

# Engineers Report

**OUR REFERENCE** .....: B1201463  
**CLAIM REFERENCE**.....: AB72CH-PUC10A  
**PREPARED FOR**.....: QBE UK Property Claims

## Claim Details:

**NAME OF INSURED** .....: Brookfield Park Surgery [Dr Sinha]  
**RISK ADDRESS** .....: 2 Brookfield Park  
London  
NW5 1ER  
**ENGINEER** .....: Stephen Reynolds  
**DATED** .....: 19/02/2014

## **INTRODUCTION**

GAB Robins were appointed by the Buildings Insurers of the above property to investigate an Insurance claim for Subsidence damage in January 2012.

This report has been requested by our appointed Arboricultural Consultants, Marishal Thompson & Co and is to be submitted as part of an application to lift statutory protection in place on the T1 London Plane Tree under the care and control of No 1 Kingsware Road

The Arboricultural Survey Report prepared by Marishal Thompson & Co has been submitted as part of the application process.

We also enclose the comprehensive site investigations results orchestrated by Auger Solutions and level and crack-width monitoring results also provided by Marishal Thompson & Co.

## **DESCRIPTION OF PREMISES & SITE**

The risk address comprises a detached two storey dwelling built circa 1935 which has since been converted into a Doctor's Surgery.

There have been a number of internal and external modifications, additions and extensions over the recent years since the residential building was adapted to become a Doctor's Surgery approximately 30 years ago.

The property also benefits from a two storey flat roof extension at the rear right corner and a single storey bay extension added approximately 12 years ago.

The property is a corner property situated at the junction of Brookfield Park and Croftdown Road.

## **DISCOVERY OF DAMAGE**

The Policyholder initially noticed hairline cracks in approximately August/ September 2011 however, they were not concerned at the time.

The damage appeared to worsen and spread across the main surgery and as a result, they raised the matter with their Insurance Company In January 2012.

## **DESCRIPTION OF DAMAGE**

All references to the damage are described as facing the front elevation externally, unless otherwise stated.

In accordance with the BRE Digest 251. The damage can be classified as Category 3 (Moderate) 5 mm up to 15 mm.

Fracture damages to both external rendered elevation and internal areas are principally to the rear right section of the property, mainly related to the rear flat roofed extension and the later single bay addition, although some associated damage were observed to the original main house.

## **SITE INVESTIGATION**

We rely on the following report(s) which are enclosed for your perusal however, we summarise the salient information as follows;

- Auger Site Investigation Report dated 24 March 2012
- GSTL Laboratory Report dated 16 April 2012
- Richardson's Botanical Identifications Report dated 17 April 2012

The foundation serving the rear single storey extension comprised a concrete trench fill footing sited 1.40 metres below ground level on moist stiff brown CLAY subsoil of intermediate to low plasticity.

Platanus roots were present down to 2.5m, most likely to emanate from the London Plane tree situated within the rear garden of the neighbouring property.

In accordance with the soil analysis results the clay soil was desiccated [PL compared to ML] within borehole 1.

The foundations serving the two-storey extension comprised a concrete trench fill footing sited 900 mm below ground level.

Plane tree roots were also encountered at 1.0 metre and laboratory tests revealed similar moisture deficiency and effects of desiccation to the clay subsoil.

The original main dwelling is founded on double stepped brick corbel footing down to 900 mm

## **DRAINS**

There is no evidence of drain runs close to the rear of the property.

## **CAUSE**

In accordance with the site investigation results we conclude that the material cause is clay shrinkage subsidence induced by moisture extraction from roots emanating from the neighbouring London Plane tree situated within the boundary of No 1 Kingsware Road

## **HEAVE ASSESSMENT**

We have completed a ground heave assessment.

The results confirm a potential heave of 44.32 mm in the event that the T1 London Plane tree is felled.

We have carefully considered the results from the heave assessment together with other factors empirically and can confirm that there will be no adverse movement to the risk address or surrounding structures associated with ground heave.

## **ARBORICULTURE REPORT**

We instructed our approved arboriculture consultants, Marishal Thompson & Co to compile a report on current and future tree management works. Marishal Thompson & Co recommends that T1 London Plane tree should be felled to ground level and the stump treated with relevant poison to inhibit re-growth.

As advised, a copy of the arboriculture report dated 16<sup>th</sup> July 2012 is enclosed for your perusal.

There were a number other trees implicated and we can confirm that all trees under the care and control of the Policyholder were removed in early 2013.

There was also a Local Authority Sorbus tree identified detailed as T5 however, however, this is sited toward the front of the risk address in the public footpath. We can confirm that the damage is at the front and therefore this is not having an adverse affect on the risk address at present.

## **MONITORING**

A copy of the crack-width and level monitoring results are enclosed for your perusal which recorded progressive movement over the summer July – October 2013.

We have now completed a full 12 month monitoring cycle and we trust that you will now carefully consider our application.

## **CONCLUSIONS**

We are of the view that the London Plane tree should be felled in accordance with the recommendations detailed in the Marishal Thompson & Co Report. This is to ensure the long term stability of the property.

In our view the main cause is progressive seasonal subsidence caused by clay shrinkage induced by moisture extraction from T1 London Plane tree. In the event, that the Plane tree is not felled this will continue to cause problems seasonally.

## **RESERVE**

In the event that the offending tree is removed then we estimate the cost of super-structure repairs and re-decorations will be in the region of £15,000.00.

However, if our application to lift the statutory protection on T1 Plane tree is refused then the only viable option to ensure long term stability will be sub-stabilisation measures.

We therefore estimate additional costs to be in the region of a further £45,000.00 respectively.

Yours sincerely

Stephen Reynolds  
Project Manager  
GAB Robins UK Limited

## APPENDIX 1: PHOTOGRAPHS

INSURED	REFERENCE NUMBER	DATE TAKEN
Brookfield Park Surgery	B1201463	January 2012



PHOTO 1 : Front and Side View of the Property



PHOTO 2 : Rear Garden – showing large tree stump and rear of detached garage

INSURED	REFERENCE NUMBER	DATE TAKEN
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PHOTO 3 : Typical External Damages



PHOTO 4 : Typical Internal Fracture Damages