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Ayad A-Tuhafi Architects

**19 Park Village West
London NW1**

ARBORICULTURAL INSPECTION REPORT

March 2012

TMC Ref: 11058R



Instructions

I am instructed to inspect and report on one London plane tree at the above site. The purpose of my inspection was to determine the tree's condition and its involvement in damage to an adjacent boundary wall. I have seen the report of Malachy Walsh and Partners Consulting Engineers indicating the condition of the wall and various plans and photographs. My inspection was undertaken from ground level. Where necessary, samples may have been taken for identification and minimally invasive techniques used to determine the extent of any decay or structural defects within the tree.

Client: Ayad A_Tuhafi Architects
62 Upper Montagu Street
London
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Inspection Date: 7 November 2011

Inspected by: R D D Grainger DipArb(RFS) MICFor FArborA

Our Ref: 11058R

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- 1 Site and Surroundings
- 2 Tree Inspection
- 3 Appraisal and Recommendations
- 4 Conclusions

Attachments

RG1 London Plane Tree and Boundary Wall - Sections

1 Site and Surroundings

- 1.1 The tree is located in the southeast corner of the front garden of 19 Park Village West immediately adjacent to Park Village West and Albany Street. It is some 10 metres from the house and can be partly seen when approaching along Albany Street from either direction. The ground level within the garden is some 0.8m higher than the surrounding highway and the boundary wall is also acting as a retaining wall. I understand the site is within a conservation area and that the tree is protected by a tree preservation order (TPO).

2 Tree Inspection

- 2.1 The tree is a mature London plane (*Platanus x hispanica*) of 26 metres in height with a trunk diameter (dbh¹) of 135cm and a mean crown spread radius of some 11 metres. The height to the first branch is 9 metres and to the periphery of the crown some 3 metres.
- 2.2 The base of the trunk is flared at ground level, which is not unusual in this specie, and is immediately adjacent to the boundary wall in Park Village West and some 0.5m from the wall adjacent to Albany Street. It also abuts the pier at the corner of the two roads. Damage to the boundary wall and pier are outlined in the report of Malachy Walsh and Partners, dated 15 March 2011. I also noted disruption to the narrow footpath and kerbstones in Park Village West.
- 2.3 The trunk divides into two main stems at some 3 metres above ground level and these two stems support the main structure of the crown. The fork union appears to be of good formation and the crown is well-balanced with no obvious signs of structural defect, disease, or die-back.
- 2.4 To assess the possible age of the tree I have applied a formula based on the trunk diameter² and would estimate its age to be at least 150 years. I have seen various photographs which indicate the tree to be in a mature state some considerable time ago.
- 2.5 I suspect the tree was present when the boundary wall was originally constructed in the late 19th or early 20th century. At that time some tree roots may have been severed or were too small to inhibit construction. The feeding roots of trees are generally in the upper 1 metre of the soil and over the years will have grown down the inside of the boundary wall and under the footings into the surrounding highway. Anchorage roots purchase on fixed objects and structures in the soil to aid stability.

¹ Diameter breast height - 1.5 metres

² Mitchell - 1974

3 Appraisal

- 3.1 I have seen the various plans and photographs indicating damage to the boundary wall. Appended as RG1 is an extract of the engineer's drawings which show the trunk of the London plane tree and displacement of the boundary wall³. Clearly the growth of the trunk and, I suspect, roots on the inside of the wall, are causing this displacement. Furthermore, I would be surprised if the footings of the wall have not been damaged and lifted by the tree's roots. In the same way the corner pier has also been damaged by the tree's trunk and roots.
- 3.2 I note that if the wall is to be restored it would be rebuilt on the boundary as indicated on the engineer's plans. On an extract of this plan⁴ I have indicated the dimensions of the trunk at ground level within the garden. This shows that the wall cannot be rebuilt in its current location without cutting into the trunk and main roots running down the inside of the wall. The same applies to the corner pier.
- 3.3 Furthermore, the additional depth of foundation and reinforcement would sever any anchorage roots crossing below the existing footing and into the surrounding highway. Deciduous trees support themselves in tension and this tree is exposed to the southwest. The roots under the wall are therefore vitally important in maintaining the tree's stability. Indeed, field studies⁵ have shown that even for trees of 85cm trunk diameter the minimum root plate radius should be some 3 - 4 metres to maintain stability.
- 3.4 In the event of the wall and pier being reconstructed further from the trunk, it would need to be at least 1 meter from the base of the trunk to allow for the increasing girth and buttress root expansion. In this event, any major root would need to be bridged by the footings to maintain the tree's stability.

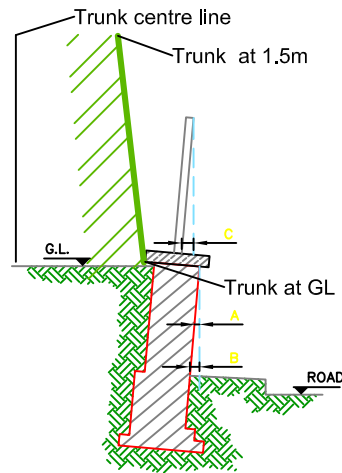
³ RG1 - Section - Wall movement

⁴ RG1 - Section thru Proposed Perimeter Wall

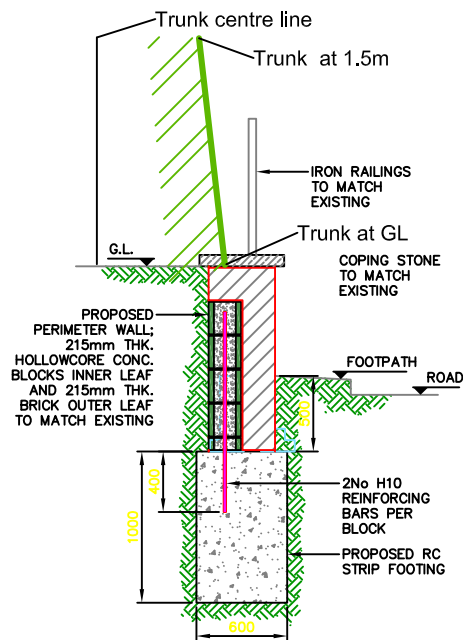
⁵ Mattheck & Breloer - 1994

4 Conclusions

- 4.1 Clearly, it is impractical and would be severely damaging to the health and stability of the tree to reconstruct the wall and corner pier in its current location. To move the wall's location, which in my assessment should be a minimum of 1 metre from the trunk at ground level, and bridge any major roots, is also impractical as it would encroach onto highway land and the carriageway of Park Village West.
- 4.2 The only options are therefore either to remove the tree and rebuild the wall on the boundary line or retain the tree and demolish the wall. The latter option raises a further problem in that the garden is some 0.8m higher than the public highway and the soil within the garden would therefore need to be retained in some way.



WALL MOVEMENT ANNOTATION



TYP. SECTION THRU' PROPOSED PERIMETER WALL

Client:
AyAd A-Tuhafi Architects

Site:
19 Park Village West
London
NW1

Title: London Plane Tree & Boundary Wall
Sections

Scale: 1:50 (@A4)
Date: 12 March 2012
Ref: TMC-11058-S
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