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CA3559.01

22 September 2016

Kate Stirling
1 Marquis Road
London NW1 9UD

Dear Ms Stirling,

1 Marquis Road – 22a Cantelowes Road, London NW1.

We write following your instruction that we comment on the two sycamore trees that are growing in the rear of your neighbour's property - 22a Cantelowes Road. You are concerned about the structural damage, in the form of brickwork cracking and other movement, taking place in the single story house, which was formally a garage, to the left of the main terrace of houses in Marquis Road.

These are shown on your Arboriculturalist's site plan, which we attach at our fig one. We estimate the two sycamore trees to be 1.8 m and 6.4 m away from your single story building and that they are both in excess of 15 m high.

The geological map for the area (and our experience of the ground locally) shows that the property is founded on London Clay. As you are likely to be aware this clay can change in volume when its moisture content changes. If it gets drier, it shrinks and it gets wetter, it can expand. This movement, below your property, can cause structural damage to the property.

NHBC guidelines for trees adjacent to properties founded in high shrinkable clay's recommend a foundation depth in excess of 2.5 m.

Your single story property, which we understand was formally a garage, is relatively modern (perhaps latter half of last century) and so might be expected have foundations in the order of a metre depth.

As the various photos attached to this report show, the front elevation of the building has suffered from foundation movement. Cracking can be seen around the concrete lintel over the wide opening, which would originally have been the entrance to the garage. The boundary garden wall between the two properties has movement cracks.

Although the boundary wall is 225 mm wide, below the neighbours ground level (approximately 800 millimetres higher than your front ground level), it is only a half brick or 100 mm wide above the higher ground level. This brickwork is badly cracked in places and is potentially unsafe, in particular if lent against.

Internally the property is in good condition and is used as a residence however we did notice plaster cracking, in particular between the junction of the ceilings and the walls.

We recommend that the long-term solution would be to have the nearest tree taken downand the old tree stump that is pushing on the boundary wall, removed; however this action could in itself cause damage.

The trees take a significant amount of water from the ground. Once this stops because the tree is are removed, the moisture content of the clay will increase and the clay could increase in volume, thus resulting in clay heave that could lift your property upwards.

It is generally considered that if a property suffers from clay heave as a result of removing a tree, then the amount of lift will be no worse than the amount of subsidence that has taken place over the lifetime of the tree. As it is likely that these trees did not predate your property, the risk of excessive structural damage is remote although some further damage is likely to take place - possibly to the extent that the existing cracks close up somewhat.

In order to reduce this problem, we recommend that you have only the tree nearest your property taken down, thus limiting the risk of clay heave to your property.

With the possible exception of the boundary wall, we are happy that the structure of the single story house is perfectly safe. The cracks do however risk letting water into the property and could promote further damage in the winter, as any water in the cracks expands and possibly cracks the brickwork.

Should you become aware that either of these problems is occurring, you should have the cracking made good, either by

injecting a sealant or by injecting an epoxy resin into the crack, to tie the brickwork together.

We have that the above is of assistance to you and to your Arboriculturalist. Please do not hesitate however to contact us should you or they have any queries.

Yours sincerely,

[redacted]

Martin Cooper,
Cooper Associates.

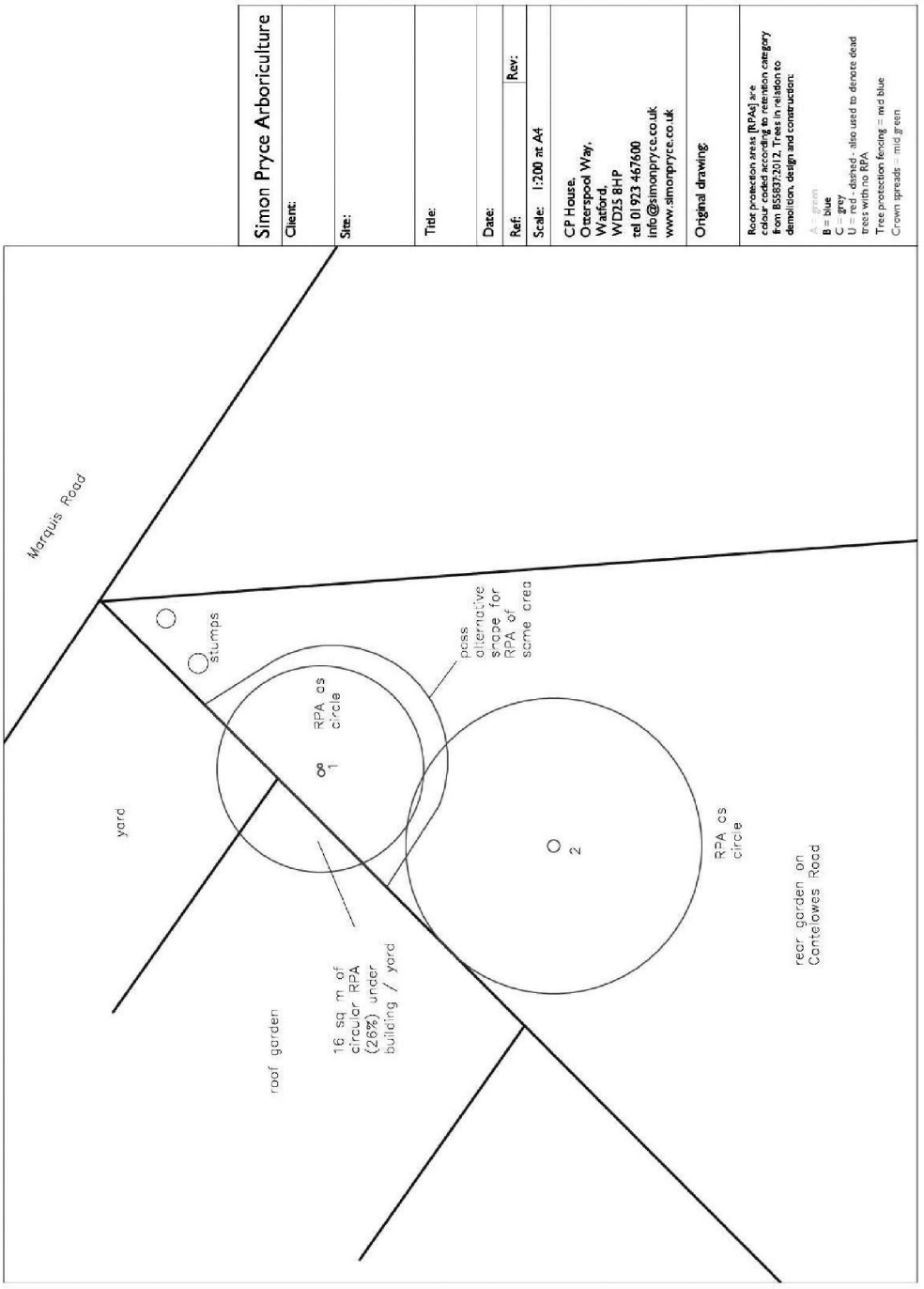

Fig 1:
Basic plan layout showing your property and the adjacent trees.

Photo one: shows property from the road, with trees to the left.

Photo two: shows left hand boundary wall with cracking. Lower section is 225 mm thick brickwork; the upper more modern section is 100 mm thick.

Photo three: shows cracking around the right-hand bearing of the main lintel.

Photo four, shows diagonal cracking above the left-hand bearing of the lintel.