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Note(1): This reduced format report is an initial appraisal only and may have been produced without the benefit of site investigations. It is intended for use between the client, Environmental Services and any parties detailed within the report. It is based on the assumption that Engineers are satisfied that current damage is due to clay shrinkage subsidence attributable to vegetation.

## 1. Case Details

| | | | | | |
|---|---|---|---|---|---|
| **Insured** | Mr & Mrs Coveney | **Address** | 11 Shirlock Road, London, NW3 2HR | | |
| **Client** | GAB Robins | **Contact** | Roger Lowe | **Claim No.** | B1426953 |
| **MT Ref** | NL/0212141509/TP | **Consultant** | Thomas Peppiatt | **Contact No.** | 0330 380 1036 |
| **Report Date** | 24/12/2014 | | | | |

**Scope of Report:** To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action, initiate mitigation action and assess recovery prospects. The survey does not make an assessment for decay or hazard evaluation.

## 2. Property and Damage Description

The insured structure is a 2 storey mid-terrace house. The property occupies a level site with no adverse topographical features.

Damage relates to the front elevation of the insured dwelling.

## 3. Technical Reports

In preparing our report we have had the benefit of the following technical investigations:

| | | | | | |
|---|---|---|---|---|---|
| Soil Analysis | ☒ | Drain Report | ☒ | Foundation Detail | ☒ |
| Root Analysis | ☒ | Borehole Log | ☒ | | |

## 4. Action Plan

| **Mitigation** | |
|---|---|
| Insured involved? | Yes |
| Local Authority involved? | Yes |
| Other third party Mitigation involved? | Yes |
| **Recovery** | |
| Is there a potential recovery action? | Yes |

| **Treeworks** | |
|---|---|
| Is there any statutory protection? | Insured: Conservation Area<br>Adjacent & Adjoining properties: TPO and Conservation Area |

**Additional Comments**

Awaiting Further Instructions.

A potential recovery action has been identified.

## 5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that GAB Robins engineers are satisfied that damage is due to clay shrinkage subsidence exacerbated by vegetation.

We have been instructed to advise on the causal vegetation and to deliver management proposals which will provide on-going and long term stability allowing repairs to be undertaken.

Site Investigations indicate that the foundations to the property extend to a depth of 410mm in TP/BH1 and bear on to a substrate described as CLAY.

NHBC chapter 4.2 (2010) categorises the supporting subsoil as being of HIGH plasticity, i.e. capable of volumetric change potential in response to moisture content.

Atterberg testing for soils recovered in TP/BH1 record moisture values at / below plastic limit.

Desiccation of the underlying clay strata is suggested by an abnormal soil moisture content profile (BRE 412).

Roots recovered from TP/BH1 have been formally identified as Pomoideae gp. The most likely origin of the roots is T3 (Sorbus). Such circumstances confirms the potential for T3 (Sorbus) to influence soil volumes and to contribute to the damage observed.

Sample trial pits are generally small in size and the recovery of roots from such a small hole leads us to conclude that these will not be isolated roots.

There is currently no positive root identification to implicate T4 (Strawberry Tree), however based on our assessment on site we consider that the footings of the subject property fall within the anticipated rooting zone of this vegetation.

A survey of the property's drainage system has been undertaken and although defects were recorded, moisture contents track consistently closer to plastic limit than liquid limit which suggests the soil is dry the load bearing capacity of the soil has not been compromised.

Given the above information, results of site investigations, and when considered on balance of probability, the identified vegetation is considered causal. A program of vegetation management is therefore appropriate with a view to restoring stable conditions.

In assessing the potential drying influence of the vegetation on site, T3 (Sorbus) is considered the dominant feature and accordingly we have identified them as the principal cause of subsidence. T4 (Strawberry Tree) is also considered to retain a contributory influence.

Please refer to Section 6 for management prescriptions.

Whilst we have given consideration to pruning as a means of mitigating the vegetative influence, this has been discounted.

Pruning is generally ineffective and in the context of the current claim we consider the above vegetation too large and close for pruning to be effective.

There is insufficient space to reasonably support a replacement planting at this exact location, although scope exists to replant elsewhere; an alternative location should be possible to find. Species selection should be appropriate for the chosen site and ultimate tree height should not exceed 75% of the available distance to built structures.

We recommend the efficacy of the management recommendations be qualified by means of further monitoring to confirm stability.

At the time of our survey it was not possible to ascertain the exact ownership of all vegetation. Further consultation with those involved and/or Land Registry searches may therefore be required to identify exact ownership.

| | |
|---|---|
| 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? | No |
| Does the potential of **ground heave** need to be assessed by Consulting Engineers before management recommendations are implemented? | No |
| Will implementation of the management recommendations result in significant amenity loss? | No |
| Would DNA profiling be of assistance in this case? | No |

## 6.0 Recommendations

## 6.1 Table 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 |
|---|---|---|---|---|---|---|---|
| T3 | Sorbus | 1 | 7.5 | 6.1 | B - Local Authority | Remove | Remove. |
| T4 | Strawberry Tree | 1 | 8 | 5 | A - Third Party No 13 Shirlock Road. London. NW32HR. | Remove | Remove and treat stump to inhibit regrowth. |
| **Age Cat**: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property | | | | | | | |

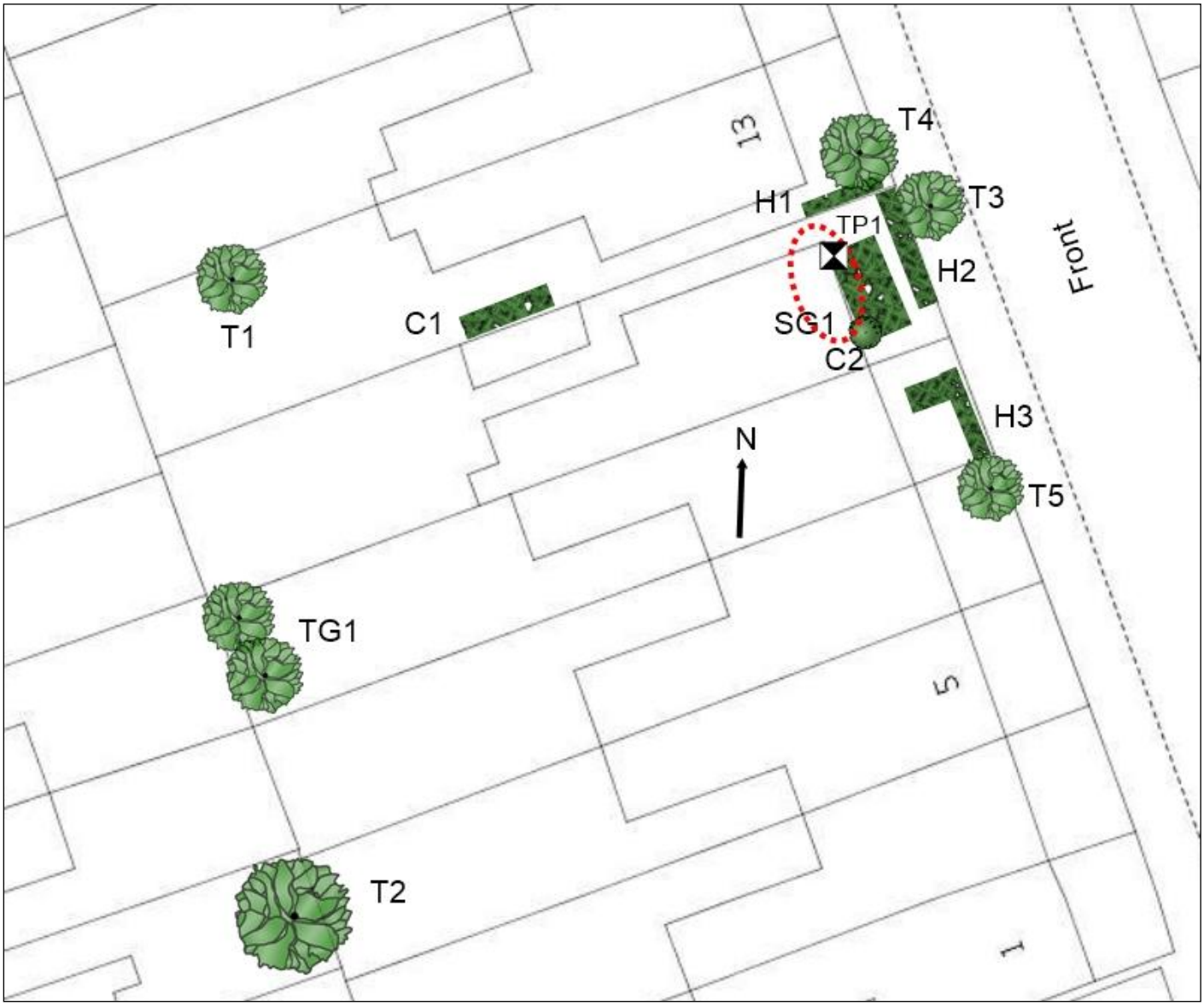
## 6.2 Table 2 - Future Risk Recommendations

| Tree No. | Species | Age Cat | Approx. Height (m) | Distance to Building (m) | Ownership | Action | Requirement |
|---|---|---|---|---|---|---|---|
| C1 | Hydrangea | 1 | 2.5 | 2 | A - Third Party No 13 Shirlock Road. London. NW32HR. | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| C2 | Rose | 1 | 4 | 0 | C - Insured | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| H1 | Elaeagnus | 1 | 1.5 | 1.4 | A - Third Party No 13 Shirlock Road. London. NW32HR. | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| H2 | Privet | 1 | 1.4 | 2 | C - Insured | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| H3 | Privet | 1 | 1.6 | 3.8 | A - Third Party No 9 Shirlock Road. London. NW32HR. | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| SG1 | Mixed species group | 1 | 1.5 | 0.3 | C - Insured | Action to avoid future risk | Reduce to 1m height and maintain at reduced dimensions. |
| T1 | Birch (Silver) | 1 | 12 | 12.2 | A - Third Party No 13 Shirlock Road. London. NW32HR. | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| T2 | Acer | 1 | 17 | 20* | D - Unknown | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| T5 | Magnolia | 1 | 5 | 7.6 | A - Third Party No 7 Shirlock Road. London. NW32HR. | Action to avoid future risk | Do not allow to exceed current dimensions by way of regular pruning. |
| TG1 | Lime | 1 | 6 | 14 | A - Third Party No 9 Shirlock Road. London. NW32HR. | Action to avoid future risk | Do not allow to exceed 11m height by way of regular pruning. |
| **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

## 7. Site Plan




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

## 8. Photographs

TG1 - Lime

T5 - Magnolia

H2 - Privet

H3 - Privet

T2 - Acer

T1 - Birch (Silver)

CG1 - Hydrangea

T4 - Strawberry Tree

T3 - Sorbus

H1 - Elaeagnus

SG1 - Mixed species group

C2 - Rose

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

| | |
|---|---|
| Insured Property Tree Works | £0 |
| Third Party Tree Works | £720 |
| Provisional Sum | £0 |

- 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.
- Stump removal is not included within the above price, and would be an additional charge if required. Where this is requested please note that responsibility cannot be accepted for damage to underground services unless these are identified prior to the works being undertaken.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future re-growth. 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 intended as a preliminary appraisal of vegetation influence on the property and assumes 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.

Any connection between the structural damage to the property and trees will require the clear identification of shrinkable clay soils below foundation depths. Following tree works we recommended that the building be monitored to establish the effectiveness of the works. Should sufficient stability not be achieve this may be indicative of the fact that an Arboricultural solution is not possible in isolation.

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".***