

# Arboricultural Implication Assessment

## Preliminary Report on Trees

<b>For:</b>	<b>Client:</b>	Crawford & Company (Nottingham)
	<b>Insurer:</b>	AGEAS
<b>Site:</b>	<b>Policyholder:</b>	Mrs Ratz
	<b>Risk Address:</b>	51 Redington Road, London NW3 7RP
<b>Refs:</b>	<b>OCA Ref:</b>	55836
	<b>Client Ref:</b>	SU1304913

<b>Survey By:</b>	Dave O'Connell		
<b>Title:</b>	Arboricultural Technician	<b>Date:</b>	25 March 2014
<b>Report By:</b>	Sue Lawson		
<b>Title:</b>	Consulting Arborist	<b>Date:</b>	17 April 2014



Consulting Arboriculturists

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## **1.0 Introduction & Brief**

- 1.1** OCA UK Limited has been instructed by Crawford & Company (Nottingham) on behalf of AGEAS, the building insurers of 51 Redington Road, London (the insured property). We have been advised by the Project Engineer that the insured property has suffered differential movement and damage which is considered to have been caused by vegetation growing adjacent the property influencing soils beneath foundations. We understand that the property was the subject of a previous claim and that repairs were carried out during 2000. The current damage was discovered in December 2012.
- 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 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.
- 2.2** 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.
- 2.3** Recommendations do not take account of any necessary permission (statutory or otherwise) that must be obtained before proceeding with any tree works.

### **3.0 Vegetation and subsidence of low rise buildings – property owner’s guide**

#### **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 continue. 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 is a proven technique that controls 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 on a preliminary basis which vegetation is the most likely substantial and/or effective contributory cause of the current damage to allow for liaison with third parties or with local administrative authorities as necessary.

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

[www.oca-arb.co.uk/whatisSubsidence.htm](http://www.oca-arb.co.uk/whatisSubsidence.htm)

#### **4.0 Technical Reports Reviewed**

We have been provided with copies of the following reports produced by others in the investigation of the current subsidence claim:

- Crawford Engineer's Technical Report dated 17/12/13
- CET Site Investigation Report dated 14/01/14

#### **5.0 Conclusions**

Roots have been noted to a maximum depth of 1.1m in TP1 and to a depth of 2.5m in TP2BH1. Samples of these roots have been tested using light microscopy techniques and have been formally identified as from the botanical genus *Tilia* (Lime). TP1 and TP2BH1 were opened to the front of the property.

Given its size, species and proximity to the location of the trial pits/borehole we consider that these roots have emanated from T1 Lime.

No roots relating to any other species were recovered during investigations. However there are a number of trees and shrubs within the insured's garden which are within potential influencing distance of the property and which may be implicated in the current damage or which may be a future risk. These trees and shrubs are: T2 Yew, T3 Monterey Cypress, T4 Purple Plum, T5 Thorn, T6 Apple, T7 Cherry Laurel, T8 Spotted Laurel, T10 Cypress, T11 Yew, T15 Yew, T16 Yew, G2 3x Irish Yew and C1 Wisteria. However, the position of some of these trees and shrubs is less consistent with the current areas of damage and whilst they may be a future risk, their removal, at this stage, may be premature.

The Engineer has confirmed that there is minor cracking (both internal and external) throughout the property but mainly to the front section and rear right hand projection. No trial holes were opened to the rear of the property and we therefore have no information as to the presence of roots beneath the rear of the property. Damage is slight and soil analysis has confirmed underlying soils have a moderate shrinkage potential.

The Engineer has confirmed that the neighbouring property has suffered from damage although we have no specific details regarding this.

We understand that some of the trees are protected by means of a Tree Preservation Order although we have not confirmed, at this stage, which vegetation is subject to statutory controls.

The timing of damage is consistent with a time of year when soil moisture deficits due to the influence of adjacent vegetation would be at or reaching their peak.

The Engineer has confirmed that damage is consistent with vegetation-related clay shrinkage subsidence.

Whilst there are many trees and shrubs within the garden which are situated within potential influencing distance of the property, we consider that the most significant in relation to the current damage are likely to be T1 Lime, T2 Yew, T3 Monterey Cypress, T4 Purple Plum, T5 Thorn, G2 3x Irish Yew and T7 Cherry Laurel and T8 Spotted Laurel. We would therefore recommend that these trees/shrubs be removed and that a period of monitoring follows to assess whether the property stabilises. If movement continues, further vegetation removal may be necessary.

## 6.0 Recommendations

We do not consider that pruning will offer an effective or sustainable means of controlling the water use of T1, T2, T3, T4, T5, G2, T7 and T8. Therefore and in order to provide a solution to the current subsidence damage we recommend that these trees/shrubs be removed.

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

Tree No:	Species	Works Required	Ownership
T1	Lime	Fell and treat stump.	Mrs Ratz 51 Redington Road
T2	Yew	Fell and treat stump.	Mrs Ratz 51 Redington Road
T3	Monterey Cypress	Fell to ground level	Mrs Ratz 51 Redington Road
T4	Purple Plum	Fell and treat stump.	Mrs Ratz 51 Redington Road
T5	Thorn	Fell and treat stump.	Mrs Ratz 51 Redington Road
G2	3x Irish Yew	Fell and treat stump.	Mrs Ratz 51 Redington Road
T7	Cherry Laurel	Fell and treat stump.	Mrs Ratz 51 Redington Road
T8	Spotted Laurel	Fell and treat stump.	Mrs Ratz 51 Redington Road

## 7.0 Statutory Controls

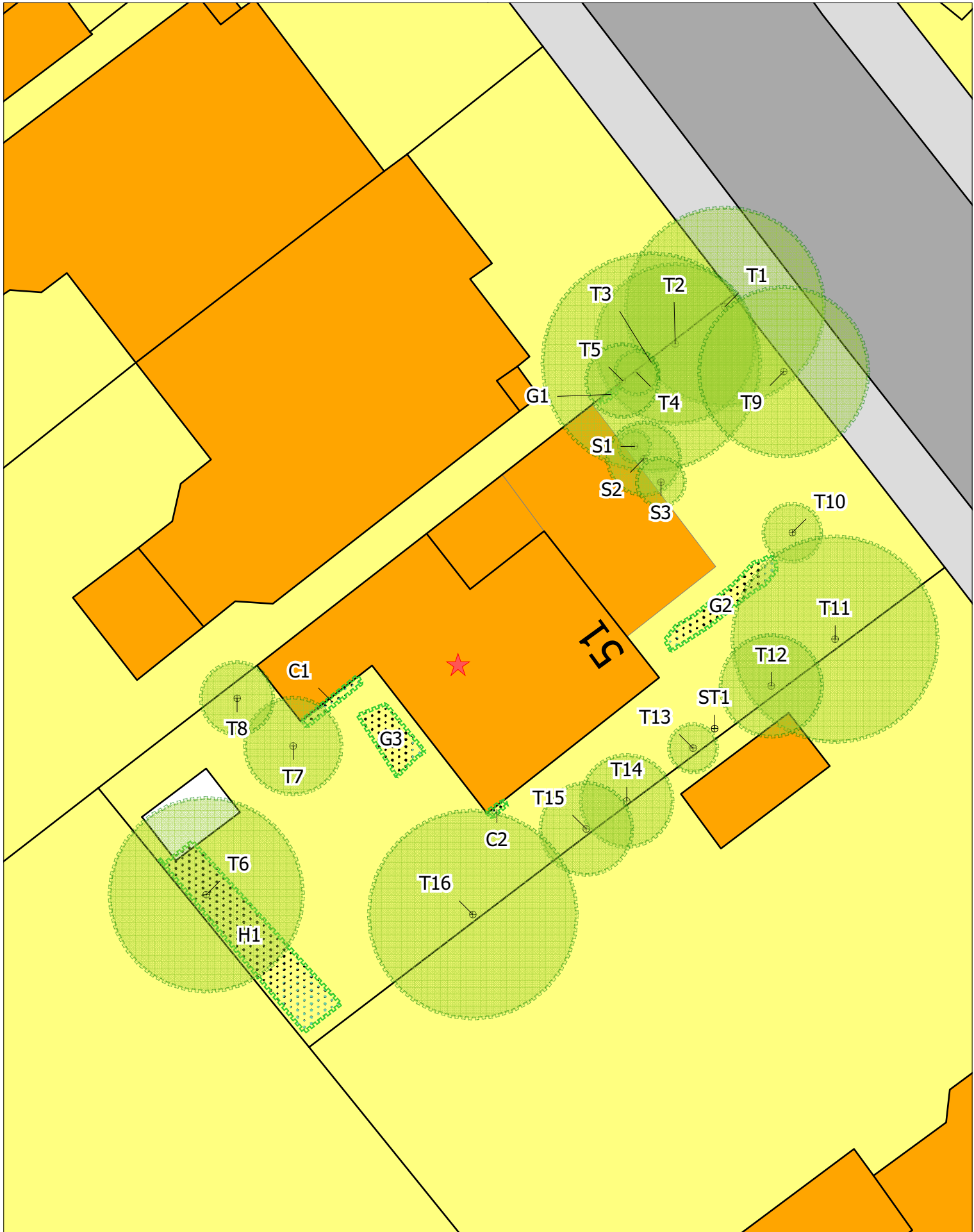
We are currently waiting for confirmation from the Local Planning Authority as to which of the implicated vegetation is subject to a Tree Preservation Order or Conservation Area controls.

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.
Condition	G – Good. F – Fair. P – Poor. D – Dead. Dying or Dangerous		P3P – Within boundary of third party properties. LA – Within land owned by a Local Authority. C3P – Commercial third party.
Stem Diameter	MS – Multi-stemmed tree		U – Within land of indeterminable ownership.

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	EM	F	15.3	8.2	850	8	Topped 2 years ago	Fell and treat stump	None	Topped at 11.5m. PH advises TPO on tree, to be confirmed with London Borough Camden.	51 Redington Road, London NW3 7RP	PH
T2	Yew	SM	F	9.1	6.6	200	5.1	No significant past tree works	Fell and treat stump	None		51 Redington Road, London NW3 7RP	PH
T3	Monterey Cypress	EM	F	15	9	470	4.1	No significant past tree works	Fell to ground level	None		51 Redington Road, London NW3 7RP	PH
T4	Purple Plum	SM	F	9	1.8	190	2.8	Topped 4 years ago	Fell and treat stump	None	Topped at 3.5m	51 Redington Road, London NW3 7RP	PH
T5	Thorn	SM	F	7	3	110	1.7	No significant past tree works	Fell and treat stump	None	Dimensions estimated as no access to stem	51 Redington Road, London NW3 7RP	PH
T6	Apple	EM	F	9.1	8	320	8.2	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
T7	Cherry Laurel	EM	F	2.5	4	170	1.8	Pruned regularly	Fell and treat stump	None		51 Redington Road, London NW3 7RP	PH
T8	Spotted Laurel	SM	F	3.8	3	30	0.9	No significant past tree works	Fell and treat stump	None		51 Redington Road, London NW3 7RP	PH
T9	Laurel species	SM	F	7	7	170	7.7	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
T10	Smooth Arizona Cypress or Guadalupe Cypress	SM	F	8.5	2.4	135	4.2	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
T11	Yew	EM	F	8	8.5	300	7.4	No significant past tree works	No work required.	N/A	height estimated as no adequate line of sight	51 Redington Road, London NW3 7RP	PH
T12	Butterfly Bush	SM	F	7	4.2	180	4.1	No significant past tree works	No work required.	N/A	height estimated as no adequate line of sight	51 Redington Road, London NW3 7RP	PH
T13	Cherry Laurel	SM	F	4.2	2	150	4	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH

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		

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
T14	Butterfly Bush	SM	F	7.8	3.8	100	4	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
T15	Yew	EM	F	9.6	3.8	240	4	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
T16	Yew	EM	F	9.9	8.6	160	6.2	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
S1	Euonymus Species	YO	F	2	1.3	5	0.01	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
S2	Camellia	SM	F	3.2	3	60	0.01	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
S3	Unidentified (possibly shrub Fuchsia)	SM	F	2.5	2	35	0.1	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
ST1	Stump	EM	D	3.5	0.01	530	3.6	Tree removed, 3.5m stump remains	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
G1	Privet	SM	F	1.7	2	10	0.01	Trimmed regularly	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
G2	Irish Yew	SM	F	3.8	1.5	60	2	No significant past tree works	Fell and treat stumps	None		51 Redington Road, London NW3 7RP	PH
G3	Unidentified (possibly shrub Fuchsia)	SM	F	2.9	2	80	0.7	No significant past tree works	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
H1	Privet	SM	F	2	3.5	15	8.1	Trimmed regularly	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
C1	Wisteria	SM	F	5	1.5	70	0.1	Trimmed regularly	No work required.	N/A		51 Redington Road, London NW3 7RP	PH
C2	Wisteria	SM	F	5	0.5	45	0.2	Trimmed regularly	No work required.	N/A		51 Redington Road, London NW3 7RP	PH



Location: 51 Redington Road, London, NW3 7RP  
 Job Ref.: 55836  
 Survey Date: 25/03/2014  
 Scale: 1:200 @ A4

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