Engineers Report

Risk Address	**Russell Cottage** **Bridgnorth Road** **Highley** **BRIDGNORTH** **WV16 6JG**
360 Reference	**LIV-SN-22-005195**
Insurer Reference	**100-50-194734**
Policy Holder	**Mr Alan Matthews**
Date Notified	**3rd September 2022**
Date Instructed	**3rd September 2022**
Report Date	**30th September 2022**

Description of Premises

The insured property is a 2-bedroom, two storey, mid-terraced house. It was constructed circa 1899 from masonry cavity walls, under a pitched, slate tile covered roof. The insured has owned the risk address since January 2005. There is a single storey extension to the rear of the main house, which was built circa 2000, prior to the policyholder's purchase of the property.

The property is located within a residential area of similar type properties, with no apparent adverse site features.

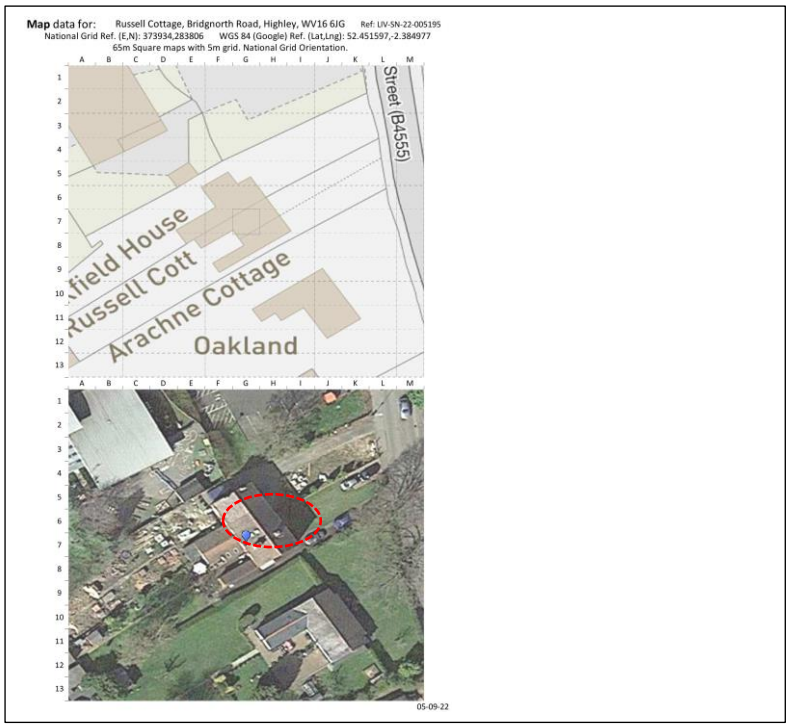
Discovery of Damage

We understand that the policyholder noted the cracking earlier in Summer 2022, with the damage getting worse, so insurers were subsequently notified, and a subsidence claim registered, in view of the policyholder's concerns.

A site inspection was undertaken recently, this month, via one of our field agents.

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 main house & rear extension areas of the property. All directions are stated when viewing the property from the front.



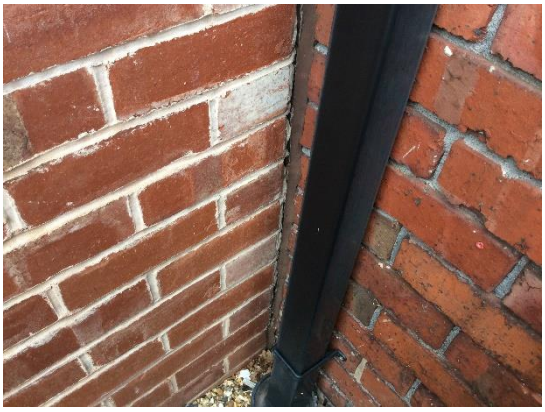
Internal Damage

Front Lounge, Bedroom, Stairs, Kitchen and Rear Lounge :-

Diagonal / vertical cracking, up to approximately 3-4mm wide to plaster finishes generally, cracking to wall/ ceiling junctions and cracking to ceilings in various areas.

External Damage

There is tapered vertical cracking at the junction of the rear extension and main house, varying in width up to approximately 5mm wide.



Picture 1: Rear extension/ house cracking

Picture 2: Rear extension/ house cracking

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.

Category	Crack Width	Degree of Damage
0	Hairline cracks of less than 0.1 mm	Negligible
1	Typical crack widths are 0.1 to 1mm.	Very slight
2	**Typical crack widths are 1 to 5mm.**	**Slight**
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:

Russell Cottage, Bridgnorth Road, Highley, WV16 6JG

Ref: LIV-SN-22-005195

No of SI's within 8.1km from address on identical lithology. **(See comments)**	**6**
Closest - Furthest distance of a site investigation from the address (km).	**0.08 - 8.1**
Total number of boreholes.	**11**
Percentage of site investigations where root samples where taken.	**100%**
Percentage of site investigations where drainage was recorded.	**67%**
Number of samples tested at greater than 0.5m depth.	**45**
BRE Digest 240. "Volume change potential" from Av. Modified Plasticity Index (I'p) of 27%.	**Medium**

Previous Soils Data nr = Non recorded	***Depth m.***	***M.C. (%)***	***L.L. (%)***	***P.I. (%)***	***P.L. (%)***	***425um (%)***	***Suction kPa***	***Oed Strain***
Sample population	45	45	12	12	12	12	5	34
~ Minimum (Av - 1 StdDiv)	0.7	11	40	22	17	88	123	0.0342
~ Maximum (Av + 1 StdDiv)	4.8	20	58	34	25	100	948	0.0720
Average	2.3	16	49	28	21	95	428	0.0342
General soils description	Firm/Stiff brown/grey sandy CLAY with some fine-medium gravel							
BGS 1:50 000 maps as a: Bedrock Geology	**1:50 000 scale bedrock geology description:** Alveley Member - Mudstone, Siltstone And Sandstone. Sedimentary Bedrock formed in the Carboniferous period. Local environment previously dominated by rivers. **Setting**: Rivers with well-drained soils and shallow lakes. These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).							
BGS 1km Hexagonal Superficial Deposit Depth Data Mean Depth = 1m Max Depth = 1m Coverage = 2% **Note**: The BGS only record superficial deposits greater than 1m in depth	**1:50 000 scale superficial geology description:** None recorded.							
BGS 1:50,000 Artificial Ground	Non recorded							

BGS "GeoSure" 5km Hexagonal Hazard Ratings	
Shrink/Swell	Low
Collapsible Deposits	Low
Compressible Ground	Low with areas of localised significant rating.
Landslides	Moderate with areas of localised significant rating.
Running Sand	Low
Soluble Rocks	Low
Mining (not coal) 1km hx grid	Localised small scale mining may have occurred in the area.

Government Coal Authority Data (<25m = found within 25m)	Reporting area/ Abandoned Mines Catalogue. No-12277

Comments: The location is in a very low/low SI density area. The six SIs reported above are on exactly the same Bedrock Geology with no overlying Superficial deposits.

 05-09-22

Evidence of External Influences

Trees

There are several private third party owned trees located at the front of the property,which we consider to be influencing ground conditions beneath the property, to the front area.

Drains

The property is served by a domestic drainage at the rear of the main house, which we consider are contributing to the current damage noted, to the rear area of the risk address, therefore the drains will need to be investigated on this occasion.

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 front elevation, appears to be clay shrinkage, exacerbated by the water demand of the nearby vegetation, within private third party's ownership, in front of the property. We also consider that leakage from drains to the rear of the property, are the likely influence in respect of damage noted towards the rear of the risk address.

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

The removal of trees or vegetation belonging to third parties, however, can be problematic and the success of securing any agreement can vary dependant on the individual circumstances. A course of level monitoring will need to be introduced over a 6-month period to obtain evidence that will support our request to the local authority for tree removal, along with any further site investigations deemed necessary.

An Arborist report will also need to be obtained, in order to assist discussions with the local authority, where applicable.

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 property.

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

- Contact policyholder and arrange for site investigations to be undertaken at a suitable date. These will include trial hole excavations at the front area of the property.

- Instruct 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.
- Undertake any relevant drain repairs necessary, to the rear of the risk address.

Provided vegetation removal can be achieved and localised rain repairs are undertaken, it is anticipated that the ground will recover, with only crack repairs and redecorations works therefore being required to the affected areas. A repair schedule will be drawn up, in due course, following completion of any mitigation measures, as applicable.

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360Globalnet Subsidence Team