

Arboricultural Consultancy for HBOS

HAVANT BOROUGH COUNCIL

Note: This reduced format report is an initial appraisal only and may have been produced without the benefit of site investigations. It is intended for use between the client, Marishal Thompson Group and any parties detailed within the report. It is based on the assumption that Engineers are satisfied that current damage is due to clay shrinkage subsidence attributable to vegetation.

1. Case Details

Insured	Mrs C Watson	Address	31 Hollybank Road, Emsworth, West Sussex, PO10 7UE		
Client	Lloyds Banking Group	Contact	David Elliot	Claim No.	101431391
MT Ref	SW/0411131547/JS	Consultant	Nigel Chopping	Contact No.	08702 416 180
Report Date	22/11/2013				

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

2. Property and Damage Description

The insured structure is a 1 storey detached house. It has been extended with a conservatory addition to the rear. The property occupies a level site with no adverse topographical features.

Damage relates to the right-hand flank of the insured dwelling and the conservatory where cracking indicates downward movement. Please refer to the engineers report for a full description of the claim history and damage.

3. Technical Reports

In preparing our report we have had the benefit of the following technical investigations:

Engineers Report ☒

4. Action Plan

Mitigation	
Insured Involved?	Yes
Local Authority involved?	TBC
Other third party Mitigation involved?	Yes
Recovery	
Is there a potential recovery action?	Yes

Treeworks	
TPO / Conservation Area / Planning Protection Searches	Insured: TPO Third Party: TPO
Additional Comments	
Awaiting Further Instructions.	
A potential recovery action has been identified.	
Engineers should consider focusing investigations to strengthen factual evidence for disclosure to third party tree owners.	
Please carry out a ground heave assessment.	

5. Technical Synopsis

This report is based upon the assumed presence of highly plastic clay soils and that Lloyds Banking Group engineers are satisfied that damage is due to clay shrinkage subsidence exacerbated by vegetation.

We have been instructed to advise on the causal vegetation and to deliver management proposals which will provide on-going and long term stability allowing repairs to be undertaken.

From our observations on site, the footings of the subject property fall within the anticipated rooting range of vegetation located on site, thereby indicating the potential for the observed damage to be the result of clay shrinkage subsidence exacerbated by the influence of vegetation.

Whilst there is currently no positive root identification to implicate SG1 (Mixed Species Group), T2 (Oak) and TG1 (Oak) in the current damage, our assessment on site considers that the footings of the subject property fall within the anticipated rooting zone of this vegetation.

Marishal Thompson Group

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In assessing the potential drying influence of the vegetation on site, T2 (Oak) and TG1 (Oak) are considered the dominant feature and accordingly we have identified them as the principal cause of subsidence.

The influence of the above is determined by the size of the trees in relation to the area of damage taking into account species profile and site topography. It is our opinion on balance of probability that roots from the above vegetation will be in proximity to footings of the insured property.

Given the above information and the advised mechanism of movement a program of vegetation management would assist in restoring stable conditions.

Please refer to Section 6 for management prescriptions.

In order to mitigate the current damage and allow soils beneath the property to recover to a position such that an effective engineering repair solution can be implemented we recommended that T2 (Oak) and TG1 (Oak) are removed. Shrubs within 4m of the rear conservatory within SG1 should be removed to eliminate them as a causal factor.

Whilst we have given consideration to pruning as a means of mitigating the vegetative influence of the above, this has been discounted.

Pruning is generally ineffective and in the context of the current claim we consider the above vegetation is simply too large and/or close for pruning to be effective.

Replacement planting is considered appropriate however due consideration must be given to the ultimate size of the replacement and future management requirements.

Species selection should be appropriate for the chosen site and ultimate tree height should not exceed 75% of the available distance to built structures.

We recommend the efficacy of the management recommendations be qualified by means of further monitoring to confirm stability.

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
Does the potential of ground heave need to be assessed by Consulting Engineers before management recommendations are implemented?	Yes
Will implementation of the management recommendations result in significant amenity loss?	No
Would DNA profiling be of assistance in this case?	Yes

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6.0 Recommendations

6.1 Table 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
T2	Oak	3	10	13.8	C - Insured	Remove	Remove subject to heave assessment.
TG1	Oak	3	16.8	15.1	A - Third Party 33 Hollybank Road, Emsworth, West Sussex, PO10 7UE	Remove	Remove the closest Oak subject to heave assessment. Do not allow remainder to exceed current dimensions.
SG1	Mixed species shrubs including; Dogwood, Acer	1	2.6	3.4	C - Insured	Maintain as detailed	Remove to ensure 4m clearance to the rear conservatory. Do not allow remainder to exceed current dimensions.
Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

6.2 Table 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
T1	Maple (Field)	3	10.5	16.5	E - Boundary Veg (ownership to be confirmed)	Action to avoid future risk	Remove and treat stump to inhibit regrowth subject to heave assessment.
H1	Cypress	1	2.4	12.4	E - Boundary Veg (ownership to be confirmed)	Action to avoid future risk	Do not allow to exceed current dimensions.
S1	Holly	1	2	13.6	E - Boundary Veg (ownership to be confirmed)	No Action	No works.
SG2	Mixed species shrubs Group including; Laurel and Pyracantha	1	2.3	3.4	C - Insured	Action to avoid future risk	Do not allow to exceed current dimensions.
T3	Oak	2	11.5	17.5	E - Boundary Veg (ownership to be confirmed)	Action to avoid future risk	Do not allow to exceed current dimensions.
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 Marishal Thompson can undertake Land Registry Searches

Marishal Thompson Group

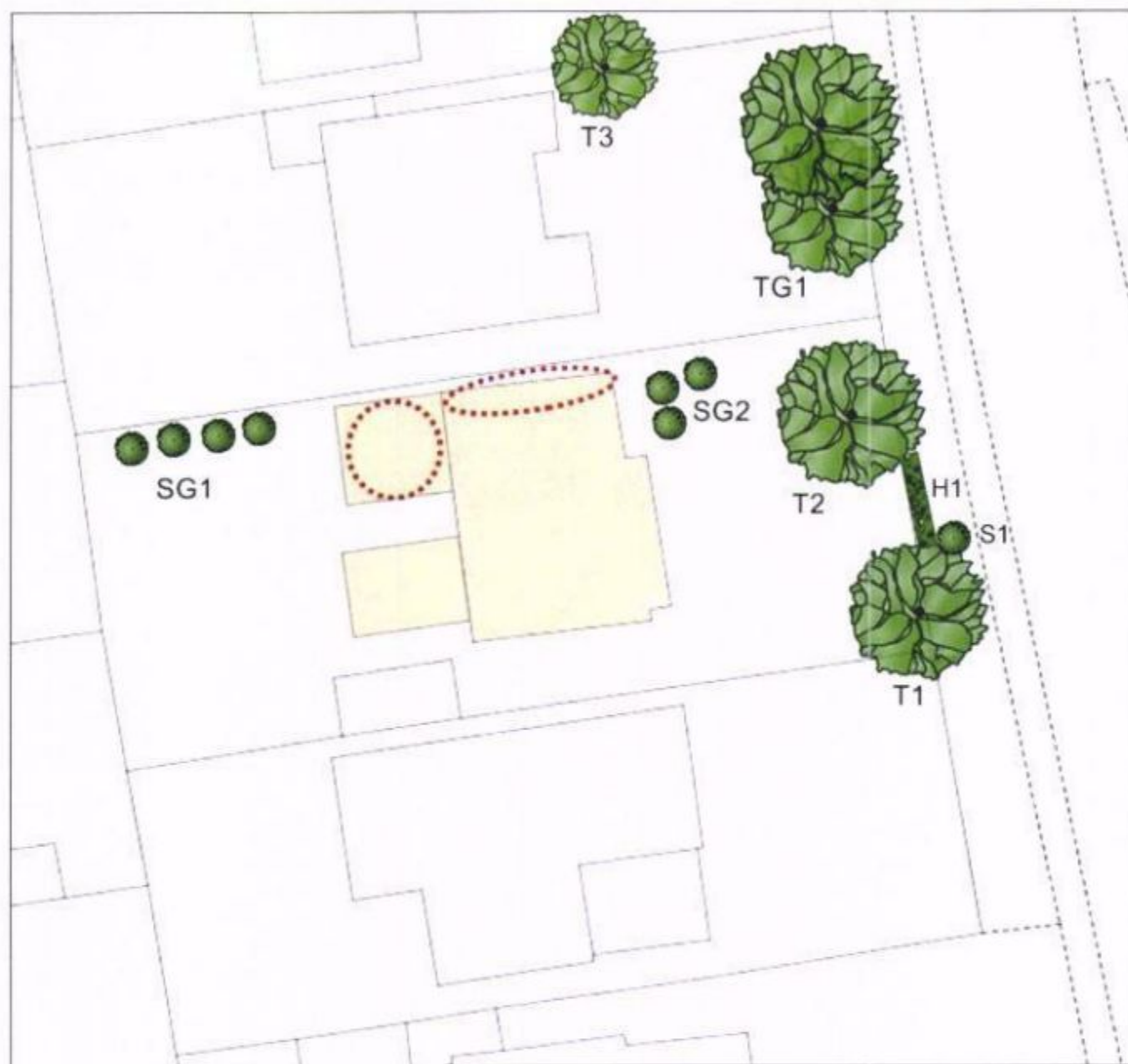
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7. Site Plan



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

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8. Photographs



SG1 Mixed



SG2 Mixed



T1 Field Maple



T2 Oak

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TG1 Oak x2



T3 Oak



H1 Cypress



S1 Holly

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Date: 22/11/2013

Property: 31 Hollybank Road

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

Insured Property Tree Works	£1800
Third Party Tree Works	£1800
Provisional Sum	£0

- 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 treeworks 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.
- Stump removal is not included within the above price, and would be an additional charge if required. Where this is requested please note that responsibility cannot be accepted for damage to underground services unless these are identified prior to the works being undertaken.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future re-growth. 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 intended as a preliminary appraisal of vegetation influence on the property and assumes 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.

Any connection between the structural damage to the property and trees will require the clear identification of shrinkable clay soils below foundation depths. Following tree works we recommended that the building be monitored to establish the effectiveness of the works. Should sufficient stability not be achieved this may be indicative of the fact that an Arboricultural solution is not possible in isolation.

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

The presence of Tree Preservation Orders (TPO) or Conservation Area status must be determined prior to any tree works being implemented, 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".

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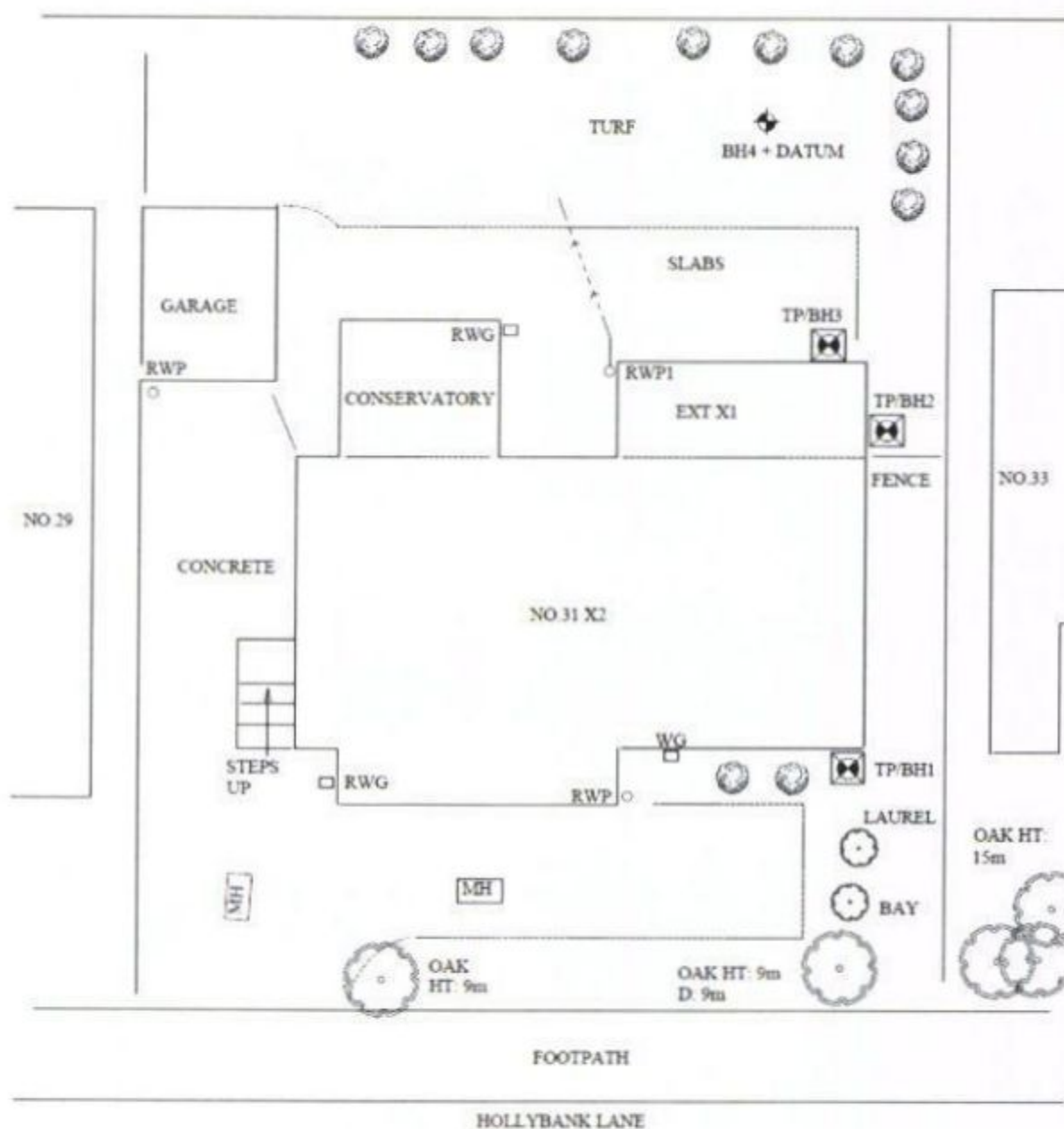
GEOTECHNICAL

for Lloyds Banking Group

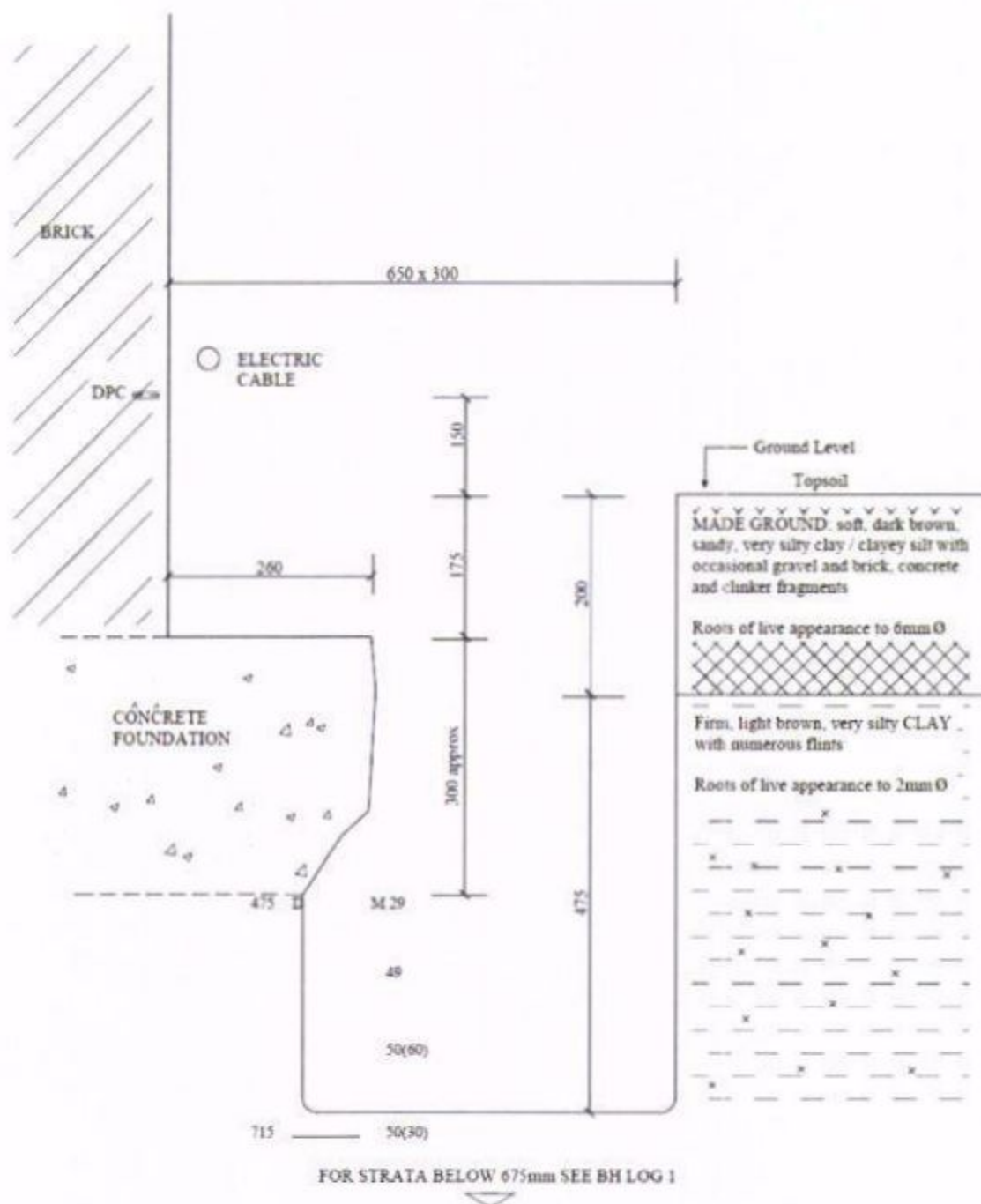
31 Hollybank Road, W. Sussex, PO10 7UE

Client:	Lloyds Banking Group
Client Contact:	David Elliot
Claim Number:	101431391
Policy Holder:	Mrs C Watson
Report Date:	03 December 2013
Our Ref:	C9805G4330

Site Plan



TP/BH1 Foundation Detail



SubsNetuk

Depth (m)	Description of Strata	Thick- ness (m)	Legend	Sample	Type	Test Result	Depth (m)	Field Records/Comments	Depth to water (m)
0.675	As trial pit 1	0.675							
0.75	Firm, light brown, very silty CLAY with numerous flints	0.075	x _ x					Roots of live appearance to 2mm diameter to 1.8m	
1.30	Stiff, mid brown / orange, grey veined silty CLAY with partings of orange and brown silt and fine sand with occasional gravel	0.55	_ x _ _ x _	D	V	130 132	1.00		
1.80	Very stiff, mid to dark brown silty CLAY with numerous flints	0.50	_ x _ _ x _	D			1.50		
			_ x _ _ _	D	V	150+ 150+	2.00	Hair and fibrous roots to 2.2m	
	Very stiff, mid brown / orange, grey veined silty CLAY with partings of orange and brown silt and fine sand with occasional gravel, flint fragments and stone nodules	1.70	x _ _ _ _ x _ _ x _ _ _	D			2.50	No roots observed below 2.2m	
3.50			_ x _ _ _	D	M	50(30) 50(35)	3.00		
			_ x _ _ _	D			3.50		
	Very stiff, mid brown grey veined silty CLAY with partings of orange and brown silt and fine sand and occasional flints	2.50	x _ _ _ _ x _ _ x _ _ _	D	V	150+ 150+	4.00		
			_ x _ _ _	D			4.50		
Remarks:				Key: T D Y.D. Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Pilcon Vane (kPa) W Water sample M Mackintosh Probe					

TP/BH1 Borehole Log Cont

Depth (m)	Description of Strata	Thickness (m)	Legend	Sample Type	Test Result	Depth (m)	Field Records/Comments	Depth to water (m)
6.00	Very stiff, mid brown grey veined silty CLAY with partings of orange and brown silt and fine sand and occasional flints		— x	D	V 150+ 150+	5.00	Water strike at	5.0m
			—					
			x —	D		5.50		
			— x					
	Borehole ends at 6.0m		—	D	V 150+ 150+	6.00		
Remarks: BH open with SWL at 5.7m on completion				Key: T D T D Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Pilcon Vane (kPa) W Water sample M Mackintosh Probe				

TP/BH1 Borehole Log Cont

Depth (m)	Description of Strata	Thickness (m)	Legend	Sample	Test Type	Result	Depth (m)	Field Records/Comments	Depth to water (m)
6.00	Very stiff, mid brown grey veined silty CLAY with partings of orange and brown silt and fine sand and occasional flints		— x — — x — — x — — x —	D	V	150+ 150+	5.00	Water strike at	5.0m
				D			5.50		
	Borehole ends at 6.0m			D	V	150+ 150+	6.00		
Remarks: BH open with SWL at 5.7m on completion Key: T D T D Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Pilcon Vane (kPa) W Water sample M Mackintosh Probe									

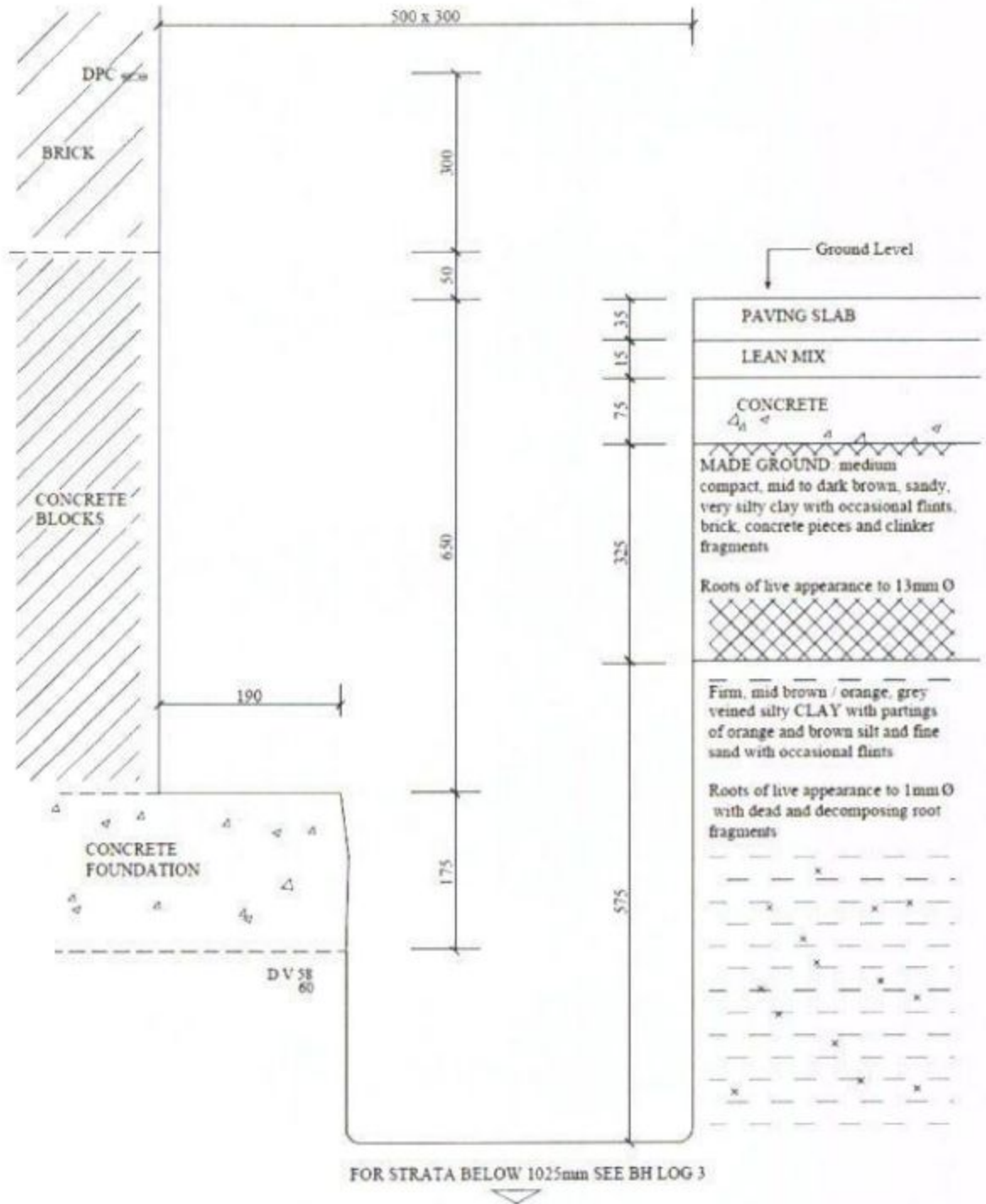
FOR STRATA BELOW 1225mm SEE BH LOG 2

Remarks: Limited working space

TP/BH2 Borehole Log

Depth (m)	Description of Strata	Thickness (m)	Legend	Sample	Test Type	Result	Depth (m)	Field Records/Comments	Depth to water (m)
1.225	As trial pit 2	1.225							
1.225			— x						
1.80	Very stiff, mid brown, grey veined silty CLAY with partings of orange and brown silt and fine sand and flints with occasional flints	0.575	— — — x	D	V	150+ 150+	1.50	Roots of live appearance to 2mm diameter with dead and decomposing root fragments	
2.00	Stiff as above with numerous flints		— x						
2.00		0.20		D	M	TDTD	2.00		
	Borehole ends at 2.0m Due to obstruction - assumed flints Too dense to hand auger								
Remarks: BH dry and open on completion Only able to extract small sample at 2.0m					Key: T D T D Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Pilcon Vane (kPa) W Water sample M Mackintosh Probe				

TP/BH3 Foundation Detail



TP/BH3 Borehole Log

Depth (m)	Description of Strata	Thickness (m)	Legend	Sample	Type	Test Result	Depth (m)	Field Records Comments	Depth to water (m)
1.025	As trial pit 3	1.025							
1.20	Stiff, mid brown / orange silty CLAY with occasional flints	0.175	—x					Roots of live, dead and decomposing appearance to 1mm diameter to 1.2m	
	Borehole ends at 1.2m Due to obstruction - assumed flints Too dense to hand auger								
Remarks: BH dry and open on completion				Key: T.D.T.D. Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Pilcon Vane (kPa) W Water sample M Mackintosh Probe					

SubsNetuk

Depth (m)	Description of Strata	Thickness (m)	Legend	Sample	Test Type	Result	Depth (m)	Field Records/Comments	Depth to water (m)
GL	Turf over MADE GROUND: medium compact, mid to dark brown, sandy, very silty, gravelly clay with occasional flints and brick, concrete and clinker fragments	0.20						No roots observed	
0.20	Firm, mid brown / orange, very silty CLAY with occasional flints	0.30	x _ x						
0.50			_ x						
	Firm, mid brown / orange, silty CLAY with occasional flints	0.60	_ x						
1.10			x _	D	M	50(40) 50(5) TD	1.00		
1.40	FLENT LAYER	0.30							
	Firm, mid brown, silty CLAY with occasional flints	0.60	_ x	D			1.50		
2.00			x _	D	M	44 50(60) 50(50)	2.00		
	Stuff as above	1.50	_ x	D			2.50		
3.50			x _	D	M	50 50(45) 50(15)	3.00		
	Very stiff, mid brown silty CLAY with occasional flints	1.50	_ x	D	V	150+ 150+	4.00		
			x _	D			4.50		
Remarks:				Key: T D T D Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Picon Vane (kPa) W Water sample M Mackintosh Probe					

Depth (m)	Description of Strata	Thick- ness (m)	Legend	Sample	Type	Test Result	Depth (m)	Field Records/Comments	Depth to water (m)
5.00	Very stiff, mid brown silty CLAY with occasional flints		___ x _____ _____ _____x	D	V	150+ 150+	5.00	Water strike at	5.0m
6.00	Very stiff, moist as above	1.00	___ x _____ _____ _____x	D			5.50		
	Borehole ends at 6.0m		_____x	D	V	150+ 150+	6.00		

Remarks:

BH open with SWL at 5.6m on completion

Datum installed at 6.0m

Key: T D T D Too Dense to Drive

D Small disturbed sample J Jar sample

B Bulk disturbed sample V Pilcon Vane (kPa)

W Water sample M Mackintosh Probe

Drainage Observations

1. Drainage Run:

*Break - In - rain water pipe 1 run X to downstream - 100mm clay surface water - Downstream
(not shared)*

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Slabs
0.2	LL		
1.9	RM		
3.3	RTJ		
4.0			Grass
5.0	FH	Camera reached downstream	
Gully Condition: As built			

Water Authority Sewer Condition Codes

B Broken pipe at... (or from... to...) o'clock	JN Junction at... o'clock, diameter... mm
BR Branch Major	JX Junction defective at... o'clock, diameter... mm
CC Crack circumferential from... to... o'clock	LC Lining of sewer changes/starts/finishes at this point
CL Crack longitudinal @... o'clock	LD Line of sewer deviates down
CM Cracks multiple from... to... o'clock	LL Line of sewer deviates left
CN Connection at... o'clock, diameter... mm	LN Line defect at (or from... to...) o'clock
CNI Connection at... o'clock, diameter... mm, intrusion...	LR Line of sewer deviates right
CU Camera under water	LU Line of sewer deviates up
CX Connection defective at... o'clock	MB Missing bricks at... (or from... to...) o'clock
CXI Connection defective at... o'clock, diameter... mm, intrusion... mm	MC Material of sewer changes at this point
D Deformed sewer... %	MH Manhole/node
DB Displaced bricks at (or from... to...) o'clock	MM Mortar missing medium at... (or from... to...) o'clock
DC Dimension of sewer changes at this point	MS Mortar missing surface at... (or from... to...) o'clock
DE Debris (non silt/grease)... % cross-sectional loss	MT Mortar missing total at... (or from... to...) o'clock
DEG Debris grease... % cross-sectional area loss	OB Obstruction... % height/diameter loss
DES Debris silt... % cross-sectional area loss	OJL Open joint large
DI Dropped invert, gap... mm	OJM Open joint medium
EHJ Encrustation heavy from... to... o'clock % cross-sectional area loss (at joint)	PC Length of pipe forming sewer changes at this point, new length... mm
ELJ Encrustation light from... to... o'clock %	RFJ Roots fine (at joint)
EMJ Encrustation medium from... to... o'clock %, cross-sectional area loss (at joint)	RMJ Roots mass... % cross-sectional area loss (at joint)
ESH Scale heavy... % cross-sectional area loss from... to... o'clock	RTJ Roots tap (at joint)
ESL Scale light from... to... o'clock	SA Survey abandoned
ESM Scale medium... % cross-sectional area loss from... to... o'clock	SC Shape of sewer changes at this point
FC Fracture circumferential from... to... o'clock	SSL Surface damage, spalling large at (or from... to...) o'clock
FL Fracture longitudinal at... o'clock	SSM Surface damage, spalling medium at (or from... to...) o'clock
FM Fractures multiple from... to... o'clock	SSS Surface damage, spalling slight at (or from... to...) o'clock
GO General observation at this point	SWL Surface damage, wear large at... (or from... to...) o'clock
GP General photograph number... taken at this point	SWM Surface damage, wear medium at... (or from... to...) o'clock
H Hole in sewer at... o'clock	SWS Surface damage, wear slight at... (or from... to...) o'clock
IDJ Infiltration dripper at (or from... to...) o'clock (at joint)	V Vermin (rats and mice)
IGJ Infiltration gusher at (or from... to...) o'clock (at joint)	WL Water level... % height/diameter
IRJ Infiltration runner at (or from... to...) o'clock (at joint)	X Sewer collapsed... % cross-sectional area loss
ISJ Infiltration seep at (or from... to...) o'clock (at joint)	FH End of survey
JDM Joint displaced medium	
JDL Joint displaced large	

Drainage Recommendations

1.0 Location **Rwp 1 downstream]**

Shared System No

Condition Grade B

Drain Serviceability Unserviceable

Work Spec

Excavate and replace the rest bend and 1.0 metre of pipe-work. From the excavation, high pressure water jet to remove the roots and line downstream for 3.0 metres

Repair Estimate

No.	Code	Description	Qty	Unit	Unit Rate £	Total Price £
1	UK0650	Rest-bend. Remove existing and replace with new PVCu item. Bed, surround and backfill.	1	nr	£76.82	£76.82
1	UK0605	Excavate & remove isolated length. Replace in new 110mm PVCu. Bed, surround & backfill, n.e. 1000mm deep.	1	nr	£105.17	£105.17
1	UK0880	Short Radius Bend. Remove existing item and replace with new 110mm PVCu.	1	nr	£11.91	£11.91
1	UK1045	Removal, set aside and reinstatement of concrete slab paving n.e 100mm thick	1	m2	£19.68	£19.68
1	UK0025	Protection Temporary works to floors, 1000 gauge polythene.	1	m2	£1.43	£1.43
1	UK2050005	Disposal by hand excavated contaminated/saturated material off site.	1	m3	£36.24	£36.24
1	UK006	1 Litre of disinfectant.	1	nr	£2.42	£2.42
1	UK1133	Van pack HPWJ & CCTV in preparation of lining	1	nr	£118.75	£118.75
1	UK1135	Drain Lining - Initial Set-Up Fee (0-3.0m)	1	nr	£266.11	£266.11
					Sub-total	£638.53 + VAT

SOIL ANALYSIS

for Lloyds Banking Group

31 Hollybank Road, Emsworth, W. Sussex, PO10 7UE

Client: Lloyds Banking Group
Client Contact: David Elliot
Claim Number: 101431391
Policy Holder: Mrs C Watson
Report Date: 3 December 2013
Our Ref: C281159805

Compiled By:



Checked By:



SubsNetuk

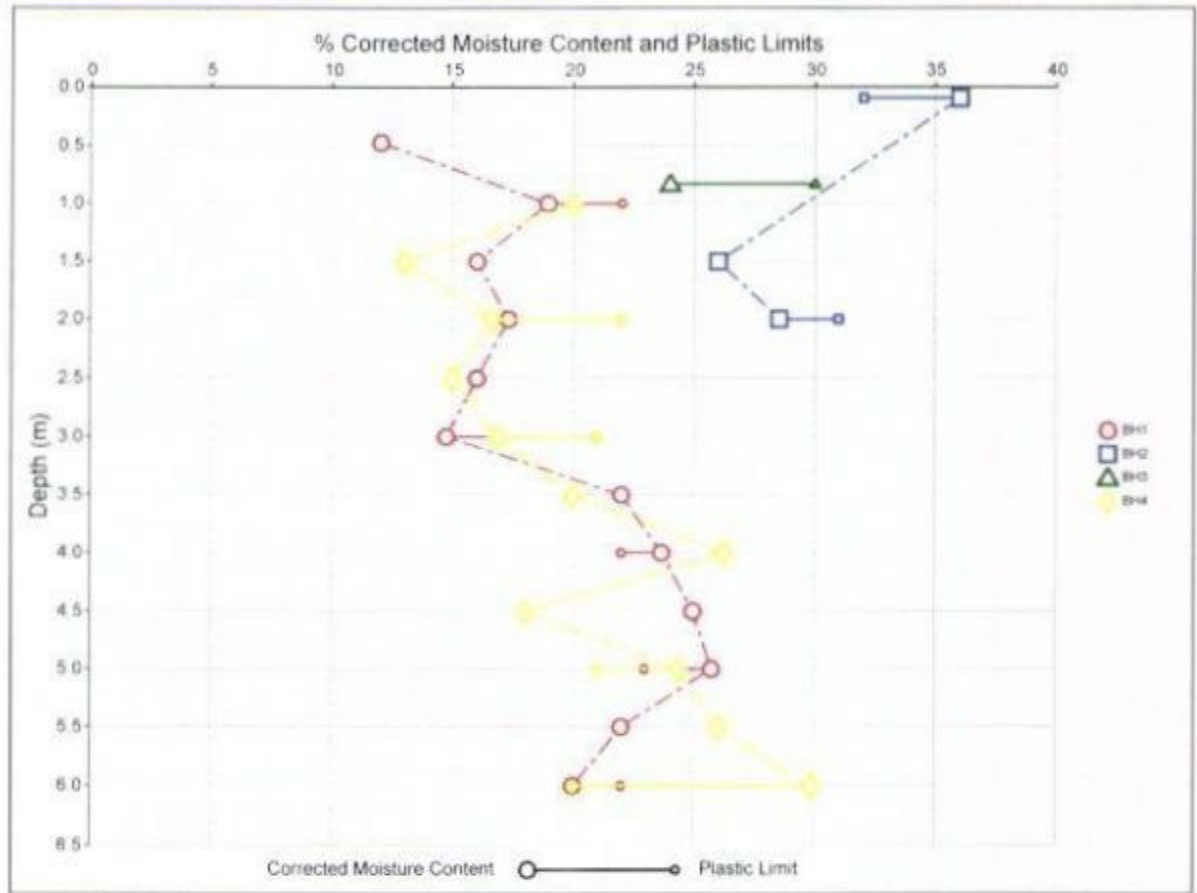


Note

Where appropriate moisture contents have been corrected to demonstrate the equivalent moisture content following the sample being passed through a .425 mm sieve for comparison with the Liquid & Plastic Limit. Where this is not available, uncorrected moisture contents have been used in the graph on the following page.

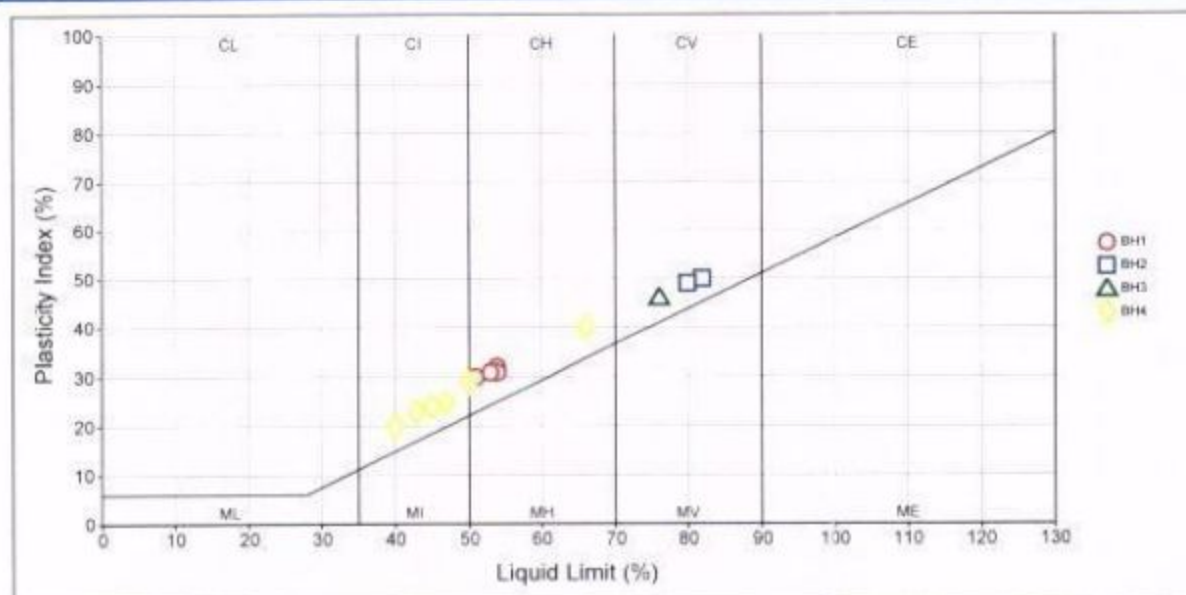
Lab Ref	Depth (m)	MC (%)	Corr MC (%)	LL (%)	PL (%)	PI (%)	% Passing .425mm
Samples from BH1							
001	0.48	12			NP		
002	1.00	18	19	54	22	32	95
003	1.50	16					
004	2.00	17	17	54	22	32	98
005	2.50	16					
006	3.00	14	15	51	21	30	95
007	3.50	22					
008	4.00	23	24	53	22	31	97
009	4.50	25					
010	5.00	25	26	54	23	31	97
011	5.50	22					
012	6.00	19	20	53	22	31	95
Samples from BH2							
013	0.10	36	36	82	32	50	100
014	1.50	26					
015	2.00	28	29	80	31	49	98
Samples from BH3							
016	0.83	24	24	76	30	46	100
Samples from BH4							
017	1.00	17	20	43	20	23	85
018	1.50	13					
019	2.00	15	17	47	22	25	90
020	2.50	15					
021	3.00	16	17	45	21	24	95
022	3.50	20					
023	4.00	26	26	66	26	40	99
024	4.50	18					
025	5.00	21	24	50	21	29	86
026	5.50	26					
027	6.00	26	30	40	20	20	87

Corrected Moisture Content and Plastic Limits Graph



Lab Ref	Depth (m)	Description	BS-5930	NHBC Chapter 4.2
Samples from BH1				
001	0.48	Brown clayey silty GRAVEL.		
002	1.00	Brown slightly gravelly slightly sandy CLAY.	CH	Medium
003	1.50	Brown slightly gravelly slightly sandy CLAY.		
004	2.00	Brown slightly gravelly slightly sandy CLAY.	CH	Medium
005	2.50	Brown slightly gravelly slightly sandy CLAY.		
006	3.00	Brown slightly gravelly slightly sandy CLAY.	CH	Medium
007	3.50	Brown slightly gravelly slightly sandy CLAY.		
008	4.00	Brown slightly gravelly slightly sandy CLAY.	CH	Medium
009	4.50	Brown slightly gravelly slightly sandy CLAY.		
010	5.00	Brown slightly gravelly slightly sandy CLAY.	CH	Medium
011	5.50	Brown slightly gravelly slightly sandy CLAY.		
012	6.00	Brown slightly gravelly slightly sandy CLAY.	CH	Medium
Samples from BH2				
013	0.10	Brown mottled grey CLAY.	CV	High
014	1.50	Brown mottled grey CLAY.		
015	2.00	Brown mottled grey CLAY.	CV	High
Samples from BH3				
016	0.83	Brown mottled grey CLAY.	CV	High
Samples from BH4				
017	1.00	Brown gravelly sandy CLAY.	CI	Medium
018	1.50	Brown gravelly sandy CLAY.		
019	2.00	Brown slightly gravelly sandy CLAY.	CI	Medium
020	2.50	Brown slightly gravelly sandy CLAY.		
021	3.00	Brown slightly gravelly sandy CLAY.	CI	Medium
022	3.50	Brown slightly gravelly sandy CLAY.		
023	4.00	Brown slightly gravelly slightly sandy CLAY.	CH	High
024	4.50	Brown gravelly sandy CLAY.		
025	5.00	Brown gravelly sandy CLAY.	CI	Medium
026	5.50	Brown gravelly sandy CLAY.		
027	6.00	Brown gravelly sandy CLAY.	CI	Medium

Plasticity Chart for Casagrande Classification



References and Interpretation

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 BS5930:1999 "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 Lloyds Banking Group

31 Hollybank Road, Emsworth, W. Sussex, PO10 7UE

Client: Lloyds Banking Group
Client Contact: David Elliot
Claim Number: 101431391
Client Reference: 101431391
Policy Holder: Mrs C Watson
Report Date: 25 November 2013
Our Ref: R3692



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

Sub Sample	Species Identified		Root Diameter	Starch
TP1:				
USF	<i>Quercus</i> spp.	1	1.5 mm	Abundant
USF	probably a herbaceous plant	2	1.5 mm	Absent
BH1:				
to 1.2m	no roots present in envelope.		0 mm	N/A
to 2.2m	<i>Quercus</i> spp.	3	1.5 mm	Moderate
TP2:				
USF	<i>Quercus</i> spp.		1 mm	Moderate
BH2:				
to 2m	<i>Quercus</i> spp.	4	1 mm	Moderate
TP3:				
USF	<i>Quercus</i> spp.		1 mm	Low
USF	probably Leguminosae spp.	5	<1 mm	Low

Comments:

- 1 - Plus 1 other also identified as *Quercus* spp.
- 2 - Plus 1 other the same.
- 3 - Plus 1 other also identified as *Quercus* spp.
- 4 - Plus 1 other also identified as *Quercus* spp.
- 5 - Rather juvenile.

Quercus spp. are oaks (both deciduous and evergreen).

Leguminosae spp. include laburnum, *Robinia* (false acacia or locust), broom, the pagoda tree and the climber wisteria.

Signed: M D Mitchell

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

SubsNetuk



INVENTOR IN PROFILE

Registered in England No: 295427 Registered Office: 6G Greensfield Court, Alnwick, Northumberland, NE66 2DE



LEVEL MONITORING

for Lloyds Banking Group

31 Hollybank Road, Emsworth, W. Sussex, PO10 7UE

Client:	Lloyds Banking Group
Client Contact:	David Elliot
Claim Number:	101431391
Client Reference:	101431391
Policy Holder:	Mrs C Watson
Report Date:	16 February 2014
Our Ref:	M1194

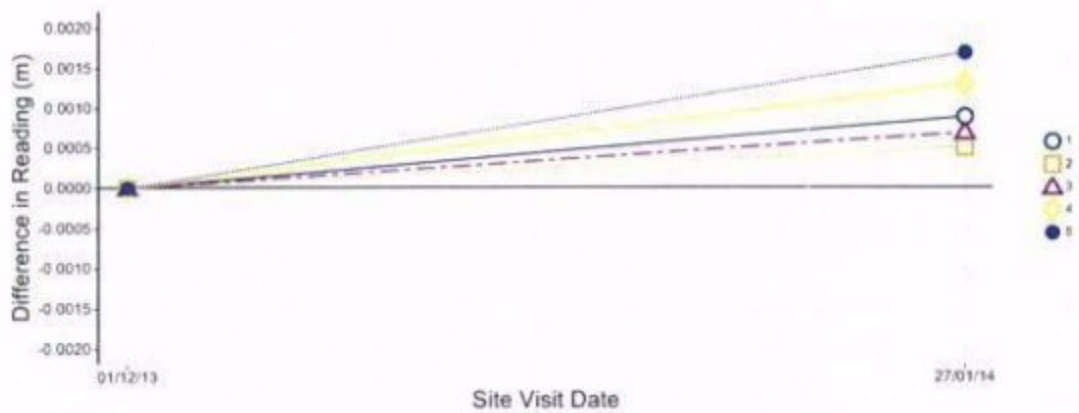
Level Monitoring Readings

The following table shows the reading levels of the various Level Monitoring Station points.

Date	L1	L2	L3	L4	L5
01/12/2013	10.2463	10.2452	10.2528	10.2190	10.2277
27/01/2014	10.2472	10.2457	10.2535	10.2203	10.2294

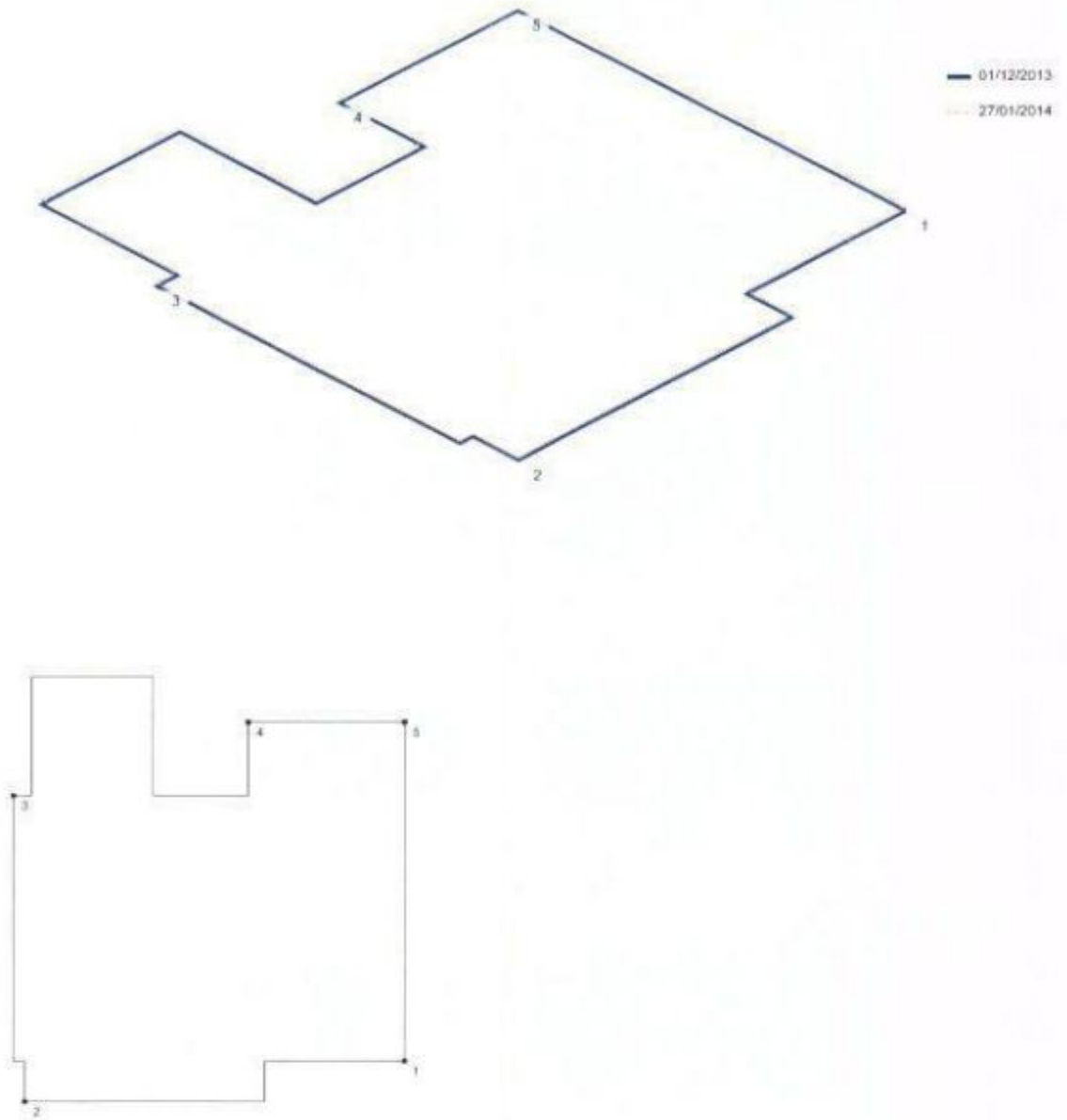
Level Monitoring Difference Graphs

The following graphs display the progressive movement that each Level Monitoring Station recorded at each separate site visit date to give an overall look at how much the property is moving.



Level Monitoring Displacement Map

The following image shows an isometric representation of the movement of the property, based on the Level Monitoring Stations that were installed.



Site Visit Notes

Level Readings are made relative to the Deep Datum installed in the rear garden. It has an assumed value of 10.0000m.

Site Visit: 1 December 2013

Level readings have been made relative to the Deep Datum installed within the rear garden. It has an assumed value of 10.0000m. All stations have been installed within a common brick course. Therefore initial readings can be interpreted as Distortion Data.

Site Visit: 27 January 2014

the insured has requested that a copy of the monitoring readings be sent to them.