Arboricultural Assessment Report

Preliminary Report on Trees

For:	**Client:**	Oriel Services Limited
	Insurer:	[redacted]
Site:	**Policyholder:**	[redacted]
	Risk Address:	13 Laurier Road, London NW5 1SD
Refs:	**OCA Ref:**	54631
	Client Ref:	7380724
	Insurer Ref:	[redacted]

Survey By:	Gemma Holmes		
Title:	Arboricultural Technician	**Date:**	29 November 2013
Report By:	Andrew Graham		
Title:	Senior Consulting Arborist	**Date:**	11 December 2013

OCA UK Limited
Consulting Arboriculturists

4 The Courtyards, Phoenix Square, Severalls Park, Wyncolls Road, Colchester, Essex CO4 9PE
Tel.No: 01206 751626 Fax.No: 01206 855751

Email: colchester@oca-arb.co.uk www.oca-arb.co.uk

IMS INTERNATIONAL ISO 9001 certified
UKAS QUALITY MANAGEMENT 078

1.0 Introduction & brief

1.1 OCA UK Limited has been instructed by Oriel Services Limited on behalf of the building insurers of 13 Laurier Road, London (the insured property). We have been advised by Oriel Services Limited that the property has suffered differential movement and damage which is considered to have been caused by the escape of water adjacent the entrance steps, 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 implicated in current damage.

1.3 The vegetation growing adjacent the risk address has been surveyed from the ground using digital measuring devices and/or standard tape measures. 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.

In relation to the possibility of heave damage, the owners of any trees within third party control must obtain their own advice in respect of the possibility of any damage to their own or any other structures outside of the control of the insurers of the risk address subject of this report from any soil heave.

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

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

3.0 Summary of Engineer's Report

We have been provided with a copy of the Cunningham Lindsey Engineering Appraisal Report dated 25 November 2013 relating to damage at the insured property. The comments made below reference this Report.

3.1 History and Timing of Damage

The Engineer states that the damage was first discovered in 2011 and has been seen to gradually worsen since this date.

3.2 Description of damage and diagnosed mechanism of movement

The Engineer describes the main area of damage as being to the front step structure, the front boundary railings and front paving elements of the property. The damage takes the form of tapering vertical cracks above the lower ground front entrance doorway of the step structure lower ground area and also includes tapering vertical cracking of up to 7 mm width at the interface of the step structure with the main building. The Engineer has advised that no associated damage to the main building was observed.

The Engineer considers that this pattern of damage indicates mechanism of downwards movement towards the front entrance pathway of the main building.

3.3 Engineer's Assessment of the Category of Damage

The Engineer has determined that current damage at the insured property falls within Category 4 in accordance with Table 1 of the BRE Digest 251 – Assessment of damage in low-rise buildings.

3.4 Engineer's Conclusion as to the Cause of Damage

The Engineer has concluded that the current damage has been caused by the escape of water from defective drains in the vicinity of the front entrance pathway.

4.0 Assessment of Site Investigations

We have been provided with a copy of the CET Safehouse Limited Site Investigation Report's dated 03 May 2012; 07 August 2013 & 17 October 2013 undertaken at the insured property. The comments made below reference these Reports.

4.1 Foundation Depth

03/05/12 - A trial pit and borehole were excavated adjacent the front entrance steps. This revealed the steps were founded at this location at a depth of 650mm.

07/08/13 – A Borehole was located in the front garden.

17/10/13 – A Drains survey.

4.2 Soils

03/05/12 - Soils beneath the foundations in Trial Pit / Borehole 1 are described as Made Ground to a depth of 1.3m (termination of TP/BH1). Samples of these soils were sent for laboratory testing. The results of these tests show that the underlying soils have plasticity indices ranging from 29% to 38% which means that they have a moderate potential for shrinkage.

07/08/13 - Soils in remote Borehole 3 are described as Made Ground to a depth of 2.3m. Samples of these soils were sent for laboratory testing. The results of these tests show that the soils have plasticity indices ranging from 21% to 52% which means that they have a moderate to high potential for shrinkage.

4.3 Roots

03/05/12 - Roots were noted throughout the trial pit and to a maximum depth of 2m in the borehole. Samples of these roots were tested using light microscopy techniques and have been formally identified as Leguminosae (Laburnum, Robinia, Honey Locust, Broom & Pagoda tree) and Fuchsia spp.

07/08/13 - Roots were noted to a maximum depth of 3m in the remote borehole. Samples of these roots were tested using light microscopy techniques and have been formally identified as Leguminosae (Laburnum, Robinia, Honey Locust, Broom & Pagoda tree); Fuchsia spp and Pomoideae (Apple, Cotoneaster, Hawthorn, Pear, Pyracantha, Quince, Rowan, Snowy Mespil & Whitebeam).

5.0 Adjacent Vegetation

Located within the insured front garden are False Acacia T1 and Privet, Fuchsia and Ivy G1. Located within the adopted footpath between the insured property and number 15 Laurier Road is Whitebeam T2.

Details of the above vegetation are listed in the Tree Tables and their locations are shown on the Site Plan both attached to this report.

6.0 Conclusions

Shrinkable clay soils have been encountered beneath the foundations of the front step structure. These soils will be subject to volume changes dependent on their moisture content.

Roots relating to Leguminosae (Laburnum, Robinia, Honey Locust, Broom & Pagoda tree), Pomoideae (Apple, Cotoneaster, Hawthorn, Pear, Pyracantha, Quince, Rowan, Snowy Mespil & Whitebeam) and Fuchsia Spp have been recovered during investigations. Given the proximity to the location of the trial pit/borehole's we consider that these roots have emanated from False Acacia T1, the Fuchsia within G1 and Whitebeam T2.

Whilst we understand that the cause of current damage is as a result of the escape of water following the separation of joints within the drainage system as a result of Clay shrinkage, the removal of False Acacia T1 is recommended as roots from this tree were recovered from the underside of the foundations of the steps structure. As such their contribution to soil drying cannot be ruled out. The removal of T1 will minimise tree root activity up on the soil in the vicinity of the main area of damage. It is also noted that roots formally identified as Fuchsia Spp were recovered from the underside of foundations of the steps structure, however the extent of soil drying related to this species is marginal at best. Its removal is therefore not required. Roots formally identified as Pomoideae (Apple, Cotoneaster, Hawthorn, Pear, Pyracantha, Quince, Rowan, Snowy Mespil & Whitebeam) were recovered from within the front garden of the insured property. Whilst these were remote from the steps structure, the influence of roots from Whitebeam T2 up on Clay soils surrounding the drains in future periods of sustained warm and dry periods cannot be underestimated. It is to this end that the Local Authority may wish to take appropriate measures to minimise any such influence of Whitebeam T2 as it is located directly above the drain run and in close proximity to the front steps.

7.0 Recommendations

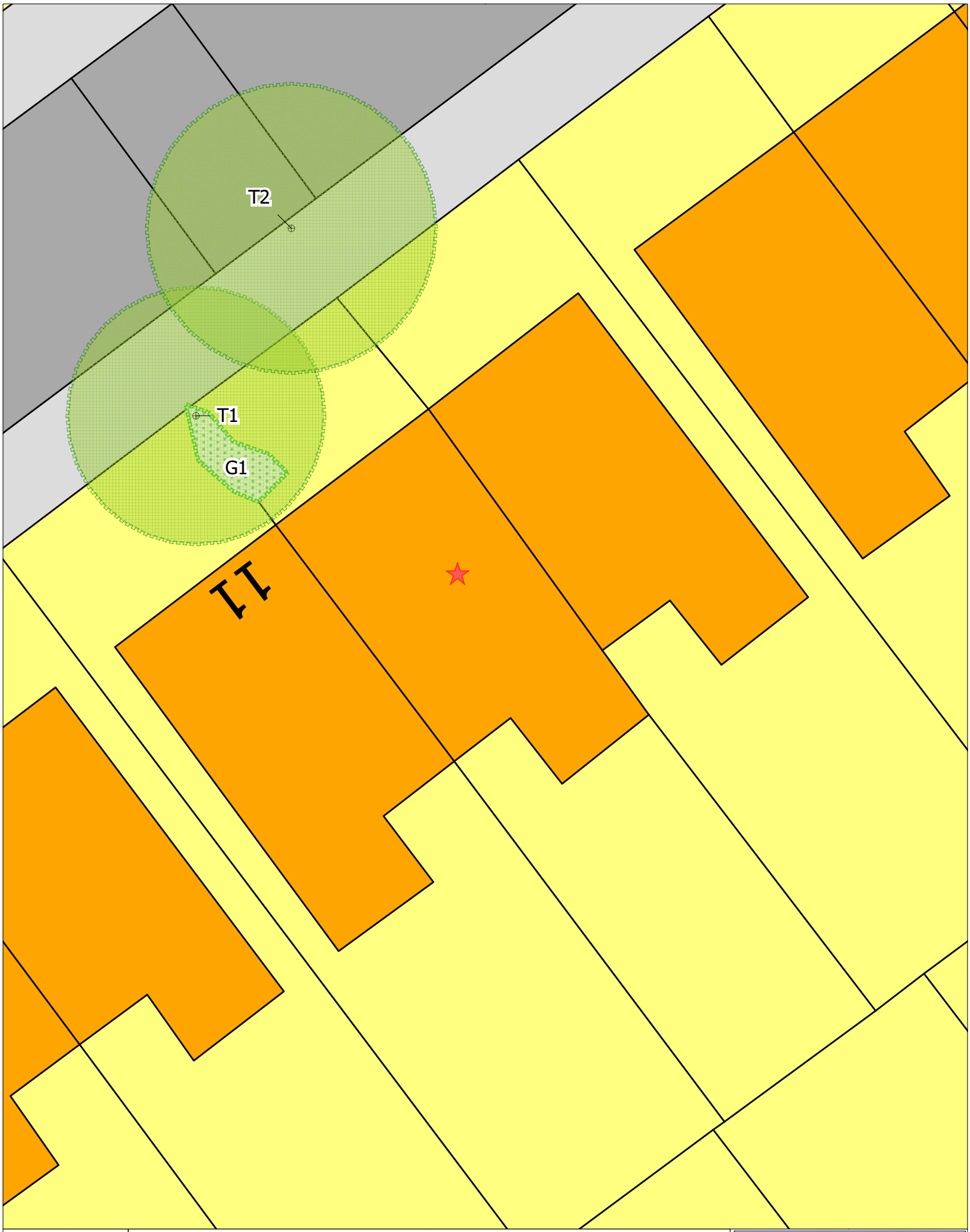
Therefore and in order to provide a long-term solution to the current subsidence damage we recommend that the drains be repaired and made 'watertight'. Furthermore, that T1 Flase Acacia is removed to minimise tree root activity up on the soil in the vicinity of the main area of damage.

7.1 Recommended vegetation management: Current Damage

Tree No:	Species	Works Required
T1	False Acacia	Fell to as close to ground level as is practicable and treat stump with an appropriate herbicide to prevent future growth

7.2 Recommended vegetation management: Future Risk

Tree No:	Species	Works Required
T2	Whitebeam	Fell to ground level and grind out the stump



Location:	13 Laurier Road, London, NW5 1SD
Job Ref.:	54631
Survey Date:	29/11/2013
Scale:	1:150 @ A4

4 The Courtyards
Phoenix Square
Severalls Park
Wyncolls Road
Colchester
CO4 9PE
T: 01206 751 626

OCA UK Limited

By OCA Limited

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	False Acacia	EM	F	11	8	280	4	Reduced 5 years ago	Fell and treat stump	none	none	13 Laurier Road, London, NW5 1SD	PH
T2	Whitebeam	EM	F	10	9	410	2	No significant past tree works	Fell & Grind stump (Future Risk)	none	Stem lesion at 2.5m. (8.5m distance to visible house - 2m to basement flat/steps)	not known	LA
G1	Privet, Fuschia, Ivy	SM	F	3.5	5	50	2	No significant past tree works	No work required.	none	none	13 Laurier Road, London, NW5 1SD	PH