Addendum Arboricultural Report

Subsidence Damage Investigation at:

23 Three Oaks Close
Ickenham
Uxbridge
UB10 8DU

CLIENT:	Crawford & Company
CLIENT REF:	SU2005239
MWA REF:	SUB201123-7901Rev01
MWA CONSULTANT:	Andy Clark
REPORT DATE:	21/04/2022

SUMMARY

Statutory Controls			Mitigation (Current claim tree works)	
TPO current claim	Yes – T1		Policy Holder	Yes
TPO future risk	Yes – TG2		Domestic 3rd Party	Yes
Cons. Area	No		Local Authority	No
Trusts schemes	No		Other	No
Local Authority: -	London Borough of Hillingdon			

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Introduction

This is an addendum to our original report [dated 08/12/2020] to add details of site investigations and level monitoring results.

Acting on instructions from Crawford & Company, the insured property was visited on 01/12/2020 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.

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 detached bungalow of traditional construction, which has been extended with a single-storey addition to the right-hand side. 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 rear left-hand corner of the insured dwelling and was first observed during October 2020.

At the time of the engineer's assessment (17/11/2020) 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.

Site Investigations

Site investigations were carried out by Auger on 24/02/2021, when a single trial pit was excavated to reveal the foundations, with a remote borehole sunk a short distance away in order to determine subsoil conditions.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP1	Concrete – possibly underpin	USF not found – TP abandoned at 1100mm

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP1	Dry very stiff brown slightly sandy fine to medium gravelly silty CLAY	26	Medium
BH1	Dry very stiff brown slightly sandy fine to medium gravelly silty CLAY	23 – 27	Medium

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP1	900	Quercus spp.	Present
BH1	2000	Similar to Quercus spp. [immature sample]	Absent

Quercus spp. are Oaks, both deciduous and evergreen

Drains: No information available at the time of writing.

Monitoring: Level monitoring is in progress, commencing on 12/03/2021 and with six subsequent readings available at the time of writing.

Downward movement observed between Nov '21 and Jan '22 is anomalous however remaining readings demonstrate seasonal movement consistent with the influence vegetation.

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 0.9m bgl in TP1 and to 2.0m bgl in the adjacent BH1, and recovered samples have been positively identified (using anatomical analysis) as Quercus spp.; the origin of which will be T1 Oak.

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.

At this stage we recommend that T1 Oak is significantly reduced. This tree is of a significant age estimated to be in excess of 150 years old and predates surrounding properties by many decades. Removal is therefore considered to be disproportionate however if movement persists following reduction works, then removal may need to be considered.

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.

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 and root 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 and identified samples correspond to vegetation identified on site.

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	Oak	13.5	1100 *	18.0	6.5	Older than Property	Boundary tree Policy Holder &/or 19 Enstone Road UB10 8DU
Management history		Subject to past management/pruning - previously partially crown reduced from over PH garden.					
Recommendation		Reduce height to 10.0m and crown spread to 12.0m [6m radius] leaving a balanced crown and re-prune thereafter on a triennial cycle to retain at reduced dimensions. (subject to review if movement persists following reduction)					

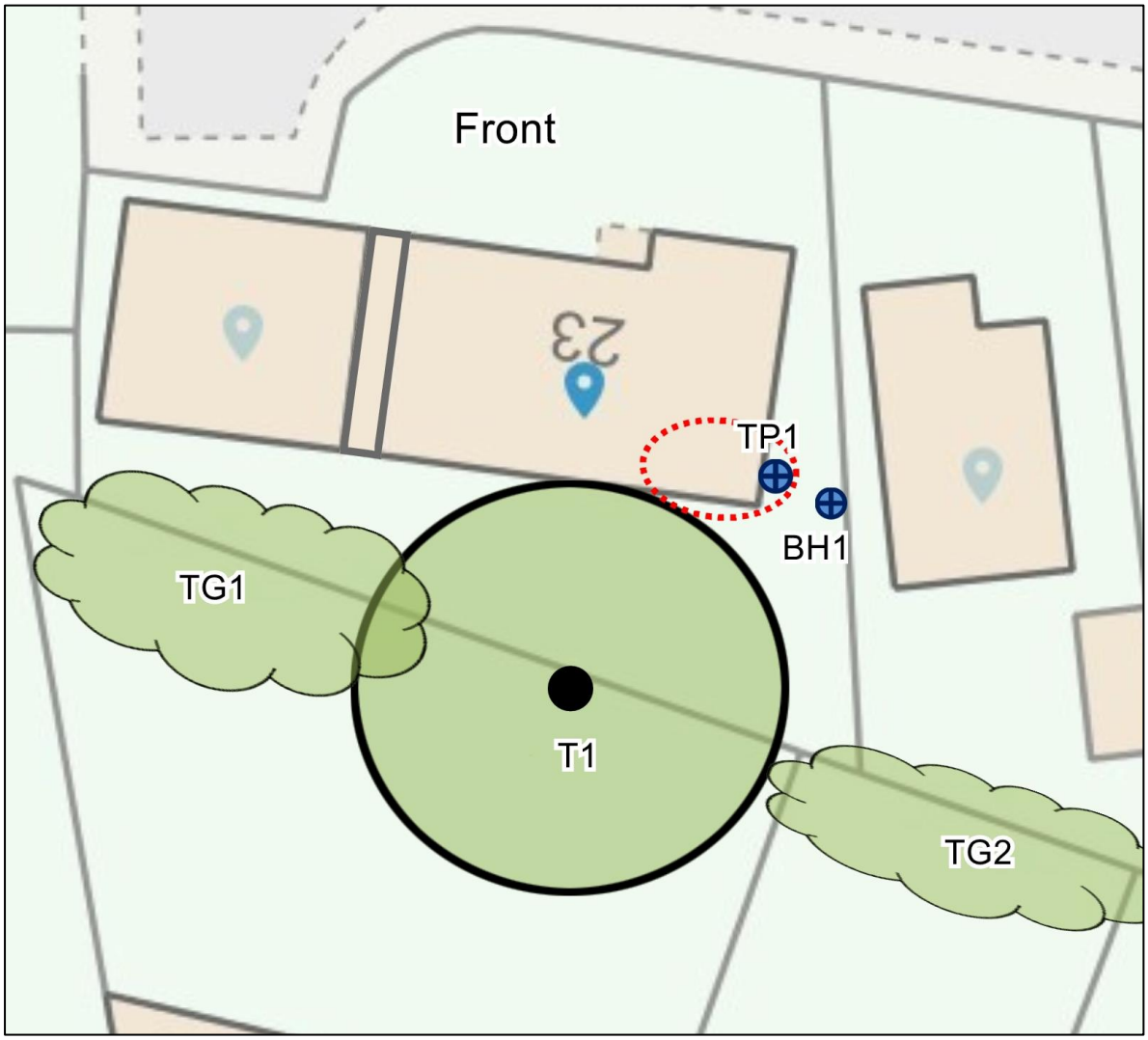
Ms: multi-stemmed * Estimated value

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

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
TG1	Mixed spp. group of mostly Buddleia, Viburnum and Fir	8.0	350 Ms *	6.0	4.9	Younger than Property	Third Party 19 Enstone Road UB10 8DU
Management history		Subject to past management/pruning - previously crown reduced.					
Recommendation		Reduce to ~3.0m and maintain at reduced height.					
TG2	Cypress group	5.0	180 Ms *	2.0	10.4	Similar Age to Property	Third Party 21 Enstone Road UB10 8DU
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only

Approximate areas of damage

Images

View of T1 Oak and TG1 mixed spp. group

View of TG2 Cypress group