

**INSURANCE CLAIM: ENGINEERING APPRAISAL REPORT**

Name of Insured:

Address of Insured: 128 Greencroft Gardens, LONDON, NW6 3PJ

Situation of Damage: 128 Greencroft Gardens, LONDON, NW6 3PJ



This report is prepared on behalf of Allianz Insurance Plc 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: 25/11/2020

**INTRODUCTION**

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The technical aspects of this claim are being overseen by our Building Consultant Michael Whittington BSc(Hons) MCIOB AssocRICS, in accordance with our project managed service.

The claim is primarily concerned with damage to the front entrance communal steps. 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**

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The subject property is an end terrace house, which has been converted into four self-contained flats. The lower ground level flat has its own private front entrance door located to the left-hand elevation. The remaining 3 flats are all accessed via the main communal door, which is located at the top of the communal steps to the front elevation. The property is believed to have been constructed in circa 1900, in a residential estate on a plot that is level. The policyholder has also confirmed they believe the property is located within the South Hampstead Conservation Area.

**SIGNIFICANT VEGETATION**

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T1 – Lime tree located within the front garden of neighbouring property No.130. This tree is approximately 15m high and 8m from the front elevation / communal steps of the risk property.

**DISCOVERY AND NOTIFICATION**

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Circumstances of Discovery	Policyholder noticed slight cracking to main entrance steps get progressively worse and reported damage to insurers following visit from a local builder. Damage was noted towards the start of 2020 and has progressively got worse during this summer 2020.
Subsequent action	Insurers have requested for Sedgwick to confirm if current damage is subsidence related
Claim notification	Insurers were notified on 31/07/2020.

**NATURE AND EXTENT OF DAMAGE**

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Description and Mechanism	<p>The main area of damage is to the front entrance communal steps and takes the form of separation cracking above ground level and tapered cracking to brickwork to the underside of the steps (within the storage area located within the lower ground floor flat, directly below the steps). There was also evidence of cracking and deflection to the concrete underside of the steps.</p> <p>The mechanism of movement appears to be rotational movement towards ground floor level (communal steps rotating / moving away from the front elevation of the main building).</p>
Significance	The level of damage is moderate, and is classified as category 3 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**

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Reference to the geological survey map shows the anticipated subsoil as London Clay. The site investigation was arranged to help determine the cause of damage and was undertaken by CET Ltd on 1<sup>st</sup> September 2020. For precise details of the trial pit and borehole location, together with test results, please refer to the attached CET 'Site Investigation Factual Report'.

A trial pit was excavated to the depth of 600mm to the left-hand side of the communal front entrance steps, which revealed a shallow brick corbel foundation to the entrance steps at a depth of 400mm bearing upon medium compact made ground with clay. A borehole was sunk within the trial pit to a depth of 1.60m, which also confirmed medium compact made ground with clay (0.60m – 1.50m) and very stiff clay (1.50m – 1.60m). The borehole was noted as being too gravelly to hand auger below the depth of 1.60m and dry and open on completion.

In-situ soil testing using a Mackintosh probe was undertaken to the underside of the foundations to the front entrance communal steps (400mm), 1.00m and 1.50m, with readings of 100 being achieved at all three depths. This classifies the ground conditions as being medium to dense and of good bearing capacity.

Roots ranging from 6mm to 10mm in diameter were noted to the underside of the foundations to the entrance steps and within the borehole, down to a depth of 1.60m. Seven roots were analysed and found to be alive and originate from *Tilia* spp. Such roots are considered to originate from the lime tree located within the front garden of neighbouring property No.130.

A CCTV drainage survey was undertaken to the drains located within proximity to the communal entrance steps and zone of damage. The survey revealed a Condition Grade B (cracks and fractures observed) and confirms that tree roots were observed within the drainage pipe work and that localised repairs including installation of a flexi liner to patch repair the pipe work is required. The survey also confirmed, that the chambers are relatively deep at 2.40m and the contractor will need to report back on further condition following completion of the survey, whilst following the required working in confined space procedures.

Our site investigation has confirmed the communal entrance steps (which appear to be an original feature to the property) are bearing upon made ground, however this made ground has a good bearing capacity and consist of London clay. Our site investigation has also positively identified lime tree roots to the underside of the foundations and within the borehole down to a depth of 1.60m, which has also been confirmed as being very stiff clay.

**MONITORING**

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Crack width and level monitoring have been instructed and readings are to be taken at eight-week intervals. The readings have been reviewed (dated 01/09/2020 – 02/11/2020) and the level monitoring has shown that the left-hand flank wall and front elevation of the main building have remained relatively stable with no significant movement noted. However, points 4 and 5, have confirmed that the front entrance steps have shown significant recovery between 4mm and 4.7mm.

The crack width monitoring has also shown that the separation cracking noted between the front elevation and entrance steps have reduced in width by around 2mm.

The upwards movement of the steps shown in the level monitoring and the reduction in crack width between the steps and front elevation would indicate that since the lime tree's water demand is lower during the winter months the ground conditions are re-hydrating, which in turn is causing the entrance steps to recovery.

#### **CAUSE OF DAMAGE**

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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.

The lime tree within the front garden of No.130 appears to be the cause of damage.

#### **MITIGATION**

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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 adjoining private Third Party is responsible is contributing toward the cause of damage.

An arborist report will now be obtained to assist with this.

As outlined above the site investigations incorporated a CCTV drainage survey and localised defects were identified. A quotation has been obtained from the Pipeline Division of CET Property Assurance with costs estimated at [REDACTED] and we would recommend that the contractor be appointed to carry out the highlighted repairs. We have requested for Insurers to confirm if they will cover these costs as part of this subsidence claim.

#### **REPAIR RECOMMENDATIONS**

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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 strengthening, 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 have been taken into account.

#### **PROJECT TEAM DETAILS**

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Michael Whittington BSc(Hons) MCIQB AssocRICS - *Building Consultant Specialist Subsidence Team*  
Rebecca Buhrmann - *Claims Technician Specialist Subsidence Team*

