TREE PRESERVATION ORDER: H3-T55 Lime 19.08.63

TREE of MWA Arboricultural Report

Works – Pollard to previous pruning heads and repeat on a biennial cycle.

Reason: The above tree is considered to be responsible for root induced clay shrinkage subsidence damage to Flat 1, 26 Canfield Gardens, London NW6 3LA.

Investigations in to the damage have been conducted and the following information/evidence obtained:

1. Engineering opinion is that damage is due to clay shrinkage subsidence. Details of the damage are included in the Crawford Technical report submitted.

2. Foundations are bearing on to clay.

3. Site investigations and soil test results have confirmed a plastic clay subsoil susceptible to undergoing volumetric change in relation to changes in soil moisture.

4. A comparison between moisture content and the plastic and liquid limits suggests moisture depletion in BH2 (June 2019).

5. Roots were observed to a depth of 1700mm bgl in TP/BH1 and recovered samples have been positively identified (using anatomical analysis) as Tilia spp., the origin of which will be T1 (Lime) confirming its influence on the soils below the foundations.

6. The observed moisture depletion is coincident with recorded root activity at depths beyond ambient soil drying effects and entirely consistent with the soil drying effects of the implicated Lime.

7. Level monitoring (11.05.19 to 10.12.20) has recorded building movement consistent with volumetric change of the clay below foundation level. As movements are of low amplitude, repollarding is concluded to be proportionate as opposed to removal.

8. The drains have been surveyed has not been undertaken. Drains can be discounted as a causal factor given to the level monitoring data.

9. No tree works have been carried during the period of the claim or in the recent past in relation to the damage to the front of the building.

10. No recent structural alterations or building works have been carried out. The property has not been underpinned.

11. A root barrier has been considered as an alternative to tree removal. This is unlikely to be a viable option due to the proximity of the trees to the building and the potential for destabilising the trees and building.

[redacted]

12. The evidence confirms that on the balance of probabilities the subject tree is a material cause of the subsidence damage.

13. Superstructure repairs and decorations are currently estimated to be £4k should the tree works be undertaken. Costs for underpinning in the event the tree works do not proceed are currently estimated to be [redacted]

SUBSIDENCE CHECK LIST

- A description of the property, including a description of the damage and the crack pattern, the date that the damage first occurred/was noted, details of any previous underpinning or building work, the geological strata for the site identified from the geological map.
  Technical Report and Site Investigation Report provided
- Details of vegetation in the vicinity and its management since discovery of the damage. Include a plan showing the vegetation and affected building.
  MWA Arboricultural Report provided
- Measurement of the extent and distribution of vertical movement using level monitoring. Where level monitoring is not possible, state why and provide crack monitoring data. Data provided must be sufficient to show a pattern of movement consistent with the presence of the implicated tree(s)
  Level Monitoring provided
- A profile of a trial/bore hole dug to identify foundation type and depth and soil characteristics.
  Site Investigation Report provided
- The sub-soil characteristics including soil type (particularly that on which the foundations rest), liquid limit, plastic limit and plasticity index
  Site Investigation Report provided
- The location and identification of roots found. Where identification is inconclusive, DNA testing should be carried out.
  Site Investigation Report provided
- Proposals and estimated costs of options to repair the damage.
  Addendum Technical Report provided

[redacted]