive
BH1 (to 2.2m)	2 mm	Fraxinus spp. 4 roots	Positive
TP2 (USF)	2 mm	Quercus spp. 2 roots	Positive
BH2 (to 1.8m)	4 mm	Quercus spp. 3 roots	Positive

Quercus spp. are oaks (both deciduous and evergreen).

Fraxinus spp. include common ash.



MDM

Address for correspondence: EPSL, Intec, Parc Menai, Bangor, Gwynedd, North Wales, LL57 4FG

Telephone: 01248 672 652

e-mail: lab@innovation-environmental.co.uk

Head of Laboratory Services : M D Mitchell B.Sc. (Hons), M.Phil.

Plant Anatomist : Dr G S Turner B.Sc. (Hons), M.Sc., Ph.D

Plant Anatomist : Dr R J Shaw B.Sc. (Hons), Ph.D

Consultant: Dr M P Denne B.Sc. (Hons), M.Sc., Ph.D

Registered in England. No 3256771, Registered Office: Yarmouth House, 1300 Parkway, Solent Business Park, Hampshire, PO15 7AE

To:
Ftao: Neil Crawford
Site:

Crawford Claims Management

38 Holyrood Close

Client Ref: SU2003018
Job No: 772377
Claim No:
Date: 12-Nov-20

ESTIMATE

Item	Amount
1.0 Location Shared System Condition Grade Drain Serviceability Work Spec	run 1 WG1 downstream no B Unserviceable external excavation to expose hidden chamber on gravel driveway at 2.7 metres. when exposed root cut upstream. Install a 2metre 100mm liner upstream of chamber. £591.94

Notes

Repairs to shared runs and off boundary pipe-work may be the responsibility of the water authority.

Total £591.94

Condition Grade

A - Structurally sound with no leakage evident.
B - Cracks and fractures observed.
C - Structurally unsound

plus VAT @20% £118.39

Total + VAT £710.33

Quotation is binding only if accepted within 28 days from date of issue and is subject to our Standard Terms and Conditions
The price qualification notes, stated on the drainage solutions schedule of rates, apply to this quotation.
CET Structures Ltd undertakes to return to site free of charge to carry out remedial work to the drainage repairs set out above for a period of 2 months from the date of this invoice. The company standard charge rates will apply to the visit should the work requested be unrelated to the said repairs.

ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE				Client Ref	SU2003018
Site:-	38 Holyrood Close			Job No.	772377
Client :-	Crawford Claims Management			Claim No	
				Date	
				Recommendation	1
	Description				
Rate Code	run 1 WG1 downstream	Unit	Qty	Rate	Amount
TITLE	Survey				
SN0561	Mechanical Root Cutting	m	3	£3.72	£11.16
SN007	Excavate for access to survey. Reinstat on completion. n.e 1.0m deep.	nr	1	£56.67	£56.67
TITLE	Preparations / General Groundworks / Reinstatements				
SN0025	Protection Temporary works to floors, 1000 gauge polythene.	m2	1	£1.65	£1.65
SN8120300	Hardcore Filling to excavations over 250 mm average thick.	m	1	£39.95	£39.95
SN2050005	Disposal by hand excavated contaminated/saturated material off site.	m3	1	£44.01	£44.01
SN006	1 Litre of disinfectant.	nr	1	£2.72	£2.72
TITLE	Drain Lining				
SN1133	Van pack HPWJ & CCTV in preparation of lining	nr	1	£133.05	£133.05
SN1135	Drain Lining - Initial Set-Up Fee (0-3.0m)	nr	1	£302.73	£302.73
Total subject to VAT @ 20%					£591.94
Note: Subject to the attached Terms and Conditions Depths are taken to the base of excavations. Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed. All rates exclude VAT. Depths are taken to the base of excavations. The above rates are subject to re-measurement. Daywork rates do not include for materials that are charged at cost plus KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour					

Coding Sheet		Sheet:		Site:	38 Holyrood Close			
		Job No.:	772377					
		Date:	#####	Client:	Crawford Claims Management			

Run:	1								
From:		WG1	Invert Level:		Direction:	D/S			
To:		D/S	Invert Level:		Function:	F/W			
Pipe Material:		VC	Pipe Dia:	100					
Water/Pressure Test:			Drain Break-In:	Yes	Gully Condition:				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:	No			
					If Shared How:				
0.00	ST				Remarks	Surface Material	Length (m)		
0.00	LD				SLIGHT				
2.70	MH				BURIED MH				
3.00	LR				Line deviates right	GRAVEL			
4.00	RTJ				Roots tap at joint				
6.40	WL			10	Water level				
8.30	FH				REACHED D/S				
Comments:									