Subject Property Address:

13 Laurier Road

London

NW5 1SD

INSURANCE CLAIM

CONCERNING SUSPECTED SUBSIDENCE

ENGINEERING APPRAISAL REPORT

This report is prepared on behalf of insurers for the purpose of investigating a claim for subsidence. It is not intended to cover any other aspect of structural inadequacy or building defect that may otherwise have been in existence at the time of inspection.

Date: 25/11/2013

INTRODUCTION

The technical aspects of this claim are now being overseen by our Project Manager Lewis Bryer BEng CEng MICE, in accordance with our Project Managed Service.

DESCRIPTION OF BUILDING

The subject property is a mid terrace house which has been historically converted to flatsand is located in a residential estate location on a plot that is level.

A period step structure is located to the front entrance of the main building and this structure also incorporates lower ground floor living accommodation. Pavings and original front boundary railing are located to the front.

DISCOVERY OF DAMAGE

The policyholder and freeholder, first discovered the damage during 2011.

The damage was discovered some time ago but was not considered to be of any significance. The policyholder then obtained professional advice, and notified insurers.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

The main area of damage is to the front step structure and the front boundary railings and front paving elements of the property. The damage takes the form of tapering vertical cracks above the lower ground front entrance doorway of the step structure lower ground area and also includes tapering vertical cracking of up to 7 mm width at the interface of the step structure with the main building. At the time of our recent inspection we did not reveal any associated damage to the main building.

The front boundary railing structure and the front railing have dropped significantly towards the front entrance gateway of the property.

This pattern of damage indicates a mechanism of downwards movement towards the front entrace pathway of the main building.

Significance

The level of damage is slight to the front step structure and severe to the front pavings and front boundary railing structure.

Onset and Progression

We consider that the crack damage has occurred recently, but that distortions are historic.

It is likely that movement is of a progressive nature.

SITE INVESTIGATIONS

Site investigations have previously been arranged.

The results of the ground investigations have revealed that the front of the step structure is located on made ground incorporating a shrinkable silty clay with rubble. The foundation to the front of the step structure is founded at a depth of 650mm below ground level.

Borehole information to the front of the front paving area reveals that the made ground is supported at depth by a stiff silty clay subsoil.

The trial pit excavations revealed that roots belonging to fuscia, pomoideae and leguminosae were found within the excavations located up to 3 metres below ground level.

Underground drainage investigations have also been carried out. The investigations have revealed displaced joints and crack damage located towards the rear of the main building and under the front elevations of the main building particularly in the areas of damage to the front boundary locations and to the front step structure. The most recent underground drainage survey was carried out in October 2013.

MONITORING

We consider that level monitoring is required. This is to support our opinion on cause and to give reassurance to the policyholder.

CAUSE OF DAMAGE

Based on the information detailed above and considering all investigation results particularly including the most recent underground drainage investigation, we consider that damage to the front step structure and the front pavings and front railing has occurred as a result of leakage of underground drainage in the immediate vicinity of the damage. The pattern of cracking and the movement tends to drop towards the sections of underground drainage which is damaged. The pattern of cracking, the mechanism of movement and progressive nature of damage tends to support a drain problem rather than a vegetation issue.

This opinion could only be made having considered all factors over a period of time. The previous presence of stiff clay at depth and the presence of roots initially would have indicated a tree related clay shrinkage problem. However the dry summer of 2013 does not appear to have caused a sudden worsening of damage. Damage has simply progressed constantly over time.

However, It also appears that the clay movement and root action caused from the front local authority highway tree has damaged the underground drainage.

It therefore appears that the primary problem associated with the movement to the buildings has occurred as a result of leaking underground drainage. The underground drainage damage appears to have occurred as a result of ground movement /front local authority tree root action.

RECOMMENDATIONS

Mitigation

We consider the damage will not progress if appropriate measures are taken to remove the cause.

In this case the damaged underground drainage should be repaired in accordance with CET recommendations.

Also the vegetation for which the local authority is responsible is contributing toward the cause of damage to the underground drainage. This tree should be removed to prevent against ongoing drainage damage. We also consider that the tree within the policyholder's land should be removed at ground level and the stump treated to prevent re-growth as a purely preventative measure. The policyholder will arrange this in due course.

Our inspection of the front local authority tree revealed that since the start of our investigations, it has tilted to what could be considered as a dangerous state. It would appear that the leakage of drainage in the direct vicinity of the local authority tree has caused ground in the vicinity of the tree to soften causing some instability to the tree. We would recommend that the local authority be placed on notice with respect to this aspect. We understand that Kelly King at Campden Borough (tree officer) has been made aware of this issue by the policyholder.

Monitoring

We consider that level monitoring should proceed to confirm that stability has occurred once drainage repair has been carried out and also confirm the cause of movement.

Repair

Repair will include superstructure crack strengthening repair and redecoration to the elements of the building that have been damaged.

As the front pavings and railing structure have also been damaged at the same time to the front step structure damage then these items will also be reinstated.

Lewis Bryer BEng CEng MICE
Project Manager