sedgwick

[redacted]

INSURANCE CLAIM: ENGINEERING APPRAISAL REPORT

Name of Insured:	[redacted]
Address of Insured contact:	47B, Greencroft Gardens, London, NW6 3LL
Situation of Damage:	47 Greencroft Gardens Ltd

This report is prepared on behalf of [redacted] for the purpose of investigating an insurance claim. 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: 22/03/2024 [redacted]

[redacted]

INTRODUCTION

The technical aspects of this claim are being overseen by our Building Consultant Robert Sutton B.Eng. (Hons) MCIOB EMBA(Oxon)BSc (Hons) MRICS, in accordance with our project managed service.

The claim concerns damage to all 6 flats within the building but we were only granted access to the ground floor flat 'B' at the right hand side of the entrance, at the time of our initial visit. A sketch plan and photographs are attached and all references to the property are as observed facing the front of the building.

DESCRIPTION OF BUILDING AND SITE

The subject building is a block of six purpose built flats constructed in the 1970's in a suburban area on a plot which is relatively level. The roads in the vicinity of the property are generally tree lined and contain a number of large houses which have been converted into flats.

This report details damage to the ground floor flat at the right hand side of the property.

SIGNIFICANT VEGETATION

There are a number of mature trees and shrubs between the right hand boundary of the site and the flank wall of the building where the damage is located. Principal of these is a Locust tree which is approximately 18 metres tall and 5 metres remote from the building. There is also 7 metre tall Hawthorne and a 2.5 metre tall Conifer which are both 5 metres remote from the building.

DISCOVERY AND NOTIFICATION

Circumstances of Discovery	Cracks noted to bedrooms
Subsequent action	Insurers were notified
Claim notification	Insurers were notified on 30/09/2020.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism	The main area of damage viewed is to the bedrooms of Flat B which abut the flank wall of the property and takes the form of Cracks to rear and right hand flank walls within bedrooms.
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	We consider that the damage has occurred recently. It is likely that movement will be of a cyclical nature with cracks opening in the summer and closing in the winter.

SITE INVESTIGATION

CET Structures Ltd carried out two site investigations in order to obtain sufficient information to establish the foundation design for the building and the nature of the ground conditions.
On the 9th November 2020 a trial hole was excavated towards the centre of the right hand elevation of the building to depth of 1.3 metres, but failed to identify the underside of the foundation.

A further hand augured borehole excavation confirmed that the upper 1.5 metres of the site comprises MADE GROUND which is underlain by stiff orange-brown silty CLAY with gravel through to termination of the borehole at 5.0 metres below ground level.

Soil analysis demonstrates that the clay was desiccated throughout its depth at the time of sampling, which corresponds with the drying action of roots.

Roots up to 2mm diameter were observed between 2.0 and 3.2 metres below ground. Samples of these roots have been independently identified (using anatomical analysis) as having emanated from *Leguminosae* (which includes Laburnum, Robinia (FALSE ACACIA and LOCUST).

The recorded Plasticity Index of 48-50% confirms the highly shrinkable nature of the supporting soil i.e., it is capable of significant volumetric change due to variations in moisture content.

A second site investigation was undertaken on the 15th December 2020 when a deeper trial hole was excavated towards the centre of the right hand elevation of the building and identified that the flats are built off a 300mm thick concrete strip foundation, the underside of which is 1.8 metres below ground level and bearing onto stiff moist brown silty CLAY.

Soil analysis demonstrates that the clay was desiccated below 2.5 metres at the time of sampling, which corresponds with the drying action of roots.

Roots up to 1mm diameter were observed to the underside of the foundation. Samples of these roots have been independently identified (using anatomical analysis) as having emanated from *Leguminosae* (which includes Laburnum, Robinia (FALSE ACACIA and LOCUST) and *Pomoideae* (which includes apple, cotoneaster, hawthorn, pear, pyracantha, quince, rowan, snowy mespil and whitebeam). Further *Pomoideae* roots were found 3.3 metres.

The recorded Plasticity Index of 46-54% confirms the highly shrinkable nature of the supporting soil i.e., it is capable of significant volumetric change due to variations in moisture content.

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.

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 is responsible is contributing toward the cause of damage.

Directly adjacent to the principal area of damage at the property, there is an 18 metre tall Locust tree and a seven metre tall Hawthorn tree which are both five metres remote from the building. These two trees are the cause of the movement to the building and should be removed as soon as practical.

MONITORING

During 2022 we observed a pattern of seasonal movement with ground recovery between December 2021 and March 2022, and then ground shrinkage between May and September 2022, with ground recovery observed during Winter 2022. There is a gap in readings between January 2023 and December 2023 due to difficulties in getting access. Since December 2023 we only have one further reading taken in February 2024.

COMPARATIVE COSTS

Trees Removed [redacted]
Trees Remain [redacted]

REPAIR RECOMMENDATIONS

This decision has been taken based on our knowledge and experience of dealing with similar claims. In addition the results of the Site Investigation and laboratory testing have been taken into account.

It is anticipated that stability will be restored subject to removal of the external drying influence, such that after suitable allowance for ground recovery / rehydration of the supporting subsoil, it will be appropriate to undertake superstructure crack repairs and associated decoration works.

PROJECT TEAM DETAILS

Robert Sutton BSc (Hons) MRICS - *Building Consultant Specialist Subsidence Team*
Anna Judge - *Claims Technician Specialist Subsidence Team*
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