

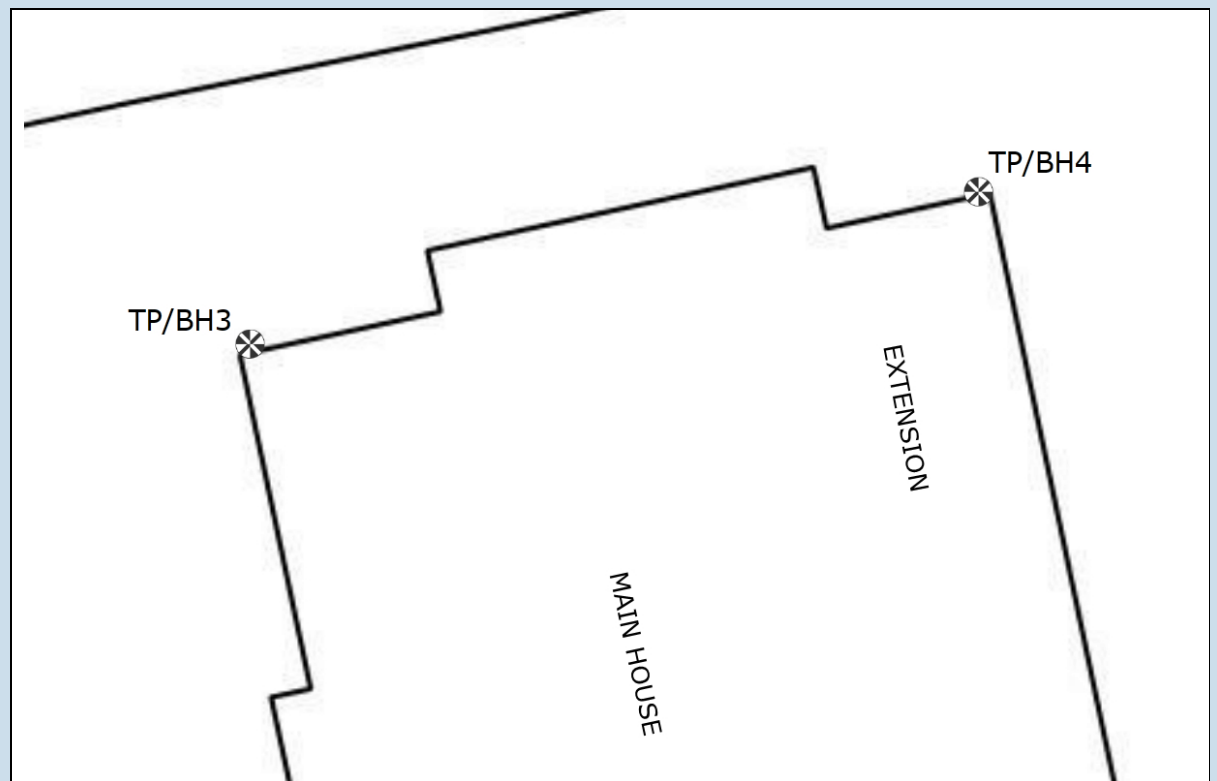
# GEOTECHNICAL

## for Subsidence Management Services

### 3 High Meadows, Kirk ella, Hull, HU10 7NJ

Client: Subsidence Management Services  
Client Contact: John Morrison  
Client Ref: IFS-LBG-SUB-22-0101724  
Policy Holder: Nicholas Richardson  
Report Date: 04 April 2023  
Our Ref: C65657G31871

#### Site Plan

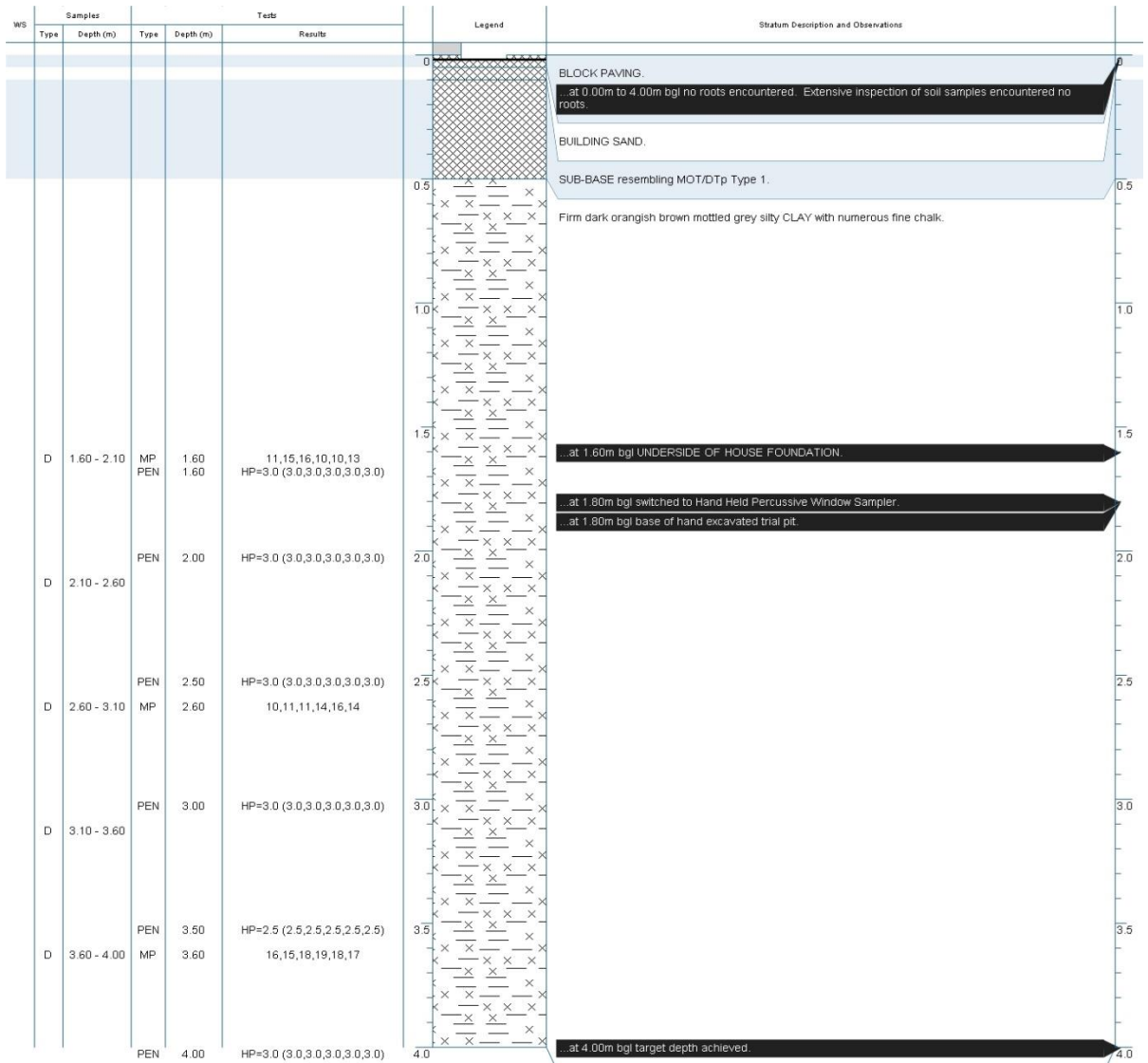
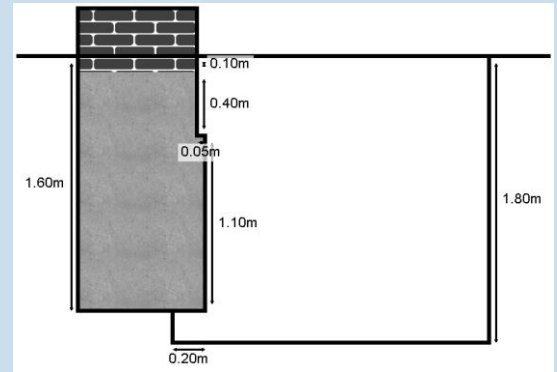


	Borehole		Foul Water Drain		Foul Manhole		Foul Rodding Point		Foul Vent Pipe
	Trial Pit / Borehole		Surface Water Drain		Rain Water Manhole		Surface Rodding Point		Rain Water Gully
	Trial Pit		Combined Drain		Combined Manhole				

## TP/BH3 Foundation Detail and Borehole Log

### Foundation Detail

House foundation comprised of brick wall to 100mm bgl, bearing on stepped concrete to 1600mm bgl, with a total projection of 50mm from the elevation. Underside of foundation (USF) was exposed to 200mm back from the face of the foundation and probed 200mm back from the face of the foundation.

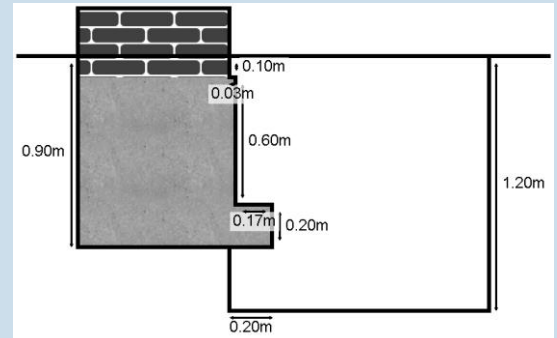


— End of borehole at 4.00m —  
Trial pit excavated to 1.80m bgl. Borehole completed by hand held percussive window sampler. Roots not encountered. Extensive inspection of soil samples encountered no roots. Groundwater strikes not encountered. PEN = Hand Penetrometer (kg/sq cm). MP = Mackintosh Probe (blows per 75mm).

## TP/BH4 Foundation Detail and Borehole Log

### Foundation Detail

Extension foundation comprised of brick wall to 100mm bgl, bearing on stepped concrete to 900mm bgl with a total projection of 200mm from the elevation. Underside of foundation (USF) was exposed to 200mm back from the face of the foundation and probed 200mm back from the face of the foundation.



-- End of borehole at 3.00m --  
Trial pit excavated to 1.20m bgl. Borehole completed by hand held percussive window sampler. Roots encountered to 2.50m bgl. Groundwater strikes not encountered. PEN = Hand Penetrometer (kg/sq cm). MP = Mackintosh Probe (blows per 75mm).

## Site Observations

### GENERAL:

Site Investigation works (TP/BH 3)(TP/BH 4) undertaken on 28 March 2023 during moderate rain.

### HEALTH AND SAFETY:

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

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH4).

### FOUNDATIONS:

At 1.60m bgl UNDERSIDE OF HOUSE FOUNDATION in TP/BH3.

At 0.90m bgl UNDERSIDE OF EXTENSION FOUNDATION in TP/BH4.

### BOREHOLE:

At 1.80m bgl switched to Hand Held Percussive Window Sampler in TP/BH3.

At 1.80m bgl base of hand excavated trial pit in TP/BH3.

At 4.00m bgl target depth achieved in TP/BH3.

At 1.20m bgl base of hand excavated trial pit in TP/BH4.

At 1.20m bgl switched to Hand Held Percussive Window Sampler in TP/BH4.

At 3.00m bgl borehole terminated due to Hand Held Percussive Window Sampler refusal in TP/BH4.

Hand Held Percussive Window Sampler refusal at 3.00m bgl due to cobbles within the clay (TP/BH 4).

Borehole terminated. No further works undertaken.

### ROOTS:

At 0.00m to 4.00m bgl no roots encountered. Extensive inspection of soil samples encountered no roots in TP/BH3.

At 0.00m to 0.90m bgl numerous roots of live appearance encountered in TP/BH4.

At 0.90m to 2.50m bgl numerous roots of live appearance encountered and sampled in TP/BH4.

At 2.50m to 3.00m bgl no roots encountered. Extensive inspection of soil samples encountered no roots in TP/BH4.

### IN SITU TESTING:

Hand Penetrometer (PEN) undertaken at 1.60m bgl (TP/BH 3) within the window sampler and thereafter in the window sampler at maximum 0.50m intervals.

Mackintosh Probe (MP) undertaken at 1.60m bgl (TP/BH 3) within the hand excavated trial pit and thereafter in the window sample borehole at maximum 1.00m intervals.

Hand Penetrometer (PEN) undertaken at 0.90m bgl (TP/BH 4) within the hand excavated trial pit and thereafter in the window sampler at maximum 0.50m intervals.

Mackintosh Probe (MP) undertaken at 1.2m bgl (TP/BH 4) within the hand excavated trial pit and thereafter in the window sample borehole at maximum 1.00m intervals.

### WATER STRIKES:

No water strikes (NWS) encountered (TP/BH 3).

No water strikes (NWS) encountered (TP/BH 4).

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.

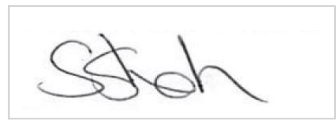
# SOIL ANALYSIS

## for Subsidence Management Services

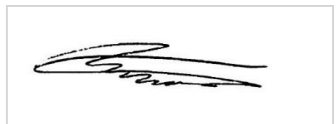
### 3 High Meadows, Hull, HU10 7NJ

Client: Subsidence Management Services  
Claim Number: 500387177  
Policy Holder: Nicholas Richardson  
Report Date: 02/05/2023  
Our Ref: L25552

Compiled By:

Name	Position	Signature
Saira Dougan	Laboratory Technician	

Checked By:

Name	Position	Signature
Bob Walker	Laboratory Manager	

Date samples received: 31-Mar-23  
Water Content Test Date: 20-Apr-23  
Atterberg Limits Test Date: 29-Apr-23  
Suction Test Date: 02-May-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.

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.

The Filter Paper Suction Test is undertaken in accordance with the BRE paper IP4/93 (corrected) 'A Method of Determining the State of Desiccation in Clay Soils'

Unless otherwise stated the moisture content of the filter paper was determined after 7 days contact with the sample and the test was prepared from a remoulded disturbed sample.

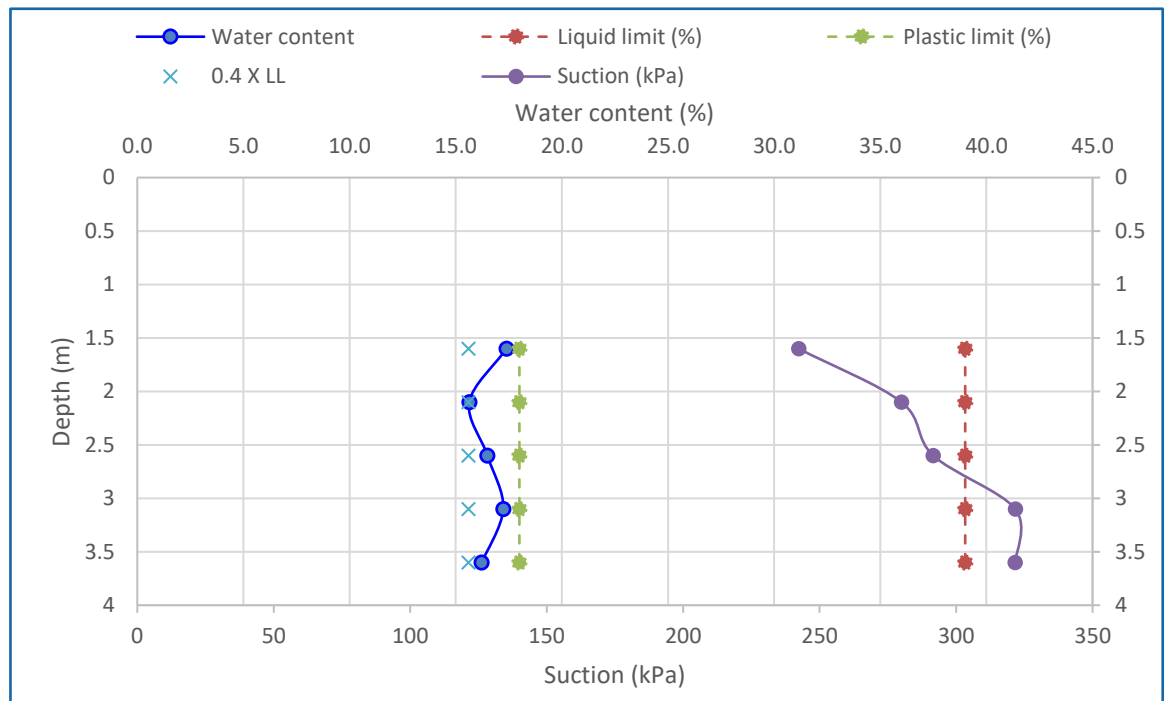
The Filter Paper Suction Tests are conducted in a controlled environment within a temperature range of 18°C and 22°C

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.

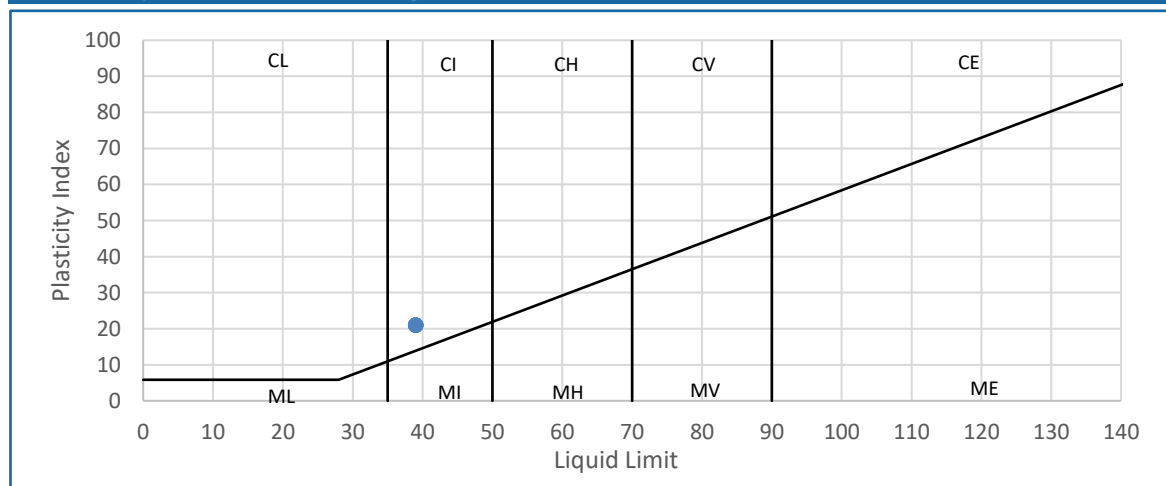
[Laboratory feedback form](#)

### Samples from BH3

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
1	1.6	17.4	39	18	21	89	19	242	Firm brown slightly gravelly silty CLAY . Gravel is fine and medium.
2	2.1	15.6	39	18	21	89	19	280	Firm brown slightly gravelly silty CLAY . Gravel is fine and medium.
3	2.6	16.5	39	18	21	89	19	292	Firm brown slightly gravelly silty CLAY . Gravel is fine and medium.
4	3.1	17.2	39	18	21	89	19	322	Firm brown slightly gravelly silty CLAY . Gravel is fine and medium.
5	3.6	16.2	39	18	21	89	19	322	Firm brown slightly gravelly silty CLAY . Gravel is fine and medium.



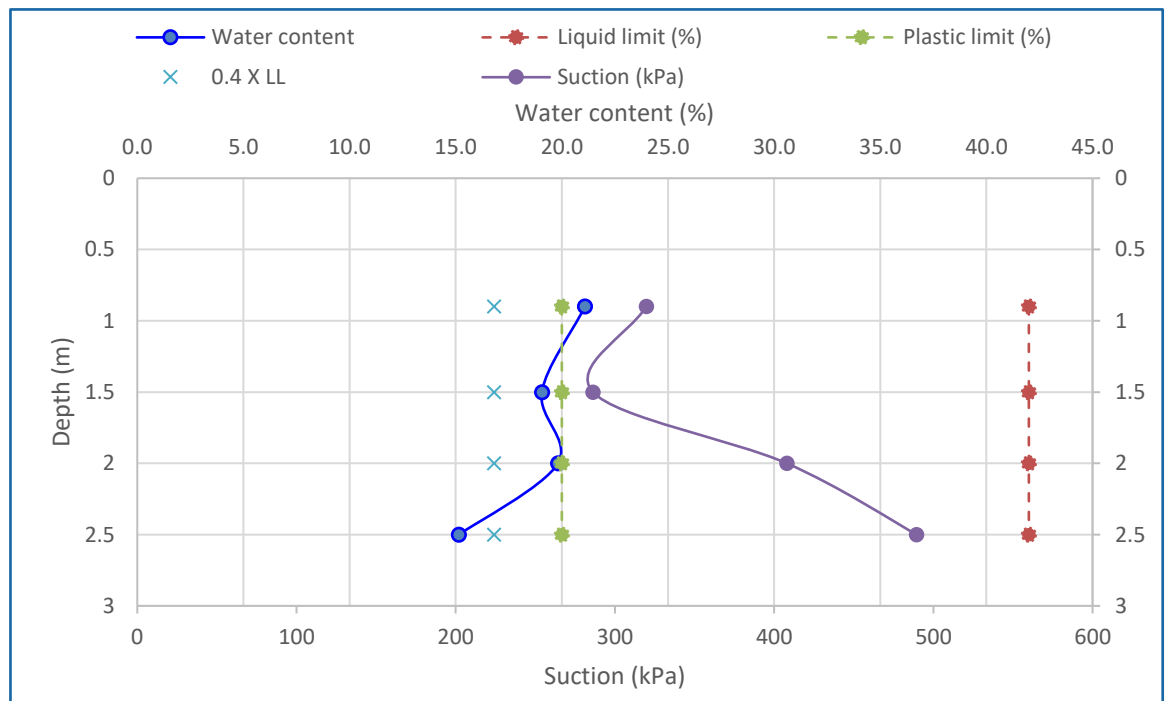
### Plasticity Chart for Casagrande Classification



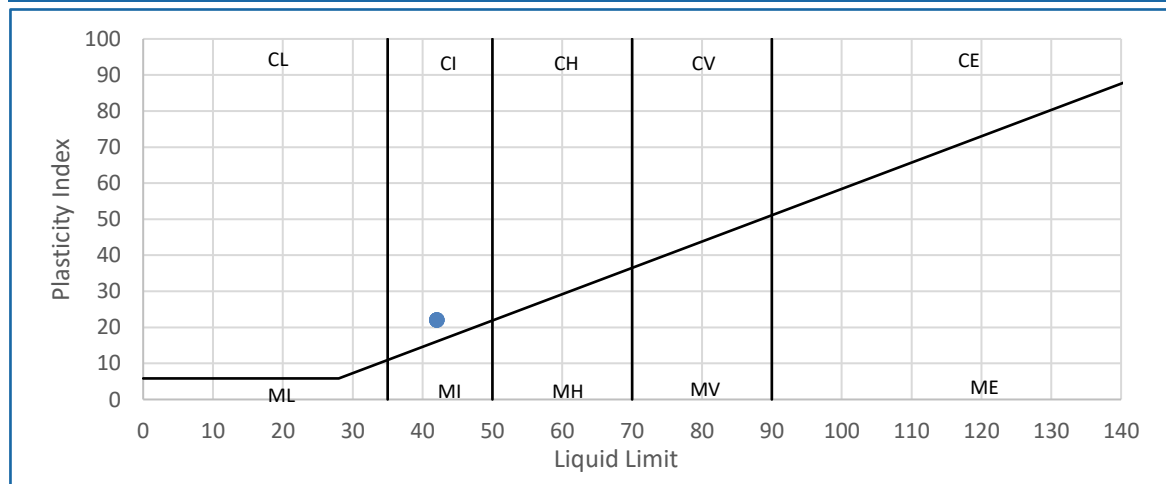


### Samples from BH4

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
6	0.9	21.1	42	20	22	99	22	320	Firm brown silty CLAY with rare gravel. Gravel is fine and medium.
7	1.5	19.1	42	20	22	99	22	286	Firm brown silty CLAY with rare gravel. Gravel is fine and medium.
8	2	19.8	42	20	22	99	22	408	Firm brown silty CLAY with rare gravel. Gravel is fine and medium.
9	2.5	15.1	42	20	22	99	22	490	Firm brown silty CLAY with rare gravel. 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 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

**3 High Meadows, Kirk Ella, Hull, HU10 7NJ**

Client: Subsidence Management Services  
Client Contact: John Morrison  
Claim Number: 500387177  
Client Reference: IFS-LBG-SUB-22-0101724  
Policy Holder: Nicholas Richardson  
Report Date: 11 April 2023  
Our Ref: R50032



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

Sub Sample	Species Identified		Root Diameter	Starch
<b>TP/BH4:</b>				
0.9-1.9m	<i>Fraxinus</i> spp.	1	7 mm	Abundant
1.9-2.5m	<i>Fraxinus</i> spp.	2	1.5 mm	Abundant

**Comments:**

- 1 - Plus 3 others also identified as *Fraxinus* spp.
- 2 - Plus 3 others also identified as *Fraxinus* spp.

*Fraxinus* spp. include common ash.

**Signed:** G S Turner

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** Nicholas Richardson

**Risk Address:** 3 High Meadows, Hull, HU10 7NJ

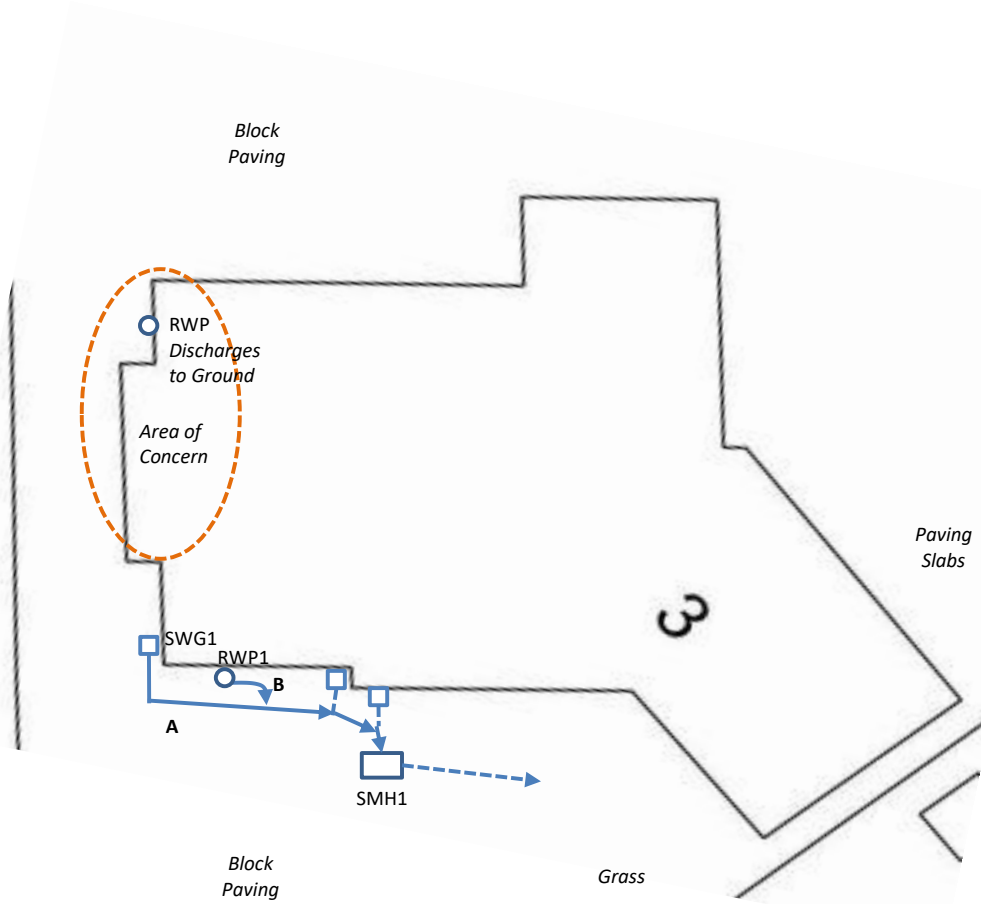
**Visit Date:** 6th February 2023

**Client Reference:** IFS-LBG-SUB-22-0101724
















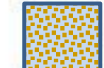


**Our Reference:** C65657 D24456

**Report Date:** 7th December 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:

3 High Meadows, Hull, HU10 7NJ



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.

All runs were cleaned by high pressure water jetting prior to the CCTV survey

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: SWG1 D/S TO SMH1**

**Pipe Diameter:** 100mm

**Responsibility:** Home Owner

**Hydraulic Pressure Test:** Not Tested, no access

**CCTV Survey Result:** Structural damage

**Recommended Repair:**

To excavate and replace junction at 4.25m and 1m of adjacent pipework downstream

Bed new pipe, compact, back fill and reinstate block paving

**Drain Run B: RWP1 D/S TO RUN A**

**Pipe Diameter:** 100mm

**Responsibility:** Home Owner

**Hydraulic Pressure Test:** Not Tested, No access

**CCTV Survey Result:** No structural damage

**Recommended Repair:**

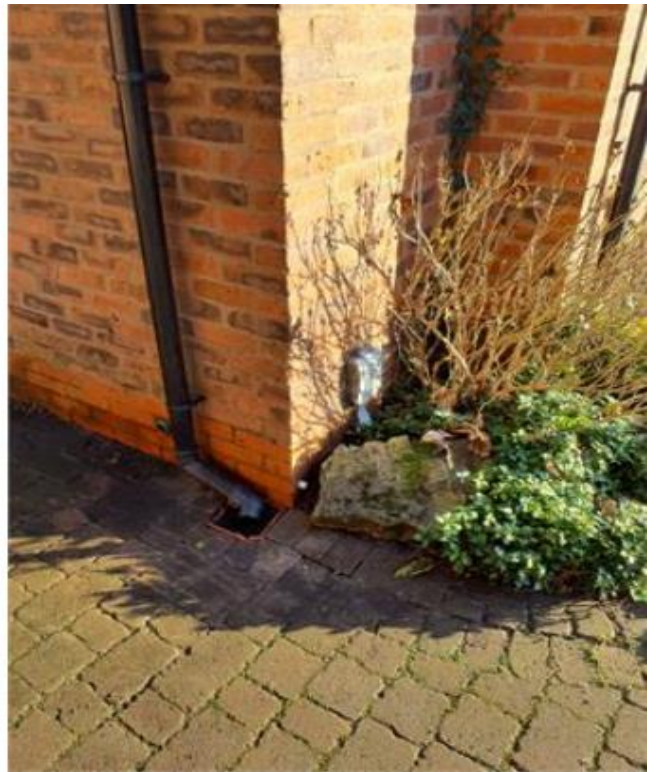
No repairs have been recommended as the drain line was found to be free from defects.

Water Main Test	Result	Acoustic Test
	PASS	No noise could be heard which indicates that there is no leak

**Address:**

3 High Meadows, Hull, HU10 7NJ





**Address:**

3 High Meadows, Hull, HU10 7NJ





**Address:**

3 High Meadows, Hull, HU10 7NJ

**RUN / LOCATION: RUN A**

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK0660	Excavate & remove junction. Replace with new 110mm PVCu. Bed surround & backfill to c. 100mm	nr	£142.50	1.00	£142.50
UK0825	Excavate & remove pipework. Replace with new 110mm PVCu. Bed surround & backfill to c. 100mm	m	£81.39	1.00	£81.39
UK0880	Short Radius Bend. Remove existing item and replace with new 110mm PVCu.	nr	£14.89	2.00	£29.78
UK1060	Extra over pipework for surrounding drain run in 100mm thick concrete	m	£14.40	1.00	£14.40
UK0025	Protection Temporary works to floors, 1000 gauge polythene	m2	£1.79	2.00	£3.59
UK8120300	Hardcore Filling to excavations over 250 mm average depth	m	£35.35	1.00	£35.35
UK2050005	Disposal by hand excavated contaminated/saturated material off site	m3	£45.30	1.00	£45.30
UK10051	Drain Tracing - Electronic, with report plotting location & depth	nr	£90.02	1.00	£90.02
UK1040	Removal, set aside and reinstatement of block paving to c. 100mm thick	m2	£39.10	1.00	£39.10
Total (Excl VAT)					£481.45

**Address:**

3 High Meadows, Hull, HU10 7NJ

Classification: General