Engineer's Report

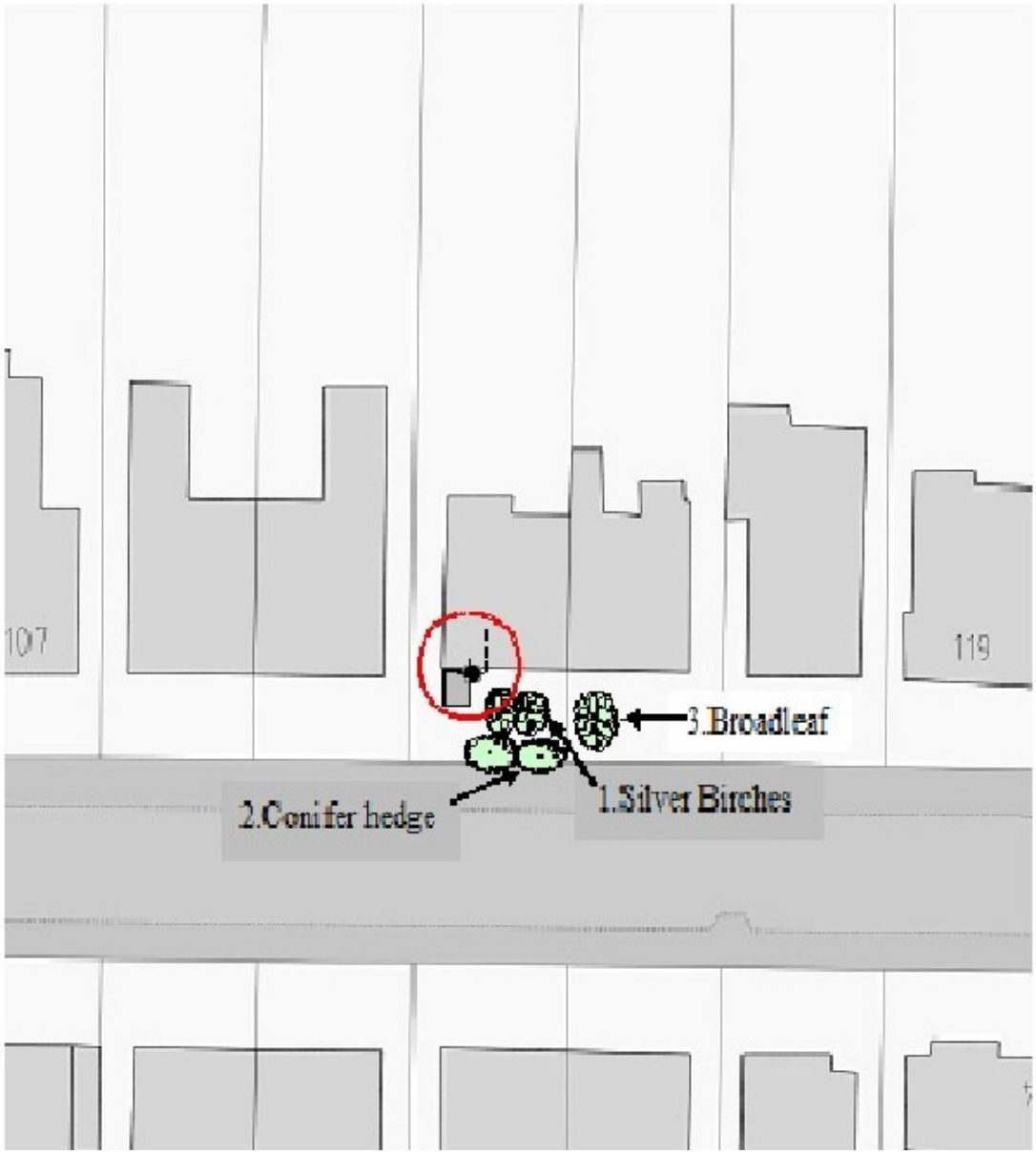
Our Reference	**IFS-RSA-SUB-12-0034571**
Claim Reference	**201201053167**
Prepared for	**RSA**

Claim Details:

Report Date	**21 February 2012**
Policyholder	**Mr Bor**
Address	**113 Chetwynd Road, London, NW5 1DA**

SITE PLAN NOT TO SCALE

This plan is diagrammatic only and has been prepared to illustrate the general position of the property and its relationship to nearby drains and trees etc. The boundaries are not accurate, and do not infer or confer any rights of ownership or right-of-way. OS images provided by Dotted Eyes.



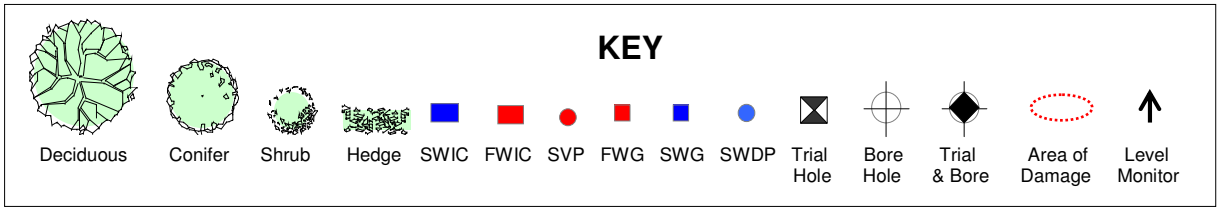


FIGURE 1 Site Plan

INTRODUCTION

We have been asked by your building Insurers to comment on suspected subsidence damage to the above property. Our report briefly describes the damage, identifies the cause and gives recommendations on the required remedial measures.

Our report should not be used in the same way as a pre-purchase survey. It has been prepared specifically in connection with the present insurance claim and should not be relied on as a statement of structural adequacy. It does not deal with the general condition of the building, decorations, services, timber rot or infestation etc.

Investigations have been carried out in accordance with the guidance issued by The Institution of Structural Engineers. All directions are given relative to an observer facing the front of the property. We have not commented on any part of the building that is covered or inaccessible.

CIRCUMSTANCES

At the time of our inspection, the policyholder advised that damage to the entrance hall and front entrance steps was first noted in early January 2012. Becoming concerned with the extent of damage, the policyholder elected to submit a potential claim direct to Insurers.

PROPERTY

The property is a four storey semi-detached house of traditional construction with solid brickwork walls surmounted by a hipped slate covered roof.

The property has 5 bedrooms. The property is located in an established residential area of properties of a similar age and construction.

FIGURE 2 Front Elevation

HISTORY

Date of Construction	1860
Purchased	2005
Policy Inception Date	19 January 2011
Damage First Noticed	09 January 2012
Claim Notified To Insurer	26 January 2012
Date of our Inspection	20 February 2012

ADEQUACY OF BUILDING SUM INSURED

The current building sum insured is considered adequate

TOPOGRAPHY

The property occupies a reasonably level site with no unusual or adverse topographic features.

GEOLOGY

Reference to the 1:50,000 scale British Geological Survey Map (Drift Edition) suggests the drift geology of the site is overlying a solid geology of London Clay.

VEGETATION

The following vegetation was recorded as being within potential influencing distance of the property:-

Type	Height	Distance	Owner
Birch	4m	3m	Policyholder
Broadleaf	8m	3m	Neighbour
Conifer Hedge	2m	4m	Policyholder

DAMAGE RELATING TO THE CLAIM

The following is a summary of the damage relating to the Insurance claim, including any unrelated damage in the same vicinity, with supporting photographs where appropriate.

INTERNALLY

Entrance Hall

- Stepped diagonal cracking up to 1mm to the front section of the central spine wall.
- Separation up to 1mm at the junction of the central spine wall and abutting central spine wall.
- Disruption of the abutting timber skirting boards to the front section of the left flank.

Kitchen

- Mirrored stepped diagonal cracking up to 1mm to the front section of the central spine wall. The full extent of the cracking is obscured by the fitted kitchen units and splash back.
- 1mm cracking to the decorative coving along the central spine wall.
- Hairline to 1mm cracking above the central opening to the rear sitting area.

Underside of Entrance Steps

- Cracking up to 2mm emanating from the bottom of the window along the right flank.

Lower Ground Bathroom

- 1mm above the door to the underside of the front entrance steps.
- 1mm cracking to the ceiling.
- Section of dilapidated plaster to the partition wall between the bathroom and the underside of the entrance steps.

Lower Ground Office

- 2mm cracking above the door to the hallway.
- 1mm cracking above the rear recessed storage area.
- Separation up to 1mm at the junction of the walls and ceiling.

Lower Hallway

- 1mm above the door to the office.
- 1mm above the door to the bathroom.

EXTERNALLY

Front Entrance steps

- Separation up to 30mm at the right hand junction of the lower levels of the entrance steps and the main dwelling. The majority of the separation appears historic with some evidence of recent movement.
- Cracking up to 4mm below the window opening to the right flank.
- Separation up to 5mm at the left hand junction of the lower levels of the entrance steps and the main dwelling.
- Separation up to 5mm at the left and right hand junctions of the parapets of the front entrance steps and front elevation of the main dwelling.

FIGURE 03 - Separation at the junction of the entrance steps and the main dwelling - High Level

FIGURE 03 - Separation at the junction of the entrance steps and the main dwelling - High Level

FIGURE 04 - Separation at the junction of the entrance steps and the main dwelling - Low Level

FIGURE 04 - Separation at the junction of the entrance steps and the main dwelling - Low Level

DAMAGE CATEGORY

It is common practice to categorise the structural significance of the damage in accordance with the classification given in Table 1 of Digest 251 produced by the Building Research Establishment. In this instance, the damage falls into Category 5 (Very Severe).

Category 0	Negligible	<0.1 mm
Category 1	Very Slight	0.1 - 2mm
Category 2	Slight	>2 but < 5mm
Category 3	Moderate	>5 but < 15mm
Category 4	Severe	>15 but < 25mm
Category 5	Very Severe	>25mm

Extract from Table *1.* B.R.E Digest 251
Classification of damage based on crack widths

INVESTIGATIONS

SITE EXCAVATIONS

Site investigations will shortly be undertaken by a specialist contractor.

MONITORING

4 crack width visits will be undertaken at 8-week intervals.

DISCUSSION

The aspect and pattern of the cracking to the front entrance steps and front section of the central partition wall to the main dwelling is indicative of subsidence as a result of shrinkage of the clay subsoil due to the moisture extracting influence of the adjacent vegetation within the front garden of the risk address and neighbouring property.

Root induced clay shrinkage in cohesive soils is a commonly encountered problem, and probably accounts for around 70% of subsidence claims notified to insurers. Fortunately, if the problem is tree related the cause of the problem (dehydration) is reversible. Clay soils will rehydrate in the winter months, causing the clays to swell and the cracks to close.

Provided the cause of movement is dealt with, in this case vegetation, there should not be a recurrence of movement.

REQUIREMENTS

In view that the damage to the property is considered to be as a result of an insured event, a valid claim arises under the terms of policy cover, subject to the applicable excess.

In order to stabilise the property and prevent further damage occurring in the future, the cause of the movement needs to be addressed, with site investigations being required to confirm our initial diagnosis and to determine the extent of vegetation management works required. Following completion of mitigation works, the property will then be monitored to reaffirm stability.

Provided the property stabilises as expected, no foundation stabilisation works are considered necessary, with structural repairs of the superstructure being required only, together with internal redecoration of the damaged rooms.

Generally cracks 1mm wide or less will be filled (internal) or re-pointed (external). Internally, where the cracks are wider than 1mm, but less than 5mm the underlying brickwork or blockwork will be exposed and prior to making good the plaster finishes the cracking will be covered with expanded metal lathe. Where cracks are 5mm across or wider, some form of bed joint reinforcement will be introduced.

Daniel Gavin
Engineer
Subsidence Management Services