

# Engineers Report

**Risk Address** 90 Hayes Lane  
BECKENHAM  
Kent  
BR3 6SP

**360 Reference** DLG-SN-22-004722  
**Insurer Reference** 084239680  
**Policy Holder** Mrs Caroline Millard

**Date Notified** 9<sup>th</sup> August 2022  
**Date Instructed** 11<sup>th</sup> August 2022  
**Report Date** 26<sup>th</sup> August 2022



## **Description of Premises**

The insured property is a 3 bedroom, single storey detached bungalow. It was constructed circa 1970 from masonry cavity walls, under a pitched, clay tile covered roof. The property has a single storey extension, to the rear left area of the property.

The property is located on a main road, with no apparent adverse site features.

## **Discovery of Damage**

We understand that the policyholder noted the damage around July/ August 2022, internally & externally, therefore insurers were subsequently notified, and a subsidence claim registered, in view of the policyholder's concerns.

A site inspection has not been undertaken at this stage, with the policyholder now having supplied us with photos & videos of the crack damage to the property.

## **Focus of Damage and Report**

This document addresses damage notified to insurers in relation to minor internal and external cracking to the property, generally orientated towards the left, rear & right-hand areas of the property. All directions are stated when viewing the property from the front.



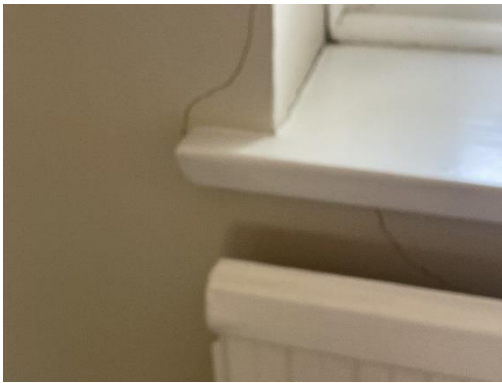
### Internal Damage

Various rooms :-

Diagonal / vertical cracking, up to approximately 3-4mm wide is evident around structural openings and to plaster finishes generally. Gaps between the wall & floor junctions has also been noted, circa 5-6mm in width, to the left-hand area of the property.

### External Damage

The internal damage is not generally reflected externally, however the external walls are rendered, We have noted damage in the form of tree root damage to the resin pathways around the property, externally.



Picture 1: Internal cracking



Picture 2: Gap between floor & skirting



Pictures 3 – Cracking to resin drive

### Non-Subsidence Related Damage

There is no further damage of significance understood to be present elsewhere within the property.

### Classification of Damage

It is common practice to categorise the damage in accordance with B.R.E. Digest 251 "Assessment of Damage in Low-Rise Buildings". In this case, the damage falls into Category 2 "Slight" as there is cracking up to approximately 5mm wide.

<b>Category</b>	<b>Crack Width</b>	<b>Degree of Damage</b>
0	Hairline cracks of less than 0.1 mm	Negligible
1	Typical crack widths are 0.1 to 1mm.	Very slight
<b>2</b>	<b>Typical crack widths are 1 to 5mm.</b>	<b>Slight</b>
3	Typical crack widths are 5 to 15mm, or several of, say, 3 mm.	Moderate
4	Typical crack widths are 15 to 25mm, but also depends on number of cracks.	Severe
5	Typical crack widths are greater than 25mm but depends on number of cracks.	Very Severe

## Site Geology and Ground Conditions

The geological data indicates the ground to be a clay soil, which is susceptible to shrinkage in dry periods, particularly in the presence of vegetation.

### Indicative Site Geology and Soils Data for: 90 Hayes Lane, Beckenham, Kent, BR3 6SP

Ref: 025643522

No of SIs within 0.24km from address on identical lithology. (See comments)	<b>5</b>
Closest - Furthest distance of a site investigation from the address (km).	<b>0.12 - 0.24</b>
Total number of boreholes.	<b>6</b>
Percentage of site investigations where root samples were taken.	<b>80%</b>
Percentage of site investigations where drainage was recorded.	<b>0%</b>
Number of samples tested at greater than 0.5m depth.	<b>36</b>
BRE Digest 240. "Volume change potential" from Av. Modified Plasticity Index (I <sub>p</sub> ) of 49%.	<b>High</b>

Previous Soils Data nr = Non recorded	Depth m.	M.C. (%)	L.L. (%)	P.I. (%)	P.L. (%)	425um (%)	Suction kPa	Oed Strain
<b>Sample population</b>	36	36	13	13	13	13	20	13
~ <b>Minimum</b> (Av - 1 StdDiv)	0.8	30	67	44	20	98	9	0.0228
~ <b>Maximum</b> (Av + 1 StdDiv)	4.6	36	85	60	28	100	495	0.0490
<b>Average</b>	2.3	33	76	52	24	99	205	0.0228
<b>General soils description</b>	Firm brown/grey CLAY with some fine gravel / silt / sand							
<b>BGS 1:50 000 maps as a: Bedrock Geology</b>	<b>1:50 000 scale bedrock geology description:</b> London Clay Formation - Clay And Silt. Sedimentary Bedrock formed in the Palaeogene period. Local environment previously dominated by deep seas. <b>Setting:</b> Deep seas. These sedimentary rocks are marine in origin. They are detrital and comprise coarse- to fine-grained slurries of debris from the continental shelf flowing into a deep-sea environment, forming distinctively graded beds.							
<b>BGS 1km Hexagonal Superficial Deposit Depth Data</b> Mean Depth = 1m Max Depth = 2m Coverage = 0% <b>Note:</b> The BGS only record superficial deposits greater than 1m in depth	<b>1:50 000 scale superficial geology description:</b> None recorded.							
<b>BGS 1:50,000 Artificial Ground</b>	Non recorded							

<b>BGS "GeoSure" 5km Hexagonal Hazard Ratings</b>	
<b>Shrink/Swell</b>	Significant with areas of localised significant rating.
<b>Collapsible Deposits</b>	Low
<b>Compressible Ground</b>	Low with areas of localised significant rating.
<b>Landslides</b>	Low with areas of localised significant rating.
<b>Running Sand</b>	Low
<b>Soluble Rocks</b>	Significant
<b>Mining (not coal) 1km hx grid</b>	No record of activity.

<b>Government Coal Authority Data (&lt;25m = found within 25m)</b>	No data recorded for this location.
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**Comments:** The location is in a high/very high SI density area. The five SIs reported above are on exactly the same Bedrock Geology with no overlying Superficial deposits.

## **Evidence of External Influences**

### **Trees**

There are several trees located beyond the left, right & rear boundary of the risk address, which we consider are likely to be influencing ground conditions beneath the property

### **Drains**

The property is served by a domestic drainage, however we do not consider that these are an influence on the foundations to the property.

## **Summary and Conclusions**

The pattern and orientation of damage noted to the property is indicative of localised subsidence. A valid claim is therefore likely for the damage to the property, subject to the subsidence policy excess of £1000.

The cause of the localised subsidence, generally orientated towards the left, right & rear elevations of the property, appears to be clay shrinkage, exacerbated by the water demand of the nearby vegetation, to the rear of the risk address.

In order to mitigate further subsidence damage occurring, it will be necessary to remove the cause of the problem, and this may be any implicated trees / vegetation. This should allow the ground to stabilise.

An Arborist report is to be obtained in the first instance, in order to identify the full extent of mitigation works on this occasion.

Following completion of the mitigation works described above, and a period to allow the ground to rehydrate, crack repairs and redecoration to the affected areas of the property can proceed. A repair schedule will be drawn up and agreed in due course.

## **Next Steps**

A valid claim arises under the terms of the insurance policy, subject to the applicable excess of £1000, for the localised subsidence damage to the bungalow, generally orientated towards the right-hand side

The key steps required to progress the claim are as follows:

- Contact policyholder and arrange an Arborist to survey and identify extent of tree works required to mitigate further damage.
- Liaise with the relevant owners of any implicated vegetation to arrange any recommended tree removal to be undertaken as soon as possible.
- Following completion of above mitigation, allow ground to rehydrate, before proceeding with repairs to the property.



Provided vegetation removal can be achieved, it is anticipated that the ground will recover, with only crack repairs and redecoration works therefore being required to the affected areas. A repair schedule will be drawn up, although this will be finalised following completion of any mitigation measures, as applicable.

Simon A Cope ACIOB ACABE BDMA Claims Prct

360Globalnet Subsidence Team