

Arboricultural Appraisal Report

Subsidence Damage Investigation at:

37 Park Avenue South
Hornsey
London
N8 8LU



CLIENT:	Crawford & Company
CLIENT REF:	SU2003259
MWA REF:	SUB201112-7856
MWA CONSULTANT:	Andy Clark
REPORT DATE:	17/12/2020

SUMMARY

Statutory Controls		Mitigation (Current claim tree works)	
TPO current claim	Yes – T2	Policy Holder	Yes
TPO future risk	No	Domestic 3 rd Party	Yes
Cons. Area	No	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 16/12/2020 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.

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 2 storey mid-terrace house of traditional construction, built C.1900 and since subdivided into two self-contained flats.

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 sections of the insured dwelling, with internal and external cracking indicative of downwards movement. Damage is reported to have first been observed during February 2020 and worsening over the spring and summer months prompting a claim to insurers.

At the time of the engineer's review (08/09/2020) 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 CET on 21/10/2020, when a single trial pit was hand excavated to reveal the foundations with a borehole sunk through the base of the trial pit to determine subsoil conditions. A second remote borehole was sunk at the rear. A drains survey was also undertaken.

Foundations:

Ref	Foundation type	Depth at Underside (mm)
TP/BH1	Concrete	1000

Soils:

Ref	Description	Plasticity Index (%)	Volume change potential (NHBC)
TP/BH1	MADEGROUND: medium compact brown silty sandy clay with brick fragments to 2300mm, becoming stiff brown-grey veined silty CLAY with partings of orange silt and fine sand below	35 – 48	Medium-High
BH2 [remote to rear]	MADEGROUND: medium compact brown gravelly silty clay with brick fragments to 400mm, becoming stiff brown-grey veined silty CLAY with partings of orange silt and fine sand below	50	High

Roots:

Ref	Roots Observed to depth of (mm)	Identification	Starch content
TP/BH1	1200	N/A	N/A
BH2 [remote to rear]	1800	Pomoideae gp.	Present

Pomoideae gp. include apple, cotoneaster, hawthorn, pear, pyracantha, quince, rowan, snowy mespil and whitebeam

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 1.2m bgl in TP/BH1 and to 1.8m bgl in the remote BH2 at the rear and recovered samples from BH2 have been positively identified (using anatomical analysis) as Pomoideae gp. Given the remote nature of the borehole and the absence of damage at the rear, these roots are not considered relevant to the damage to the front of the building. No root analysis results are available for any of the samples retrieved at TP/BH1 at the front of the property.

Our survey has therefore identified vegetation within influencing distance of the building with a current potential to influence soil volumes below foundation level the most significant of which in relation to the current damage is T2 Cypress combined with nearby shrubs of SG2 group. There is also a potential influence from the Local Authority owned T3 and T4 London Planes however this is equivocal at present.

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. Having considered the information currently available, it is our opinion that T2 Cypress combined with nearby shrubs of SG2 group are the likely principal cause of the current subsidence damage.

If an arboricultural solution is to be implemented to mitigate the influence of the implicated trees/vegetation we recommend that T2 Cypress and the nearby shrubs of SG2 group are removed. 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 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.

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

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T2	Cypress	6.5	320	3.0	8.2	Younger than Property	Policy Holder
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
SG2	Mixed spp. group of mostly Euonymus, Jasmine and Bottlebrush	2.0	60	2.0	0.5	Younger than Property	Joint Boundary Policy Holder & 35 Park Avenue South N8 8LU
Management history		Subject to past management/pruning - appears regularly trimmed.					
Recommendation		Remove (fell) all within 1.5m of the building to near ground level and treat stumps to inhibit regrowth.					

Ms: multi-stemmed * Estimated value

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

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Eucalyptus	3.5	180 *	3.0	5.3	Younger than Property	Third Party 35 Park Avenue South N8 8LU
Management history		Subject to past management/pruning – very recently crown reduced.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T3	Plane (London)	7.5	560	4.5	11.1	Younger than Property	Local Authority
Management history		Subject to past management/pruning – very recently pollarded at current dimensions.					
Recommendation		No works required at present (subject to review if movement persists).					
T4	Plane (London)	8.0	610	4.0	12.7	Younger than Property	Local Authority
Management history		Subject to past management/pruning – very recently pollarded at current dimensions.					
Recommendation		No works required at present (subject to review if movement persists).					
SG1	Bamboo and Honeysuckle group	2.5	10	5.5	1.4	Younger than Property	Third Party 35 Park Avenue South N8 8LU
Management history		No significant past management noted.					
Recommendation		Maintain broadly at no more than current dimensions by periodic pruning.					
CG1	Ivy group	2.0	40 Ms *	4.0	0.1 *	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.					

Ms: multi-stemmed * Estimated value

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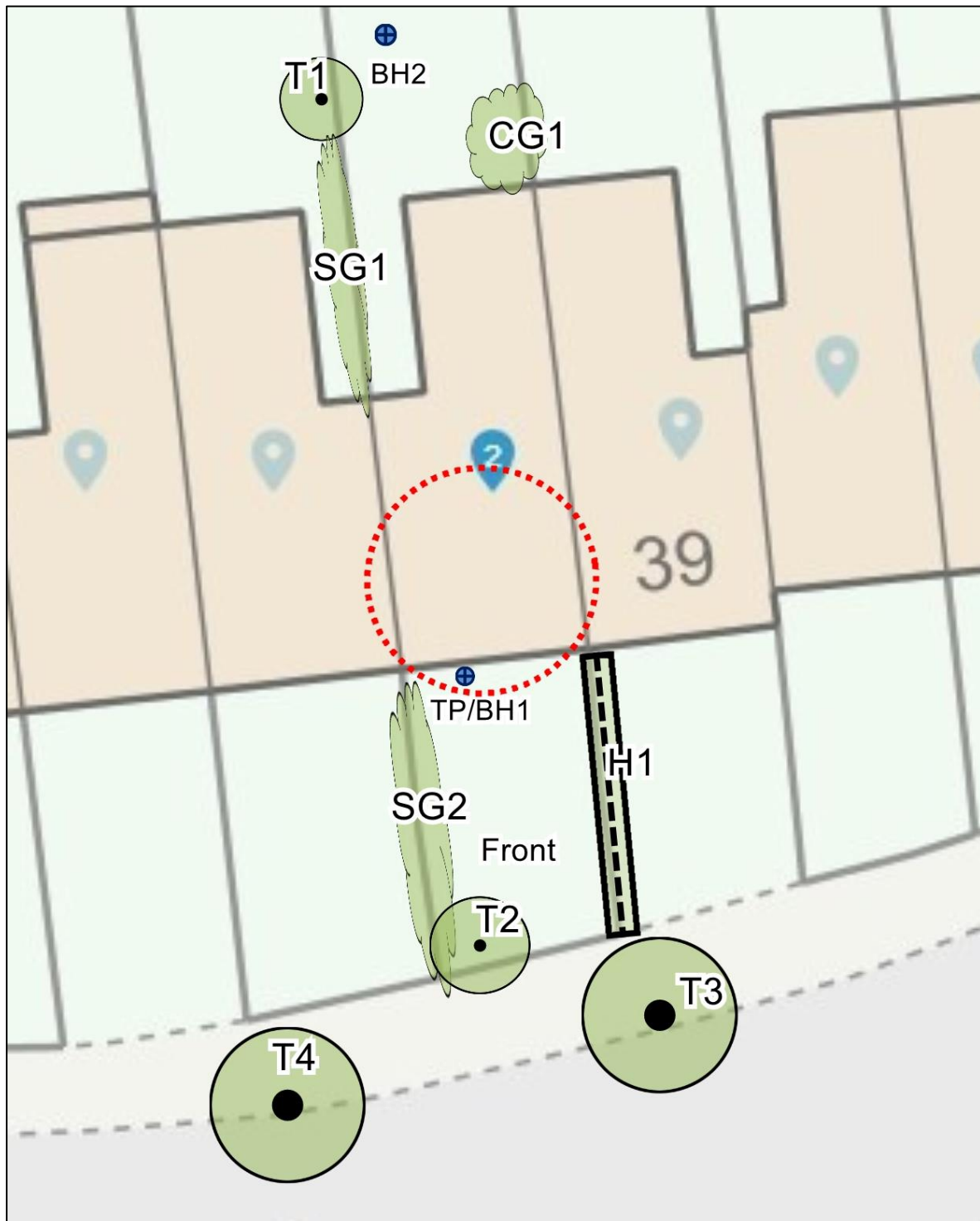
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Table 2 **Future Risk - Tree Details & Recommendations (contd.)**

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
H1	Lonicera hedge	2.0	20 Ms *	1.5	1.7	Younger than Property	Joint Boundary Policy Holder & 39 Park Avenue South N8 8LU
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

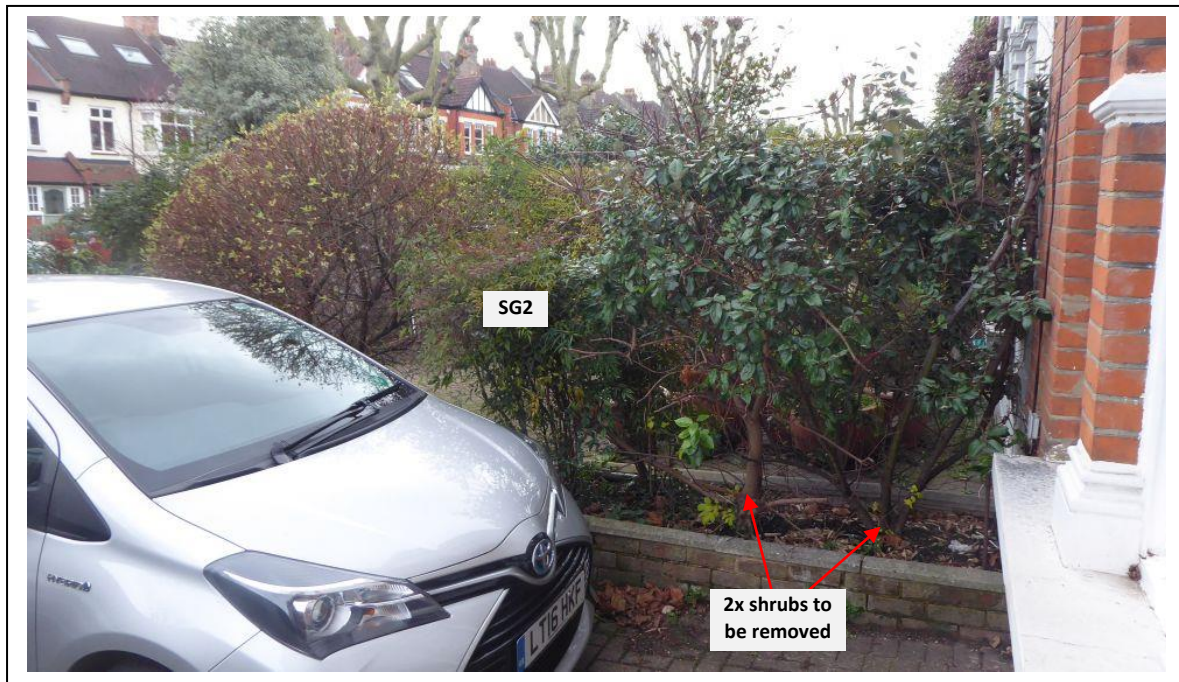


Approximate areas of damage

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Images



View of SG2 group with shrubs to be removed annotated



View of T2 Cypress with SG2 group visible to right of frame and T3 and T4 London planes visible to rear

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Overview of T2 Cypress, T3 and T4 London planes with SG2 group and H1 hedgerow visible beyond