Surveying Services

[redacted]

AXA XL

[redacted]

Date: 30 August 2023

TYPE: PRELIMINARY REPORT
CLAIM: Domestic Subsidence

POLICY No:	[redacted]
INSURER Ref:	
QG Ref:	
NAME & ADDRESS OF INSURED:	89 ARLINGTON ROAD, London, NW1 7ES
SITUATION OF LOSS:	, 89 ARLINGTON ROAD, London, NW1 7ES
VAT STATUS OF INSURED:	
DATE OF LOSS:	1 December 2022
CIRCUMSTANCES/CAUSE:	Subsidence
RESERVE:	

RESPONSE TIMES

Instructions:	28 June 2023
Contact:	29 June 2023
Visit:	21 August 2023

INTRODUCTION

This is a Preliminary Report compiled by Marinda Hattingh [redacted]

DESCRIPTION OF RISK AND SITE

The property is a traditional, brick built, mid-terraced house with a pitched and flat roof. It is a total of 5-floors which includes a basement and loft conversion. The main building has a basement under its footprint which likely locates the foundation deep below the influence of roots from nearby trees. The rear outrigger is a single storey with a flat roof.

The occupier was not present, and the history of ownership is unknown. The occupier was not present, and the discovery of damage is unknown. There is no sign of active repair to the cracks.

The building

The external walls are of solid brick construction, with regular rows of header bricks tying the inner and outer leafs together. With this type of construction, there will be no embedded metal wall ties,as the header bricks are performing the function of ties.
The main building is unaffected by subsidence. The rear outrigger, garden retaining wall, and rear garden wall show significant signs of movement in the form of cracking and tilting.

The Building Research Establishment (BRE), Digest 251 - Assessment of Damage in Low-Rise. Buildings, provides classifications for visible damage to buildings. After the severe droughts of 1975/76 and 1989/1990, during which many buildings were damaged because of abnormal drying shrinkage of clay sub-soils supporting foundations, there was an industry focus on cracking and distortion, with a view to putting this into true perspective. The Digest provides guidance on understanding the severity of the damage and determining appropriate, practical structural remedial works. Categories of damage were developed, ranging from Category 0 - Hairline, cosmetic cracks (less than 0.1mm) through to Category 5 - Major structural damage (cracks greater than 25mm).

Categories 0, 1, 2 will generally require simple cosmetic repair. Category 3 typically will require repointing and re-stitching of the brickwork, and doors and windows easing. Category 4 damage may require localised rebuilding of walls. Category 5 typically would include the need for underpinning or even total rebuilding. In this property, the observed damage to the garden wall and rear boundary wall will be categorised as Category 5 (cracks greater than 25mm). The observed cracking to the rear offshoot is categorised as Category 4 (cracks 5-15mm, or several
cracks around 3mm).

Drainage

Several drainage pipes were identified around the building perimeter indicating that there are underground drains along the majority of the property elevations, to some degree. We cannot give comment on the condition of the drains without specialist inspection such as a CCTV survey. However at the time of our inspection, based on visual observations there was evidence to suggest
defective drains.

The pipes from the toilet and roof drainage indicate underground drains. The significant depression in the ground would suggest these drains may have been damaged by the ground movement.

Trees
There are trees growing within potential influencing distance of the property, which could adversely affect the stability of the foundations. Where the sub-soils are cohesive, clay soils, trees will draw moisture from the clay, resulting in shrinkage of the clay and associated subsidence. This can cause foundations to move downwards. The water demand of trees varies from species to species. The higher the water demand, the greater is the severity of movement. Similarly, the closer the tree is to the foundation, the greater is the severity of movement. The shrink ability of clay soils varies from location to location. Moisture extraction from high shrink ability clay soils, will lead to more.
severe foundation movement.

As a general rule of thumb, based on the high-water demand category of trees, growing in a highly shrinkable clay (i.e. the worst case scenario), the safe distance between the house and the tree, would be the anticipated maximum height of that tree species (not its current height).

Building Research Establishment, (BRE) Digest 298 - Low rise building foundations: the influence of trees in clay soils, gives guidance in this respect. For example, the maximum height of an oak tree may reach up to 23m, a poplar tree 24m, a willow tree 15m and fruit trees up to 12m. Tree roots can also cause direct physical disturbance to foundations by growing directly below or against the foundation, sometimes lifting the foundation. This can occur in both cohesive and granular sub-soils.

Main Building
Within the rear outrigger there is noted to be diagonal cracking, approximately 5mm in thickness, running lower left to upper right. The crack pattern is consistent with foundation movement along this wall, and in particular, downward movement of the rear outrigger.

Damage
The damage is located towards the rear of the property and is affecting the outrigger, garden retaining wall and rear boundary wall. The damage would be classed as a Category 4 in accordance with BRE Digest 251 'Assessment of damage in low-rise buildings' for the outrigger. It is Category 5 for the garden retaining wall and rear wall.

Cause

We were instructed to undertake a visual structural inspection of cracking to the rear outrigger, garden wall, and rear boundary wall to identify if the structural defects are related to subsidence and recommend the next steps to be taken. The damage is indicative of subsidence movement towards the rear elevation. The movement is likely to have been as a result of the nearby trees. The likely clay subsoil and the proximity of vegetation leads to the assumption that the cause is root-induced clay shrinkage. Roots from nearby vegetation will extract moisture from the clay beneath the footings, causing it to shrink and hence the footings to move downwards in the localised area. In winter months, the clay swells as it rehydrates and, typically, the cracks close to a degree. Provided the cause of movement (in this case the vegetation) can be addressed, there should not be a re-occurrence.

A drainage run appears to be close to the foundations of the property and is likely to have contributed the movement found during the inspection. A leaking drain may cause pronounced initial movement until a new equilibrium is reached, followed by possible long term progressive movement, as the leaking drain weakens the soil.

Recommendations

A) It is recommended that the trees, suspected to be affecting the property, are subject to maintenance / removal works to reduce the risk of instability of the house. foundations. Expert advice should be sought from an arboriculturist as to the most appropriate course of action for these trees. These actions may include significantly lowering the height of the trees and maintaining them at this lower height, to reduce water demand or complete removal. The specialist will be able to recommend the most appropriate time to remove any trees, and whether removal needs to be carried out in stages. In certain circumstances, the removal of high-water demand, mature trees growing in cohesive, shrinkable clay sub-soils, can lead to rapid re-hydration and associated swelling of the clay, leading to lifting of the foundation. This is known as heave. In order for an arboriculturist to assess the site and any potential tree related damage, they may require trial pits and laboratory analysis of soil samples to determine the type and classification of the soils beneath the wall foundations.

B) Appoint a specialist drainage contractor to carry out a detailed CCTV survey of the underground drainage system within 3.0m of defects to confirm the extent and location of any defects. Any identified defects should be repaired in full to eliminate the risk of escape of water from the drains into the surrounding sub-soils.

ADEQUACY OF SUMS INSURED

Buildings Sum Insured Adequate?

Comments:

UNDERWRITING FEATURES

OTHER INTERESTS

OTHER INSURANCES, ABI DSA & CONTRIBUTION

REQUEST FOR INSTRUCTIONS

SETTLEMENT TIMETABLE