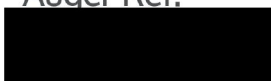


Site Investigation Report

Auger Ref:



Job Information	
Client	Crawford & Co
Client ref	
Visit date	07/06/2021
Report date	11/06/2021

Job Summary	
✓	CCTV survey undertaken. Read more.
!	Drainage repairs required. Read more.
✓	1 trial hole undertaken. Read more.
✓	Requested soil samples taken. Read more.
✓	Requested root samples taken. Read more.



Job Information

Overview

Brief

Auger were commissioned by Crawford & Co to undertake a site investigation and CCTV inspection of the underground drainage within the area of concern at the property.

Findings

Drain Survey

Line 1 - From MH1 upstream to kitchen waste

We were unable to survey this line due to the tight restricted access, entrance into the manhole will be required to survey this line

Line 2 - From MH1 upstream to SWG1

Our CCTV survey revealed joint displacements throughout the line and large displacements directly downstream from the gully, this will be resulting in an escape of water.

Line 3 - From SWG2 downstream

Our CCTV survey revealed joint displacements to the gully and adjoining pipework, this will be resulting in an escape of water. We were unable to survey past this point due to tight bends within the pipework.

The above mentioned defects to the below ground drainage system have been caused by ground movement.

Recommendations

Refer Back to Client

It is recommended that the following repairs are carried out to prevent an escape of water from the system:

Line 1 - Auger recommend to attempt to survey from within MH1. Assess condition of channelling and benching within MH

Line 2 - Auger recommend to excavate and replace SWG1 and 2.0m of 100mm pipework at a depth no greater than 1.0m through tiles over concrete then install 7.0m of 100mm flexi liner downstream to MH1

Line 3 - Auger recommend to excavate and replace SWG2 and 1.0m of 100mm pipework at a depth no greater than 1.0m through slabs then CCTV downstream

Deep manhole entry will be required to survey Line 1 and for the repairs to Line 2.

A specialist will be required to reinstate the tilling in the area of excavation for Line 2

It will then be necessary to CCTV survey lines 1 and 3 to check for any further issues. Please note that the further CCTV investigation may reveal additional defects to the drainage system. This will be reported whilst on-site and could potentially cause an increase in repair costs and provide further inconvenience to the customer/occupants.

We will now refer the claim back to the client in order to progress.

Repair Caveats

Once repairs have been undertaken the customer should ensure the drainage system is periodically inspected in the future for any deterioration and kept free flowing / free of blockages. Any damage noted during future inspections should be repaired immediately in accordance with current Building Regulations.

With any repair process, complications and unforeseen circumstances can arise. These scenarios will be reported whilst on-site and could potentially cause an increase in repair costs and inconvenience.

Where any excavation reinstatement of the surface is required, the reinstatement will always attempt to match the previous surface patterns and colouring, however we cannot guarantee an exact match.

If any of the above lining recommendations fail then excavation and replacement of the pipework would be required. This would severely increase the cost of repairs and would provide greater inconvenience to the residents. The relining of a severe joint displacement is normally unadvised due to the potential for complications in the future. If any issues arise in the future regarding this pipework, then excavation within the property would be required to replace the defective area of pipework. This in turn would result in major inconvenience to the occupier and a potentially large repair bill.

*Recommendations have been made to reline or patch reline sections of the drainage system at the property. This process combines a number of chemicals in a resin, which then harden in a fibreglass matting to create a new section of drain within the original. The reaction creates a **strong smell which***

can linger for up to 72 hours once works are completed - this is not harmful. It is recommended that any areas where smells are experienced are kept well ventilated until the odour subsides.

The above recommendations allow for the replacement of gullies & connected underground drainage only. The insured should be made aware that the aesthetic appearance of this gully may be different from what is currently in place.

Photographs

Trial Hole 1

Fig 1.1: Trial Hole 1 Location



Fig 1.2: Trial Hole 1 Footing



Fig 1.3: Trial Hole 1 Footing



CCTV Stills

Fig 2.1: Line 1, pipework at higher level than channelling



Fig 2.2: Line 2, joint displacement



Fig 2.3: Line 2, joint displacement



Fig 2.4: Line 2, joint displacement



Other Photos

Fig 3.1: MH1



Fig 3.2: MH1

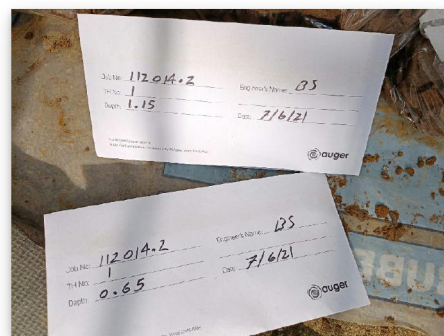
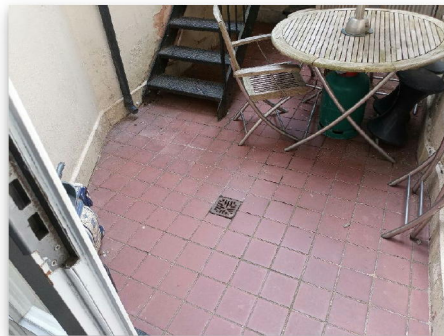


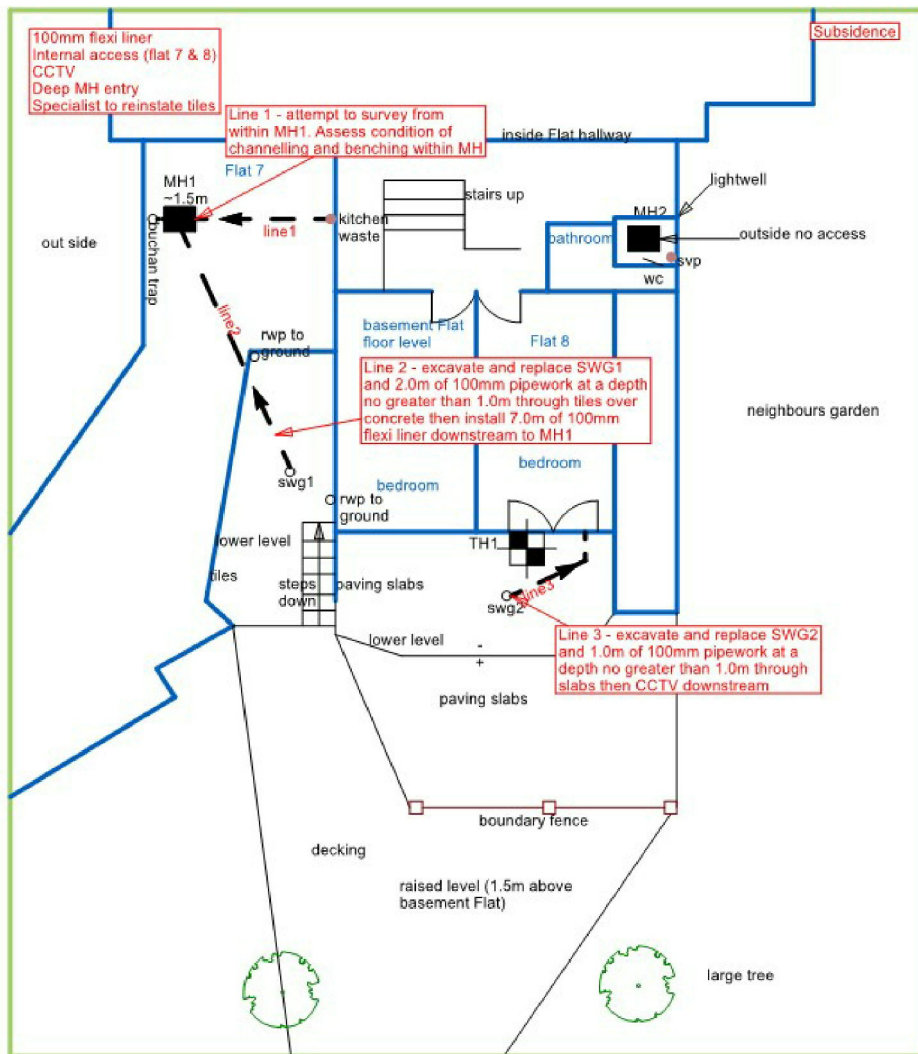
Fig 3.3: Rear of property



Fig 3.4: Rear of property




























FRONT OF PROPERTY

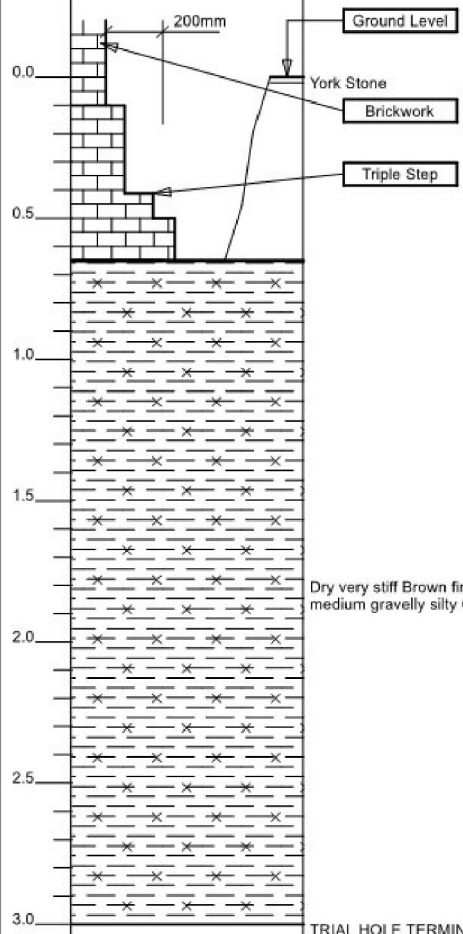
This drawing should be used for diagrammatic purposes only. Auger are not responsible or liable for any 3rd party works undertaken using the details outlined in this drawing. Confirmation of the drainage configuration can only be confirmed by excavation or detailed technical survey.

 = Manhole	 = Blockage	 = Lines not camera surveyed	 = Steps	 = Trial hole	 = Shrubs/bush
 = Inspection Chamber	 = syp/w/c	 = Lines camera surveyed	 = Assumed water mains feed	 = Borehole	 = Hedge
 = Inspection Pot	 = wg/fwg	 = Walls	 = Fences	 = Direction of flow	 = Tree
	 = rwp	 = Building Outline	 = gate / door		



Trial Hole Log No.1

Location: Rear middle to flat 8

Depth (m)	Symbolic Log	Strata Description	Insitu Tests		Soil Sample	Root Sample
			SV(19)			
0.0		Ground Level				
		York Stone				
		Brickwork				
		Triple Step				
0.5						
			140kpa		Soil @ 0.65m	Root @ 0.65m
1.0			140kpa		Soil @ 1.15m	Root @ 1.15m
1.5			140kpa		Soil @ 1.65m	
2.0		Dry very stiff Brown fine to medium gravelly silty CLAY	140kpa		Soil @ 2.15m	
2.5			140kpa		Soil @ 2.65m	
3.0		TRIAL HOLE TERMINATED	140kpa		Soil @ 3m	



Richardson's Botanical Identifications

Root identification
Vegetation surveys
Tree/Building Investigations
Plant taxonomy

Dr Ian B K Richardson
BSc, MSc, PhD, MRSB, FLS
James Richardson
BSc (Hons, Biology)

Auger Solutions
Auger House
Cross Lane
WALLASEY
Wirral CH45 8RH

21/06/2021

Dear Sirs

Root ID

The samples you sent in relation to the above on 07/06/2021 have been examined. Their structures were referable as follows:

TH1, 0.65m		
2 no.	Examined root: HEDERA (Ivy) - or the related FATSIA (a robust shrub with fig-like leaves).	Alive, recently*.
1 no.	Examined root: a POOR sample, without any bark. Could be either ULMUS (Elm) - or - the family LEGUMINOSAE (a group of closely related trees: Robinia (False Acacia), Laburnum, Sophora (Pagoda tree), Gleditsia (Honey Locust), Cercis (Judas tree/Redbud), Albizia (Silk tree), Acacia (Mimosa), as well as such shrubs as Wisteria, Lupins, Gorse and Brooms).	Alive, recently*.
2 no.	Both pieces of BARK only - insufficient material for recognition.	
2 no.	Both samples revealed too few cells for microscopic identification.	
TH1, 1.15m		
1 no.	Examined root: very THIN (less than 0.1mm in diameter), also with no bark. We cannot rule out HEDERA (Ivy) - or the related FATSIA (a robust shrub with fig-like leaves).	Dead* (note this 'dead' result can be unreliable with such thin samples).
4 no.	Unfortunately all with insufficient cells for identification.	

Click here for more information: [LEGUMINOSAE](#) [ULMUS](#)

I trust this is of help. Please call us if you have any queries; our Invoice is enclosed.

Yours faithfully

Dr Ian B K Richardson

* Based mainly on the Iodine test for starch. Starch is present in some cells of a living woody root, but is more or less rapidly broken down by soil micro-organisms on death of the root, sometimes before decay is evident. This result need not reflect the state of the parent tree.

Identified with no information on vegetation, on or off site.

Report commissioned by





Geotechnical Testing Analysis Report



environmental
claims mgmt
subsidence
drainage

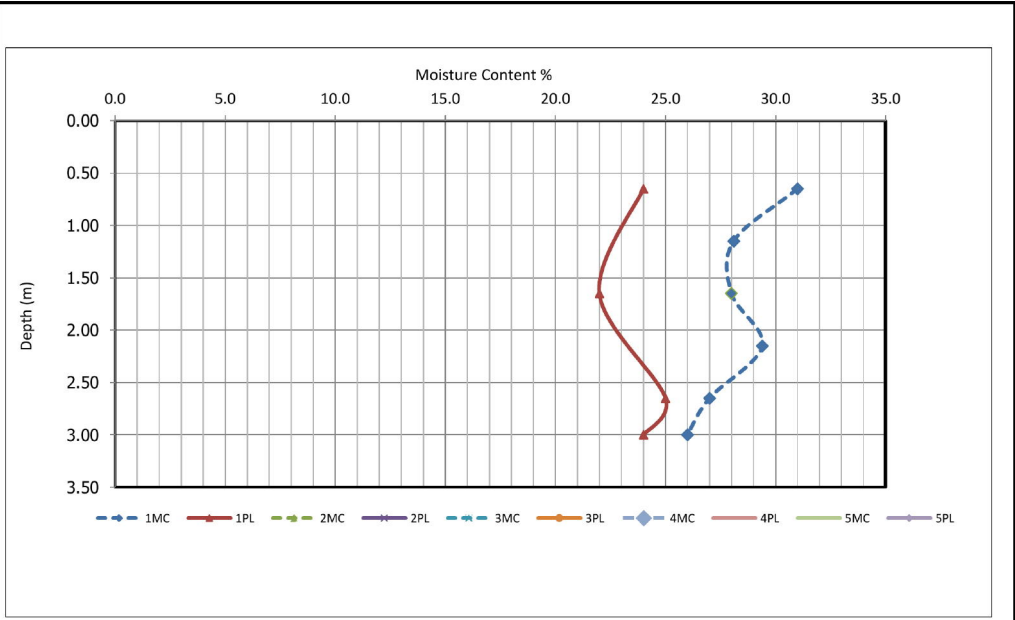
Summary Of Claim Details

Policy Holder	Unknown
Risk Address	Unknown
SI Date	07/06/2021
Issue Date	07/06/2021
Report Date	22/06/2021
Auger Reference	
Insurance Company	Axa Commerical
LA Claim Reference	
LA Co. Reference	Crawford & Co

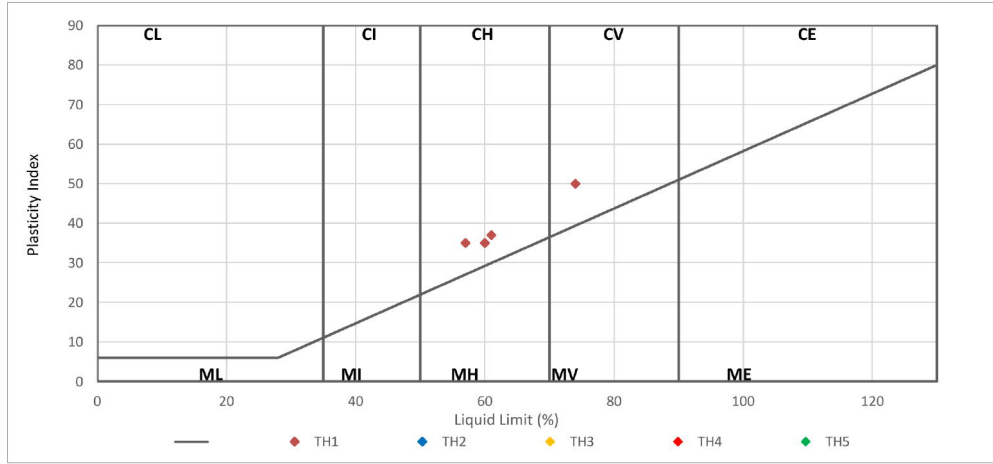
This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

	Checked	22/06/2021	Wayne Honey	
	Approved	22/06/2021	Paul Evans	





PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:1999+A2:2010



Modified Plasticity Index (PI) <10 : Non Classified
 Modified PI = 10 to <20 : Low volume change potential (LOW VCP)
 Modified PI = 20 to <40 : Medium volume change potential (Med VCP)
 Modified PI = 40 or greater : High volume change potential (HIGH VCP)

The Atterberg Limits May also be used to classify the volume change potential of fine soils using the National House building system, as given in the NHBC's Standards Chapter 4.2 (2003) "Building Near Trees"

Test Operator	Checked	22/06/2021	Wayne Honey
Luke Williams	Approved	22/06/2021	Paul Evans

