

GHG

Claim and
Risk Solutions

SUBSIDENCE ENGINEER'S REPORT

Client Name: LV
Reference: S2434045
Name of Insured:
Policy Number: 21871764229
Risk Address: 27 Vicarage Meadow, Mirfield, West Yorkshire, WF14 9JL

Front Elevation of Risk Address



Barclays House, 20-24 Upper Market Street, Eastleigh, Hampshire, SO50 9FD

GHG Solutions Limited, Registered in England, Company Registration No: 3007129

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Introduction

We have been asked by Interested Underwriters per LV to comment upon damage at 27 Vicarage Meadow, Mirfield, West Yorkshire, WF14 9JL which is the property of [REDACTED].

This Report has been prepared on the instruction of Interested Underwriters per LV for their sole use in connection with a notification of a Claim under their Insurance Policy. Our comments are based on limited observations of the nature and suspected cause of the damage notified but we have not widened our brief to consider other structural matters.

Our Report does not consider questions of timber or damp, service installations or the general condition of the property. We have not inspected woodwork or other parts of the structure, which are covered, unexposed or inaccessible. We are therefore unable to report that any such part of the property is free from defect.

Comments on the causation of damage are based only on the limited investigations, which have been carried out at this stage and would be subject to review in the light of further information being made available at a later date.

This Report should not be used in the same way as a Pre-Purchase Report. It is limited to the damage, which forms the subject of a Claim made by the Policyholder against Interested Underwriters per LV

The Property

Please note that all left-hand and right-hand directions within this report are as though you are facing the front elevation of the property from the road. A photograph of the front elevation of the property is shown on the cover of this Report.

The risk address at 27 Vicarage Meadow, Mirfield, West Yorkshire, WF14 9JL comprises a two-storey detached property constructed circa 1997. The design and construction methodologies are traditional, although the property has been extended within previous ownership.

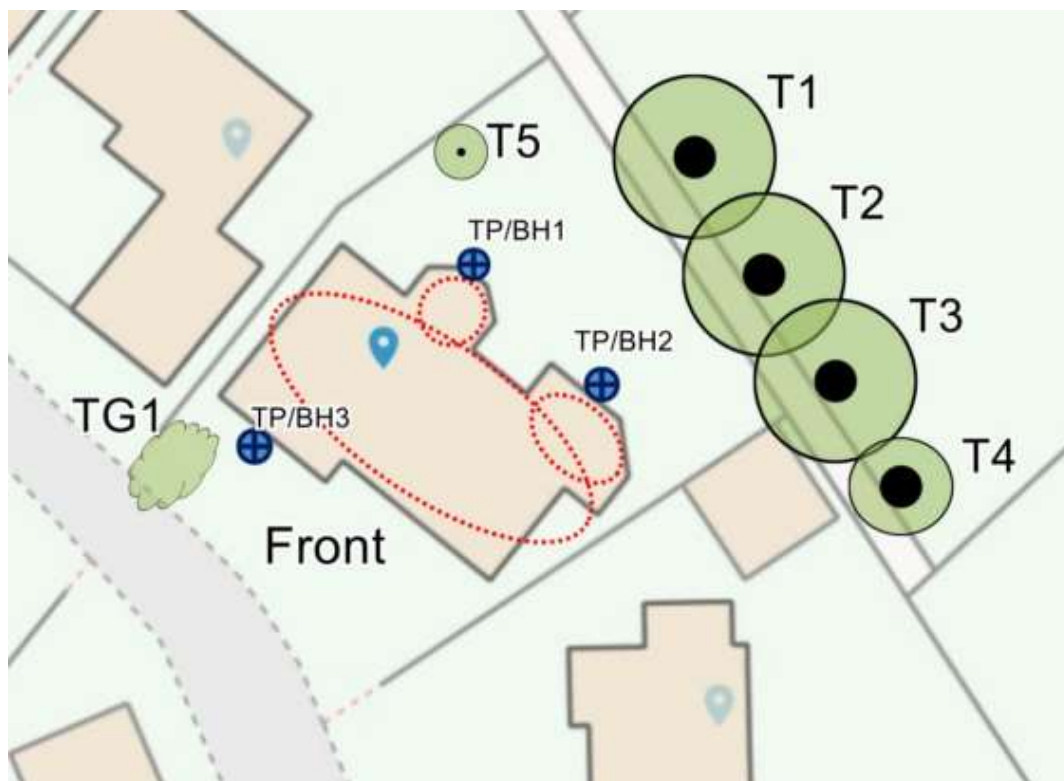
The Site

The property stands in a mature residential area on the outskirts of Mirfield and amongst properties of a similar style and vintage. We are not aware of any unusual features of the immediate site.

The area comes under the control of Kirklees Council.

Vegetation

To properly assess the vegetation surrounding the property, we appointed MWA Arboriculture. The vegetation around the property is shown on the attached site plan which has been extracted from the Arboricultural Assessment Report that MWA have produced:



The vegetation which is considered most likely to be involved in this matter are T1, T2 & T3, which have been identified by MWA as Oak trees.

Geology

From the site investigations that have been completed, it has been confirmed that the subsoil in the area is clay. Soils with a clay content will generally have a propensity to shrink and swell with changes in moisture content. That is to say that as the clay is dried its volume will reduce and this can allow downward movement, or subsidence of the foundations of properties. The amount of shrinkage and swelling which takes place can vary quite dramatically between different types of soil and can only be quantified by soil testing.

History

The property was constructed in approximately 1997, and it has been owned by [REDACTED] since approximately 2007. Damage was first noted in September 2018, and as they were concerned that this may be subsidence related, they submitted a claim to Insurers.

Damage

The damage of concern comprises primarily internal and external fractures concentrated to the rear right extended section of the property, with slight cracking also noted to the rear central conservatory. The pattern and nature of crack damages suggests foundations to the rear right extension and conservatory have moved downwards relative to the remainder.

Investigations

A single trial pit and borehole was excavated at the property which revealed the depth of foundation and sub soil beneath.

Trial Hole / Borehole

Trial hole 01 one was excavated at the rear of the property, against the rear right extension and revealed that the foundations in this location were concrete with an overall founding depth of approximately 1200mm below ground level. The soil immediately beneath the foundations was seen to be silty clay.

Borehole 01 was sunk through the base of trial hole 01 and to an overall depth of 1800mm below ground level. The soil located in the borehole was seen to be firm to stiff clay. A single soil sample was retrieved from this borehole and sent to the laboratory for analysis. A number of root samples were also taken from this borehole for further analysis.

Soil Testing

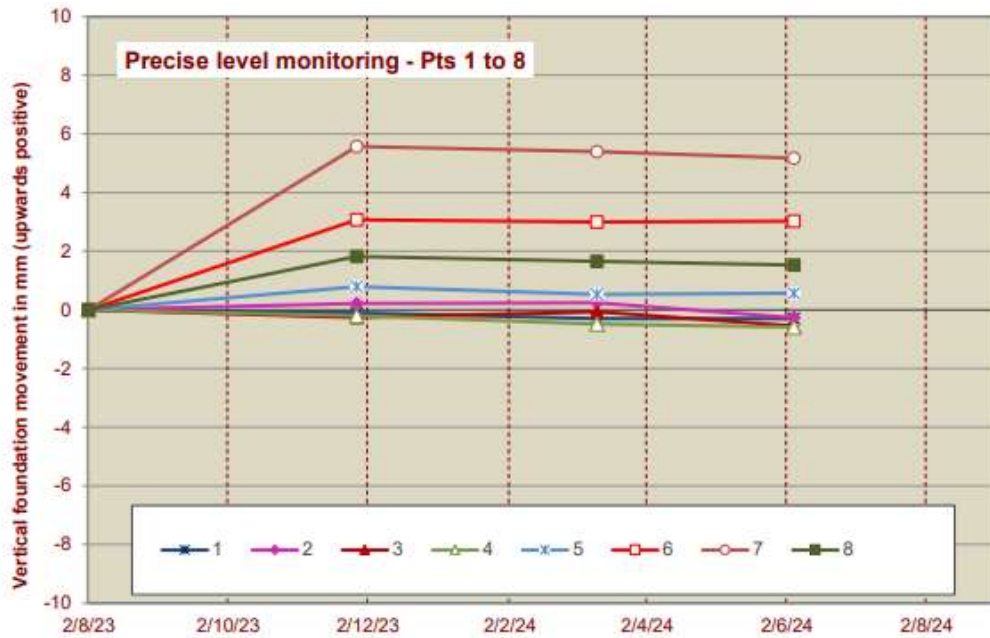
A single sample of the sub soil was taken from borehole 01 and sent to the laboratory for analysis. The laboratory testing of this sample confirmed that the soil beneath the foundations of the rear right extension to be of intermediate plasticity with evidence of borderline desiccation noted.

Root Analysis

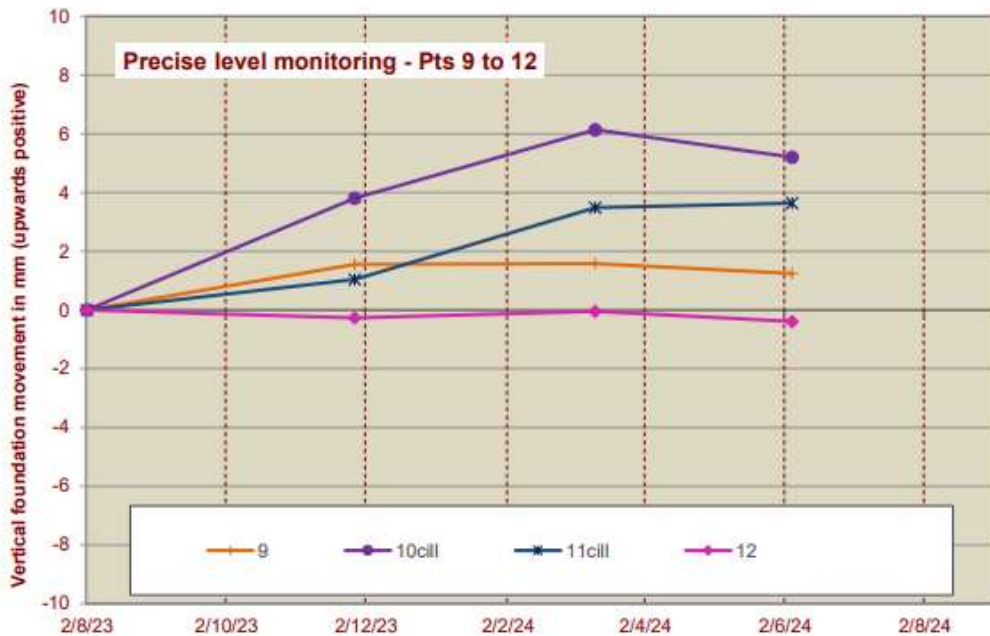
Tree root activity was observed at a depth of 1700mm below ground level in borehole 01. The root sample was identified as Quercus (Oak), or the closely related Castanea (Sweet Chestnut). The sample was also seen to be alive recently at the time the testing was conducted. This was based on the result of an Iodine test for starch content.

Monitoring

Precise level monitoring is also ongoing at the property, we have attached images of the movement graphs below which clearly shows the extent and pattern of movement that has taken place to date:



(Graph Showing the Movement of Monitoring Points 1-8)

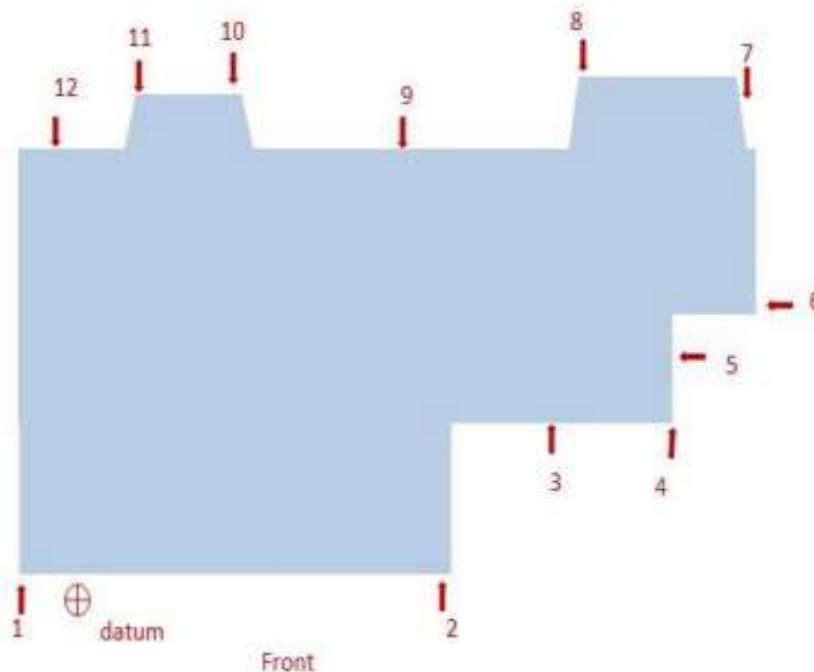


(Graph Showing the Movement of Monitoring Points 9-12)

Monitoring Continued

Survey:	1 BL		2 RW		3 BL		4 Russ	
By:	02/08/2023		27/11/2023		11/03/2024		05/06/2024	
Date:	levels mm	chngs mm	levels mm	chngs mm	levels mm	chngs mm	levels mm	chngs mm
Datum	1000.00	0.0	1000.00	0.0	1000.00	0.0	1000.00	0.0
1	1739.50	0.0	1739.40	-0.1	1739.20	-0.3	1739.20	-0.3
2	1746.27	0.0	1746.49	0.2	1746.51	0.2	1746.00	-0.3
3	1647.67	0.0	1647.41	-0.3	1647.60	-0.1	1647.12	-0.6
4	1620.99	0.0	1620.79	-0.2	1620.51	-0.5	1620.40	-0.6
5	1745.79	0.0	1746.58	0.8	1746.32	0.5	1746.36	0.6
6	1738.81	0.0	1741.88	3.1	1741.81	3.0	1741.83	3.0
7	1845.09	0.0	1850.66	5.6	1850.49	5.4	1850.26	5.2
8	1866.03	0.0	1867.85	1.8	1867.68	1.6	1867.56	1.5
9	2051.39	0.0	2052.95	1.6	2052.97	1.6	2052.64	1.3
10cill	1909.85	0.0	1913.66	3.8	1915.99	6.1	1915.05	5.2
11cill	1901.00	0.0	1902.04	1.0	1904.49	3.5	1904.64	3.6
12	1858.72	0.0	1858.45	-0.3	1858.67	-0.1	1858.33	-0.4

(Table Showing the Movement of Monitoring Points 1-12)



(Sketch Showing the Location of the Monitoring Points)

The level monitoring to date has shown a general pattern of upward movement / closure of the cracks, which is to be expected monitoring exercise having only covered the Autumn, Winter and Spring months.

Discussion & Recommendations

The site investigation results have confirmed that the cracking to the building has been caused by clay shrinkage subsidence due to moisture extraction from the subsoil by roots from the nearby Oak trees. MWA Arboriculture have made recommendations in terms of work to be done to the nearby trees to mitigate the subsidence movement, we have extracted the recommendations made in their Arboricultural Assessment Report below:

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Oak	15 *	570 *	15	9	Older than Property	Third Party 25 Church Lane WF14 9HU
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level. Owner to physically remove any regrowth (no chemical treatment due to translocation risk).					
T2	Oak	15 *	630 *	16	7.5	Older than Property	Third Party 25 Church Lane WF14 9HU
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level. Owner to physically remove any regrowth (no chemical treatment due to translocation risk).					
T3	Oak	15 *	630 *	16	8	Older than Property	Third Party 25 Church Lane WF14 9HU
Management history		Subject to past management/pruning.					
Recommendation		Remove (fell) to near ground level. Owner to physically remove any regrowth (no chemical treatment due to translocation risk).					

Ms: multi-stemmed * Estimated value

In most cases of subsidence, the foundations can be stabilised by removing the cause. In this case, this would involve removal of T1, T2 & T3.

Assuming the implicated trees are removed, we anticipate that the required repairs would be limited to the superstructure only, without the need for substructure intervention. Whilst we have not obtained formal quotations for the superstructure repairs and decorative works, we anticipate that this would cost in the region of £50,000.00.

However, if tree removal is not completed then substructure intervention would likely be needed to restore stability. We have obtained a quotation from Optera to install a compact root barrier between the implicated trees and the property, with the total cost being £66,971.88. Traditional underpinning is another method of substructure stabilisation that may be considered, we would anticipate the cost of this would be around £70,000.00-£90,000.00. At this stage we have not obtained quotations for traditional underpinning, so this figure is intended to be used as a guide only.

It would be our recommendation to mitigate the subsidence issue by removing the implicated trees, this will then allow the soil to rehydrate and the property to stabilise. This would in turn avoid the need for costly and disruptive substructure works.

James Sharpe Cert CILA

For: GHG Solutions Limited