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Dear Ben and Amy,

**56 Belsize Avenue, London NW3**

You will be aware that we have been asked by Ian to visit the site to inspect the damage to the front and rear walls and to consider the affect trees in the front and rear gardens have had on the house. We visited the site on Tuesday 25<sup>th</sup> May 2010 and carried out a purely visual inspection of the external elevations of the front, rear and flank walls of the house.

The house is four storeys including a basement but the gardens at front and rear are at ground floor level. The geological map for the area identifies the underlying soil as London Clay.

There are three very large trees in the back garden at a distance of approximately 9 metres from the nearest section of rear wall. Two of the trees appear to be Poplars and the other is a Yew tree. The taller of the Poplars is at least 12m tall.

There are some cracks apparent in the rear wall adjacent and below the existing door. There are also some cracks in the lintel over the same door. One brick of the brick arch lintel over the same door has dropped by about 50mm.

There is also a number of cracks around the lintels and openings on the side elevation of the rear extension.

There is one Ash tree in the front garden approximately 6 metres from the front wall. There are a few areas in the front wall that appear to have been repaired at some point but no obvious cracks in the walls.

The flank wall does not appear to have any obvious cracks but does appear to be leaning slightly out away from the house at high level.

The most surprising issue about the damage apparent in the walls of the house is that there is so little damage given the nature of the ground and the proximity of the trees.

The Poplars, for example, are classified by the NHBC guidelines as being a high water demand tree and can grow up to 25 to 30 metres high. They are very likely to have caused the damage to the rear elevation walls and will continue to cause greater damage as the trees grow to maturity. One of the Poplars is leaning towards the rear neighbours garden. It is possible that it is becoming unstable because its roots are unable to grow evenly due to the proximity of the basement of the house interrupting the clear path of its roots.

The front Ash tree is classified as a medium water demand tree but can grow to up to 23 metres tall. It is very close to the front of the house and will continue to damage the house as it matures. There is already evidence of damage on the front wall that has been repaired.

If the trees at the front and rear are going to continue to grow, they will continue to be a threat to the integrity and stability of the walls of the house.

The walls are damaged by the trees as a result of the following mechanism. The trees draw moisture from the ground causing the clay sub-soil to dry out and shrink. This, in turn, causes the foundations of the house to subside and thus results in the damage apparent in the face of the walls. This tends to be a seasonal affect and the cracks will worsen at certain times of the year.

Unfortunately removing the trees is not necessarily going to prevent further damage. The ground around the trees and under the house is likely to be desiccated so once the trees have been removed the clay will return to its natural moisture content causing the ground to swell as the water pressure within the clay increases. The foundations will therefore be lifted and further damage is likely. This damage will happen over a limited period of time and the extent of it depends on the degree of desiccation and the natural moisture of the ground.

We would recommend that a site investigation in the form of boreholes in the front and rear gardens is carried out to establish the exact nature of the sub-soil and the degree to which the ground has become desiccated.

We also understand that an Arboriculturist is to prepare a report on the condition of the trees and their effects on the ground and the house. We would agree that this report will also be very beneficial and may go towards confirming the assumptions we have made.

We trust the above is self-explanatory but please do not hesitate to contact us if you need any further information or clarification.

Yours sincerely

A handwritten signature in black ink, appearing to read 'G. Povey'.

Gary Povey  
For Elliott Wood Partnership LLP

cc. Ian Hay