

# Arboricultural Consultancy for Aviva

**Note:** This report is intended for use between the client, Environmental Services and any parties detailed within the report. It is based on the understanding at the time of visiting the property that Engineers are satisfied that damage is attributable to clay shrinkage subsidence exacerbated by vegetation.

## 1. Case Details

Insured	Mr Antony Lewis	Address	12 The Causeway, Burwell, Cambridge, CB25 0DU		
Client	Subsidence Management Services	Contact	Ian Walters	Claim No.	IFS-AVI-SUB-23-0107600
ES Ref	SA-253201	Consultant	Keith Burgess	Contact No.	0330 380 1036
Report Date	16/06/2023				

**Scope of Report:** To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action and assess initial mitigation and recovery prospects. The survey does not make an assessment for decay or hazard evaluation.

## 2. Property and Damage Description

The insured structure is a bungalow. It has been extended with a single-storey extension to the rear. The property occupies a level site with no adverse topographical features.

We understand that the current damage is indicative of downward and rotational movement to the front elevation through to the rear elevation, relative to the remainder of the building. All observations are referenced standing looking at the front of the property.

## 3. Technical Reports

No technical investigations are available at the time of reporting, therefore assumptions outlined in Note above apply: recommendations may be subject to change following evaluation of any investigations that may be forthcoming.

## 4. Action Plan

Mitigation	
Insured involved?	Yes
Local Authority involved?	No
Other third party Mitigation involved?	No
Recovery	
Is there a potential recovery action?	No

Treeworks	
Local Authority	East Cambridgeshire District Council
TPO / Conservation Area / Planning Protection Searches	Awaiting Searches from LA
Additional Comments	
Awaiting Further Instructions.	

# Arboricultural Consultancy for Aviva

## 5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Subsidence Management Services have concluded, on a preliminary basis, that the current damage is due to differential foundation movement exacerbated by moisture abstraction from vegetation growing adjacent to the property's foundations.

We have therefore been instructed to assess the potential for vegetation to be influencing soil moisture levels beneath the foundations of the property and, if deemed appropriate provide management proposals which will return long-term stability and allow effective repairs to be undertaken.

The potential drying influence of the vegetation on site, has been considered based on an assessment of overall size, species profile and the proximity of vegetation relative to the advised area of damage.

Based on our observations on site, it is our opinion that the footings of the subject property are within the normally accepted influencing distance of vegetation on site, thereby indicating the potential for the advised damage to be the result of clay shrinkage subsidence exacerbated by the moisture abstracting influence of vegetation.

With due regards to species profile, size and proximity, the Magnolia (T1) is considered the dominant feature proximate to the focal area(s) of movement and accordingly, where vegetation is confirmed as being causal, we have identified it as the primary cause of the current subsidence damage.

The size and proximity of the above vegetation is consistent with the advised location(s) of damage and it is our opinion, on balance of probability, that roots from the above vegetation will be in proximity to the footings of the insured property.

Note: additional minor vegetation has been noted on site and, depending on trial-pit location may be identified within future site investigations; however, unless specifically identified within this report, these plants are not deemed material to the current claim nor pose a significant future risk.

Given the above and considering the suspected mechanism of movement, in order to mitigate the current damage thereby allowing soils beneath the property to recover to a position such that an effective engineering repair solution can be implemented, we recommend a program of vegetation management as detailed by this report.

Please refer to Section 6 for management prescriptions.

Preliminary recommendations contained within this report are prescribed on the basis that site investigations confirm vegetation to be causal; management advice is designed to offer the most reliable arboricultural solution likely to restore long-term stability and also facilitate liaison with third-party owners and/or Local Authorities where necessary.

Consequently, we have advocated the complete removal of T1 as it will offer the most certain arboricultural solution likely to restore long-term stability.

Replacement planting is considered appropriate with regards mitigating the impact of the works suggested; however, species selection should be appropriate for the chosen site and consideration must be given to the ultimate size of the replacement species and any future management requirements.

We recommend the role of vegetation and the efficacy of management recommendations be qualified by means of monitoring.

Please note that the footing of the insured property fall within the anticipated rooting distance of additional vegetation which we believe presents a foreseeable risk of future damage and accordingly we have made recommendations in respect of this.

Is vegetation likely to be a contributory factor in the current damage?	Yes
Is vegetation management likely to contribute to the future stability of the property?	Yes
Is replacement planting considered appropriate?	Yes
Would DNA profiling be of assistance in this case?	No

# Arboricultural Consultancy for Aviva

## 6.0 Recommendations

### 6.1 Current Claim Requirements

These recommendations may be subject to review following additional site investigations.

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
T1	Magnolia	1	5.5	1.2	C - Insured	Remove	Remove close to ground level and treat stump to inhibit regrowth.

**Age Cat:** 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property

\* Estimated

### 6.2 Future Risk Recommendations

These recommendations may be subject to review following additional site investigations.

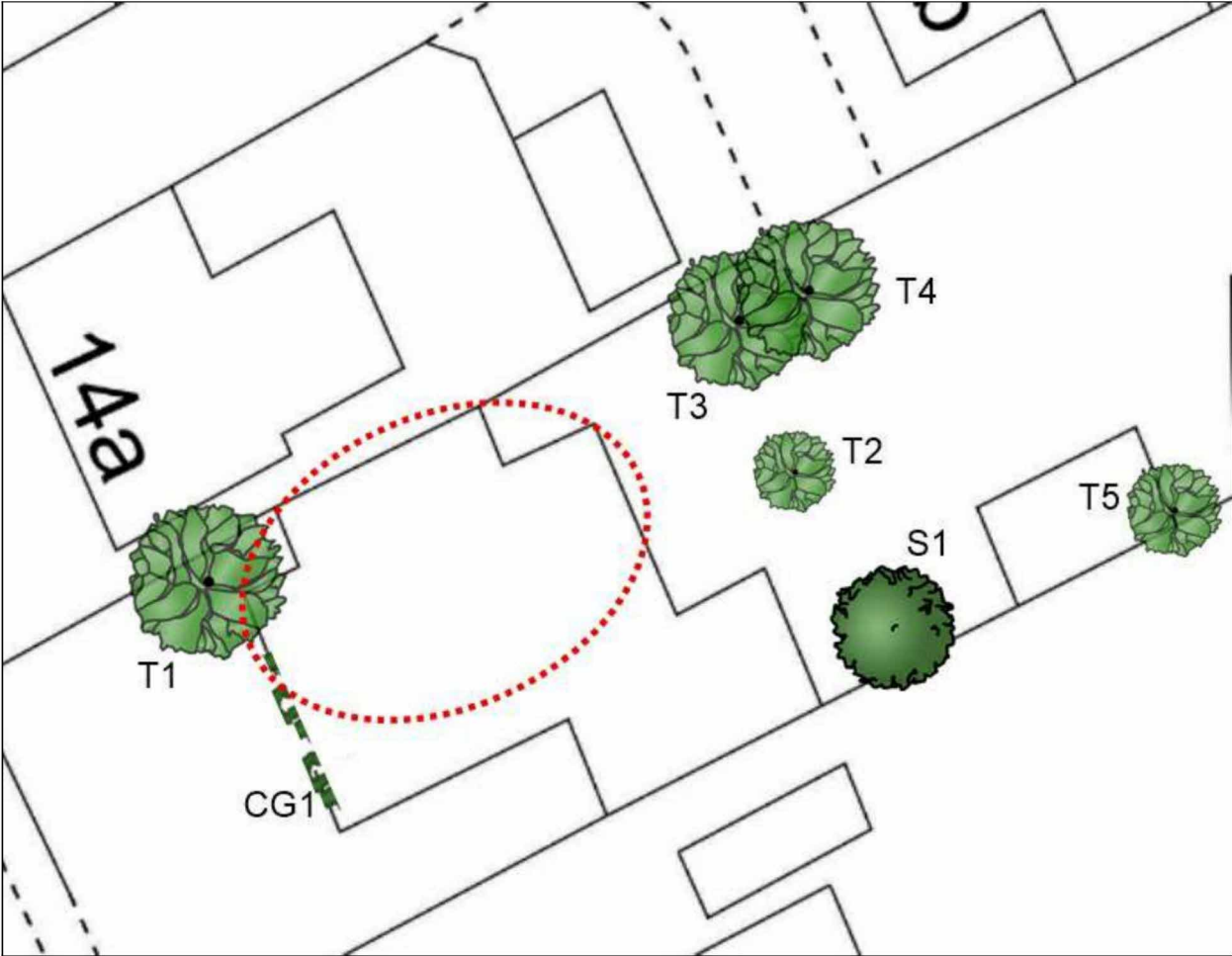
Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
CG1	Ivy	1	2	0.1	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
S1	Philadelphus	1	5	2.3	C - Insured	Action to avoid future risk	Maintain at, or below current dimensions by way of regular pruning.
T2	Pine	1	2	3.7	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
T3	Apple (Crab)	1	4	6.2	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
T4	Cherry	1	3	8.6	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
T5	Willow (Goat)	1	4.5	12.0	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.

**Age Cat:** 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property

\* Estimated

Third party property addresses should be treated as indicative only, should precise detail be required then Environmental Services can undertake Land Registry Searches

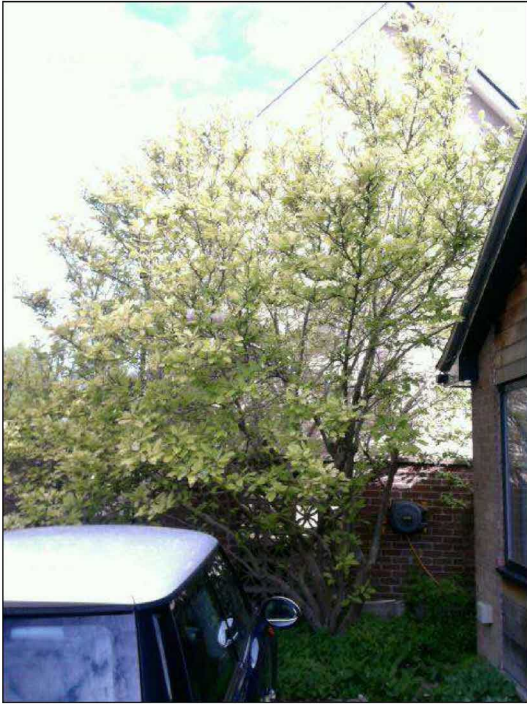
7. Site Plan



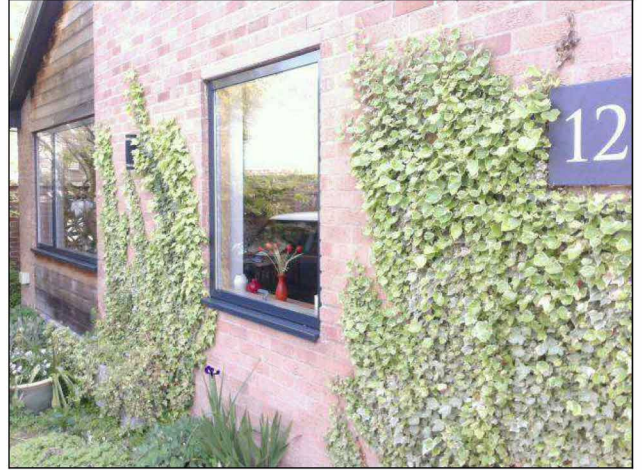
Please note that this plan is not to scale. OS Licence No. 100043218

# Arboricultural Consultancy for Aviva

## 8. Photographs



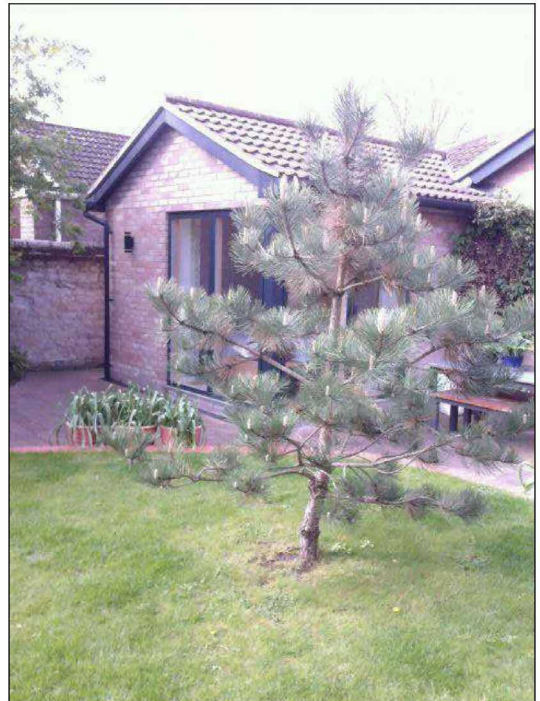
T1 - Magnolia



CG1 - Ivy



S1 - Philadelphus

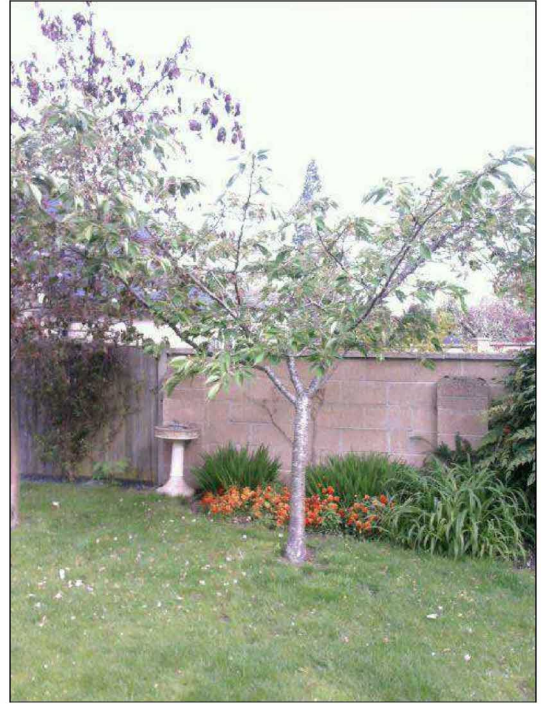


T2 - Pine

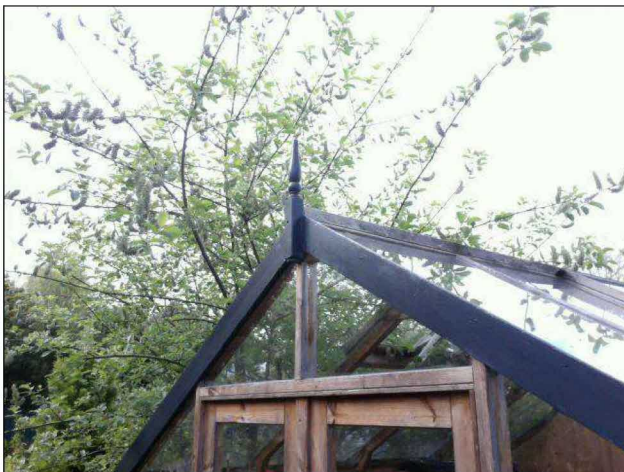
# Arboricultural Consultancy for Aviva



T3 - Apple (Crab)



T4 - Cherry



T5 - Willow (Goat)

# Arboricultural Consultancy for Aviva

Date: 16/06/2023

Property: 12 The Causeway, Burwell, Cambridge, CB25 0DU

## 9. Tree Works Reserve - Does not include recommendations for future risk.

Insured Property Tree Works	£720.00
Third Party Tree Works	£0.00
Provisional Sum	£0.00

- The above prices are based on works being performed as separate operations.
- The above is a reserve estimate only.
- Ownerships are assumed to be correct and as per Section 6.
- A fixed charge is made for Tree Preservation Order/Conservation Area searches unless charged by the Local Authority in which case it is cost plus 25%.
- Should tree works be prevented due to statutory protection then we will automatically proceed to seek consent for the works and Appeal to the Secretary of State if appropriate.
- All prices will be subject to V.A.T., which will be charged at the rate applying when the invoice is raised.
- Trees are removed as near as possible to ground level, stump and associated roots are not removed or included in the price.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future regrowth. Should this occur we would be pleased to provide advice to the insured on the best course of action available to them at that time. Where there is a risk to other trees of the same species due to root fusion, chemical control may not be appropriate.

## 10. Limitations

This report is an appraisal of vegetation influence on the property and is made on the understanding that that engineers suspect or have confirmed that vegetation is contributing to clay shrinkage subsidence, which is impacting upon the building. Recommendations for remedial tree works and future management are made to meet the primary objective of assisting in the restoration of stability to the property. In achieving this, it should be appreciated that recommendations may in some cases be contrary to best Arboricultural practice for tree pruning/management and is a necessary compromise between competing objectives.

Following tree surgery we recommended that the building be monitored to establish the effectiveness of the works in restoring stability.

The influence of trees on soils and building is dynamic and vegetation in close proximity to vulnerable structure should be inspected annually.

**The statutory tree protection status as notified by the Local Authority was correct at the time of reporting. It should be noted however that this may be subject to change and we therefore advise that further checks with the Local Authority MUST be carried out prior to implementation of any tree works. Failure to do so can result in fines in excess of £20,000.**

Our flagging of a possible recovery action is based on a broad approach that assume all third parties with vegetation contributing to the current claim have the potential for a recovery action (including domestic third parties). This way opportunities do not "fall through the net"; it is understood that domestic third parties with no prior knowledge may be difficult to recover against but that decision will be fully determined by the client.

**A legal Duty of Care requires that all works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998:2010 "Tree Work. Recommendations".**

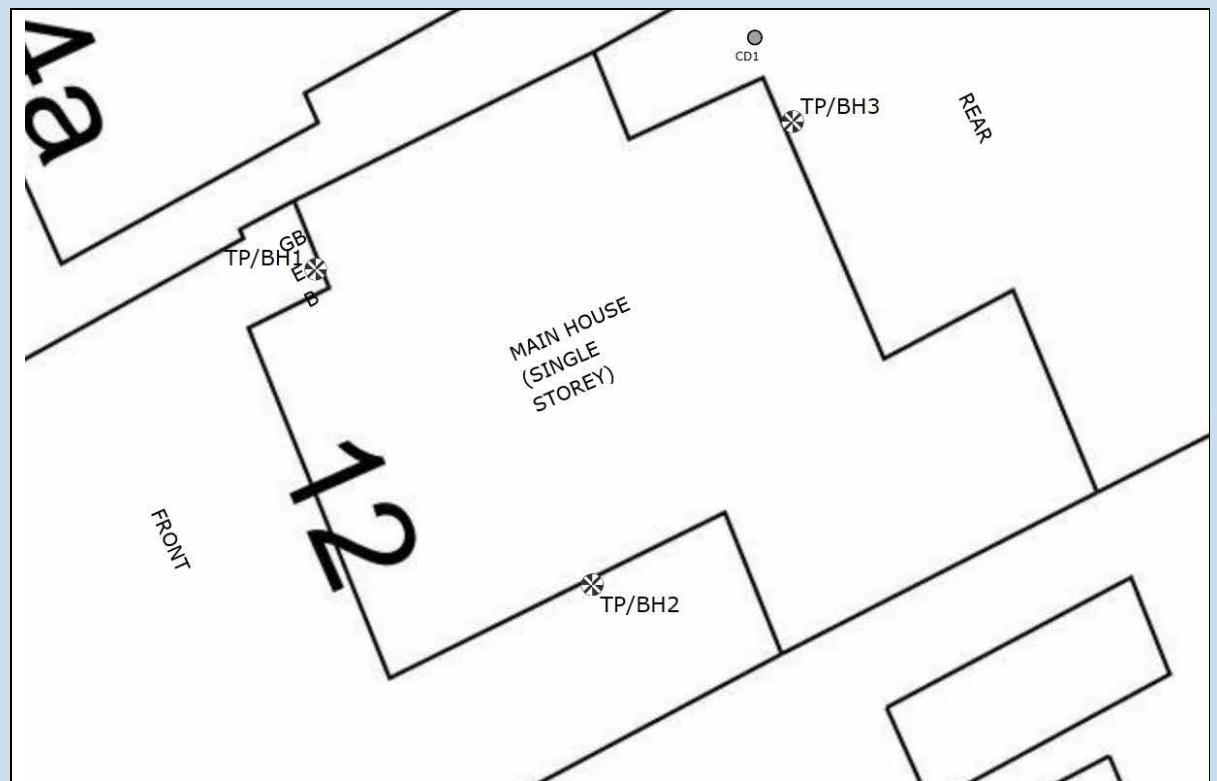
# GEOTECHNICAL

## for Subsidence Management Services

12 The Causeway, Burwell, Cambridge, CB25 0DU

Client: Subsidence Management Services  
Client Contact: Ian Walters  
Client Ref: IFS-AVI-SUB-23-0107600  
Policy Holder: Mr Antony Lewis  
Report Date: 3 July 2023  
Our Ref: C72279G32683

### Site Plan



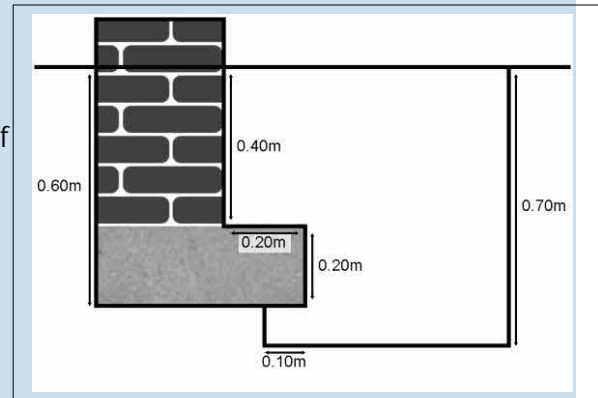
	Borehole		Foul Water Drain		Foul Manhole		Foul Rodding Point		Foul Vent Pipe
	Trial Pit / Borehole		Surface Water Drain		Rain Water Manhole		Surface Rodding Point		Rain Water Gully
	Trial Pit		Combined Drain		Combined Manhole				



TP/BH1 Foundation Detail and Borehole Log

Foundation Detail

House foundation comprised of brick wall to 400mm bgl, bearing on concrete to 600mm bgl with a total projection of 200mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 400mm back from the face of the foundation.



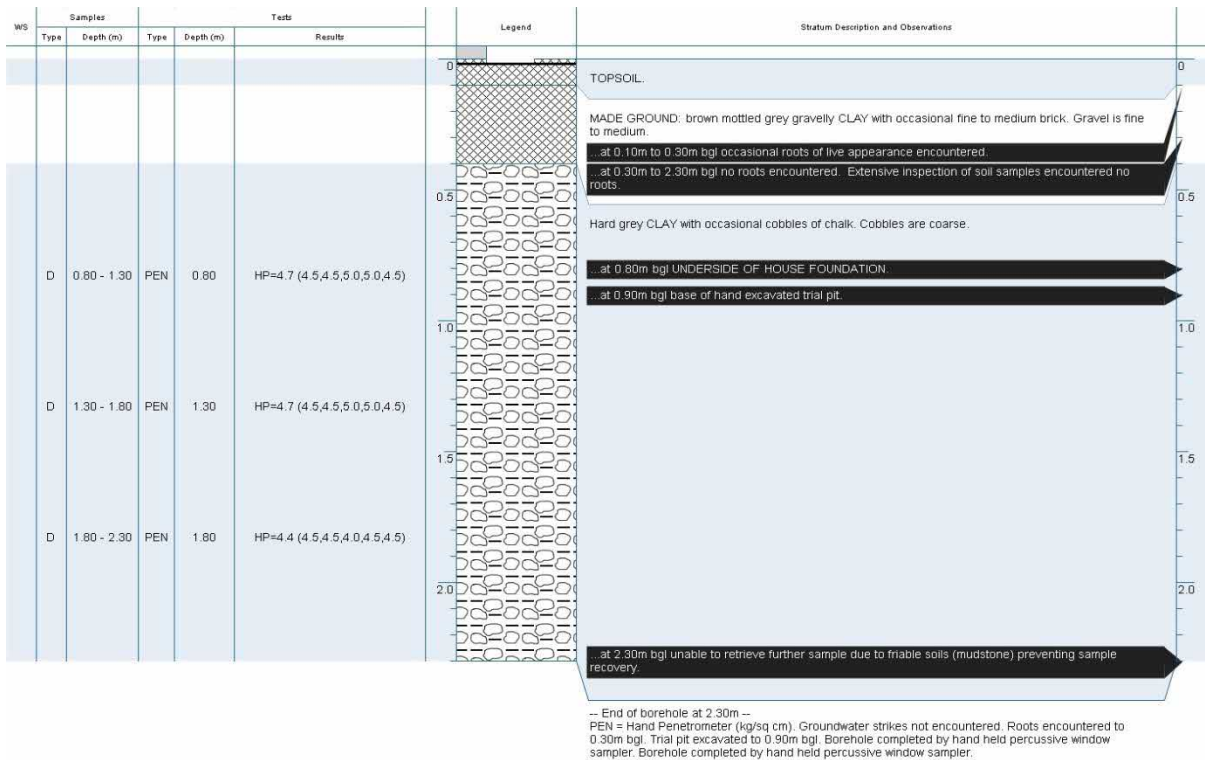
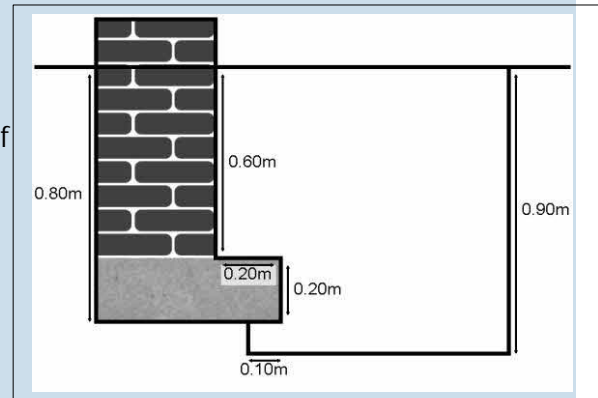
WS	Samples		Tests		Legend	Stratum Description and Observations
	Type	Depth (m)	Type	Depth (m)		
					0	TOPSOIL.
					0.5	MADE GROUND: brown mottled grey gravelly CLAY with occasional fine to medium brick. Gravel is fine to medium. ...at 0.10m to 0.60m bgl numerous roots of live appearance encountered
	D R	0.60 - 1.10 0.60 - 1.60	PEN	0.60	HP=4.3 (4.5,4.5,4.0,4.0,4.5)	Hard grey mottled brown cobbly CLAY. Cobbles are fine to coarse chalk. ...at 0.60m bgl UNDERSIDE OF HOUSE FOUNDATION. ...at 0.60m to 1.60m bgl numerous roots of live appearance encountered and sampled. ...at 0.70m bgl base of hand excavated trial pit.
	D	1.10 - 1.60	PEN	1.10	HP=4.7 (4.5,5.0,5.0,4.5,4.5)	
	D	1.60 - 2.10	PEN	1.60	HP=4.5 (4.5,4.5,4.0,4.5,5.0)	...at 1.60m to 2.10m bgl no roots encountered. Extensive inspection of soil samples encountered no roots. ...at 2.10m bgl unable to retrieve further sample due to friable soils (mudstone) preventing sample recovery

-- End of borehole at 2.10m --  
 PEN = Hand Penetrometer (kg/sq cm). Groundwater strikes not encountered. Roots encountered to 1.10m bgl. Borehole completed by hand held percussive window sampler. Trial pit excavated to 0.70m bgl. Borehole completed by hand held percussive window sampler.

TP/BH2 Foundation Detail and Borehole Log

Foundation Detail

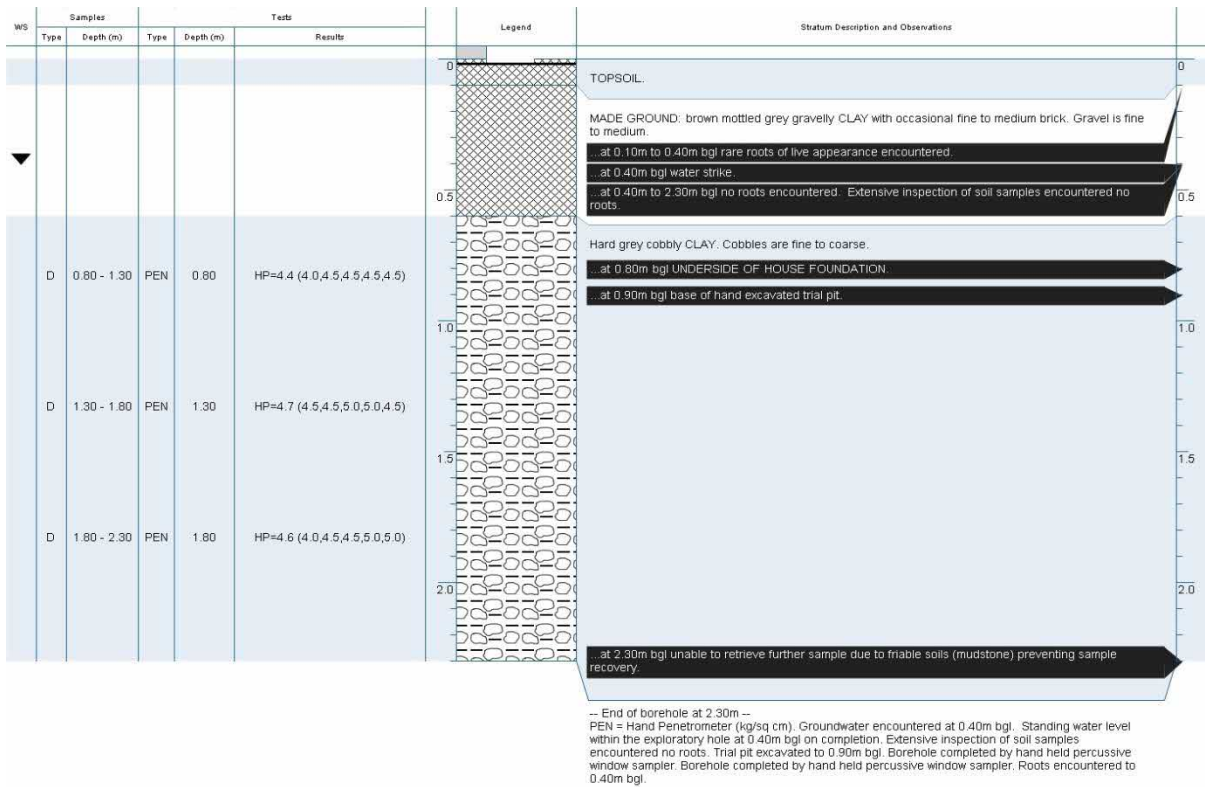
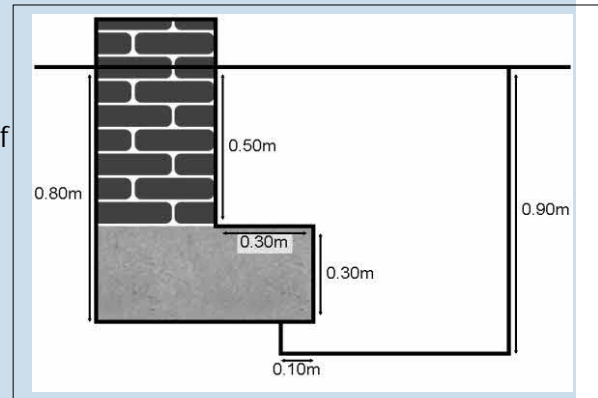
House foundation comprised of brick wall to 600mm bgl, bearing on concrete to 800mm bgl with a total projection of 200mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 400mm back from the face of the foundation.



TP/BH3 Foundation Detail and Borehole Log

Foundation Detail

House foundation comprised of brick wall to 500mm bgl, bearing on concrete to 800mm bgl with a total projection of 300mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 400mm back from the face of the foundation.



## Site Observations

### GENERAL:

Site Investigation works undertaken on 29 June 2023 during intermittent rain showers.

### HEALTH AND SAFETY:

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH1).

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH2).

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH3).

### FOUNDATIONS:

At 0.60m bgl UNDERSIDE OF HOUSE FOUNDATION in TP/BH1.

At 0.80m bgl UNDERSIDE OF HOUSE FOUNDATION in TP/BH2.

At 0.80m bgl UNDERSIDE OF HOUSE FOUNDATION in TP/BH3.

### BOREHOLE:

At 0.70m bgl base of hand excavated trial pit in TP/BH1.

At 2.10m bgl unable to retrieve further sample due to friable soils (mudstone) preventing sample recovery in TP/BH1.

At 0.90m bgl base of hand excavated trial pit in TP/BH2.

At 2.30m bgl unable to retrieve further sample due to friable soils (mudstone) preventing sample recovery in TP/BH2.

At 0.90m bgl base of hand excavated trial pit in TP/BH3.

At 2.30m bgl unable to retrieve further sample due to friable soils (mudstone) preventing sample recovery in TP/BH3.

### ROOTS:

At 0.10m to 0.60m bgl numerous roots of live appearance encountered in TP/BH1.

At 0.60m to 1.60m bgl numerous roots of live appearance encountered and sampled in TP/BH1.

At 1.60m to 2.10m bgl no roots encountered. Extensive inspection of soil samples encountered no roots in TP/BH1.

At 0.10m to 0.30m bgl occasional roots of live appearance encountered in TP/BH2.

At 0.30m to 2.30m bgl no roots encountered. Extensive inspection of soil samples encountered no roots in TP/BH2.

At 0.10m to 0.40m bgl rare roots of live appearance encountered in TP/BH3.

At 0.40m to 2.30m bgl no roots encountered. Extensive inspection of soil samples encountered no roots in TP/BH3.

### IN SITU TESTING:

Hand Penetrometer (PEN) undertaken at 0.60m bgl (TP/BH 1) within the window sampler at maximum 0.50m intervals.

Hand Penetrometer (PEN) undertaken at 0.80m bgl (TP/BH 2) within the window sampler at maximum 0.50m intervals.

Hand Penetrometer (PEN) undertaken at 0.80m bgl (TP/BH 3) within the window sampler at maximum 0.50m intervals.

### WATER STRIKES:

No water strikes (NWS) encountered (TP/BH 1).

No water strikes (NWS) encountered (TP/BH 2).

A water strike (WS) was encountered in the made ground at 0.40m bgl (TP/BH 3), with a standing water level (SWL) recorded at 0.40m bgl after 20 minutes (TP/BH 3). Standing water level within the exploratory hole at 0.40m bgl (TP/BH 3) on completion.

The groundwater observations do not necessarily indicate equilibrium conditions. It should be appreciated that groundwater levels are subject to both seasonal and weather induced variations. Other effects such as construction activities may also change groundwater levels.

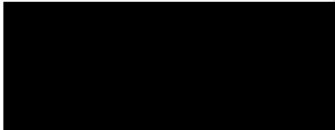
Client: Subsidence Management Services  
Claim Number: 4502487306  
Policy Holder: Mr Antony Lewis  
Report Date: 18/07/2023  
Our Ref: L26381

# SOIL ANALYSIS

## for Subsidence Management Services

**12 The Causeway, Cambridge, CB25 0DU**

Compiled By:

Name	Position	Signature
Sam Shah	Laboratory Technician	
Name	Position	Signature
Bob Walker	Laboratory Manager	

Checked By:

Date samples received: 03-Jul-23  
Water Content Test Date: 05-Jul-23  
Atterberg Limits Test Date: 17-Jul-23



9265

#### Notes relating to soils testing

Unless otherwise stated, all soil testing was undertaken by Environmental Services at unit 10H Maybrook Business Park, B76 1AL for SubsNetUK of Unit 4 Linnet Court, Cawledge Business Park, Alnwick, NE66 2GD

Soil samples have been prepared in accordance with BS1377:Part 1: 2016 Section 7

Descriptions of soil samples within the laboratory have been undertaken generally in accordance with BS5930:2015. Descriptions of soil samples fall outside of the scope of UKAS accreditation and may have been shortened to remove tertiary components for ease of reference.

The graphical representation of 40% of the LL and the numerical representation of the modified plasticity index (mod. PI) fall outside of the scope of UKAS accreditation.

Following the issue of this soil analysis report, samples will be retained for at least 28 days should additional testing, or referencing, be required. It should be noted that any tests undertaken on soils retained subsequent to the issue of this report may not give an accurate indication of the in-situ conditions of the sample.

This Soil Analysis Report may not be reproduced, in part or in full, without written approval of the laboratory.

The results contained herein relate only to items tested and no others. Additionally as the laboratory is not responsible for the sampling process it takes no responsibility for the condition of the samples and all samples are tested "as received".

Where samples of the same test type are not tested on the same day, or the testing spans multiple days, the test date states the day of the final test or the test date of the final sample.

All information above the laboratory reference on the cover page of this report are as provided by the customer and the laboratory is not responsible for any errors or omissions therein.

L26381

Water Content Tests are undertaken in accordance with ISO 17892:Part 1:2014

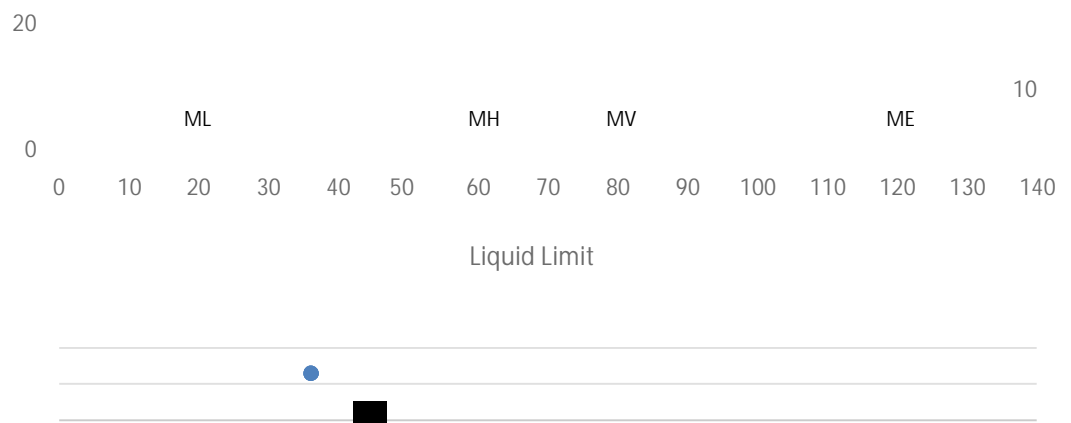
The Liquid Limit test is undertaken in accordance with BS1377:Part 2:1990 Section 4.4 using an 80g cone with a 30° tip. Sieve percentages reported in blue denote that the sample has been sieved otherwise it has been prepared from its natural state. Sieve percentage reported in BOLD denote that the sample has been oven-dried prior to testing.

Unless otherwise specified herein, the one-point cone penetrometer method has been used with increasing water content. Atterberg results depicted in green have not been tested and are duplicates of the preceding sample, included for reference only.

The Plastic Limit test and the determination of the Plasticity Index is undertaken in accordance with BS1377:Part 2:1990. Where a plastic limit has been denoted with an asterisk (\*) then it has been derived from the liquid limit and has not been tested.

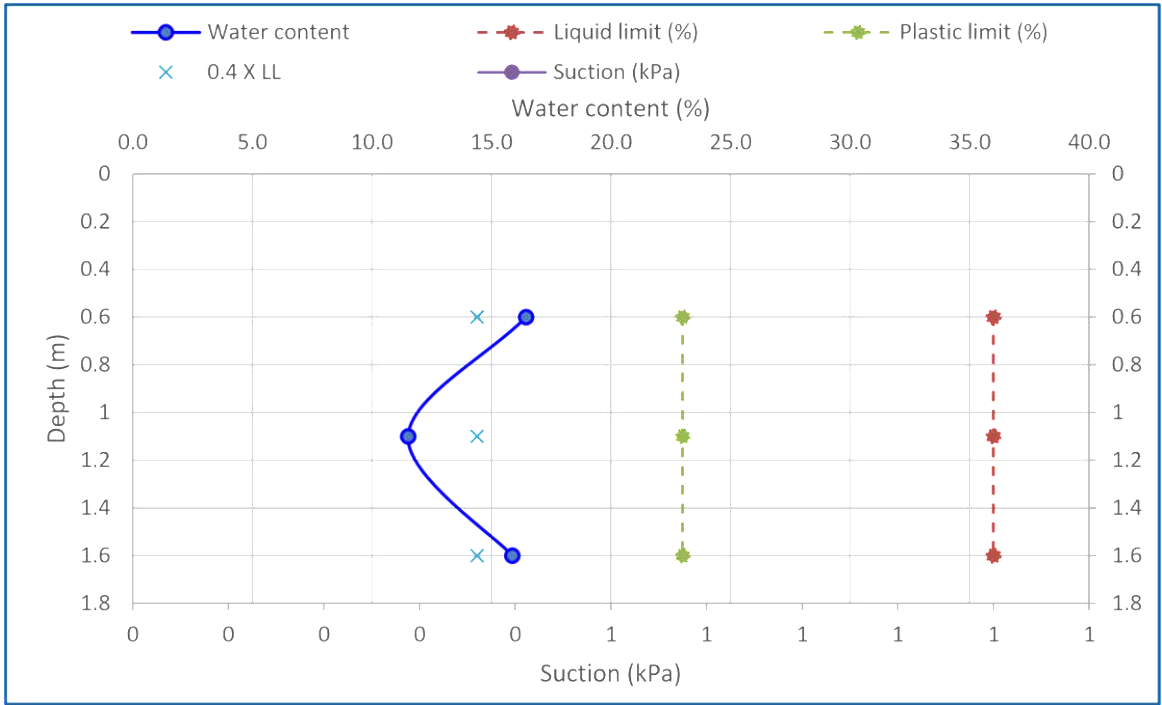
If you would like to provide feedback on this report or any laboratory services or performance, please complete the form below. All appropriate feedback will be used in the continual improvement of laboratory services.

[Laboratory feedback form](#)

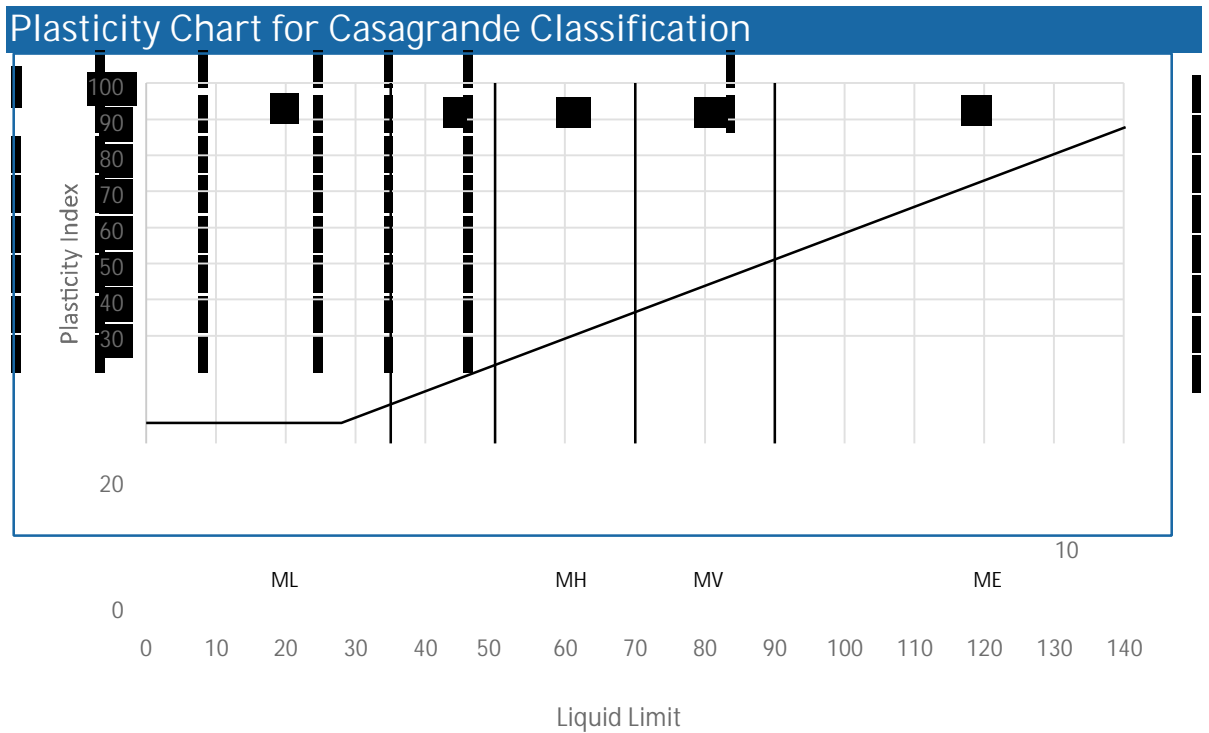




Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
1	0.6	16.5	36	23	13	94	12		Friable light grey slightly gravelly SILT Gravel is fine, medium and coarse siltstone.
2	1.1	11.5	36	23	13	94	12		Friable light grey slightly gravelly SILT Gravel is fine, medium and coarse siltstone.
3	1.6	15.9	36	23	13	94	12		Friable light grey slightly gravelly SILT Gravel is fine, medium and coarse siltstone.



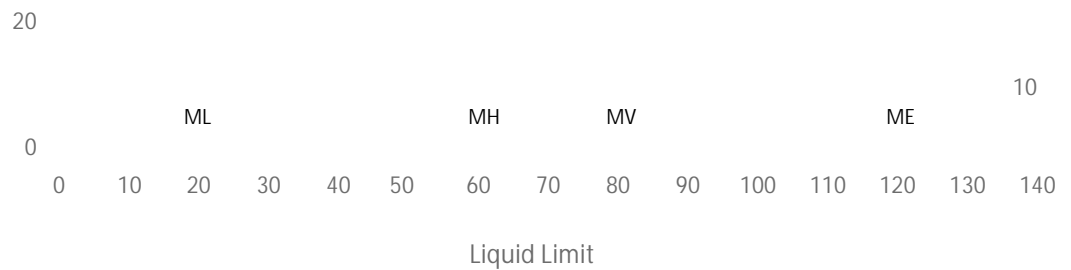
12 The Causeway, Cambridge, CB25 0DU  
L26381

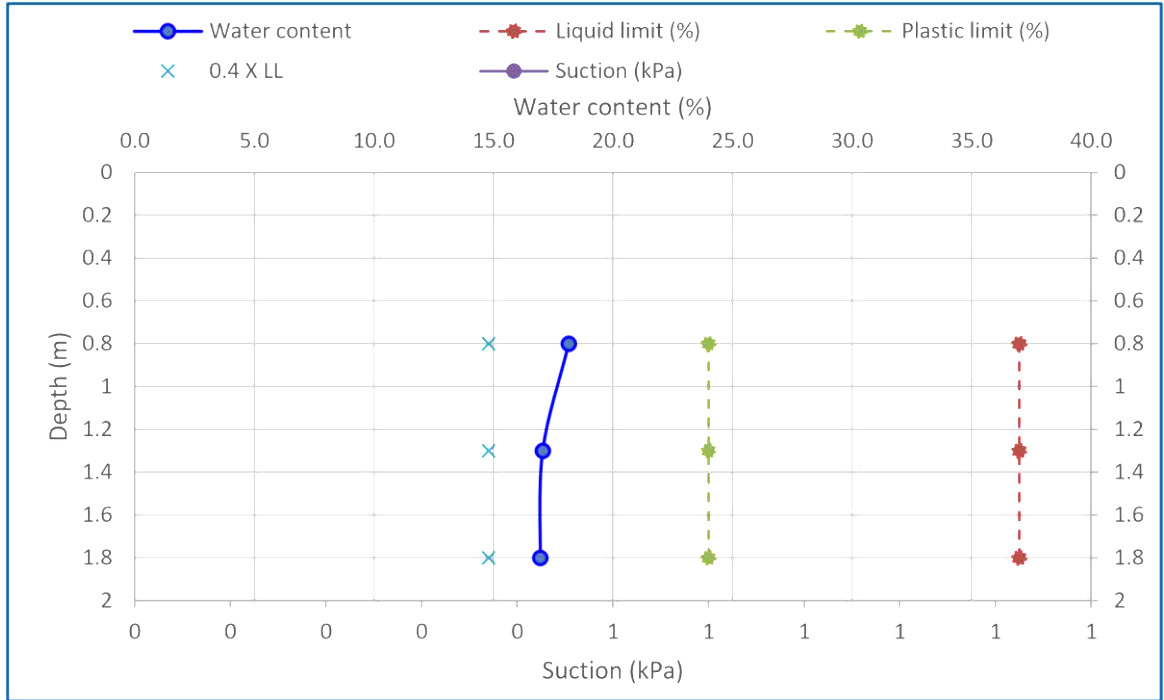


12 The Causeway,  
Cambridge, CB25  
0DU  
L26381

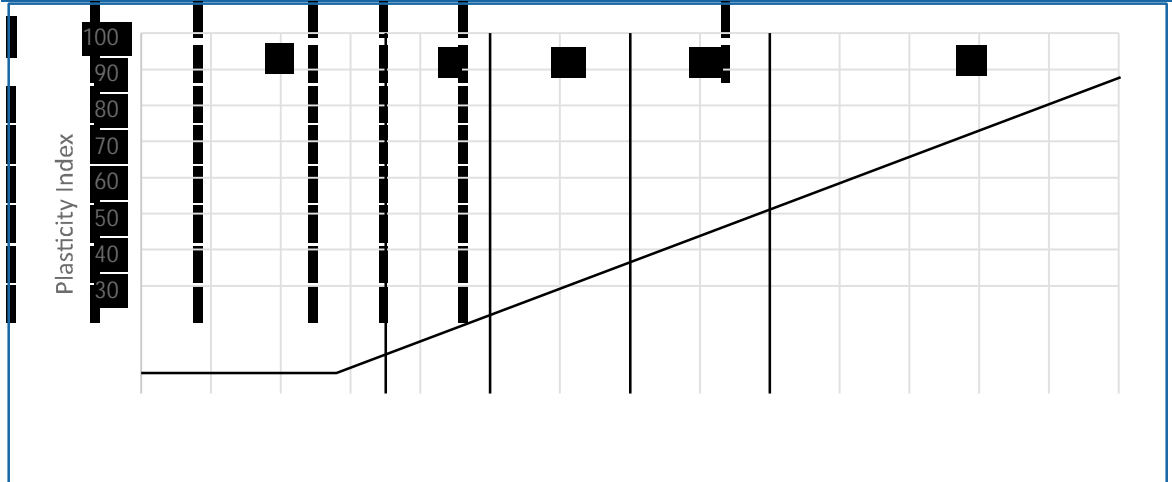
L26381

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
4	0.8	18.2	37	24	13	90	12		Friable light grey slightly gravelly SILT Gravel is fine medium siltstone.
5	1.3	17.1	37	24	13	90	12		Friable light grey slightly gravelly SILT Gravel is fine medium siltstone.
6	1.8	17.0	37	24	13	90	12		Friable light grey slightly gravelly SILT Gravel is fine medium siltstone.





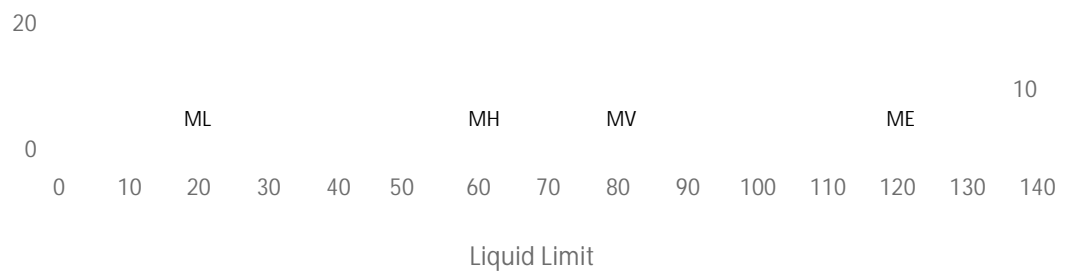
Plasticity Chart for Casagrande Classification

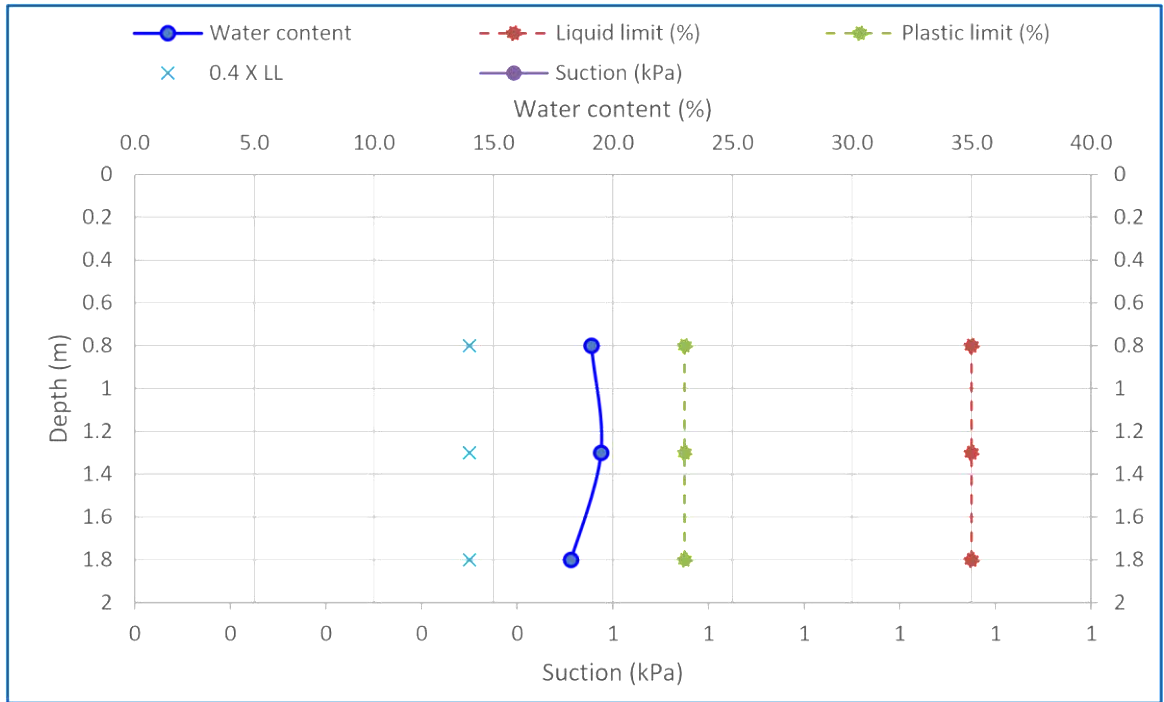


Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm (%)	mod. PI (%)	Avg. Suc. (kPa)	Description
	0.8	~18	~38	~25	~13	~15	~0.5	~0.5	
	1.1	~15	~35	~22	~13	~12	~0.5	~0.5	
	1.8	~15	~38	~25	~13	~12	~0.5	~0.5	

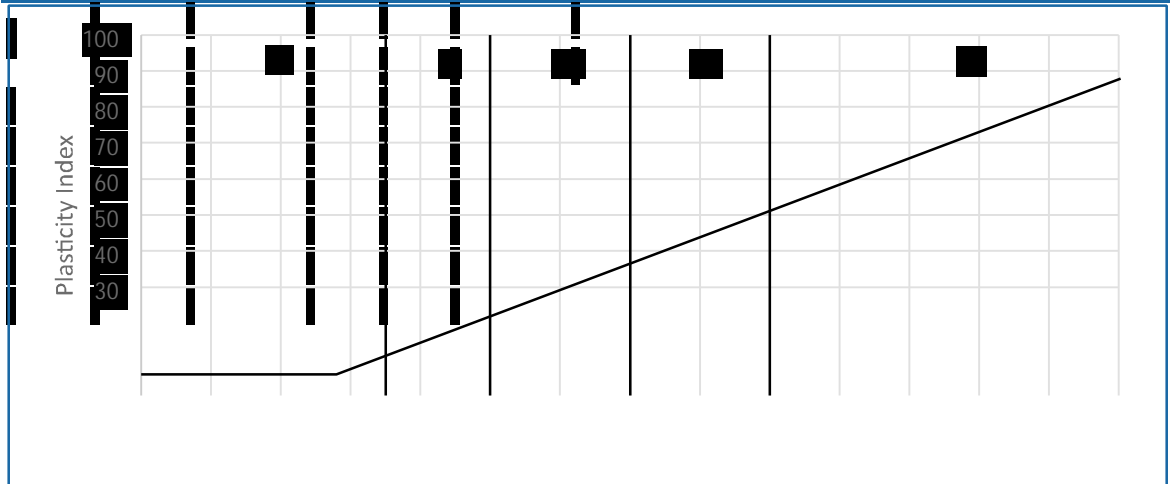
L26381

7	0.8	19.1	35	23	12	82	10		Friable light grey slightly gravelly SILT with rare pockets of clay. Gravel is fine and medium.
8	1.3	19.5	35	23	12	82	10		Friable light grey slightly gravelly SILT with rare pockets of clay. Gravel is fine and medium.
9	1.8	18.2	35	23	12	82	10		Friable light grey slightly gravelly SILT with rare pockets of clay. Gravel is fine and medium.





Plasticity Chart for Casagrande Classification



Deviating Samples

The table below details any samples deviating from laboratory procedure or deviating in condition to an extent whereby the validity of results may be affected. A test denoted "I" is likely to have had testing abandoned but

L26381

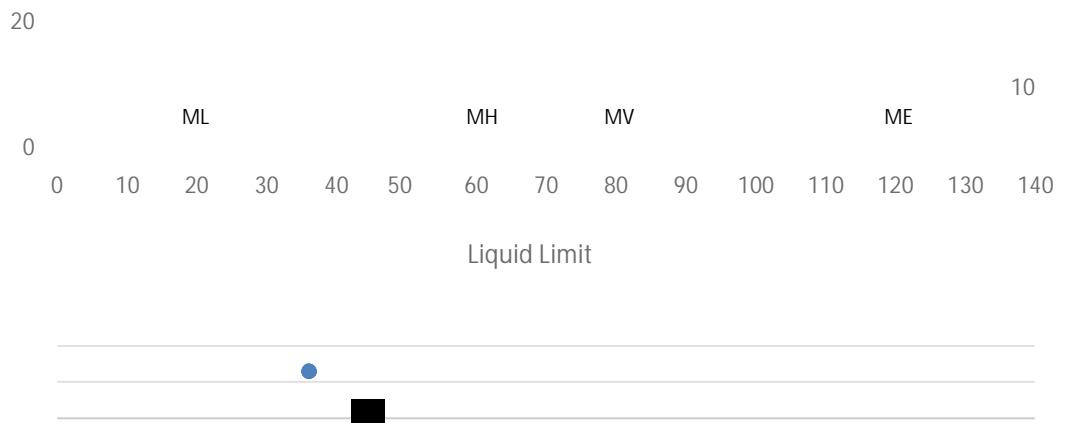
where a test result has been provided a non-standard procedure may have been used, details of which will be provided upon request.

LAB REF	CONDITION	WC	ATT	SUC	OED
1					
2					
3					
4					
5					
6					
7					
8					
9					

**Key**

- D Delay in sample receipt
- C Contaminated sample
- B Sample not bagged correctly
- S Sample too sandy (unsuitable for testing)
- G Sample too gravelly (unsuitable for testing)
- V Sample too soft (unsuitable for preparation)
- L Sample too silty
- I Insufficient sample
- O Too much organic content (unsuitable for testing)
  
- N Non-standard procedure used
- H Sample depth too shallow
- X Testing result too similar to above sample

**References**





The following provides a brief interpretation of the test results by comparison of the results to published classifications. The Atterberg Limit test may be used to classify the plasticity of soils; the plasticity classes defined in BS5930:2015 "Code of Practice for Site Investigations" are as follows.

CL (ML)	CLAY and CLAY/SILT of Low plasticity	
CI (MI)	CLAY and CLAY/SILT of Intermediate plasticity	CH (MH) CLAY and CLAY/SILT of High plasticity
CV (MV)	CLAY and CLAY/SILT of Very High plasticity	CE (ME) CLAY and CLAY/SILT of Extremely High plasticity
O	The letter O is added to prefixes to symbolise a significant proportion of organic matter.	
NP	Non-plastic	

The Plasticity Index (PI) Result obtained from the Atterberg Limit tests may also be used to classify the potential for volume change of fine soils, in accordance with the National House Building Council's standards - Chapter 4.2 (2003) "Building Near Trees", as summarised below.

Modified PI < 10	Non Classified.
Modified PI = 10 to <20	Low volume change potential.
Modified PI = 20 to <40	Medium volume change potential.
Modified PI = 40 or greater	High volume change potential.

The 2003 edition of Chapter 4.2 also permits use of the Plasticity Index without modification. The classifications for this are grouped by soil type (soils with similar visual soils description and using unmodified Plasticity Indices).

# ROOT IDENTIFICATION

## for Subsidence Management Services

12 The Causeway, Burwell, Cambridge, CB25 0DU

Client: Subsidence Management Services  
Client Contact: Ian Walters  
Claim Number: 4502487306  
Client Reference: IFS-AVI-SUB-23-0107600  
Policy Holder: Mr Antony Lewis  
Report Date: 10 July 2023  
Our Ref: R52341



Intec  
Parc Menai, Bangor,  
Gwynedd, North Wales  
LL57 4FG  
Tel: 01248 672652

Sub Sample	Species Identified	Root Diameter	Starch	
TP/BH1:				
0.6-1.6m	Magnolia spp.	1	4 mm	Abundant

### Comments:

1 - Plus 2 others also identified as Magnolia spp.

Magnolia spp. are common flowering trees (magnolias).

Signed: R. Shaw

Unless we are otherwise instructed in writing, the above sample material will normally be disposed of 6 years after the date of this report.

## Drainage Investigation Report

### For Subsidence Management Services

Client: Mr A Lewis

Risk Address: 12 The Causeway, Cambridge, CB25 0DU

Visit Date: 11th May 2023

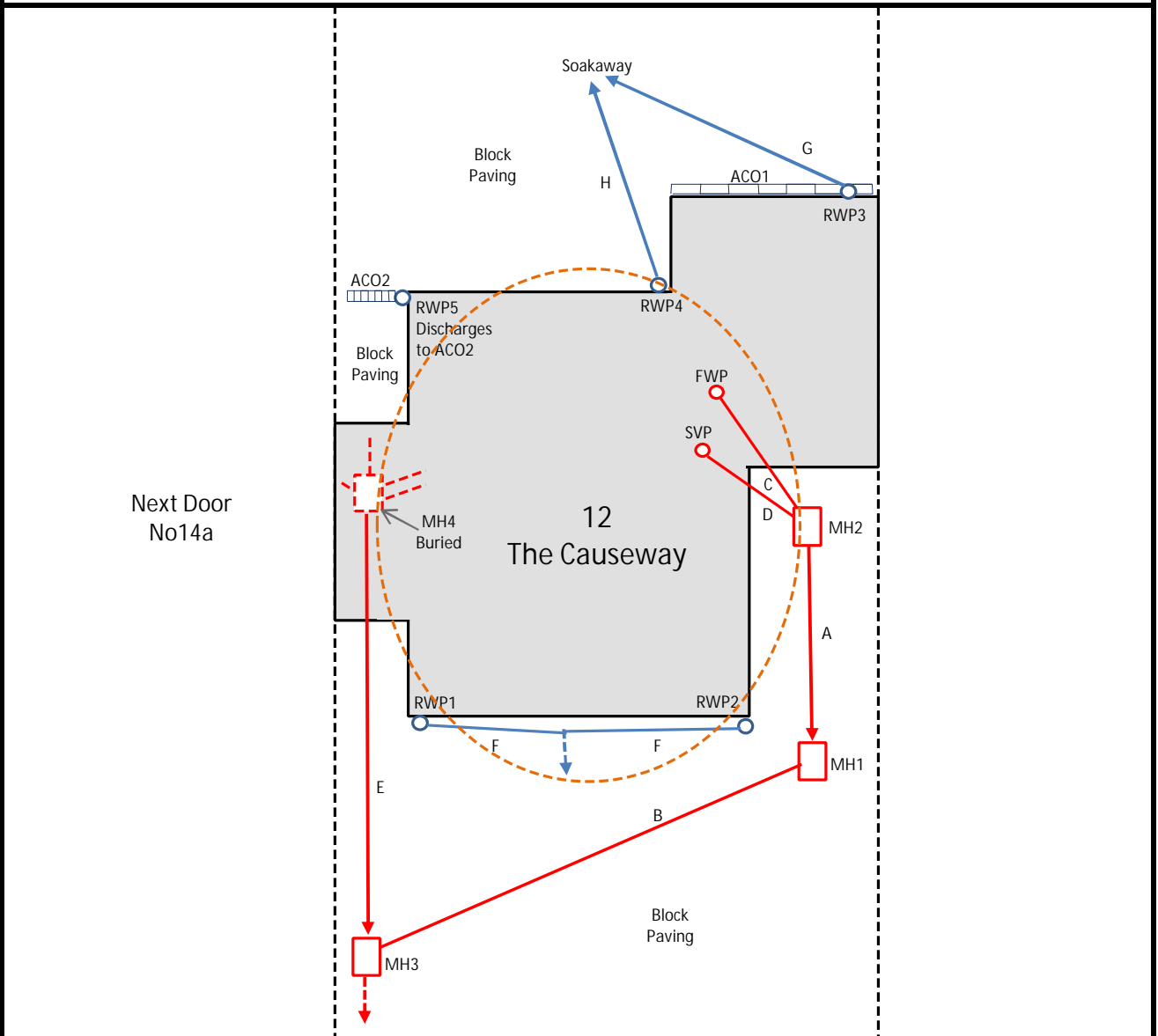
Client Reference: IFS-AVI-SUB-23-0107600

Our Reference: C72279 D25233

Report Date: 15th May 2023

Report Content:

- Front Page
- Site Plan
- CCTV Coding
- Drain Overview
- Photographs
- Quote



**Key**

	Tree		Building		Combined Drains		Unsurveyed Drains
	Shrubs		Water Supply		Foul Drains		Excavation
	Bushes		Launch Pit		Storm Drains		Area of Concern
	Boundary		Stop Valve		WC		
			Soak-Away		Exploratory Hole		
					Bore Hole		

Notes:

Address:

12 The Causeway, Cambridge, CB25 0DU

RUN	Start From :	MH1	Finish at :	MH2	Pipe Ø:	100mm
A	Invert Level (m):	0.85	Invert Level (m):	N/a	Material:	Plastic
<b>FOUL</b>	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Pass				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
0.10	LL	Line of drain deviates left °				
6.40	FN	Finish Node at MH2				
RUN	Start From :	MH1	Finish at :	MH3	Pipe Ø:	100mm
B	Invert Level (m):	0.85	Invert Level (m):	N/a	Material:	Plastic
<b>FOUL</b>	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Pass				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
0.10	LR	Line of drain deviates right °				
13.00	FN	Finish Node at MH3 - Out of Area of Concern				
RUN	Start From :	MH1	Finish at :	FWP	Pipe Ø:	100mm
C	Invert Level (m):	0.85	Invert Level (m):	N/a	Material:	Plastic
<b>FOUL</b>	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Pass				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
2.35	LL	Line of drain deviates left °				
2.65	LR	Line of drain deviates right °				
3.65	FN	Finish Node at FWP				
RUN	Start From :	MH1	Finish at :	SVP	Pipe Ø:	100mm
D	Invert Level (m):	0.85	Invert Level (m):	N/a	Material:	Plastic
<b>FOUL</b>	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Pass				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
1.25	LL	Line of drain deviates left °				
1.45	LR	Line of drain deviates right °				
1.80	WL	Water Level 15%				
1.90	LU	Line of drain deviates up °				
2.20	FN	Finish Node at SVP				
RUN	Start From :	MH3	Finish at :	MH4	Pipe Ø:	100mm
E	Invert Level (m):	0.55	Invert Level (m):	N/a	Material:	Clay
<b>FOUL</b>	Condition grade:	B	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Not Tested				
0.00	SN	Start Node from MH3 - Out of area of concern				
0.00	WL	Water Level 0%				
1.20	FC	Fracture Circumferential				
8.85	REM	Remark - Approx within area of concern from this point				
9.65	R	Roots				
9.75	JDM	Joint Displaced (Medium)				
14.00	F	Finish Node at MH4 - Buried				

Address:

12 The Causeway, Cambridge, CB25 0DU



Following the receipt of your instruction, we attended site to carry out a CCTV survey.

The CCTV survey was undertaken in general accordance with the Manual of Sewer Classification and the WRc Drain Repair Book.

The following presents a summary of the findings with recommendations to repair and/ or return the drains to a serviceable state, where necessary.

Drain Run A: MH1 Upstream to MH2

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run B: MH1 Downstream to MH3 - Out of area of concern

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run C: MH2 Upstream to FWP

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run D: MH2 Upstream to SVP

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run E: MH3 Upstream to MH4

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Not Tested

CCTV Survey Result: Structural damage

Recommended Repair:

Expose MH4 & prepare the drain and insert 1x patch liner to seal defects noted

Survey/test all drains within the area of concern from MH3 (Incl testing Run E)

Report on findings, incl responsibility

Nb - Enabling will be required to lift flooring to expose MH4 - See Notes

If Run E is found to be LWA responsibility no repairs will be done.

Address:

12 The Causeway, Cambridge, CB25 0DU

Drain Run F: RWP1 Downstream/Upstream to RWP2  
 Pipe Diameter: 100mm  
 Responsibility: Home Owner  
 Hydraulic Pressure Test: Pass  
 CCTV Survey Result: No structural damage  
 Recommended Repair:  
 Trace out and excavate at the junction noted at 4.8m  
 Survey/test the pipework, within the area of concern and locate the point of the soakaway  
 Report on findings - See Notes

Drain Run G: RWP3 Downstream to Soakaway  
 Pipe Diameter: 100mm  
 Responsibility: Home Owner  
 Hydraulic Pressure Test: Pass  
 CCTV Survey Result: No structural damage  
 Recommended Repair:  
 No repairs have been recommended as the drain line was found to be free from defects.

Drain Run H: RWP3 Downstream to Soakaway  
 Pipe Diameter: 100mm  
 Responsibility: Home Owner  
 Hydraulic Pressure Test: Pass  
 CCTV Survey Result: No structural damage  
 Recommended Repair:  
 No repairs have been recommended as the drain line was found to be free from defects.

NOTE: The re-instatement will be carried out on a like-for-like basis but where concrete or tarmac has been re-instated these surfaces will not match to the existing surface and will be seen as its new material.

#### NOTES

MH4 is buried under the Utility area - See Photos.  
 We noted there are 3 side inlets into MH4 but were unable to pass the camera up any of these as they are above the channel. It is not known if any of these is serving the neighbouring property.  
 The channel is stepped where it continues upstream and we could not survey further up past MH4.  
 If the drain is shared with the neighbouring property Run E will be LWA responsibility  
 See Run E recommendations

The pipework from RWP1 & RWP2 join at a double junction and we could not pass the camera downstream towards the soakaway. The PH advised our engineer that there is a soakaway under the driveway. See Run F Recommendations for further investigations.

RWP3 discharges into ACO1 directly above the outlet.

RWP5 discharges into ACO2, there is only a small 30mm hole acting as an outlet from ACO2  
 See Photos

		Result	Notes
Water Main Test		PASS	

Address: 12 The Causeway, Cambridge, CB25 0DU





Address:

12 The Causeway, Cambridge, CB25 0DU



Address:

12 The Causeway, Cambridge, CB25 0DU



Address:

12 The Causeway, Cambridge, CB25 0DU



Address:

12 The Causeway, Cambridge, CB25 0DU

RUN / LOCATION: **Set-up Fee**

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK1133	Van pack HPWJ & CCTV in preparation of lining	nr	£148.44	1.00	£148.44
Total (Excl VAT)					£148.44

RUN / LOCATION: **Further Surveys**

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
	CCTV survey of underground drainage & report <small>(subs undertaken as part of other drainage works)</small>	nr	£165.00	1.00	£165.00
Total (Excl VAT)					£165.00

RUN / LOCATION: **Run E**

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK007	Excavate for access to survey. Reinstat on <small>completion as 1.0m deep</small>	nr	£60.00	1.00	£60.00
UK1050	Removal, disposal and reinstatement of concrete <small>path / base to depth as 100mm thick</small>	m2	£54.19	1.00	£54.19
UK1180	Patch Lining. Up to 0.6m x 100mm diameter	nr	£290.94	1.00	£290.94
Total (Excl VAT)					£405.13

RUN / LOCATION: **Run F - Further Investigations**

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK10051	Drain Tracing - Electronic, with report plotting <small>location &amp; depth</small>	nr	£90.02	1.00	£90.02
UK007	Excavate for access to survey. Reinstat on <small>completion as 1.0m deep</small>	nr	£60.00	1.00	£60.00
UK1040	Removal, set aside and reinstatement of block paving <small>as 100mm thick</small>	m2	£39.10	1.00	£39.10
Total (Excl VAT)					£189.13

## REPAIR ESTIMATE TOTALS:

Run / Location	Amount (£)
<b>Set Up Fee</b>	£148.44
<b>Further Survey</b>	£165.00
<b>Run E</b>	£405.13
<b>Run F</b>	£189.13
Total (Excl VAT)	£907.70

Address:

12 The Causeway, Cambridge, CB25 0DU