

Site Investigation Report

Auger Ref:

194196.1.USI



Job Information

Client	Quadra
Client ref	13964
Visit date	13/11/2025
Report date	02/01/2026

Job Summary

- ✓ CCTV survey undertaken. [Read more.](#)
- ! Drainage repairs required. [Read more.](#)
- ! Trial Hole depth not reached. [Read more.](#)



Job Information

Overview

Brief

Auger were commissioned by Quadra to undertake a site investigation and CCTV inspection of the underground drainage within the area of concern (AOC) at the property.

Whilst on site we completed a data capture and using our tree partners, produced an assessment of the vegetation surrounding the property to enable the creation of a full arboriculturist report that advises on the impact that vegetation may be having at the property with respect to the ground conditions.

Findings

Trial Hole Findings

Trial Hole 1

TH1 was undertaken in the desired location, we were able to expose the footings and we collected the requested soil and root samples. We were unable to reach the required depth in TH1 because we encountered impenetrable ground which our engineer could not auger through.

Trial Hole 2

TH2 was undertaken at the intended location. Unfortunately, excavation was only possible to a depth of approximately 0.5m due to impenetrable ground conditions, and as a result, the footings could not be exposed.

A remote borehole was then attempted, stepped back from the trial hole in order to obtain samples; however, the same ground conditions were encountered and prevented further progress.

As the construction of the garage appears to be consistent with that of the main house, it is reasonable to assume that the footing depth and construction are also the same. However, should the client wish for this to be confirmed, a reattendance would be required. This would involve a full day on site to mechanically break out the ground.

A quotation for these works has been provided.

Drain Survey

We carried out a CCTV survey of the below ground drainage system, our findings of which are as follows:

Line 1 - From RWG1 downstream to outside area of concern

Our survey of line 1 revealed cracking.

Line 2 - From MH1 upstream to WC

Our survey of line 2 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 3 - From MH1 upstream to FWG1

Our survey of line 3 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 4 - From MH1 downstream to MH2

Our survey of line 4 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 5 - From RWG2 downstream to MH2

Our survey of line 5 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 6 - From MH2 upstream to SWG2

Our survey of line 6 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 7 - From MH2 upstream to outside area of concern

Our survey of line 7 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 8 - From MH2 downstream to outside area of concern

Our survey of line 8 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Recommendations

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

Refer Back to Client

Line 1

Install a 100mm patch liner approximately 1.4m downstream of RWG1.

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

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

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.

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.

*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.*

Photographs

Trial Hole 1



CCTV Survey – Inspection Listings (WRC Guidelines Applied)

LINE 1			
Direction	Downstream	From	RWG1
Pipe Size (mm)	100	Depth (m)	0.2
Pipe Material	PP	To	PAST AOC
0.4m	Open Joint - Medium		
0.4m	Material Change (PP TO VC)		

LINE 2

Direction	Upstream	From	MH1
Pipe Size (mm)	100	Depth (m)	0.5
Pipe Material	XXX	To	DOWNSTAIRS WC

1.1m
1.5m

Line of Sewer Deviates Up
Finish of Survey Length (DOWNSTAIRS WC)

LINE 3

Direction	Upstream	From	MH1
Pipe Size (mm)	100	Depth (m)	0.5
Pipe Material	VC	To	FWG1

0.5m

Finish of Survey Length (FWG1)

LINE 4

Direction	Downstream	From	MH1
Pipe Size (mm)	100	Depth (m)	0.5
Pipe Material	XXX	To	MH2

3.4m
3.4m

Manhole (MH2)
Finish of Survey Length (MH2)

LINE 5

Direction	Downstream	From	RWG2
Pipe Size (mm)	100	Depth (m)	0.2
Pipe Material	PP	To	MH2

0.8m
1.0m
1.3m

Line of Sewer Deviates Down
Line of Sewer Deviates Down
Finish of Survey Length (MH2)

LINE 6

Direction	Upstream	From	MH1
Pipe Size (mm)	100	Depth (m)	0.8
Pipe Material	PP	To	SWG2

0.5m
0.7m
1.1m
4.5m

Line of Sewer Deviates Left
Connection (SWG1)
Line of Sewer Deviates Left
Finish of Survey Length (PAST AOC)

LINE 7

Direction	Upstream	From	MH2
Pipe Size (mm)	100	Depth (m)	0.8
Pipe Material	VC	To	PAST AOC

4.1m

Finish of Survey Length (PAST AOC)

LINE 8

Direction	Downstream	From	MH2
Pipe Size (mm)	100	Depth (m)	0.8
Pipe Material	VC	To	PAST AOC

0.6m
2.4m
3.4m

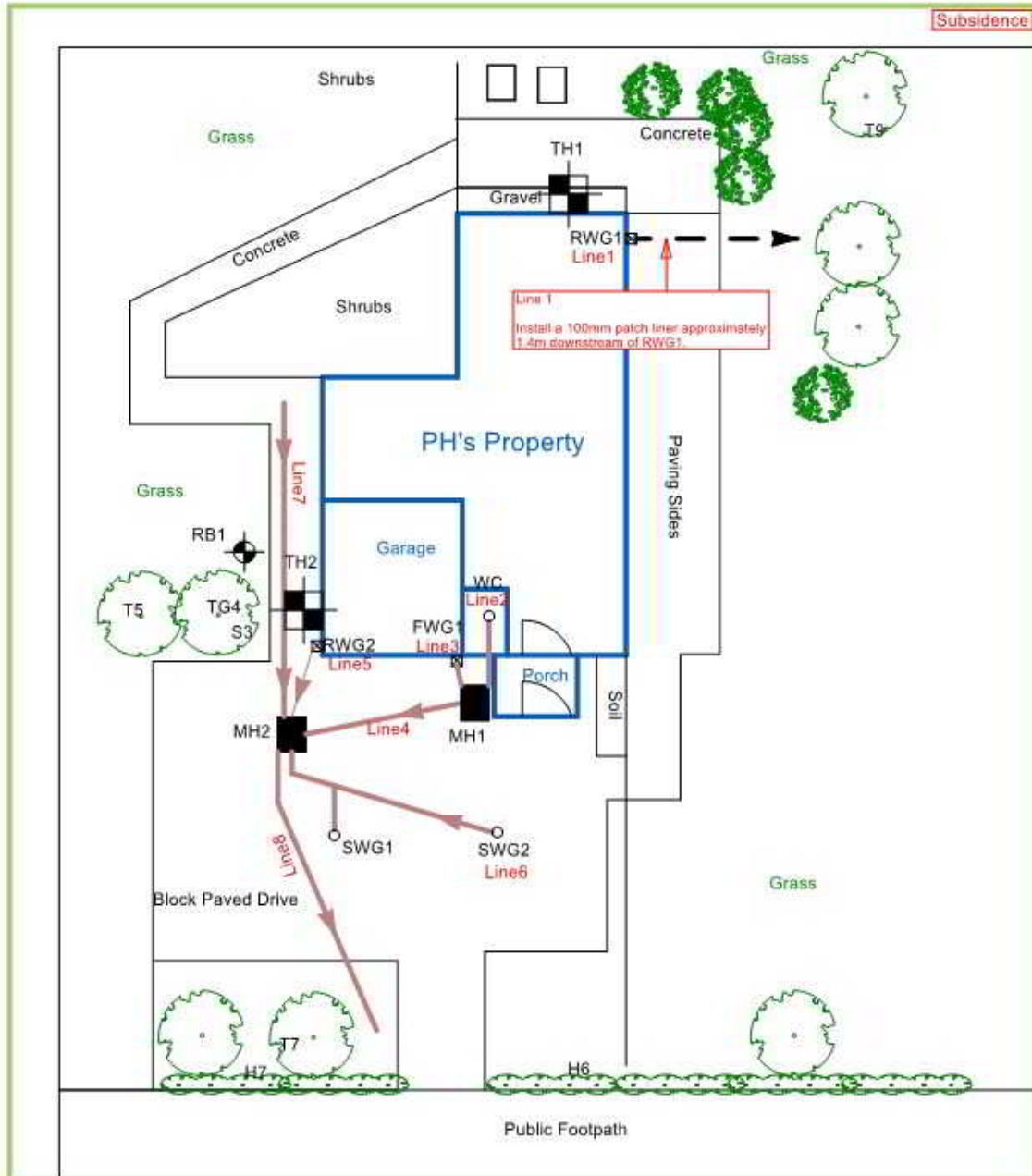
Crack - Circumferential
Crack - Circumferential
Finish of Survey Length (PAST AOC)



Proposed Layout

Job Ref: 194196.1

Date: 13/11/2025



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.

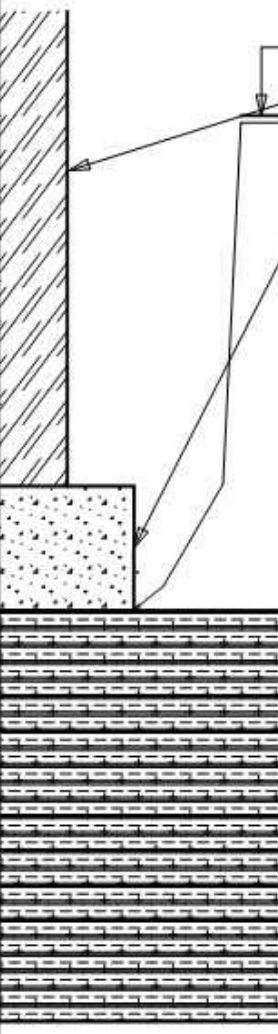
LEGEND			
= Manhole (MH)	= Blockage / Collapse	= Lines not to be repaired	= Trial hole
= Inspection Chamber (IC)	= Soil Vent Pipe (SVP) / WC	= Lines to be repaired	= Borehole
= Inspection Point (IP)	= Combined Waste Gully (CWG) / Foul Waste Gully (FWG)	= Assumed water mains feed	= Shrubs / Bush
	= Rainwater Gully (RWG)	= Walls	= Hedge
	= Rainwater Pipe (RWP)	= Fences	= Tree
		= Building Outline	= Direction of flow
			= Gate / Door
			= Steps



Trial Hole Log No.1

Location: Grass lhs of property

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Depth (m)	Symbolic Log	Strata Description	Insitu Tests		Soil Sample	Root Sample
0.0		Ground Level			Soil @ 0m	Root @ 0m
		Brickwork				
		Grass				
		Concrete				
0.5						
1.0						
1.5		Dry stiff brown fine to medium gravelly sandy silty CLAY				
2.0		Dry stiff brown fine to medium gravelly sandy CLAY				
2.5		TRIAL HOLE TERMINATED				

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

GSTL Job Reference

82607

SI Date

13/11/2025

Issue Date

13/11/2025

Report Date

24/11/2025

Auger Reference

194196.1.4.RSS

Insurance Company

Quadra Claims Management Unit

LA Claim Reference

13964

LA Co. Reference

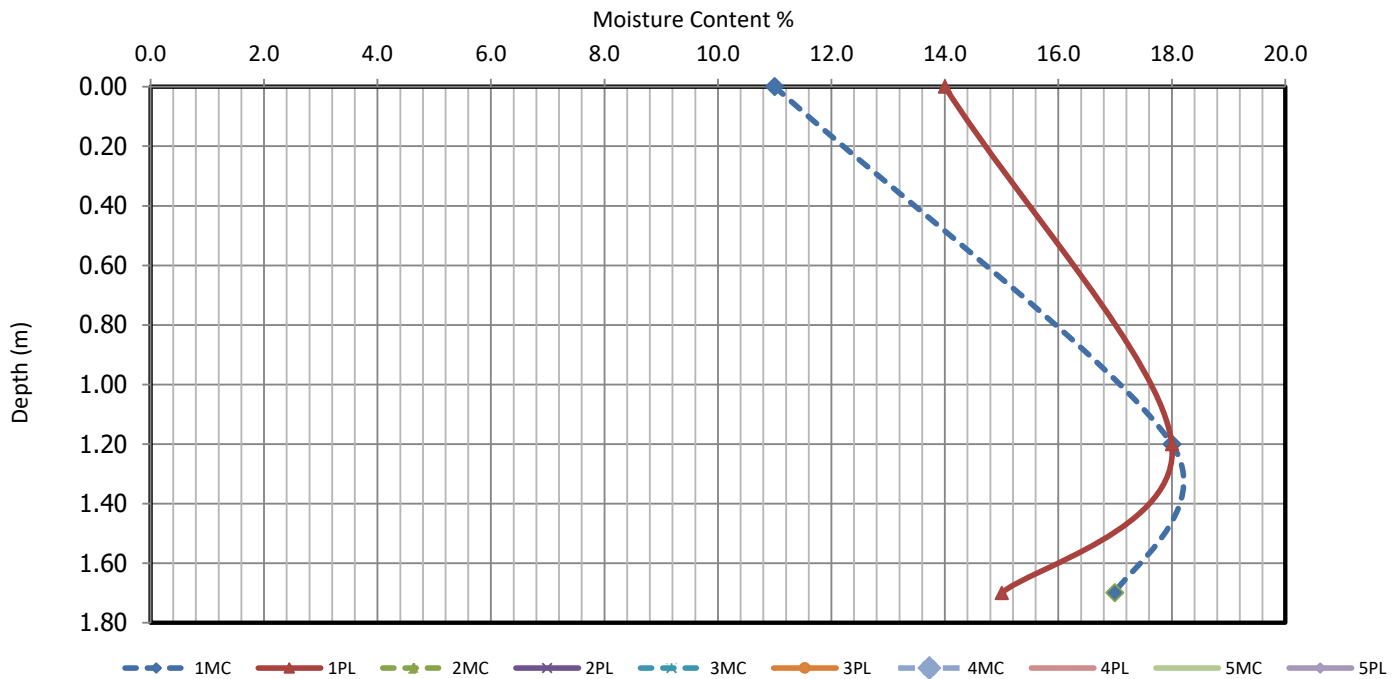
Quadra

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.

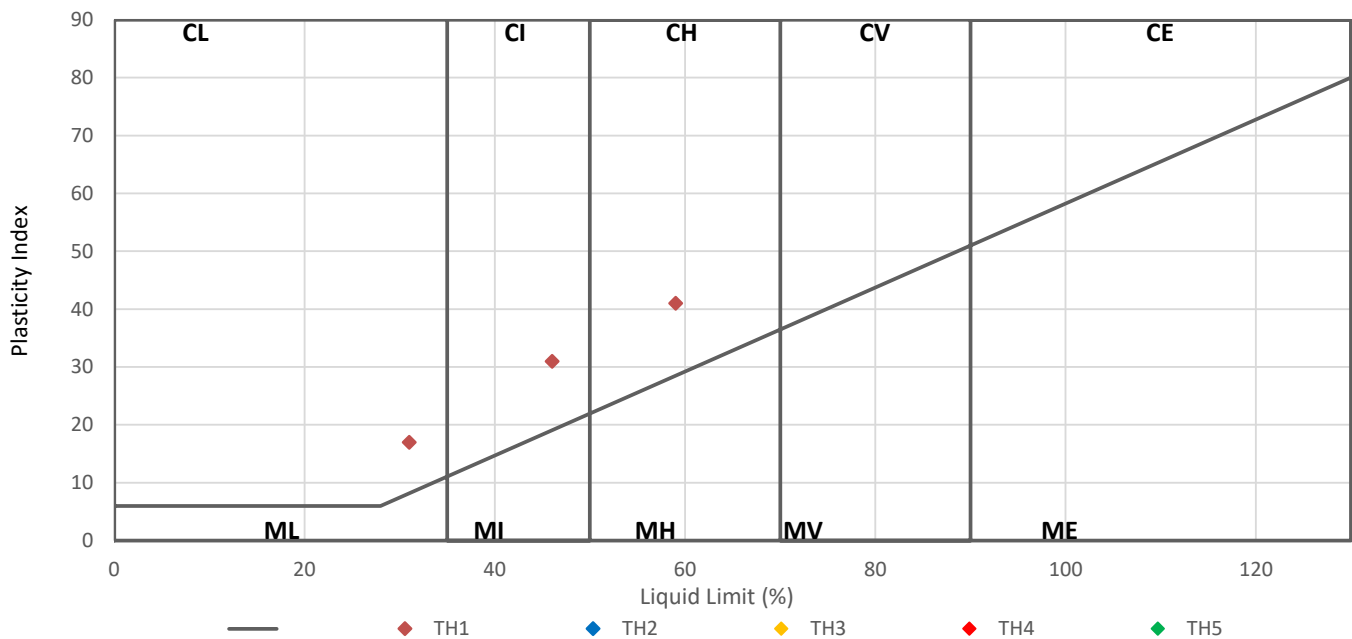
Checked and approved

24/11/2025

R.John



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

Jason Smith



Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Richardson's Botanical Identifications

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

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E-mail: richardsons@botanical.net

Web: www.botanical.net

Your ref: **194196-1-3**

Our ref: **90/2601**

25/11/2025

Dear Sirs

Root ID

The samples you sent in relation to the above on 13/11/2025 have been examined. Their structures were referable as follows:

TH1, 1.2m		
3 no.	Examined root: PRUNUS (Cherries, Plums and Damsons, Almonds, Peaches and Apricots, Blackthorn/Sloe, as well as the shrubby Cherry-laurel and Portugal-laurel).	Alive, recently*.
2 no.	Both samples revealed too few cells for microscopic identification.	
TH1, 1.7m		
4 no.	Examined root: only 0.8mm in diameter. Also like the PRUNUS group (as listed above).	Alive, recently*.
3 no.	Unfortunately all with insufficient cells for identification.	
RB1, 0.0m		
2 no.	Examined root: a conifer - particularly like the family CUPRESSACEAE (cypresses ('macrocarpa', 'Leylandii' etc.), Thuja (Western Red Cedar), Junipers).	Alive, recently*.
1 no.	Examined root: an herbaceous (non-woody) plant.	Alive, recently*.
2 no.	Both pieces of BARK only - insufficient material for recognition.	
2 no.	Both samples revealed too few cells for microscopic identification.	

Click here for more information: [CUPRESSACEAE](#) [PRUNUS](#)

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.