Arboricultural Appraisal Report

Subsidence Damage Investigation at:

The Orchard
Dulwich
London
SE21 7EW

CLIENT:	Crawford & Company
CLIENT REF:	SU2004772
MWA REF:	SUB210121-8275
MWA CONSULTANT:	Mark Johnson (FdSc; MArborA)
REPORT DATE:	03/03/2021

SUMMARY

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

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Introduction

Acting on instructions from Crawford & Company, the insured property was visited on 12/02/2021 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 3 storey multi occupied detached dwelling built in c.1900. It has historically been extended with a two-storey extension to the left-flank and more recently, a single-storey extension to the right-flank. External areas comprise gardens to the front and rear. The site is generally level with no adverse topographical features.

Damage Description & History

Damage relates to the front-left bay window and adjacent internal walls where cracking indicates downward movement. Damage was first noticed on 16/09/2020. Internally there is vertical cracking where the bay window meets the main house in the ground floor lounge. There is diagonal cracking to the partition wall in the first-floor middle bedroom. Externally there is stepped cracking to the brickwork at the centre of the bay.

At the time of the engineer's inspection (14/10/2020) the structural significance of the damage was found to fall within Category 2 (slight) 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.

Geology / Soils

The online 1:50 000 scale British Geological Survey map records the bedrock geology as LONDON CLAY FORMATION – CLAY and SILT. No superficial deposits were recorded.

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.

Published soil maps indicate the underlying soils include or are likely to include a clay component susceptible to undergoing volumetric change with changes in soil moisture. Moisture abstraction by vegetation has the potential to cause soil shrinkage and consequent subsidence of the building.

Our survey has identified vegetation within influencing distance of the building with a current potential to influence soil volumes below foundation level. The vegetation considered to be most significant in relation to the current damage is T1, T2, T3, S1 and SG2.

Based on the information currently available, engineering opinion and our own site assessment we conclude the damage appears consistent with shrinkage of the clay fraction due to the soil drying effects of vegetation.

If an arboricultural solution is to be implemented to mitigate the influence of the trees considered to be responsible for the damage we recommend that T1, T2, T3, S1 and SG2 are removed. Other vegetation recorded presents a potential future risk to building stability and management is therefore recommended.

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. Recommended tree works may be subject to change upon receipt of additional information.

Conclusions

- Conditions necessary for clay shrinkage subsidence to occur related to moisture abstraction by vegetation have been confirmed by reference to published soil maps.
- 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.

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	Sycamore	12.5	280	5.5	4	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Sycamore	13	350	7	6	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T3	Sycamore	14	300	9	8.6	Younger than Property	Policy Holder
Management history		No significant recent management noted. Poor strucutral form. Included bark in unions. (Tree tag no: 614)					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
S1	Pyracantha	2	Ms	2	0.1	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Remove (fell) to near ground level and grub out stump.					
SG2	Mixed species shrubs	1	*	3	0.5	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Remove (fell) to near ground level and grub out stump.					

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
T4	Holly	5	100	6	5.5	Younger than Property	Policy Holder
Management history	No significant recent management noted.						
Recommendation	Maintain broadly at no more than current dimensions by periodic pruning.						
T5	Oak	12	550	10	15.5	Younger than Property	Policy Holder
Management history	No significant recent management noted.						
Recommendation	Maintain broadly at no more than current dimensions by periodic pruning. (subject to review if movement persists).						
T6	Lime	27	600	13 *	9 *	Younger than Property	Policy Holder
Management history	No significant recent management noted. Unable to view rear of stem.						
Recommendation	No works required at present (subject to review if movement persists).						
T7	Ash	15	550 *	12	2	Younger than Property	Third Party Elm Lawn SE21 7EW
Management history	No significant recent management noted.						
Recommendation	Maintain broadly at no more than current dimensions by periodic pruning. (subject to review if movement persists).						
T8	Oak (Holm)	15 *	500	8	1.5	Younger than Property	Third Party Elm Lawn SE21 7EW
Management history	No significant recent management noted.						
Recommendation	Maintain broadly at no more than current dimensions by periodic pruning. (subject to review if movement persists).						

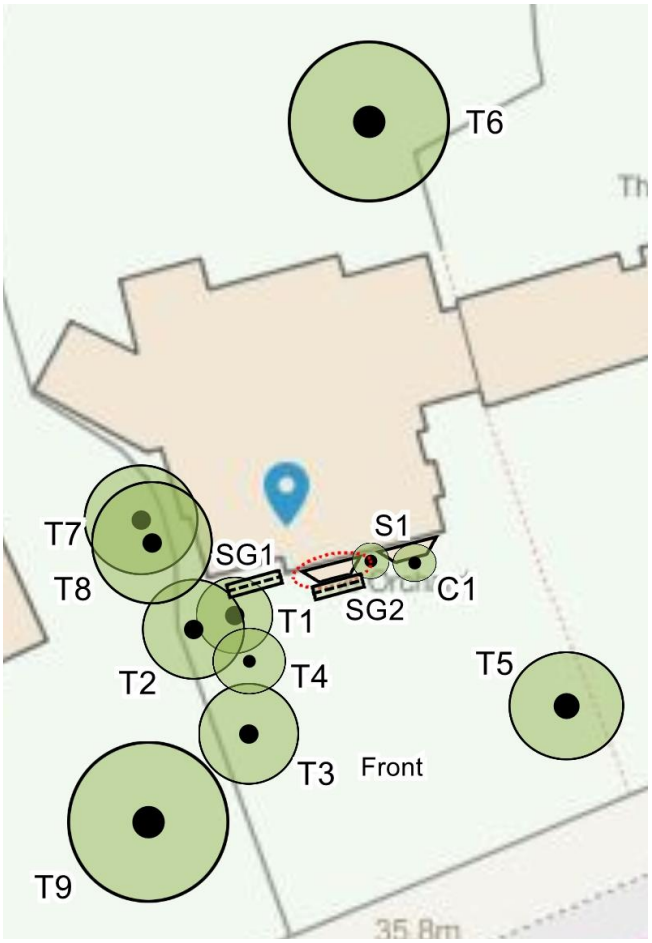
Ms: multi-stemmed * Estimated value

Table 2 **Future Risk** - Tree Details & Recommendations Cont'd

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T9	Elm	15 *	550 *	13	20	Younger than Property	Third Party Elm Lawn SE21 7EW
Management history		No significant recent management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
SG1	Mixed species shrubs	1	Ms	3	0.5	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
C1	Wisteria	4	Ms	15	0.1	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

Ms: multi-stemmed * Estimated value

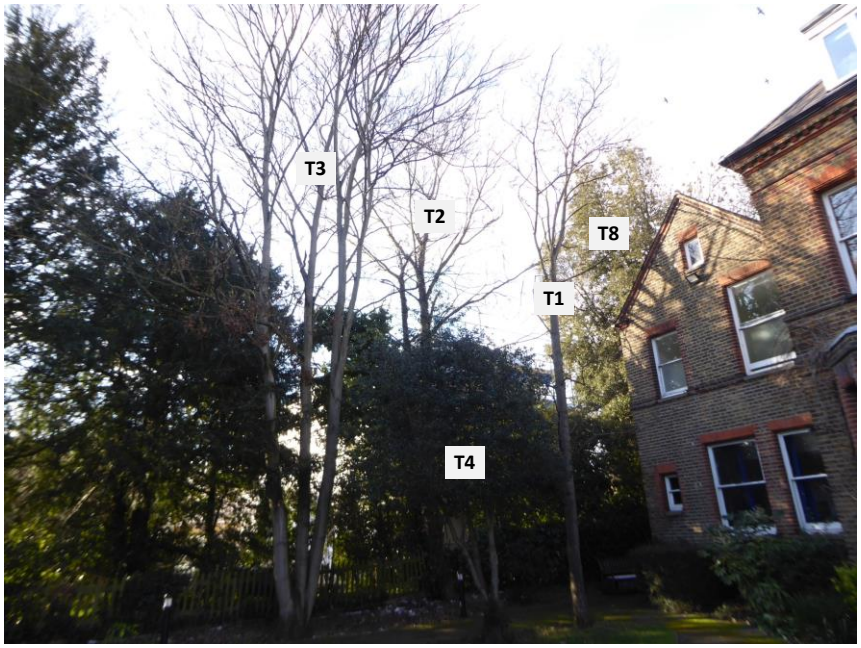
Site Plan



Plan not to scale – indicative only

Approximate areas of damage

Images



View of T3, T2, T4, T1 and T8

View of T1, T4, T3 and T2

View of SG2, S1 and C1

View of T4, T2, T1 and SG1