

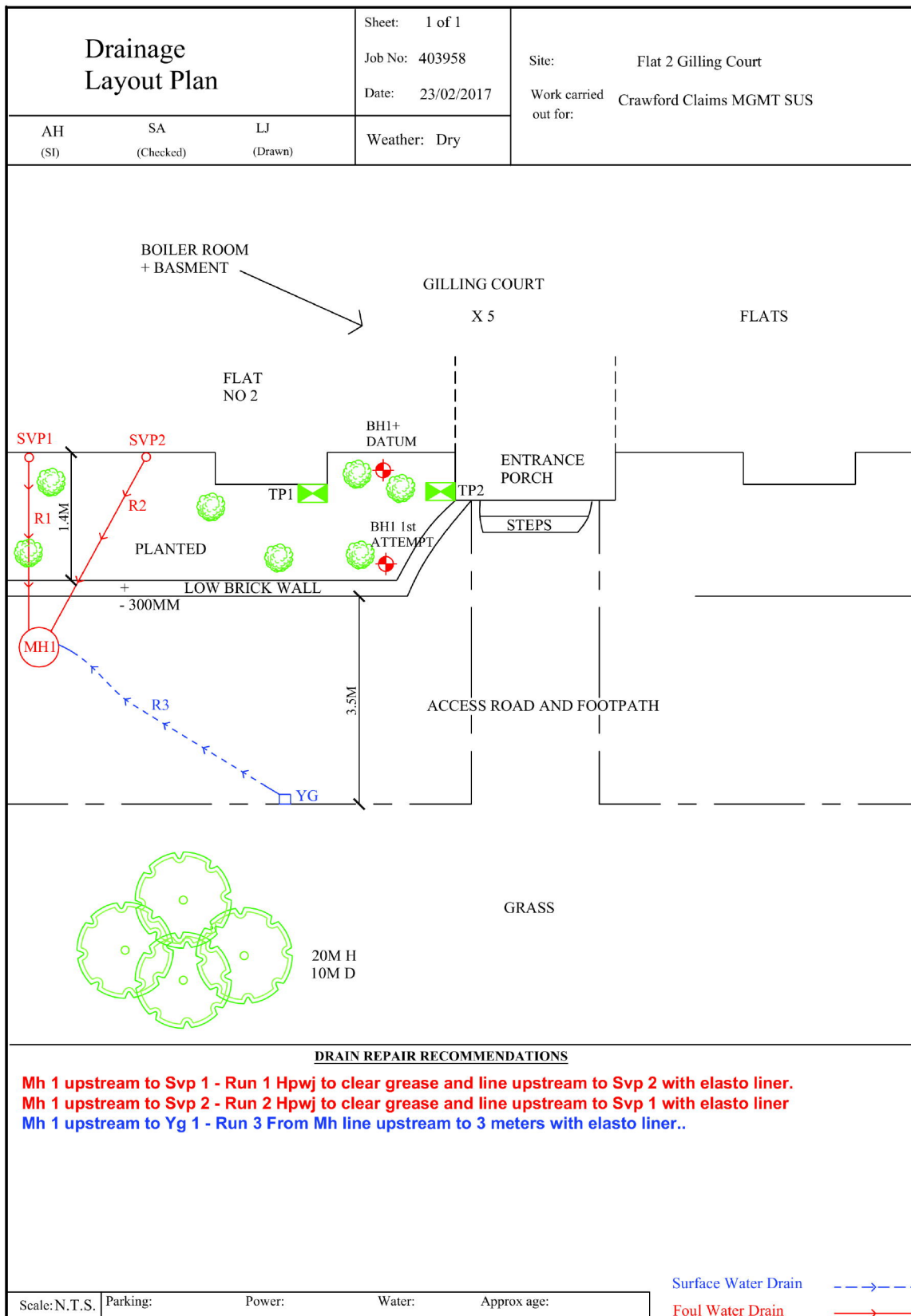
SITE INVESTIGATION FACTUAL REPORT

Report No: 403958
Client: Crawford Claims Management
Site: Flat 2 , Gilling Court
Hampstead

Date of Visit: 23/02/17



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



Borehole		1+DA TUM		Sheet: Job No: Date:	1 of 2 403958 24/04/2017	Site:	Flat 2 Gilling Court				
Boring Method:	Hand Auger				Ground Level:		Client:	Crawford Claims Management			
Diameter (mm):	75	Weather:	dry								
Depth	Soil Description						Samples and Tests				
(m)							Thickness	Legend	Depth	Type	Result
0.00	MADEGROUND medium compact brown silty sandy clay with numerous gravel brick and clinker fragments						1.70				
									0.50	DM	19
											17
											21
											21
									1.00	DM	32
											27
			31								
			28								
		1.50	DM	29							
				28							
1.70	Stiff orange-brown silty CLAY						1.30	x — x			35
								x — x			36
								x — x			
								x — x	2.00	DV	86
								x — x			92
								x — x			
								x — x			
								x — x			
								x — x	2.50	DV	112
								x — x			120
								x — x			
								x — x			
								x — x			
								x — x			
								x — x			
3.00	Very Stiff orange-brown silty CLAY						3.00	x — x	3.00	DV	140+
								x — x			140+
								x — x			
								x — x			
								x — x			
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								x — x			
								x — x			
								x — x			
Remarks:						Key:		To	Max		
						D - Disturbed Sample		Depth	Dia		
						B - Bulk Sample		(m)	(mm)		
						W - Water Sample Roots					
						J - Jar Sample Roots					
						V - Pilcon Shear Vane (kP; Roots					
						M - Mackintosh Probe Depth to Water (m)					
						TDTD - Too Dense To Drive					
Logged:	sp	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.				

Borehole		1+DA TUM	Sheet: 2 of 2		Site: Flat 2 Gilling Court										
			Job No: 403958												
			Date: 24/04/2017												
Boring Method: Hand Auger		Ground Level:		Client: Crawford Claims Management											
Diameter (mm): 75		Weather: dry													
Depth	Soil Description				Samples and Tests										
(m)					Thickness	Legend	Depth	Type	Results						
						x _ x									
						x _ x									
						x _ x									
						x _ x									
						x _ x									
						x _ x									
						x _ x									
						x _ x									
						x _ x									
6.00	End of BH														
Remarks: BH ends at 6.0m.BH dry and open on completion.No roots observed below 4.0m.Datum installed at 6.0m, no samples taken or institutu strength tests carreid out below 3.0m.					Key: D - Disturbed Sample B - Bulk Sample W - Water Sample Roots J - Jar Sample Roots V - Pilcon Shear Vane (kP: Roots M - Mackintosh Probe Depth to Water (m) TDTD - Too Dense To Drive	To	Max								
						Depth	Dia								
						(m)	(mm)								
						4.00	1								
						Logged:	sp	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.		

Trial Pit No: 2		Sheet: 1 of 1	Site: Flat 2 , Gilling Court, NW3 Work carried out for: Crawford Claims MGMT SUS
Hand Tools		Job No: 403958	
Weather: DRY		Date: 23/2/17	
		Drawn by: SDL	
		Ground Level mOD:	

The diagram illustrates a trial pit with a width of 700 x 600 mm. On the left, a brick wall is shown with a width of 50 mm and a height of 60 mm. The pit is divided into two main sections, each 900 mm deep. The top section is 400 mm high and contains 'MADE GROUND: Very loose, dark brown, organic, clayey, sandy, gravelly silt with brick fragments and carbon deposits' and 'ROOTS OF LIVE APPEARANCE TO 8MMØ'. The bottom section is 900 mm high and contains 'MADE GROUND: Loose becoming medium compact, dark brown, clayey, sandy, gravelly silt with numerous brick and concrete pieces' and 'ROOTS OF LIVE APPEARANCE TO 4MMØ'. The ground level is indicated at the top right. A dashed line at the bottom indicates the pit was abandoned at 1300mm due to collapsing ground.

Remarks: All measurements in millimetres. TP Abandoned at 1300mm due to collapsing ground too deep to excavate U/S Foundation found no BH done		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	
Logged: AH	Checked: SA	Approved:	Scale: N.T.S.

Laboratory Summary Results

Our Ref: 403958

Location: Flat 2 Gilling Court, London, NW3 4UY

Date Sampled: 23/02/17

Date Received: 28/04/17

Date Tested: 10/05/17

Date of Report: 17/07/17

TP/BH No	Depth (m)	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 (h) [8]	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]
																		SO ₃ [14]	SO ₄ [15]	
BH1	0.5	D	22	28																
	1.0	D	19	36																
	1.5	D	24	19																
	2.0	D	31	<5	92	26	66	0.08	66	CE			0.0395	30.3	89					
	2.5	D	28	<5									0.0375	6.9	116					
	3.0	D	27	<5	83	29	54	-0.03	54	CV			0.0481	4.8	> 140					
free surface heave potential over the borehole depth is about 3cm to 6cm																				

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

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

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

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

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

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

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

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

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

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

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

[1] In-house method 596 adapted from BS 1377: Part 2: 1990, Test No 3.2

[2] In-house Test Procedure S17e One Dimensional Swell/Strain Test

[3] Estimated Heave Potential (Dd)

[4] Values of shear strength were determined in situ by CPT using

a Picon hard vane or Geosir vane (GV).

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

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

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

[8] SO₃ = 1.2 x SO₄

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

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

US Underlain by Foundation

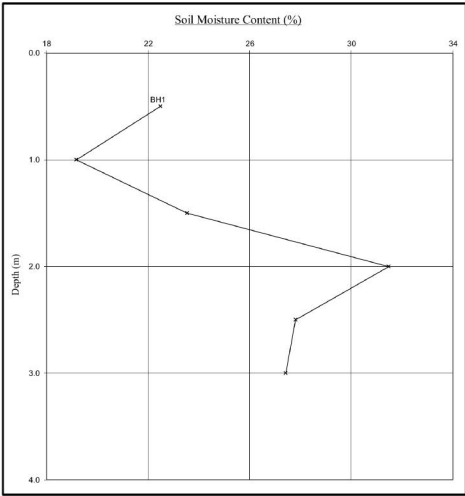


Version: 5BH V1.4 - 11/05/15

8618

Moisture Content Profiles

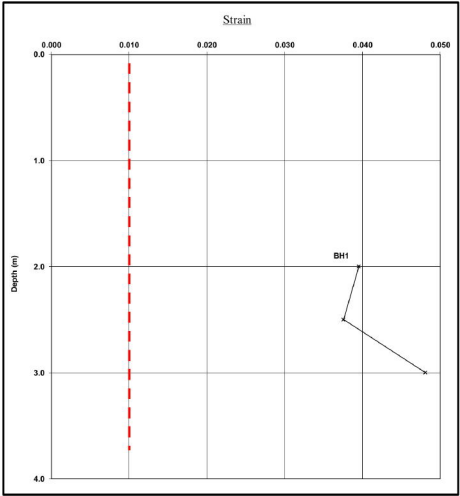
Our Ref: 403958
Location: Flat 2 Gillling Court, London, NW3 4UY



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.

Oedometer Strain Profiles

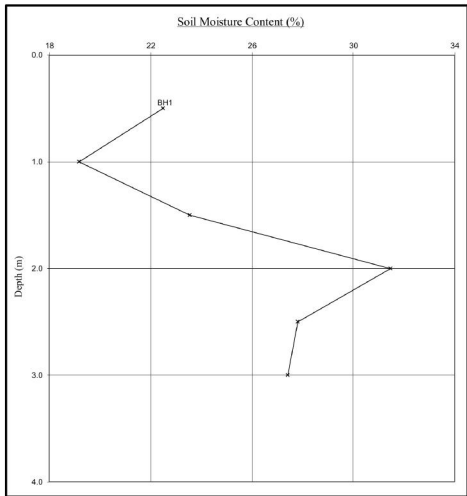
Date Sampled: 23/02/17
Date Received: 28/04/17
Date Tested: 10/05/17
Date of Report: 17/07/17



--- Remoulding Disturbance
Assumptions
1. Soil Bulk Density (moist unit weight) is equal to 2098kg/m³
2. The water table is assumed as 1.0m below ground level.
3. Shrinkage Factor (sf) of 2 has been applied to the predicted heave, where applicable
4. Any possible surcharge stresses due to construction are not considered
Notes
1. Sample prepared in accordance with BS1377: Part 1: 1990 clause 7.7 at Natural (as received) Moisture
2. Unless specifically noted the profiles have not been related to a site datum.

Moisture Content Profiles

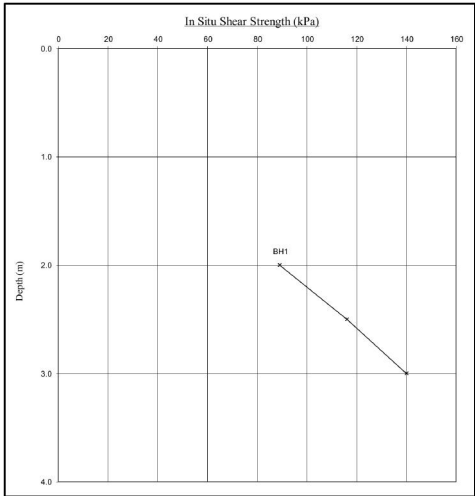
Our Ref : 403958
Location : Flat 2 Gilling Court, London, NW3 4UY
Work carried out for: Crawford Claims Management




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 : 23/02/17
Date Received : 28/04/17
Date Tested : 10/05/17
Date of Report : 17/07/17



Note
1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Picon Hand Vane the calibration of which is limited to a maximum reading of 140 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

EPSL European Plant Science Laboratory	Sheet: 1 of 1 Job No: 403958 Date: 27/04/2017 Order No: 985834 EPSL Ref: R18708	Site: Flat 2, Gilling Court, NW3 Work carried out for: Crawford Claims MGMT SUS											
	<p style="text-align: center;"><i>Certificate of Analysis</i></p> <p>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 -</p> <table border="1"> <thead> <tr> <th>Trial pit/ Borehole number</th> <th>Root diameter (mm)</th> <th>Tree, shrub or climber from which root originates</th> <th>Result of starch test</th> </tr> </thead> <tbody> <tr> <td>BH1 (to 4m)</td> <td><1 mm</td> <td>Tilia spp. 4 roots</td> <td>Positive</td> </tr> <tr> <td>BH1 (to 4m)</td> <td><1 mm</td> <td>Berberis or Mahonia spp.</td> <td>Positive</td> </tr> </tbody> </table> <p>Tilia spp. are limes. Berberis spp. are common garden shrubs (barberries). Mahonia spp. are common garden shrubs, including the Oregon grape.</p> <div style="text-align: center;">  GST </div>		Trial pit/ Borehole number	Root diameter (mm)	Tree, shrub or climber from which root originates	Result of starch test	BH1 (to 4m)	<1 mm	Tilia spp. 4 roots	Positive	BH1 (to 4m)	<1 mm	Berberis or Mahonia spp.
Trial pit/ Borehole number	Root diameter (mm)	Tree, shrub or climber from which root originates	Result of starch test										
BH1 (to 4m)	<1 mm	Tilia spp. 4 roots	Positive										
BH1 (to 4m)	<1 mm	Berberis or Mahonia spp.	Positive										

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

To:	Crawford Claims Management	Client Ref:	SU1604808
Flao: Philip Gardner		Job No:	403958
Site:	Flat 2 Gilling Court	Claim No:	8945388
		Date:	26-Mar-17

ESTIMATE			
Item			
1.0	Location	Mh 1 upstream to Svp 1 - Run 1	
	Shared System	Yes with flats	
	Condition Grade	B	
	Drain Serviceability	Unserviceable	
	Work Spec	Hpwj to clear grease and line upstream to Svp 2 with elasto liner.	
2.0	Location	Mh 1 upstream to Svp 2 - Run 2	
	Shared System	Yes with flats	
	Condition Grade	B	
	Drain Serviceability	Unserviceable	
	Work Spec	Hpwj to clear grease and line upstream to Svp 1 with elasto liner.	
3.0	Location	Mh 1 upstream to Yg 1 - Run 3	
	Shared System	Yes with flats	
	Condition Grade	B	
	Drain Serviceability	Unserviceable	
	Work Spec	From Mh line upstream to 3 meters with elasto liner.	

Notes

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

Condition Grade

A - Structurally sound with no leakage evident.

B - Cracks and fractures observed.

C - Structurally unsound

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	SU1604808
Site:- Flat 2 Gilling Court		Job No.	403958
Client :- Crawford Claims Management		Claim No	8945388
		Date	
		Recommendation	1
Rate Code	Description		
	Mh 1 upstream to Svp 1 - Run 1		
TITLE	Drain Lining		
SN1133	Van pack HPWJ & CCTV in preparation of lining		
SN1135	Drain Lining - Initial Set-Up Fee (0-3.0m)		
TITLE	Survey Commercial - pipes >160mm <300mm		
SN10003	Daily rate for Breathing Apparatus and gas detection equipment		
<p>Note: Subject to the attached Terms and Conditions</p> <p>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</p> <p>KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour</p>			

ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE		Client Ref			
Site:-	Flat 2 Gilling Court	Job No.	SU1604808		
Client :-	Crawford Claims Management	Claim No	403958		
		Date	8945388		
		Recommendation	26-Mar-17		
			2		
Description		Unit	Qty	Rate	Amount
Rate Code	Mh 1 upstream to Svp 2 - Run 2				
TITLE	Drain Lining				
SN1140	Drain Lining - 100mm. Install Structural liner into existing 100mm underground drain. 3mm Wall thickness.				
<p>Note: Subject to the attached Terms and Conditions</p> <p>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</p> <p>KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour</p>					

ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE		Client Ref	SU1604808
Site:-	Flat 2 Gilling Court	Job No.	403958
Client :-	Crawford Claims Management	Claim No	8945388
		Date	26-Mar-17
		Recommendation	3
	Description		
Rate Code	Mh 1 upstream to □ g 1 - Run □		
TITLE	Drain Lining		
SN1140	Drain Lining - 100mm. Install Structural liner into existing 100mm underground drain. 3mm Wall thickness.		

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:	Flat 2 Gilling Court		
		Job No.:	403958				
		Date:	23/02/17	Client:	Crawford Claims Management		

Run:	1							
From:	MH1	Invert Level:	1450	Direction:	U/S			
To:	Svp 1	Invert Level:		Function:	F/W			
Pipe Material:	VC	Pipe Dia:	100					
Water/Pressure Test:		Drain Break-In:	No	Gully Condition:				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:	Yes		
					If Shared How:	With flats		
0.00	ST				Remarks	Surface Material	Length (m)	
0.00	DEG			5	Debris grease	tarmac	0.6	
1.00	RFJ				Roots fine at joint	Soil		
2.10	JDM				Joint displaced medium			
2.10	RFJ				Roots fine at joint			
2.30	LU				Line deviates up			
3.10	FH				End of survey			
Comments:								

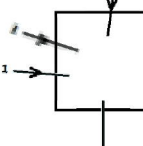
Run:	2							
From:	MH1	Invert Level:	1450	Direction:	U/S			
To:	Svp2	Invert Level:		Function:	F/W			
Pipe Material:	VC	Pipe Dia:	100					
Water/Pressure Test:		Drain Break-In:	No	Gully Condition:				
Distance (m)	Code	Clock Ref at to	Dia mm	Intrusion % mm	Shared Run:	Yes		
					If Shared How:	With flats		
0.00	ST				Remarks	Surface Material	Length (m)	
0.40	JDM				Joint displaced medium	tarmac	0.3	
0.60	JDM				Joint displaced medium	Soil	3.6	
0.70	DEG			5	Debris grease			
1.90	JDM				Joint displaced medium			
3.30	JDM				Joint displaced medium			
3.30	EMJ			10	Encrustation medium			
3.50	LU				Line deviates up			
3.80	CM	12	12		Cracks multiple			
3.90	FH				End of survey			
Comments:								

Run:	3							
From:		MH1	Invert Level:		1450	Direction:	U/S	
To:		Yg	Invert Level:			Function:	S/W	
Pipe Material:		VC	Pipe Dia:					
Water/Pressure Test:			Drain Break-In:		No	Gully Condition:	As Built	
Distance (m)	Code	Clock Ref at to		Dia mm	Intrusion % mm	Shared Run:	Yes	
						If Shared How:	With flats	
0.00	ST					Remarks	Surface Material	Length (m)
0.70	JDM					Joint displaced medium	tarmac	7.3
0.90	LR					slight		
2.50	CC	12	12			Crack circumferential		
6.60	LU					Line deviates up		
7.30	FH					yard gully		
Comments:								

Manhole Details	Sheet:	1 of 1	Site:	Flat 2 Gilling Court
	Job No.:	403958		
	Date:	23/02/17	Client:	Crawford Claims Management

MH:- MH1

Depth:- 1450 (mm)



Chamber Dimension:- 500 / 800 (mm)

Depths of run if different to invert level:-


Run	Depth (mm)

Manhole Condition:- Good

Reasons for poor condition.

MH:-

Depth:- (mm)



Chamber Dimension:- / (mm)

Depths of run if different to invert level:-


Run	Depth (mm)

Manhole Condition:-

Reasons for poor condition.

MH:-

Depth:- (mm)



Chamber Dimension:- / (mm)

Depths of run if different to invert level:-

Run	Depth (mm)

Manhole Condition:-

Reasons for poor condition.

Key



Interceptor



Internal Back Drop.



External Back Drop.

Additional Comments for Poor Condition