Arboricultural Consultancy for Aviva - Commercial

Note: This report is intended for use between the client, Environmental Services and any parties detailed within the report. It is based on the understanding at the time of visiting the property that Engineers are satisfied that damage is attributable to clay shrinkage subsidence exacerbated by vegetation.

1. Case Details

Insured	[redacted]	Address	33 Belsize Park, London, NW3 4DX		
Client	Subsidence Management Services	Contact	[redacted]	Claim No.	[redacted]
ES Ref	[redacted]	Consultant		Contact No.	
Report Date	06/04/2023 **Revised:** 02/11/2023				

Scope of Report: To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action and assess initial mitigation and recovery prospects. The survey does not make an assessment for decay or hazard evaluation. This is a revised report updating management advice based on a review of recent site investigations.

2. Property and Damage Description

The insured structure is a 3 storey semi-detached house (converted into flats) with full basement. The property occupies a level site with no adverse topographical features.

We understand that the current damage is indicative of downward and rotational movement to the front of the property, relative to the remainder of the building. All observations are referenced standing looking at the front of the property.

3. Technical Reports

No technical investigations are available at the time of reporting, therefore assumptions outlined in Note above apply: recommendations may be subject to change following evaluation of any investigations that may be forthcoming.

4. Action Plan

Mitigation	
Insured involved?	Yes
Local Authority involved?	No
Other third party Mitigation involved?	Yes
Recovery	
Is there a potential recovery action?	Yes

Treeworks	
Local Authority	
TPO / Conservation Area / Planning Protection Searches	Awaiting Searches from LA
Additional Comments	
Awaiting Further Instructions. A potential recovery action has been identified. Engineers should consider focusing investigations to strengthen factual evidence for disclosure to third party tree owners.	

5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Subsidence Management Services have concluded, on a preliminary basis, that the current damage is due to differential foundation movement exacerbated by moisture abstraction from vegetation growing proximate to the property's foundations.

The conditions necessary for clay shrinkage subsidence to manifest have been established by site investigations and roots have also been recovered below foundation depths (TP/BH1, TP/BH3 & TP/BH4).

Samples of the roots recovered from underside of foundations have been identified (using anatomical analysis) as having emanated from the genera Acer spp. & Ligustrum spp.

Given the above, vegetation is deemed to retain the capacity to be causal to the current movement / damage.

[redacted]

We have therefore been instructed to assess the potential for vegetation to be influencing soil moisture levels beneath the foundations of the property and, if deemed appropriate provide management proposals which will return long-term stability and allow effective repairs to be undertaken.

In assessing the potential drying influence of the vegetation on site, we have considered, in addition to the above, species profile, normally accepted influencing distance and the position of vegetation relative to the observed damage.

Our survey of the site identified T3 (Maple) and H4 (Privet) which, in our opinion, will be the source of the Acer spp. & Ligustrum spp. roots recovered, and as such we have identified them as the primary cause of the current movement / damage.

However, whilst not positively implicated by root analysis, the Cordyline (T2) cannot be discounted as contributing to the overall level of soil drying proximate to the area of damage and is therefore also considered to retain a contributory influence, albeit in a limited / secondary capacity when compared to the above.

The size and proximity of the above vegetation is consistent with the advised location(s) of damage and it is our opinion, on balance of probability, that roots from the above vegetation will also be in proximity to the footings of the insured property.

Note: additional minor vegetation has been noted on site and, depending on trial-pit location may be identified within future site investigations; however, unless specifically identified within this report, these plants are not deemed material to the current claim nor pose a significant future risk.

Given the above and considering the suspected mechanism of movement, in order to mitigate the current damage thereby allowing soils beneath the property to recover to a position such that an effective engineering repair solution can be implemented, we recommend a program of vegetation management as detailed by this report.

Please refer to Section 6 for management prescriptions.

Preliminary recommendations contained within this report are prescribed on the basis that site investigations confirm vegetation to be causal; management advice is designed to offer the most reliable arboricultural solution likely to restore long-term stability and also facilitate liaison with third-party owners and/or Local Authorities where necessary.

Consequently, we have advocated the complete removal of H4, T2 and T3 as it will offer the most certain arboricultural solution likely to restore long-term stability.

We recommend the role of vegetation and the efficacy of management recommendations be qualified by means of monitoring.

Please note that the footing of the insured property fall within the anticipated rooting distance of additional vegetation which we believe presents a foreseeable risk of future damage and accordingly we have made recommendations in respect of this.

The extent / impact of vegetation management required to restore and maintain long-term stability at this property is acknowledged. However, we consider the impact on the wider public amenity from the proposed tree works is mitigated by the presence of further trees and the scope for replacement planting.

Whilst replacement planting is considered appropriate, due consideration must be given to the ultimate size of the replacement and future management requirements. Species selection should be appropriate for the chosen site and consideration must be given to the ultimate size of the replacement species and any future management requirements.

Is vegetation likely to be a contributory factor in the current damage?	Yes
Is vegetation management likely to contribute to the future stability of the property?	Yes
Is replacement planting considered appropriate?	See above
Would DNA profiling be of assistance in this case?	No

6.0 Recommendations

6.1 Current Claim Requirements

These recommendations may be subject to review following additional site investigations.

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
H4	Privet	1	3.2	2	C - Insured	Maintain as detailed	Remove unpruned section (house side of bin store (see site plan) close to ground level; do not treat stumps due to translocation risk. Where such a risk exists, we advise that any emergent regrowth is removed annually. Maintain pruned section (to rear of storage bins) at reduced dimensions by re-pruning back to points of previous reduction on a 2 year (max) cycle.
T2	Cordyline	1	4	3.5	C - Insured	Remove	Remove close to ground level and treat stump to inhibit regrowth.
T3	Maple	1	5	7	A - Third Party	Remove	Remove close to ground level and treat stump to inhibit regrowth.
Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

* Estimated

[redacted]

6.2 Future Risk Recommendations

These recommendations may be subject to review following additional site investigations.

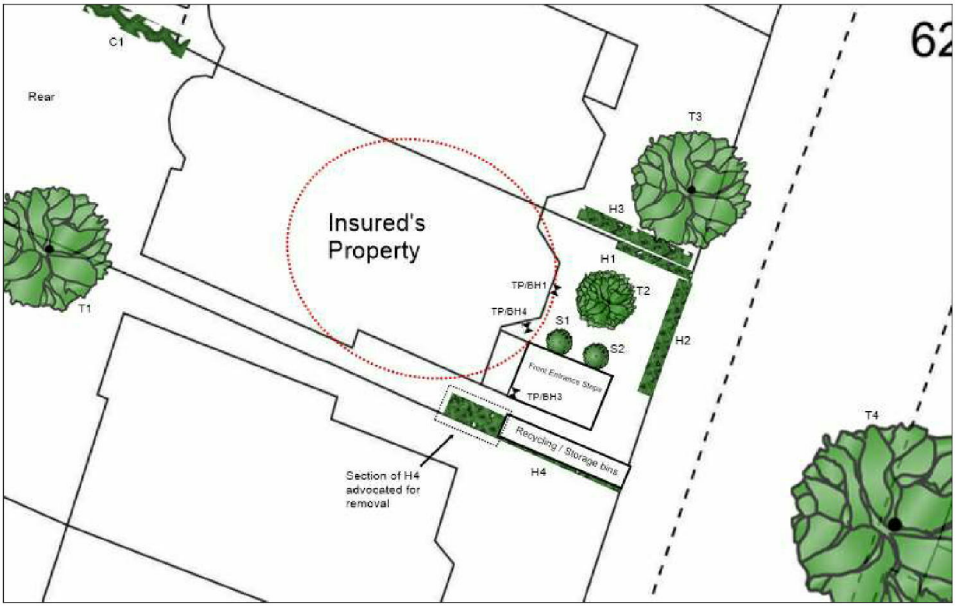
Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
C1	Ivy	1	3	9.5	C - Insured	No action	No works.
H1	Pyracantha	1	2.8	3.7	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
H2	Laurel (Cherry)	1	1.9	6	C - Insured	Action to avoid future risk	Subject to regular management; maintain at broadly current dimensions by way of regular pruning.
H3	Mixed Species Hedge: comprises Yew, Bay and Lilac.	1	2	2.3	A - Third Party	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
S1	Pyracantha	1	2.8	0.2	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning. (distance relates to entrance steps)
S2	Pyracantha	1	2.8	0.2	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning. (distance relates to entrance steps)
T1	Lime	1	12	4.5	A - Third Party	Action to avoid future risk	Subject to regular management; maintain in line with BRE IP7/06 by re-pruning back to points of previous reduction on a 3 year (max) cycle.
T4	Ash	1	22	22	B - Local Authority	No action	No works.
Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

* Estimated

Third party property addresses should be treated as indicative only, should precise detail be required then Environmental Services can undertake Land Registry Searches

[redacted]

7. Site Plan

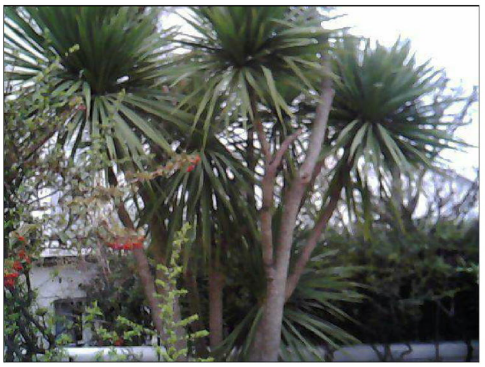


Please note that this plan is not to scale. OS Licence No. 100043218

[redacted]

8. Photographs

C1 - Ivy



T2 - Cordyline

H2 - Laurel (Cherry)

H4 - Privet (recently reduced)

T3 - Maple

T4 - Ash

[redacted]

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T1 - Lime

S1 - Pyracantha

S2 - Pyracantha

H1 - Pyracantha

H3 - Mixed species hedge

[redacted]

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Date: 02/11/2023 Property: 33 Belsize Park, London, NW3 4DX

9. Tree Works Reserve - Does not include recommendations for future risk.

Insured Property Tree Works	[redacted]
Third Party Tree Works	
Provisional Sum	

- The above prices are based on works being performed as separate operations.
- The above is a reserve estimate only.
- Ownerships are assumed to be correct and as per Section 6.
- A fixed charge is made for Tree Preservation Order/Conservation Area searches unless charged by the Local Authority in which case it is cost plus 25%.
- Should tree works be prevented due to statutory protection then we will automatically proceed to seek consent for the works and Appeal to the Secretary of State if appropriate.
- All prices will be subject to V.A.T., which will be charged at the rate applying when the invoice is raised.
- Trees are removed as near as possible to ground level, stump and associated roots are not removed or included in the price.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future regrowth. Should this occur we would be pleased to provide advice to the insured on the best course of action available to them at that time. Where there is a risk to other trees of the same species due to root fusion, chemical control may not be appropriate.

10. Limitations

This report is an appraisal of vegetation influence on the property and is made on the understanding that that engineers suspect or have confirmed that vegetation is contributing to clay shrinkage subsidence, which is impacting upon the building. Recommendations for remedial tree works and future management are made to meet the primary objective of assisting in the restoration of stability to the property. In achieving this, it should be appreciated that recommendations may in some cases be contrary to best Arboricultural practice for tree pruning/management and is a necessary compromise between competing objectives.

Following tree surgery we recommended that the building be monitored to establish the effectiveness of the works in restoring stability.

The influence of trees on soils and building is dynamic and vegetation in close proximity to vulnerable structure should be inspected annually.

The statutory tree protection status as notified by the Local Authority was correct at the time of reporting. It should be noted however that this may be subject to change and we therefore advise that further checks with the Local Authority MUST be carried out prior to implementation of any tree works. Failure to do so can result in fines in excess of £20,000.

Our flagging of a possible recovery action is based on a broad approach that assume all third parties with vegetation contributing to the current claim have the potential for a recovery action (including domestic third parties). This way opportunities do not "fall through the net"; it is understood that domestic third parties with no prior knowledge may be difficult to recover against but that decision will be fully determined by the client.

A legal Duty of Care requires that all works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998:2010 *"Tree Work. Recommendations"*.

[redacted]