ARBORICULTURAL ASSESSMENT REPORT

[redacted]

Report By:	James Allnutt		
Title:	Arborist	**Date:**	31 March 2015

Revised By:	Margaret MacQueen		
Title:	Principal Consultant Arborist	**Date:**	16 March 2016
		Date:	28th February 2017

OCA UK Limited

Consulting Arboriculturists

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1.0 INTRODUCTION & BRIEF

1.1 OCA UK Limited has been instructed by Oriel Services Limited on behalf of the building insurers of 57 Aberdare Gardens, London, NW6 3AL (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

Engineer Appraisal Report dated 19th January 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 13th January 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 800mm below ground level.

Trial pit / borehole samples have been subject to laboratory analysis and the results of these tests indicate soils have a plasticity index ranging from 48% to 56%.

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

TP/BH1: Platanus (Plane), 1 root. 0.5-1.0mm diameter
TP/BH1: Too immature to analyse, 1 root. Thread like.

4.3 Monitoring results and other engineering evidence or advice.

The mechanism of movement is downwards towards the rear; damage is in the form of tapering diagonal cracking to the rear addition of flat 2.

There are no drainage issues reported and initial monitoring has been set up, but no readings are available at the time of this report.

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.

Roots have been recovered from TP1 and have been formally identified as Platanus. Given the size, species, and proximity to the location of the trial pit/borehole we consider that these roots have emanated from London Planes T1/ T2, & T9/T10.

No roots relating to Willow or Laurel were recovered during investigations. However, given its size and proximity to the insured property we consider that it is likely that roots from Willows T3 & T4 as well as Laurel T8 have also extended beneath the depth of foundations.

The mechanism of movement as described by the engineer is entirely consistent with the location of London Planes T1, T2, T9 & T10, Willows T3 & T4, and Laurel T8.

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	London Plane	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years
T2	London Plane	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years
T3	Willow	Fell as close to ground level as practicable and treat stump
T4	Willow	Fell as close to ground level as practicable and treat stump
T8	Laurel	Fell as close to ground level as practicable and treat stump
T9	London Plane	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years
T10	London Plane	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years

6.0 STATUTORY CONTROLS

London Borough of Camden has confirmed that:

The site falls within a conservation area (South Hampstead) and there are no Tree Preservation Orders (TPO) associated with that site. The following sites that immediately adjoin No.57 have the following TPOs:

1. No.59 ⊣ C774 2008 ⊣ Hawthorn (front)
2. No. 67 Greencroft Gardens ⊣ C417 2004 ⊣ Plane (rear)

7.0 APPENDIX 1: TREE TABLES

Age Class	**YO** – Young. **SM** – Semi-Mature.**EM** – Early Mature. **MA** – Mature. **FM** – Fully Mature. **OM** – Over Mature	Ownership	**PH** – Within boundary of risk address. **P3P** – Within boundary of third party properties. **LA** – Within land owned by a Local Authority. **C3P** – Commercial third party. **U** – Within land of indeterminable ownership.
Condition	**G** – Good. **F** – Fair. **P** – Poor. **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	London Plane	EM	F	18	14	560	24	Reduced 5 years ago	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years	Restricted access		67 Green Croft Gardens 'London, NW6 3LJ	P3P
T2	London Plane	SM	F	21.4	15	530	24	No significant past tree works	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years	Restricted access		67 Green Croft Gardens 'London, NW6 3LJ	P3P
T3	Willow	EM	F	13	16	490	12.5	No significant past tree works	Fell and treat stump	None		57 Aberdare Gardens, London, NW6 3AL	P3P
T4	Willow	EM	F	14	9	380	14	No significant past tree works	Fell and treat stump	None		57 Aberdare Gardens, London, NW6 3AL	PH
T5	laurel	EM	F	7	5	210	8.5	No significant past tree works	No work required.	N/A		57 Aberdare Gardens, London, NW6 3AL	P3P
T6	Cabbage Palm	EM	F	3.7	3	160	7.3	No significant past tree works	No work required.	N/A		57 Aberdare Gardens, London, NW6 3AL	PH
T7	Cherry	EM	D	2.7	1.4	90	4.7	No significant past tree works	No work required.	N/A		57 Aberdare Gardens, London, NW6 3AL	PH
T8	Portuguese Laurel	EM	F	6.8	6	280	1.8	No significant past tree works	Fell and treat stump	None		57 Aberdare Gardens, London, NW6 3AL	PH
T9	London Plane	EM	F	20	16	400	24	No significant past tree works	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years	Restricted access		67 Green Croft Gardens 'London, NW6 3LJ	P3P

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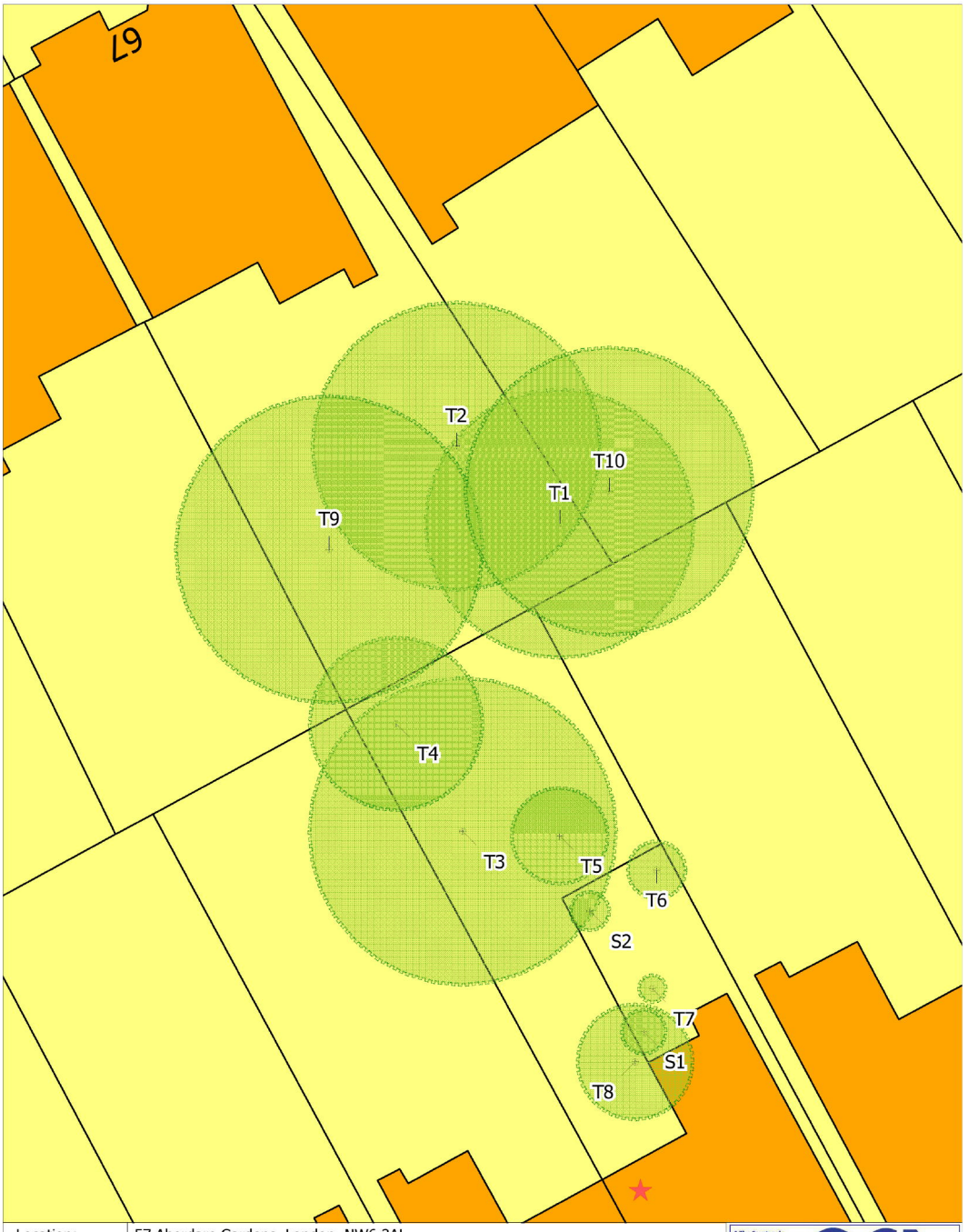
Tree No	Common Name	Age Class	Condition	Height (m)	Crown Spread (m)	Stem diam. (mm)	Dist to bldg (m)	Pruning history	Recommendation	Tree work constraints	Notes	Owner address	Owner
T10	London Plane	EM	F	20	15	550	22	No significant past tree works	70% by volume hortlink reduction and repeat on 2 year cyclical for 10 years	Restricted access		65 green Croft gardens London, NW6 3LJ	P3P

8.0 APPENDIX 2: SITE PLAN



Location:	57 Aberdare Gardens, London, NW6 3AL
Job Ref.:	58215
Survey Date:	03/01/2016
Scale:	1:250 @ A4

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9.0 APPENDIX 3: SITE PHOTOGRAPHS

Site Photographs

1. T1 right, T2 left behind the policyholders garden.

2. T3 stem laying horizontally with T4 showing Ivy on stem.

3. View showing T8.

4. Rear of the property showing S1 and T8.

5. T4 left of centre and T3 right of centre.

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