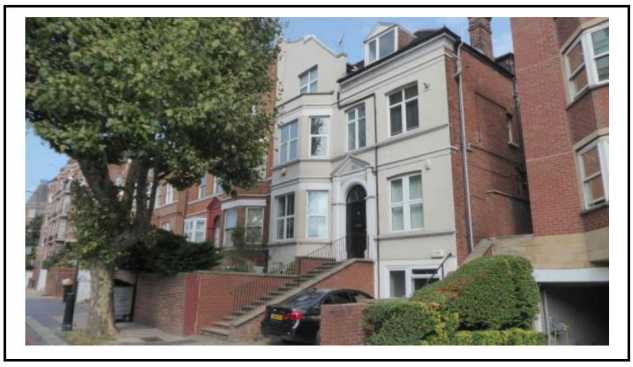
Arboricultural Appraisal Report

Subsidence Damage Investigation at:

218 Finchley Road
London
NW3 6DH



CLIENT:	Crawford & Company
CLIENT REF:	[redacted]
MWA REF:	
MWA CONSULTANT:	Andy Clark
REPORT DATE:	21/11/2023

SUMMARY

Statutory Controls			Mitigation (Current claim tree works)	
TPO current claim	No		Policy Holder	No
TPO future risk	No		Domestic 3rd Party	Yes
Cons. Area	Yes		Local Authority	No
Trusts schemes	No		Other	No
Local Authority: -	London Borough of Camden			

[redacted]

Introduction

Acting on instructions from Crawford & Company, the insured property was visited on 26/09/2023 to assess the potential role of vegetation in respect of subsidence damage.

We are instructed to provide opinion on whether moisture abstraction by vegetation is a causal factor in the damage to the property and give recommendations on what vegetation management, if any, may be carried out with a view to restoring stability to the property. The scope of our assessment includes opinion relating to mitigation of future risk. Vegetation not recorded is considered not to be significant to the current damage or pose a significant risk in the foreseeable future.

This is an initial appraisal report and recommendations are made with reference to the technical reports and information currently available and may be subject to review upon receipt of additional site investigation data, monitoring, engineering opinion or other information.

This report does not include a detailed assessment of tree condition or safety. Where indications of poor condition or health in accessible trees are observed, this will be indicated within the report. Assessment of the condition and safety of third-party trees is excluded and third-party owners are advised to seek their own advice on tree health and stability of trees under their control.

Property Description

The property comprises a 4 storey semi-detached house of traditional construction, extended with a single storey addition to the rear.

External areas comprise gardens to the front and rear.

The property occupies a site which slopes uphill from front to rear, which is taken into account by a series of stepped terraces.

Damage Description & History

Damage relates to the rear of the building with cracking affecting the main house and the junction of the rear extension. For a more detailed synopsis of the damage please refer to the building surveyor's technical report.

We have not been made aware of any previous claims.

Site Investigations

Site investigations were carried out by Auger on 15/06/2023, when 2 trial pits were hand excavated to reveal the foundations, with a borehole sunk through the base of the trial pit to determine subsoil conditions. A drains survey was also undertaken. Please refer to the Site Investigation report for further details.

Discussion

Opinion and recommendations in this report are made on the understanding that Crawford & Company have identified clay shrinkage subsidence as a cause of building movement and damage.

Site investigations and soil test results have confirmed a plastic clay subsoil susceptible to undergoing volumetric change in relation to changes in soil moisture.

Roots were observed to a depth of 1.1m bgl in TP/BH1, and recovered samples have been positively identified (using anatomical analysis) as Salicaceae spp.; the origin of which will be T1 Poplar confirming its influence on the soils below the foundations at the rear of the building.

Level monitoring is in progress, with initial readings also showing movement to the front of the building. We are not aware of any damage affecting the property frontage, however readings suggest that T3 London Plane may be responsible.

Based on the technical reports currently available, engineering opinion and our own site assessment we conclude the damage is consistent with shrinkage of the clay subsoil related to moisture abstraction by vegetation.

If an arboricultural solution is to be implemented to mitigate the influence of the implicated trees/vegetation we recommend that T1 Poplar is removed in the first instance. If movement persists, or if further evidence comes to light which confirms the involvement of T3 London Plane the management of this tree may need to be reviewed.

Other vegetation recorded presents a potential future risk to building stability and management is therefore recommended. Recommended tree works may however be subject to change upon receipt of additional information.

Consideration has been given to pruning alone as a means of mitigating the vegetative influence, however in this case, this is not considered to offer a viable long-term solution due to the proximity of the responsible vegetation.

Table 1 **Current Claim** - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Poplar	19.0	900 *	11.0	3.6	Older than extension(s)	Third Party 220 Finchley Road NW3 6DH
Management history		Subject to past management/pruning - previously heavily crown reduced/pollarded.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

Ms: multi-stemmed * Estimated value

Table 2 **Future Risk** - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T2	Apple	4.5	230	6.3	11.2	Older than extension(s)	Policy Holder
Management history		Subject to past management/pruning - previously crown reduced.					
Recommendation		Maintain broadly at no larger than current dimensions by periodic pruning.					
T3	Plane (London)	15.5	630	11.0	6.3	Younger than Property	Local Authority
Management history		Subject to past management/pruning - previously pollarded at approx. 3.5m and since crown reduced.					
Recommendation		No works required at present – subject to review if movement persists.					
SG1	Mixed spp. group of mostly Lilac, Ivy, Fig, Rose and Box	3.5	30	5.0	2.5	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Maintain broadly at no larger than current dimensions by periodic pruning.					
SG2	Mixed spp. group of mostly Hebe, Elder, Photinia and Cypress	2.0	120	2.5	0.4	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Maintain broadly at no larger than current dimensions by periodic pruning.					
TG1	Mixed spp. group of mostly Ash, Laurel and Sycamore,	10.0	90 Ms *	6.0	7.0	Younger than Property	Third Party 220 Finchley Road NW3 6DH
Management history		No significant past management noted.					
Recommendation		Maintain broadly at no larger than current dimensions by periodic pruning.					

Ms: multi-stemmed * Estimated value

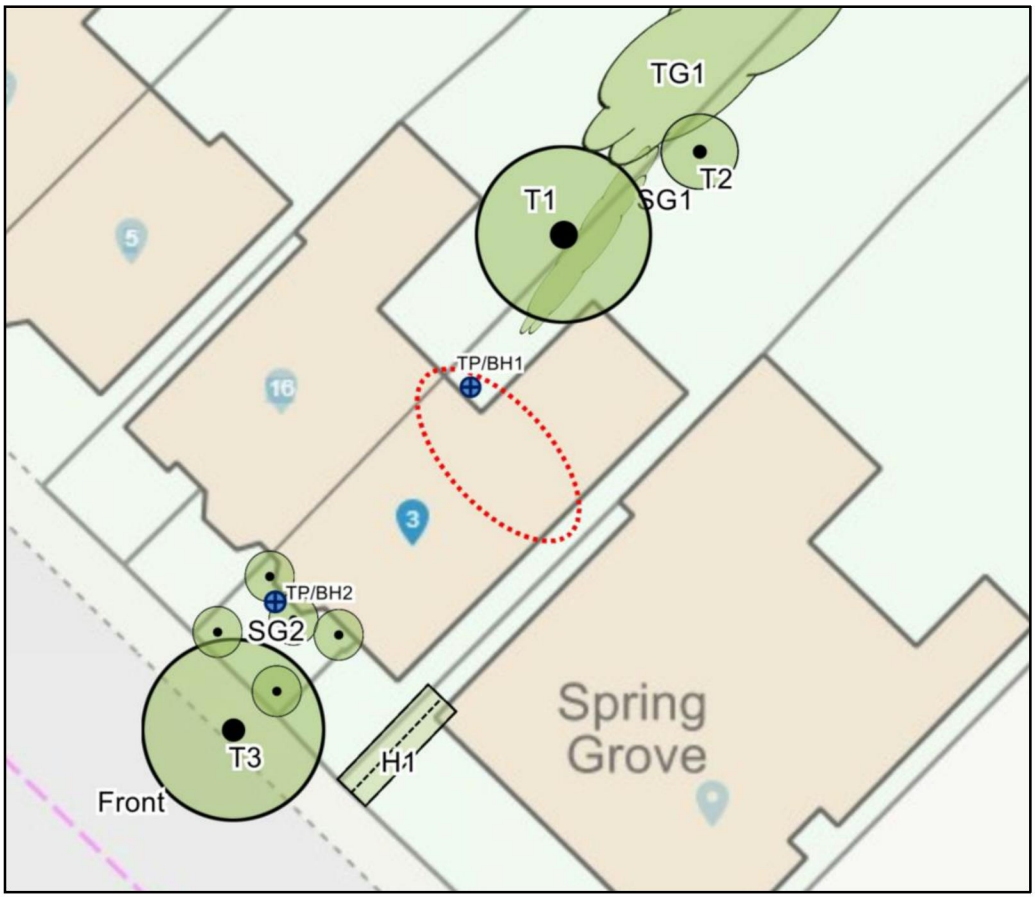
Table 2 **Future Risk** - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
H1	Pyracantha and Euonymus hedge	2.5	10	1.0	1.6	Younger than Property	Third Party 216 Finchley Road NW3 6DH
Management history		Subject to past management/pruning – appears regularly trimmed.					
Recommendation		Maintain broadly at no larger than current dimensions by periodic pruning.					

Ms: multi-stemmed * Estimated value

Tree/vegetation locations are based on what could be determined at the time of the survey and should be regarded as indicative.
It should be noted that boundaries are not always clear and may be disputed by property owners.

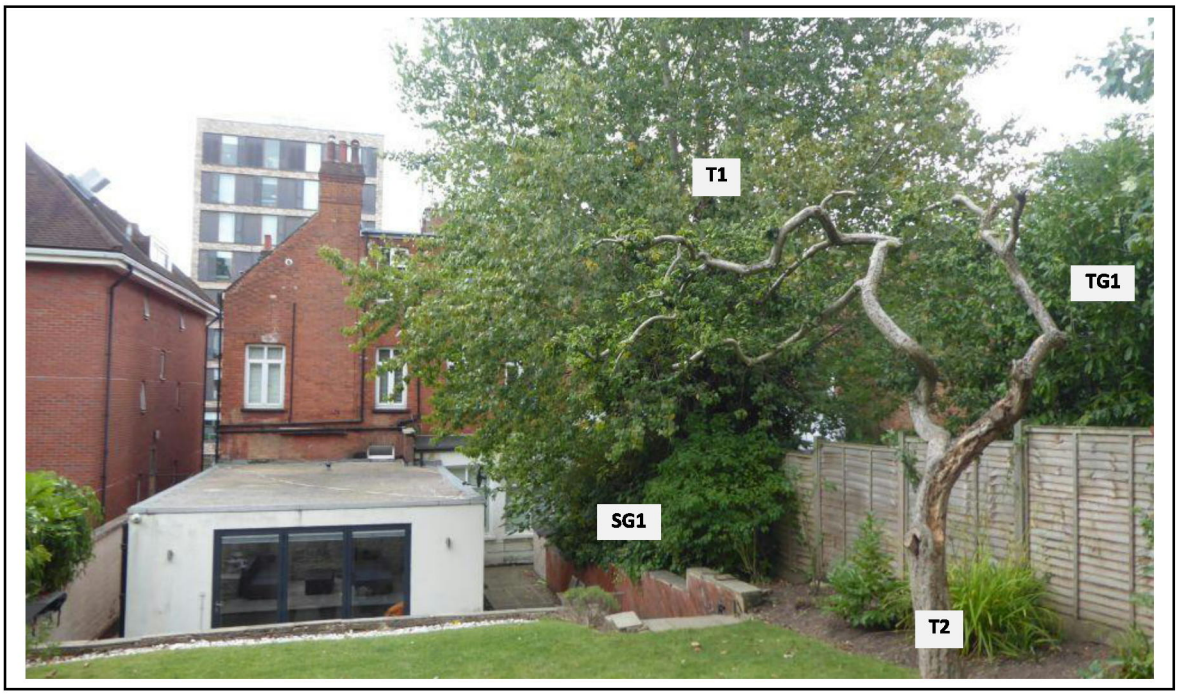
Site Plan



Plan not to scale – indicative only

Approximate areas of damage

Images



View of T1 Poplar with SG1 shrub group understorey and T2 Apple and TG1 group to foreground

View of T3 London Plane with SG2 shrub group

Management of vegetation to alleviate clay shrinkage subsidence.

All vegetation requires water to survive which is accessed from the soil. Clay soils shrink when water abstracted by vegetation exceeds inputs from rainfall, which typically occurs during the summer months. When deciduous vegetation enters dormancy and loses its leaves and rainfall increases during the winter months, soil moisture increases and the clay swells. (Evergreen trees and shrubs use minimal/negligible amounts of soil water during the winter).

Buildings founded on clay are susceptible to movement as the clay shrinks and swells which can result in cracking or other damage.

Where damage does occur, pruning (reducing leaf area) can in some circumstances be effective in restoring stability however, removal of the influencing vegetation (trees, shrubs, climbers) causing the ground movement offers the most predictable and quickest solution in stabilising the clay and hence the building and for this reason is frequently initially recommended as the most appropriate solution.

Often this is unavoidable due to the size or number of influencing trees, shrubs etc and their proximity to the building. Very heavy pruning of some species to a level required to effectively control its water use can result in the trees decline and ultimately death and is one factor considered when making recommendations for remedial tree works. Pruning alone, whilst reducing soil moisture uptake is often an unpredictable management option in restoring building stability either in the short or long term.

In some circumstances however, where vegetation initially recommended for removal is subsequently pruned and monitoring indicates the building has stabilised, removal becomes unnecessary with decisions based on best evidence available at the time.