

Arboricultural Appraisal Report

Subsidence Damage Investigation at:

1 Bishops Road
London
N6 4HP



CLIENT:	Crawford & Company
CLIENT REF:	SU2003545
MWA REF:	SUB201201-7975
MWA CONSULTANT:	Andy Clark
REPORT DATE:	08/01/2021

SUMMARY

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

Introduction

Acting on instructions from Crawford & Company, the insured property was visited on 07/01/2021 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 detached house of traditional construction, built originally C.1880 and since subdivide into 8 self contained flats and extended with a single-storey infill addition to the rear left corner.

External areas comprise gardens to the front and rear.

The property occupies a site that slopes gently downhill from right to left.

Damage Description & History

Damage relates to the rear left extension where cracking indicates downward movement. Damage is reported to have first been observed during June 2020.

At the time of the engineer's inspection (03/09/2020) the structural significance of the damage was found to fall within Category 3 (Moderate) of Table 1 of BRE Digest 251. For a more detailed synopsis of the damage please refer to the surveyor's technical report.

We have not been made aware of any previous claims.

Site Investigations

Site investigations were carried out by AUGER on 15/10/2020, when a single trial pit was 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.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1	Concrete	400

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	Moist stiff to moist very stiff brown fine to medium gravelly silty CLAY	35 – 55	Medium – High

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	400	[could be] Tilia spp. or either Prunus spp. or Ribes spp.	Present

Tilia spp. are Limes

Prunus spp. includes Cherries, Plums and Damsons, Almonds, Peaches and Apricots, Blackthorn/Sloe, as well as the shrubby Cherry-laurel and Portuguese laurel

Ribes spp. are shrubs, often with berries – including Gooseberries or Currants

Drains: The drains have been surveyed and no significant defects identified.

Monitoring: No information available at the time of writing.

Discussion

Opinion and recommendations are made on the understanding that Crawford & Company are satisfied that the current building movement and the associated damage is the result of clay shrinkage subsidence and that other possible causal factors have been discounted.

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 0.4m bgl in TP1 and recovered samples have been tentatively identified (using anatomical analysis) as [could be] *Tilia* spp. or either *Prunus* spp. or *Ribes* spp.

Given the tentative nature of the identification and the absence of any nearby *Tilia* spp, *Prunus* spp. or *Ribes* spp. vegetation, the most likely origin of the retrieved samples is the nearby third party *Callicarpa* shrub.

Irrespective of the identification of recovered root samples, our survey has identified additional vegetation within influencing distance of the building with a current potential to influence soil volumes below foundation level, the most significant of which is the policy holders T1 Walnut. There is also a likely localised influence from the adjacent third party *Callicarpa* and most proximal Japanese maple of TG1 group.

Based on the technical reports currently available, engineering opinion and our own site assessment we conclude the damage is potentially 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 Walnut is reduced along with the removal of the *Callicarpa* and nearest Japanese Maple of TG1 group [as identified on site photos]. 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.

Conclusions

- Conditions necessary for clay shrinkage subsidence to occur related to moisture abstraction by vegetation have been confirmed by site investigations and the testing of soil samples.
- Engineering opinion is that the damage is related to clay shrinkage subsidence.
- There is significant vegetation present with the potential to influence soil moisture and volumes below foundation level.
- Roots have been observed underside of foundations.

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	Walnut	15.5	490	8.0	10.4	Younger than Property	Policy Holder
Management history		Previously crown reduced. No recent management.					
Recommendation		Reduce to previous reduction points and remove regrowth on a triennial cycle.					
TG1	Mixed spp. group of mostly Callicarpa, Japanese maple, Camelia and Pittosporum,	3.5	120 Ms *	3.0	1.7	Younger than Property	Third Party 5 The Park N6 4EU
Management history		Subject to past management/pruning - previously crown reduced.					
Recommendation		Remove (fell) nearby Callicarpa and closest Japanese Maple to building to near ground level and remove any regrowth as it emerges [Herbicide translocation risk]					

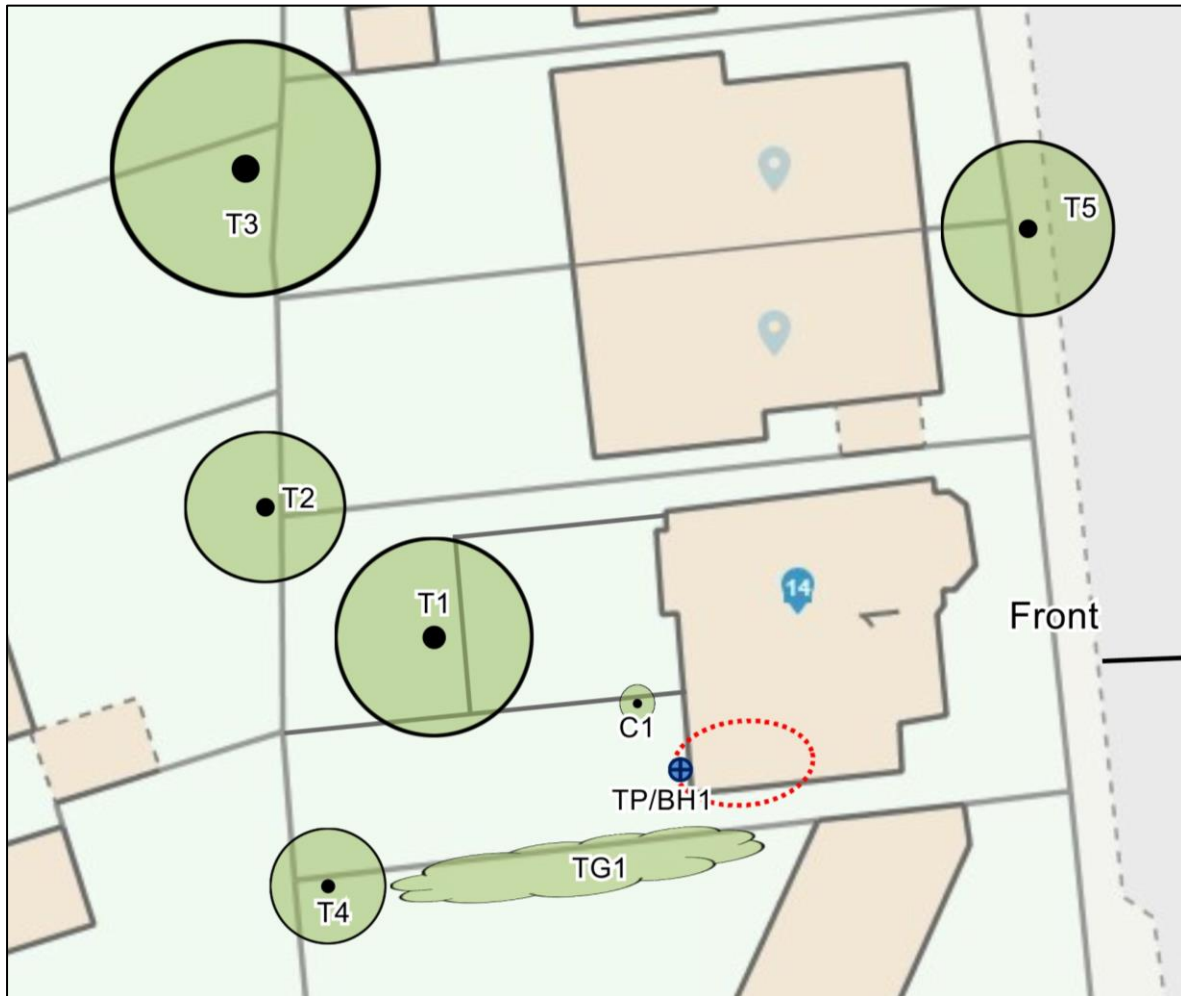
Ms: multi-stemmed * Estimated value

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	Birch	11.5	400 *	7.5	20.6	Younger than Property	Third Party 3 Talbot Road N6 4QS
Management history		Subject to past management/pruning - previously crown reduced.					
Recommendation		None at present.					
T3	Plane (London)	23.5	900 *	14.0	24.0 *	Younger than Property	Third Party 5 Talbot Road N6 4QS
Management history		Subject to past management/pruning - previously crown reduced.					
Recommendation		Repeating pruning on a triennial cycle.					
T4	Loquat	4.5	350 Ms *	5.0	14.1	Younger than Property	Third Party 5 The Park N6 4EU
Management history		Subject to past management/pruning - previously crown reduced.					
Recommendation		None at present.					
T5	Hornbeam	15.0	550	10.0	11.7	Younger than Property	Local Authority
Management history		No significant past management noted.					
Recommendation		None at present.					
C1	Wisteria	2.0	40 Ms *	3.5	0.9	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly pruned.					
Recommendation		Maintain at broadly current dimensions.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only



Approximate areas of damage

Images



View of T1 Walnut to foreground with T2 Birch and T3 London Plane visible beyond



View of TG1 group



View of nearby Callicarpa and Japanese Maple of TG1 group to be removed