

Addendum Arboricultural Report

Subsidence Damage Investigation at:

6 Nicholas Way
Northwood
HA6 2TS



CLIENT:	Crawford & Company
CLIENT REF:	SU2205005
MWA REF:	SUB230609-13370Rev02
MWA CONSULTANT:	Giles Mercer (BSc Hons) David Mahon MICFor
REPORT DATE:	07/05/2025

SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	Yes - T1, T2	Policy Holder	Yes
TPO future risk	Yes - T3, T5, T6	Domestic 3 rd Party	No
Cons. Area	No	Local Authority	No
Trusts schemes	No	Other	No
Local Authority: -	London Borough of Hillingdon		

Introduction

This is an addendum to our previous reports dated 19/08/2023 and 02/10/2023 to include additional site investigations and level monitoring.

Acting on instructions from Crawford & Company, the insured property was visited on 10/07/2023 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.

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 2 storey detached house with conservatory and single-storey extension to the rear.

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 both the right hand and left hand flanks of the insured dwelling.

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

Initial Site investigations were carried out by CET on 19/12/2022, 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/BH1A	Concrete	1000
TP/BH1B	Concrete	220

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1A	Firm silty CLAY	41	High
TP/BH1B	MADE GROUND Soft dark brown sandy silty clay with gravel and brick fragments	52	High

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1A	1000	broadleaved species, too decayed for positive identification	Absent
BH1	1400	broadleaved species, too decayed for positive identification	Absent
TP/BH1B	220	unidentified broadleaved species	Absent

Drains: The drains have been surveyed and defects identified although leaking drains are concluded not to be a cause of the current damage.

A further site investigation was carried out by CET on 11/03/2025, when 2 trial pits were hand excavated to the front of the garage to confirm foundation details with a borehole sunk through the base of the trial pits to determine subsoil conditions.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1A	Concrete	1500
TP/BH1B	Brick rubble	300
TP/BH2	Concrete over Brick rubble	320

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	Stiff, stained, pungent silty CLAY. Stiff silty CLAY.	42 - 47	High
TP/BH2	Firm silty CLAY to 1.0m Soft wet silty CLAY to 1.5m Stiff silty CLAY to 3.0m	39 - 60	Medium - High

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	Underside foundation	Aesculus spp. Hedera or Fatsia spp	Present Present
TP/BH2	1700	Quercus spp. Aesculus spp.	Present Present

Aesculus spp. are horse chestnuts.

Hedera spp. include ivy; Fatsia spp. are shrubs closely related to ivy.

Quercus spp. are oaks (both deciduous and evergreen).

Monitoring: Level monitoring readings available from 20/03/2023 to 05/11/2024 available at the time of writing.

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 of high shrinkage potential susceptible to undergoing volumetric change in relation to changes in soil moisture.

Roots were observed to a depth of 1.4m bgl in TP/BH1 A/B. Recovered samples have been identified as a broadleaved species confirming a vegetative influence on soils beneath foundations.

The roots of the Laurel hedge (H1) and the Ivy-covered Cypress group (TG1) are likely to have been present below foundation level in proximity to the area of movement/damage and influencing soil moisture and volumes prior to their removal in February 2025 and late 2023 respectively.

Roots from T1 and T2 were recovered from below foundation level to the front of the garage in the March 2025 ground investigation confirming their influence on soil moisture and volumes.

Level monitoring has recorded a pattern of seasonal movement consistent with the influence of vegetation with the most significant movement at the front left corner of the garage (pin 9) during the summer of 2024 after the removal of TG1 in late 2023 which indicates the influence of T1 and T2.

Based on the technical reports currently available, engineering opinion and our own site assessment we conclude root induced clay shrinkage subsidence is a cause of movement/damage. We concluded the Laurel hedge (H1) and the Cypress group (TG1) to be contributory to the damage recommending their removal which has now been completed.

We also noted in our previous reports that the large trees along the property frontage (T1, T2, T3) were likely to be causal to the damage although at the time there was no evidence of this and advised additional information would be required to allow a proper assessment of their involvement.

Based on the root evidence and level monitoring we now consider that the influence of T1 and T2 is established and that both trees are causal to damage warranting their removal.

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

Table 1 Current Claim - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
TG1	Ivy covered Cypress	5.8	300 *	4	0.3	Younger than Property	Third Party 8 Nicholas Way HA6 2TS
Management history		REMOVED LATE 2023.					
Recommendation		-					
H1	Laurel	2.8	95 Ms *	1 *	1.2	Younger than Property	Third Party 4 Nicholas Way HA6 2TS
Management history		REMOVED FEB 25.					
Recommendation		-					
T1	Oak	15	570	14	9.7	Similar Age to Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Horse Chestnut	15.2	450 *	13.5	11	Similar Age to Property	Policy Holder
Management history		No significant recent management noted. Bleeding canker.					
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
T3	Oak	18.4	800 *	17.75	12.2	Older than Property	Third Party 4 Nicholas Way HA6 2TS
Management history		No significant recent management noted.					
Recommendation		None at present. Subject to review if movement persists.					
T4	Cherry	4.8	180	8.4	12.1	Younger than Property	Policy Holder
Management history		No significant recent management noted.					
Recommendation		No works at present.					
T5	Hornbeam	16.5	550 *	16	12.7	Older than extension(s)	Third Party 4 Nicholas Way HA6 2TS
Management history		No significant recent management noted.					
Recommendation		Do not allow to exceed current dimensions.					
T6	Oak	18.4	800 *	17.75	18.5	Older than Property	Third Party 23 Copse Wood Way HA6 2TZ
Management history		No significant recent management noted.					
Recommendation		No works at present.					
TG2	Cypress	8.3	150 Ms *	6	4.5	Younger than Property	Third Party 4 Nicholas Way HA6 2TS
Management history		No significant recent management noted.					
Recommendation		Do not allow to exceed current dimensions.					

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
SG1	Mixed species shrubs including Rose, Lonicera, Euonymus, Forsythia, Cypress, Pyracantha	2.5	45 Ms *	2 *	0.2 *	Younger than Property	Policy Holder
Management history		Managed shrubs.					
Recommendation		Do not allow to exceed current dimensions.					
C1	Wisteria	2.5	40 *	2	0.3	Younger than Property	Policy Holder
Management history		No significant recent management noted. Suspect climber is growing through base of pot.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
H2	Laurel	2.9	110 Ms *	2 *	5	Younger than Property	Policy Holder
Management history		Managed hedge.					
Recommendation		Do not allow to exceed current dimensions.					

Ms: multi-stemmed * Estimated value

Site Plan



Plan not to scale – indicative only

 Approximate areas of damage

Images



View of C1 and TG1



View of H1 and T5



View of H1 and TG2



View of T5 and T6



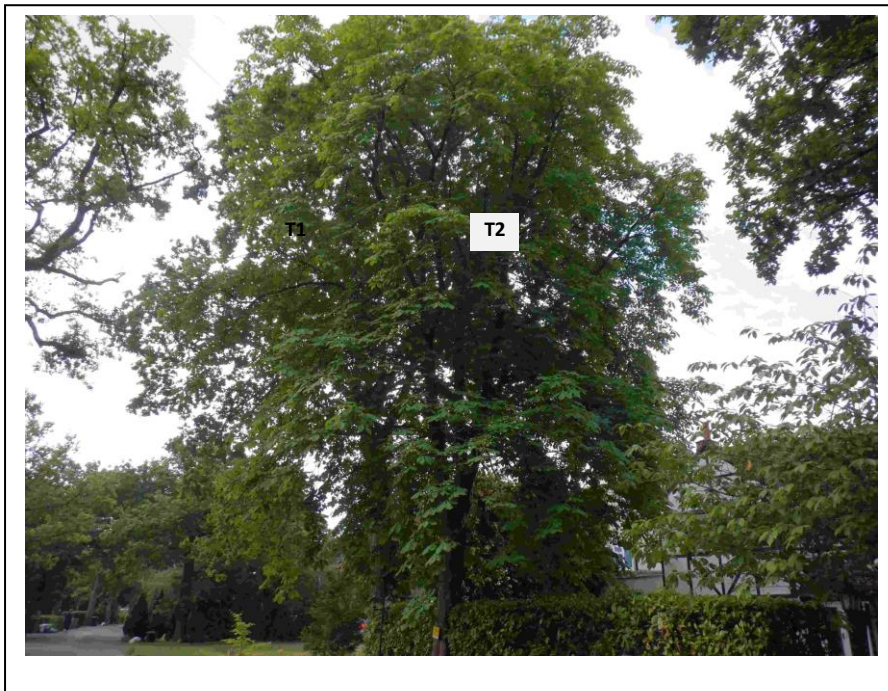
View of H2



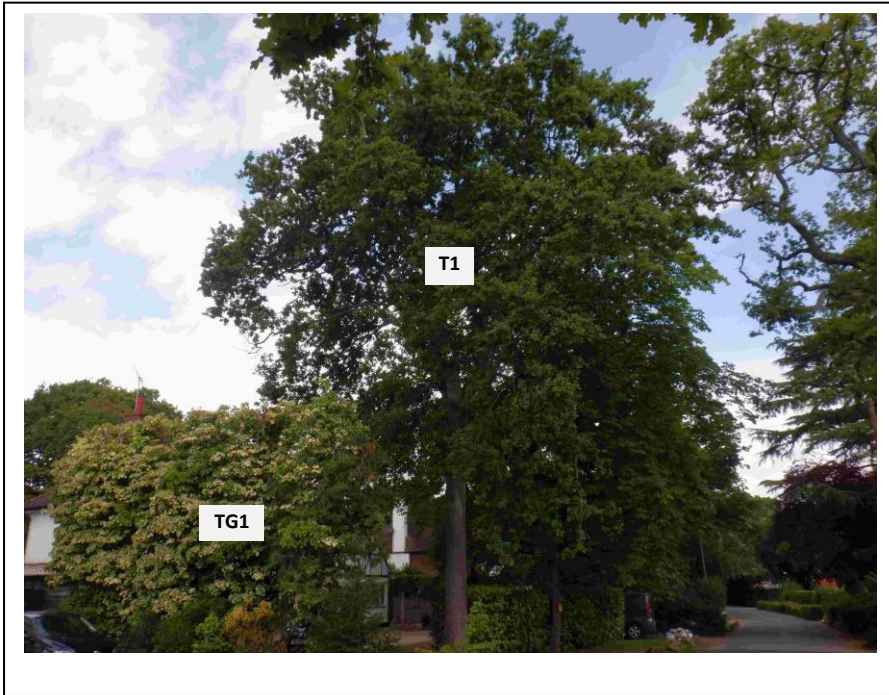
View of the rear elevation



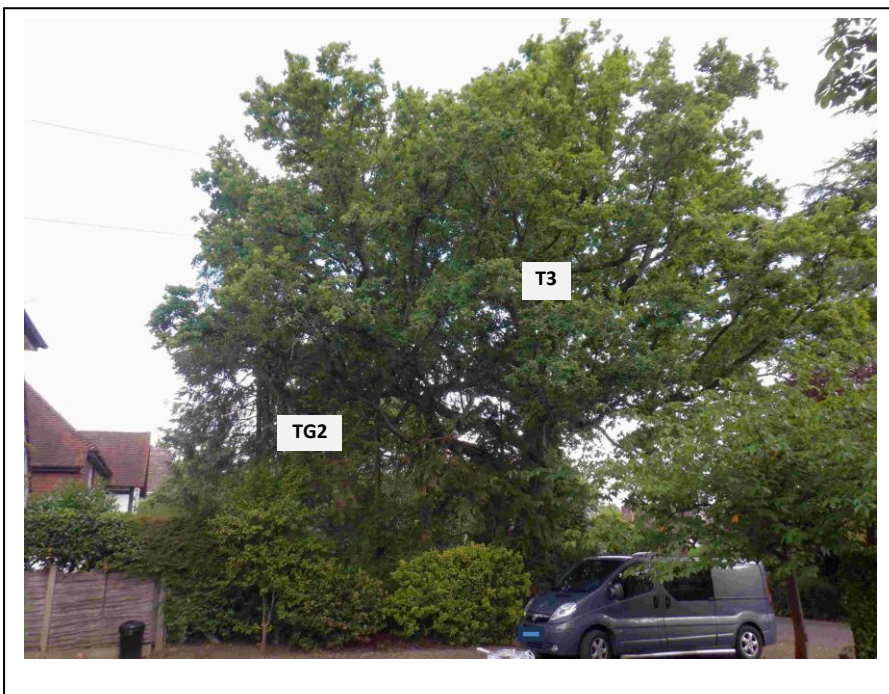
View of SG1, C1 and TG1



View of T1 and T2



View of T1 and TG1



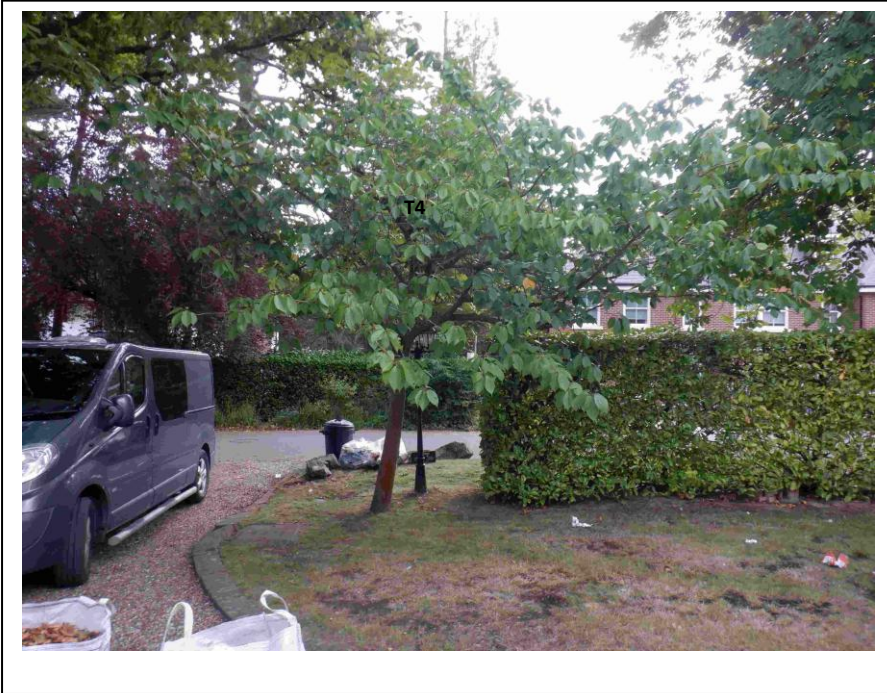
View of T3 and TG2



View of T3



View of TG1



View of T4

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.