# ARBORICULTURAL ASSESSMENT REPORT

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| **For:** | **Client:** | Cunningham Lindsey (Maidstone) |
| | **Insurer:** | AXA Insurance UK plc |
| **Site:** | **Policyholder:** | [redacted] |
| | **Risk Address:** | 54 Compayne Gardens, NW6 3RY |
| **Refs:** | **OCA Ref:** | 63797 |
| | **Client Ref:** | 6095485 |
| | **Insurer Ref:** | 2152992 |

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|---|---|---|---|
| **Report By:** | David O'Connell | | |
| **Title:** | Senior Arboriculturist | **Date:** | 11 December 2015 |


OCA UK Limited

Consulting Arboriculturists

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## 1.0 INTRODUCTION & BRIEF

**1.1** OCA UK Limited has been instructed by Cunningham Lindsey (Maidstone) on behalf of the building insurers of 54 Compayne Gardens, NW6 3RY (the insured property). We have been advised that the insured property has suffered differential movement and damage which is considered to have been caused by trees growing adjacent the property influencing soils beneath its foundations.

**1.2** We have been instructed to undertake a survey of the vegetation growing adjacent the insured property, to provide our opinion as to whether, based on the available information any of this vegetation is likely to be influencing soil moisture levels beneath the foundations of the property and if so to provide recommendations as to what tree management could be implemented to effectively prevent damage continuing.

**1.3** The vegetation growing adjacent the risk address has been surveyed from the ground. All distances are measured to the nearest point of the risk address unless otherwise stated

## 2.0 LIMITATIONS

**2.1** Recommendations with respect to tree management are associated with the risk address as stated on the front cover of this report and following consultation with investigating engineers. The survey of trees and any other vegetation is associated with impacts on the risk address subject of this report. Matters of tree health, structural condition and/or of the safety of vegetation under third party control are specifically excluded. Third party land owners are strongly advised to seek their own professional advice as it relates to the health and stability of trees under their control.

**2.2** Recommendations do not take account of any necessary permission (statutory or otherwise) that must be obtained before proceeding with any tree works.

**2.3** Recommendations do not take account of any requirements for survey or mitigation relating to European or other protected species, e.g. bird nesting or bats. Land owners must obtain their own professional advice in respect of any protected species.

# 3.0 DISCUSSION AND ANALYSIS

## 3.1 Soils, soil water and vegetation

All vegetation requires water to live and this water is substantially accessed from the soil within which the plants roots grow.

If the soil is classified as a clay soil then it will hold very much more water than sands, gravels and loam soils. During the summer as plants abstract water from the clay soil then the soil volume will “shrink” and “swell” as water is first removed and then added by summer rainfall.

In years in which rainfall during the summer is less than the total amount of water taken from the soil by plants then shrinkage will occur. This shrinkage may remove support from building foundations leading to cracking in the fabric of the building.

## 3.2 Vegetation management

The control of trees, shrubs and climbers by removal or pruning as appropriate are proven techniques that can control total soil water loss thereby minimising soil shrinkage and allowing repairs to proceed.

If vegetation management works are carried out promptly then repairs can usually proceed very quickly and the duration and distress associated with the disruption that tree related subsidence brings can be minimised.

## 3.3 Third party liaison and statutory controls

Tree roots do not respect physical or property boundaries and can travel for many metres beyond the above ground “dripline” of the canopy of the vegetation.

The purpose of this report is to ascertain which vegetation is the most likely substantial and/or effective contributory cause of the damage witnessed to allow for liaison with third parties or with local administrative Councils as necessary.

You can learn more about tree related subsidence of low rise buildings by visiting:

**www.oca-arb.co.uk/whatisSubsidence.htm**

# 4.0 EVIDENTIAL REVIEW AND MATERIAL CONSIDERATIONS

## 4.1 Engineering Summary

Engineers Appraisal Report dated 16th November 2015

The engineer has described the damage to the property, its location and the likely mechanism of movement, and has concluded that the building failure is related to differential subsidence damage caused as a result of the action of vegetation.

This is a new subsidence claim and we are unaware of any previous history of subsidence at the property.

## 4.2 Foundations, geotechnical, and root identification

Site Investigation Report dated 20th October 2015

A factual geotechnical report has described the below ground foundation design, soil and geotechnical conditions, and any root identification where available.

Foundations are described as being 1400mm below ground level in trial pit 1.
Foundations are described as being 825mm below ground level in trial pit 2.

Trial pit / borehole 1 samples have been subject to laboratory analysis and the results of these tests indicate soils have a plasticity index ranging from 43% to 47%.
Trial pit / borehole 2 samples have been subject to laboratory analysis and the results of these tests indicate soils have a plasticity index ranging from 45% to 47%.

Roots have been recovered from the trial pit(s) and subjected to laboratory analysis and the results confirm:

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|---|---|
| TP/BH1: | Tilia, 5 roots. 1.5mm diameter |
| TP/BH1: | Tilia, 4 roots. 1mm diameter |
| TP/BH2: | Fraxinus, 3 roots. 2mm diameter |
| TP/BH2: | Fraxinus, 3 roots. 2mm diameter |
| TP/BH2: | Clematis, 1mm diameter |

# 5.0 CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Results of the field survey and evidential review

We can confirm that vegetation exists on or near the insured property that is considered to be causing or contributing to the current subsidence damage.

## 5.2 Recommendations

On the basis of our findings we have considered a practical vegetation management specification. This specification will assist in reducing the impact of the adjacent vegetation on soil moisture levels, thereby potentially stabilising foundations of the affected area of the building.
Where felling has been proposed, this will be on the basis that the vegetation in question would not respond well to a severe reduction in leaf area that would inevitably lead to decay, the development of potential hazards, and an annual or other on-going management commitment and cost. If pruning is recommended, the specification will be designed to allow continual ease of re-pruning with a reasonable prospect of a reduction in soil water use.

## 5.3 Recommended vegetation management to address the current subsidence:

| Tree No: | Species | Works Required |
|---|---|---|
| T1 | Lime | Fell as close to ground level as practicable and treat stump |
| T2 | Lime | Fell as close to ground level as practicable and treat stump |
| T3 | Lime | Fell as close to ground level as practicable and treat stump |
| T4 | Lime | Fell as close to ground level as practicable and treat stump |
| T6 | Ash | Fell as close to ground level as practicable and treat stump |
| C2 | Clematis | Fell as close to ground level as practicable and treat stumps |

# 6.0 STATUTORY CONTROLS

London Borough of Camden has confirmed that there are tree preservation orders on the implicated vegetation is subject to a Tree Preservation Order or Conservation Area controls

# 7.0 APPENDIX 1: TREE TABLES

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|---|---|---|---|
| Age Class | **YO** – Young. **SM** – Semi-Mature.**EM** – Early Mature.<br>**MA** – Mature. **FM** – Fully Mature. **OM** – Over Mature | Ownership | **PH** – Within boundary of risk address.<br>**P3P** – Within boundary of third party properties.<br>**LA** – Within land owned by a Local Authority.<br>**C3P** – Commercial third party.<br>**U** – Within land of indeterminable ownership. |
| Condition | **G** – Good. **F** – Fair. **P** – Poor.<br>**D** – Dead, Dying or Dangerous | | |
| Stem Diameter | **MS** – Multi-stemmed tree | | |

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| Tree No | Common Name | Age Class | Condition | Height (m) | Crown Spread (m) | Stem diam. (mm) | Dist to bldg (m) | Pruning history | Recommendation | Tree work constraints | Notes | Owner address | Owner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T1 | Lime | MA | P | 11.5 | 4.2 | 550 | 5.7 | Pollard. 2 years' regrowth. | Fell and treat stump. | None | Large cavity in stem | 54 Compayne Gardens, London, NW6 3RY | PH |
| T2 | Lime | MA | F | 11 | 5.4 | 450 | 8.4 | Pollard. 2 years' regrowth. | Fell and treat stump. | None | | 54 Compayne Gardens, London, NW6 3RY | PH |
| T3 | Lime | MA | F | 11.6 | 6.1 | 300 | 6.7 | Pollard. 2 years' regrowth. | Fell and treat stump. | None | Difficult access in hedge behind storage bin and behind wall. Estimated as no access to stem . | 54 Compayne Gardens, London, NW6 3RY | PH |
| T4 | Lime | MA | F | 12.3 | 8.3 | 500 | 6.9 | Pollard. 3 years' regrowth. | Fell and treat stump. | Limited access to stem. | Stem diameter estimated as no access . | 54 Compayne Gardens, London, NW6 3RY | PH |
| S1 | Mexican Orange Blossom | SM | F | 1.2 | 1.5 | 10 | 0.1 | | No work required. | N/A | | 54 Compayne Gardens, London, NW6 3RY | PH |
| T5 | Apple | EM | F | 6 | 4 | 180 | 2.9 | Pruned regularly | No work required. | N/A | | 54 Compayne Gardens, London, NW6 3RY | PH |
| T6 | Ash | MA | F | 19.5 | 10.4 | 600 | 8.5 | Pollard. 4 years' regrowth. | Fell and treat stump. | Possible difficult access sur to the rear garden being narrow. | Measurements are estimated as no access to 3rd party land and ivy growing on main stem . | 54 Compayne Gardens, London, NW6 3RY | PH |
| C1 | Rose (Climbing) | SM | F | 8 | 4.5 | 50 | 0.1 | Pruned regularly | No work required. | N/A | | 54 Compayne Gardens, London, NW6 3RY | PH |

| | | | |
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C2 | Clematis | SM | F | 2.2 | 9 | 5 | 0.5 | No significant past tree works | Fell close to ground level (approx 50mm). | None | On fence. could be policy holders | 54 Compayne Gardens, London, NW6 3RY | PH |
| G1 | Mixed Species | YO | F | 2 | 9 | 5 | 3.5 | Pruned regularly | No work required. | N/A | Jasmine, Rose, Ivy and Holly | 54 Compayne Gardens, London, NW6 3RY | PH |
| G2 | Mixed Species | MA | F | 11 | 20 | 500 | 20 | No significant past tree works | No work required. | N/A | woodland area, with ash, london plane, lime, | Camden Borough Council. | LA |
| H1 | Privet | SM | F | 2.4 | 8 | 50 | 0.5 | Trimmed regularly | No work required. | N/A | | 54 Compayne Gardens, London, NW6 3RY | PH |
| H2 | Privet | EM | F | 2.4 | 5 | 50 | 0.5 | Trimmed regularly | No work required. | N/A | | 54 Compayne Gardens, London, NW6 3RY | PH |

# 8.0 APPENDIX 2: SITE PLAN


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|---|---|
| Location: | 54 Compayne Gardens, London, NW6 3RY |
| Job Ref.: | 63797 |
| Survey Date: | 15/09/2007 |
| Scale: | 1:300 @ A4 |

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By OCA Limited

# 9.0 APPENDIX 3: SITE PHOTOGRAPHS

## Site Photographs

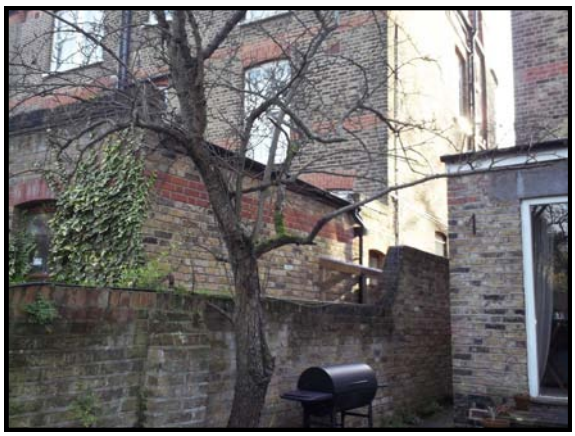
**1.** T1 lime to T4 lime

**2.** C1 Rose

**3.** T5 Apple & G1

**4.** T6 Ash

**5.** C2 Clematis



**6.** Apple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