

Site Investigation Report

Auger Ref:

129282.1.USI



Job Information

Client	Crawford & Co
Client ref	SU2103539
Visit date	09/12/2021
Report date	13/12/2021

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

Deep Datum

The datum was installed at the rear of the property. It was reported by the mechanical auger operator that refusal was met at 5.5m below ground level, at a depth of 5m the SPT reading (N value) was 55.

As a result of the above, the datum was not installed at 6m it was in fact installed at 5m.

Drain Survey

Line 1 - From IC1 downstream to MH1

There were no defects noted within the line which could be allowing an escape of water. The line was seen to be free flowing and serviceable. This drain has previously been lined

Line 2 - From IC1 upstream to SVP

Our CCTV survey revealed that this drain has previously been lined. Furthermore the end of the liner on the restbend is not flush to the pipe. As a result this has caused a 'lip' on the drain which may cause blockages.

Line 3 - From IC1 upstream to RWG1

There were no defects noted within the line which could be allowing an escape of water. The line was seen to be free flowing and serviceable. This drain has previously been renewed and is plastic pipework

Line 4 - From IC1 upstream to FWG1

There were no defects noted within the line which could be allowing an escape of water. The line was seen to be free flowing and serviceable.

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

Recommendations

Refer Back to Client

The following works should be completed to restore flow to the system:

On line 2, excavate and replace SVP and 1m of 100 mm pipework at a depth no greater than 1m through concrete. This will involve removing a section of defective liner.

The above excavation may involve excavating through the brick step, if we complete such action the attached quote will be varied and this may incur further costs.

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.

Photographs

Trial Hole 1

Fig 1.1: Trial Hole Location



Fig 1.2: Trial Hole Footing



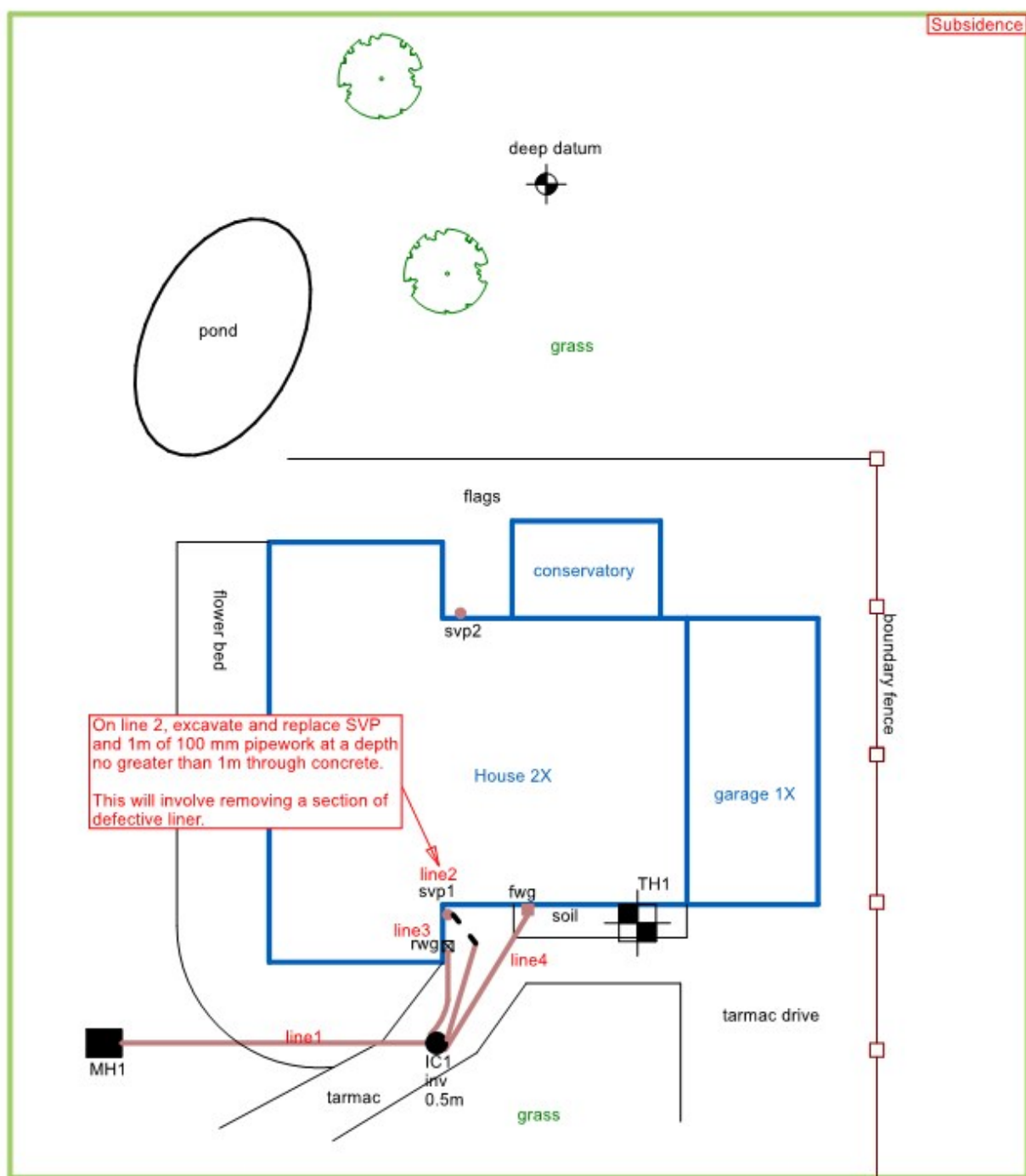
Photos

Fig 2.1: Installation of the datum



Fig 2.2: Location of excavation





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.

LEGEND

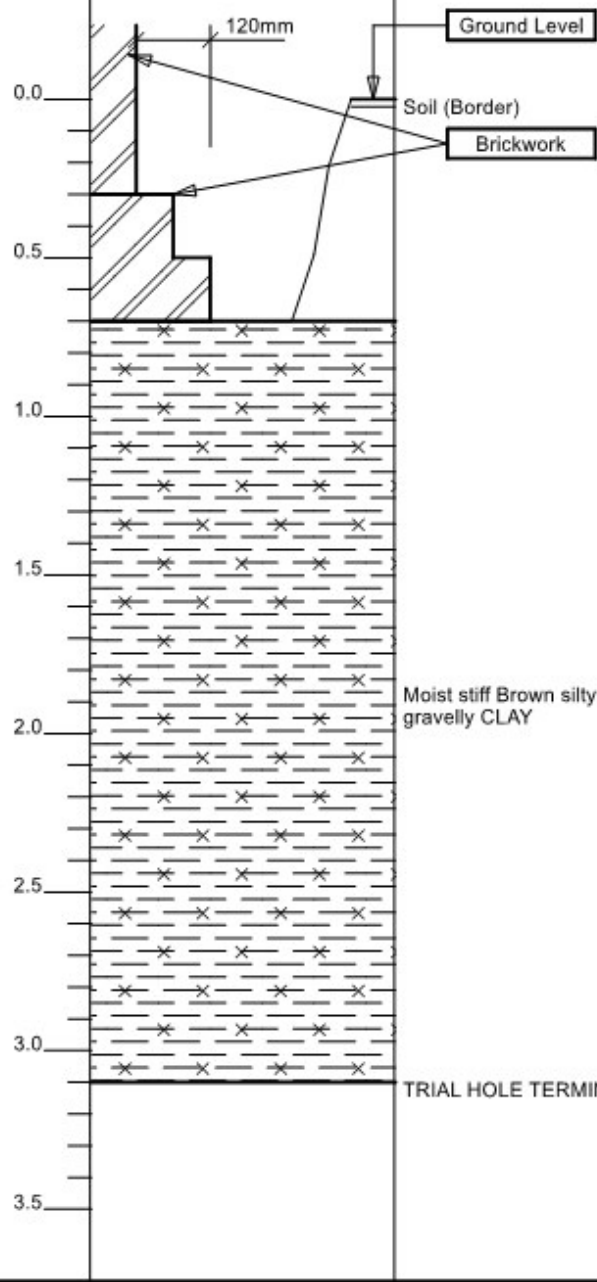
	= Manhole		= Blockage		= Lines not camera surveyed		= Steps		= Trial hole		= Shrubs/bush
	= Inspection Chamber		= svp/w/c		= Lines camera surveyed		= Borehole		= Hedge		= Tree
	= Inspection Pot		= wg/fwg		= Assumed water mains feed		= Direction of flow				
			= rwg		= Walls						
			= rwp		= Fences	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



Trial Hole Log No.1

Location: Front wall of the house

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Depth (m)	Symbolic Log	Strata Description	Insitu Tests		Soil Sample	Root Sample
			SV(19)			
0.0		Ground Level				
		Soil (Border)				
		Brickwork				
0.5						
1.0			68kpa		Soil @ 0.7m	Root @ 0.7m
1.5			74kpa		Soil @ 1.2m	
2.0		Moist stiff Brown silty fine to medium gravelly CLAY	94kpa		Soil @ 1.7m	
2.5			120kpa		Soil @ 2.2m	
3.0		TRIAL HOLE TERMINATED	120kpa		Soil @ 2.7m	
3.5			120kpa			



Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Richardson's Botanical Identifications

Auger Solutions

Auger House

Cross Lane

WALLASEY

Wirral CH45 8RH

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

Enterprise House
49-51 Whiteknights Road
Reading
RG6 7BB

Tel: (0118) 986 9552 *(Direct line)*

E-mail: richardsons@botanical.net

Web: www.botanical.net

Your ref: **129282-1-3**

Our ref: **83/2611**

24/12/2021

Dear Sirs

Root ID

The sample you sent in relation to the above on 09/12/2021 has been examined. The structure was referable as follows:

TH1, 0.7m		
1 no.	Examined root: similar in many ways to 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). Slightly tentative - this sample was very THIN (not more than 0.2mm in diameter).	Dead* (note this 'dead' result can be unreliable with such thin samples).

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

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.

** Try out our web site on www.botanical.net **



Geotechnical Testing Analysis Report



auger

environmental +
claims mgmt +
subsidence +
drainage +

Unit 3 & 4,
Heol Aur,
Dafen Ind Estate,
Dafen
Llanelli,
Carmarthenshire,
SA14 8QN

***The testing results contained within this report have been performed by GSTL a UKAS accredited laboratory on behalf of Auger.**

**Auger House,
Cross Lane,
Wallasey,
Wirral,
CH45 8RH**

Summary Of Claim Details

Policy Holder	Unknown
Risk Address	Unknown
SI Date	09/12/2021
Issue Date	09/12/2021
Report Date	11/01/2022
Auger Reference	129282.1.2.RSS
Insurance Company	Axa Insurance
LA Claim Reference	SU2103539
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	11/01/2022	Wayne Honey	
	Approved	11/01/2022	Paul Evans	





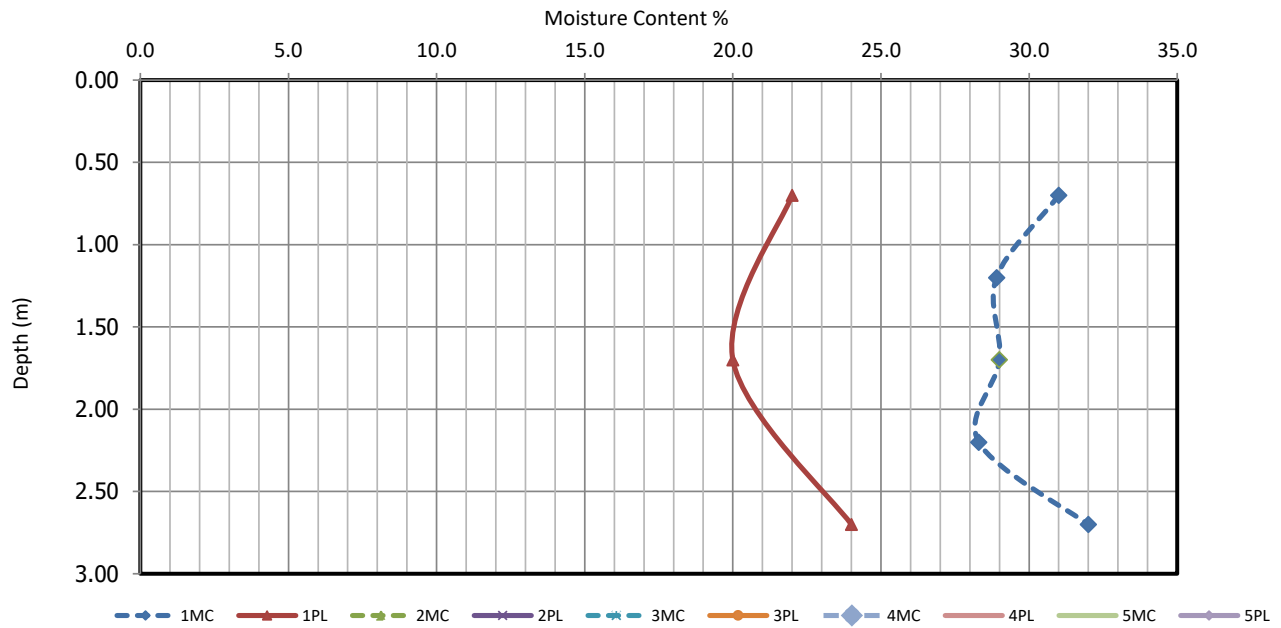
GSTL Contract Number	57471	
Risk Address	Unknown	
Auger Reference	129282.1.2.RSS	
Remarks	NP - (Non-Plastic), # - (Liquid Limit and Plastic Limit Wet Sieved)	

[illegible]

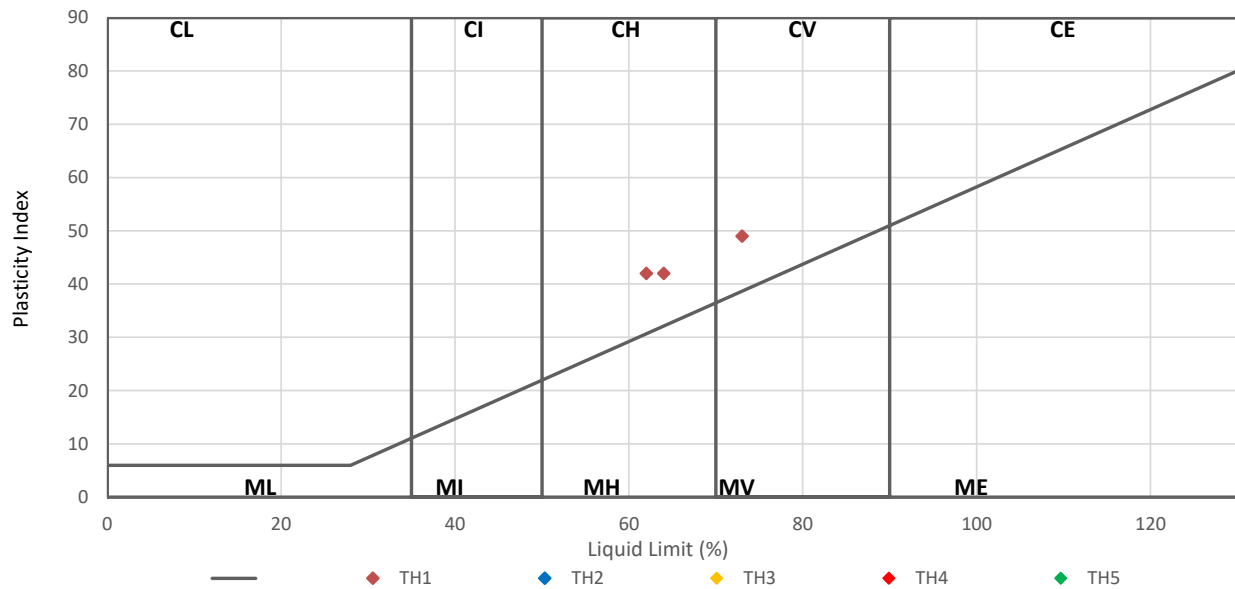
Modified Plasticity Index (PI) <10	: Non Classified
Modified PI = 10 to <20	: Low volume change potential (LOW VCP)
Modified PI = 20 to <40	: Medium volume change potential (Med VCP)
Modified PI = 40 or greater	: High volume change potential (HIGH VCP)

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	11/01/2022	Wayne Honey	<i>W. Honey</i>
Luke Williams	Approved	11/01/2022	Paul Evans	<i>P. Evans</i>



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



Modified Plasticity Index (PI) <10 : Non Classified
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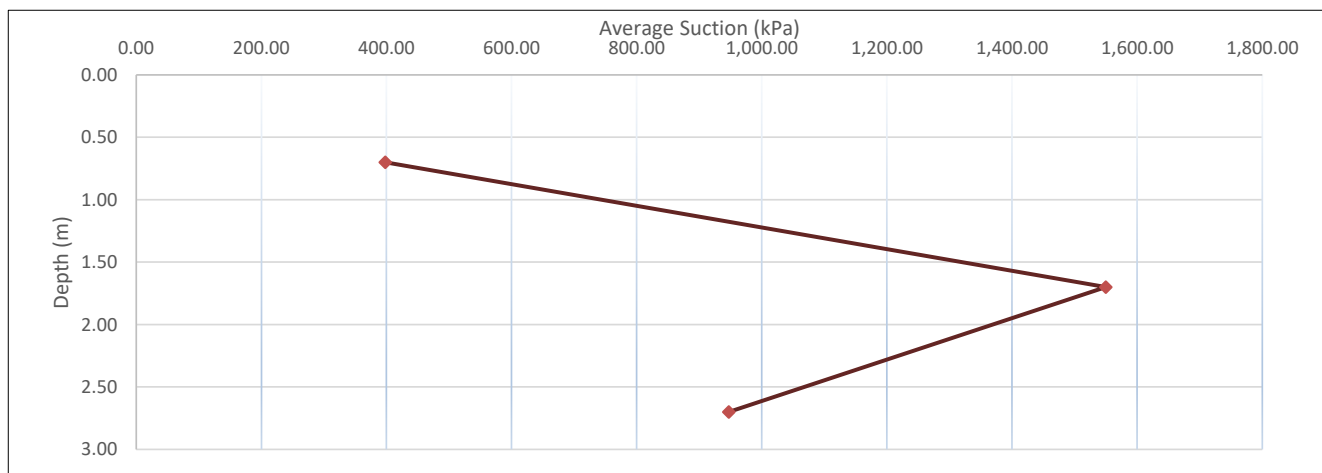
GSTL Contract Number	57471	
Risk Address	Unknown	
Auger Reference	129282.1.2.RSS	
Remarks	D - Disturbed (Recompacted 2.5kg Rammer), U - Undisturbed Sample	

TH Trial Hole	Depth (m)	Filter Paper Location	Filter Paper	Sample Prep Method	Test Duration (Days)	Water Content (%)	Soil Suction Pk (kPa)	Average Soil Suction Pk (kPa)	Cumulative Heave Potential (mm) from bottom of the hole
TH1	0.70	Top	I	D	5	36.0	401	398	41
TH1		Middle	II	D	5	36.0	397		
TH1		Bottom	III	D	5	36.0	397		
TH1	1.20								
TH1									
TH1									
TH1	1.70	Top	I	D	5	26.6	1530	1550	27
TH1		Middle	II	D	5	26.4	1570		
TH1		Bottom	III	D	5	26.5	1550		
TH1	2.20								
TH1									
TH1									
TH1	2.70	Top	I	D	5	29.8	963	947	13
TH1		Middle	II	D	5	30.2	911		
TH1		Bottom	III	D	5	29.8	967		

Heave potential is calculated from the bottom of the hole and heaves above the bottom of the hole are reported as a cumulative value.

The values reported for heave above only apply to the strata the suction and plasticity have been performed on. The shallowest depth reported is assumed to be a strata thickness to GL and Heave is calculated based on that layer thickness, if the next sample is in 0.5m increments the heave is calculated based on the layer thickness of 0.5m and depths 1m from the sample above will include heave over 1m.

Consideration should be made for other stratas where values are not reported and when working out the heave potential over the entire trial hole.



Test Operator	Checked	11/01/2022	Wayne Honey	<i>W. Honey</i>
Luke Williams	Approved	11/01/2022	Paul Evans	<i>P. Evans</i>