sedgwick

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Policyholder: T Tasou, P Tasou, P Tascou and A Tascou

Subject Property Address:

9 Woodchurch Road
LONDON
NW6 3PL

INSURANCE CLAIM

CONCERNING SUSPECTED SUBSIDENCE

ENGINEERING APPRAISAL REPORT

This report is prepared on behalf of Zurich Commercial Broker 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: 08/08/2019

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INTRODUCTION

Technical aspects of this claim are being overseen by our Building Consultant, Gavin Catheline MCIOB, in accordance with our project managed service.

DESCRIPTION OF BUILDING

The subject property is a double bay fronted 2 storey detached house constructed c.1900 which has been coverted in to flats. To the rear of the property is a single storey extension and to the left hand side is a pre fabricated garage and car port. The property is located in a mature residential area on the outskirts of London and on a plot that is generally level.

The claim concerns crack damage to the front bay windows.

CIRCUMSTANCES OF DISCOVERY OF DAMAGE

The policyholders architect first discovered the damage in April 2019 when carrying out a survey of the property for the reconstruction of a single storey extension to the rear of the property and associated refurbishment works.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

The principal damage takes the form of vertical and diagonal tapered cracking to the front bay windows both sides at the junction with the main house.

The indicated mechanism of movement is downward towards the front.

Significance

The level of damage is slight, and is classified as category 2 in accordance with BRE Digest 251 - Assessment of damage in low-rise buildings.

Onset and Progression

It is likely that the damage first commenced in summer 2018.

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

It is likely that movement will be of a cyclical nature with cracks opening in the summer and closing in the winter.

SITE INVESTIGATIONS

Site investigations were undertaken by CET Property Assurance Ltd on 5th July 2019 and comprised the excavation of a two trial pits extended by hand augured borehole.

Trial pit 01/ borehole 01 was excavated adjacent to the front elevation of the left hand side bay window and this revealed a concrete strip and stepped brick corbel foundation with an overall founding depth of 1400mm below ground level. The founding subsoil is described as stiff, mid brown / orange, silty CLAY with crystals and clay stone nodules. Numerous roots up to 5mm in diameter were observed beneath the foundations. The stiff clay subsoil extended throughout the borehole to a depth of 5m below ground level and with further roots being observed to a depth of 2.8m. A datum was installed at the base of the borehole at 5m to provide a stable reference point for level monitoring.

Trial pit 02/ borehole 02 was excavated adjacent to the front elevation of the right hand side bay window and this revealed a concrete strip and stepped brick corbel foundation with an overall founding depth of 1400mm below ground level. The founding subsoil is described as stiff, mid brown / orange, silty CLAY with crystals and clay stone nodules. Numerous roots up to 1mm in diameter were observed beneath the foundations. The stiff clay subsoil extended throughout the borehole to a depth of 3.3m below ground level, where the material became too stiff/hard to hand auger and further roots were observed to a depth of 2.6m.

The subsoil samples retrieved from both boreholes were sent to a laboratory for testing. This has revealed that the clay subsoil is of very high plasticity index, meaning that the material is very susceptible to movement due to shrinkage and swelling with variations in moisture content. This is to say that if moisture is withdrawn from the subsoil, for example by the action of roots, then shrinkage i.e. a volumetric reduction will occur.

Analysis of the subsoil moisture content profiles indicates that the subsoil in both boreholes has a moisture deficit to a depth of approximately 2.5m to 3.0m below ground level. This indicates that the subsoil has been affected by drying and shrinkage due to the action of the roots present at this depth.

The root samples retrieved from both boreholes were sent to a laboratory for analysis and have all been identified as *Tilia* which are Limes.

MONITORING

We consider that level and crack width monitoring is required. This is to confirm the operation of a clay shrinkage subsidence mechanism and to assist negotiations regarding removal of the nearby Lime trees to the front of the property. Monitoring will also be used to confirm when relative stability has been restored following removal of the trees.

CAUSE OF DAMAGE

Based on the information detailed above, we are of the opinion that damage has occurred due to clay shrinkage subsidence. This has been caused by moisture extraction by roots altering the moisture content of the clay subsoil, resulting in volume changes, which in turn have affected the foundations.

RECOMMENDATIONS

Our recommendation is for mitigation measures to be undertaken to address the cause of damage. The subsoil will then be allowed to re-hydrate and stabilise following which consideration can be given to the required building repairs.

MITIGATION

We consider the damage will not progress if appropriate measures are taken to remove the cause. In this instance it is likely that vegetation for which the policyholder and a private third party are responsible is contributing toward the cause of damage.

We recommend that the two Lime trees growing close to the front of the property are removed to mitigate against further movement and damage.

T1 Lime – 14m high, 6m distance from front right corner in garden of No.11 Woodchurch Road – West Hampstead Day Nursery & Pre-school.

T2 Lime – 8m high, 5m distance from front left corner in property front garden No.9 Woodchurch Road.

We will seek expert arboricultural advice to report on the effects of the trees and vegetation around the property and to provide us with recommendations for tree removal / management works required to restore stability to the subsoil and building foundations. An Arboricultural Report will also assist the negotiations with the third party and support the Conservation Area application for removal of the Lime trees.

REPAIR

We have not yet decided on the final type of repair required, but have produced an outline of the most likely requirements. This involves undertaking superstructure repairs and redecoration. This decision has been taken based on our knowledge and experience of dealing with similar claims. In addition the results of the site investigation, laboratory testing and monitoring will be taken into account.

Gavin Catheline MCIOB
Building Consultant

Laura Dyke
Claims Technician
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