Engineer’s Report

Risk Address	**28 Damask Gardens Waterlooville PO7 8QZ**
360 Reference	**LIV-SN-23-006703**
Insurer Reference	**800-16-008022**
Policy Holder	**Mrs. Hayley Psaila**
Date Notified	**20/04/2023**
Date Instructed	**20/04/2023**
Report Date	**17/05/2023**

Description of Premises

The insured property is a 3-bedroom, two- storey semi-detached property. It was constructed circa 1984's from masonry cavity walls with a brickwork finish, under a pitched, concrete tile covered roof. To the rear is a conservatory built prior to policyholder purchase. We understand the policyholder purchased the property is 2019 and converted the loft space into living accommodation. No other structural alterations or works have been conducted.

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 noticed internal cracking to the conservatory in April 2023. Insurers were subsequently notified, and a subsidence claim registered, in view of the policyholder's concerns.

An initial site inspection was undertaken by a 360 Global Agent. All information supplied was subsequently reviewed by our Engineer and discussed in detail with the customer.

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 rear conservatory. All directions are stated when viewing the property from the front.

Internal Damage

To the left-hand side abutment of the conservatory with the main house wall, arising from ground level up to ceiling height is a vertical gap of 10mm in width.

To the front wall of the conservatory, between the skirting board and the wall is a horizontal gap of 10mm in width.

We understand from the policyholder that there is similar cracking of a lesser severity to the right-hand side abutment of the conservatory.

External Damage

Due to the close proximity of the boundary fence line with the side wall of the conservatory, we unable to say if the internal cracking is mirrored externally, though we understand from the policyholder that there is fine external cracking at the same location.

Picture 1: Internal cracking to conservatory

Picture 2: Internal cracking to conservatory

Picture 3: Internal cracking to conservatory

Picture 4: Internal cracking to conservatory

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 categorize 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 3 “Moderate” as there is cracking up to approximately 10mm 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:

28 Damask Gardens, Waterlooville, PO7 8QZ

No of SI's within 0.49km from address on identical lithology. **(See comments)**	**7**
Closest - Furthest distance of a site investigation from the address (km).	**0.12 - 0.49**
Total number of boreholes.	**13**
Percentage of site investigations where root samples where taken.	**43%**
Percentage of site investigations where drainage was recorded.	**29%**
Number of samples tested at greater than 0.5m depth.	**73**
BRE Digest 240. "Volume change potential" from Av. Modified Plasticity Index (I'p) of 40%.	**High**

Previous Soils Data nr = Non recorded	***Depth m.***	***M.C. (%)***	***L.L. (%)***	***P.I. (%)***	***P.L. (%)***	***425um (%)***	***Suction kPa***	***Oed Strain***
Sample population	73	73	28	28	28	28	54	15
~ Minimum (Av - 1 StdDev)	0.7	23	50	30	19	97	7	0.0231
~ Maximum (Av + 1 StdDev)	6.8	34	72	48	25	100	687	0.0510
Average	3.1	29	61	39	22	99	163	0.0231
General soils description	Firm brown/grey sandy CLAY with some fine gravel / silt							
BGS 1:50 000 maps as a: Bedrock Geology	**1:50 000 scale bedrock geology description:** London Clay Formation - Clay, Silt And Sand. Sedimentary Bedrock formed in the Palaeogene period. Local environment previously dominated by deep seas. **Setting**: 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.							
BGS 1km Hex. Superficial Deposit Depth Data Mean Depth = 1m Max Depth = 1m Coverage = 7% 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	Significant with areas of localised significant rating.
Collapsible Deposits	Moderate
Compressible Ground	Low with areas of localised significant rating.
Landslides	Low with areas of localised significant rating.
Running Sand	Moderate with areas of localised significant rating.
Soluble Rocks	Significant
Mining (not coal) 1km hx grid	Localised small scale mining may have occurred in the area.

Government Coal Authority Data (<25m = found within 25m)	No data recorded for this location.

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

Contains British Geological Survey materials © NERC [2023] 21-04-23

Evidence of External Influences

Trees

There is a local authority tree located in the public footpath at the rear of the property. This is likely to be influencing ground conditions beneath the property.

Drains

We understand there is a shared drainage run beneath the conservatory and this should be inspected for any leaks and escape of water.

Summary and Conclusions

The pattern and orientation of damage noted to the property is indicative of localised subsidence.

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, generally orientated towards the rear conservatory.

Although the cause of the movement needs to be dealt with, we note the vegetation is subject to a Tree preservation order.

Unfortunately, current legislation requires certain investigations to be carried out to support an application for the tree works.

Typically, these investigations would involve trial pit(s) to determine the depth and type of footings, boreholes to determine nature of the subsoil/influence of any roots and monitoring to establish the rate and pattern of movement.

A trial pit and borehole will be undertaken to confirm the depth of the extension foundation, as well as assessing the content and condition of the sub-soil beneath the foundation.

This will provide a good indicator as to whether the ground has been affected by an external influence, and allowed some slight downward movement of the foundation to occur.

The monitoring data provided must be sufficient to show a pattern of movement consistent with the influence of the vegetation and therefore it may be necessary to carry out the monitoring for up to a 12-month period.

It will also be necessary to obtain a specialist Arboricultural Report.

We will report further once these investigations have been completed.

Next Steps

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

LIV-SN-23-006703

Provided vegetation removal can be achieved, it is anticipated that the ground will stabilise, with only crack repairs and redecoration works therefore being required to the affected areas.

A repair schedule has been drawn up, although this will be finalised following completion of any mitigation measures, as applicable.

Victoria Bagshaw,
360Globalnet Subsidence Team