

Introduction

South Hampstead Synagogue Tree Condition Survey

Introduction

Eight Associates have been instructed by Wates Group to carry out a tree condition survey in relation to a Tree of Heaven, *Ailanthus altissima* at South Hampstead Synagogue, 21-22 Eton Villas, London, NW3 4SG. The building on the site is currently being demolished to make way for a new synagogue. As part of the works undertaken, a wall was removed that constituted part of a planter structure containing the tree. This revealed the root structure of the tree and led to concerns over the stability of the tree.

The trees in relation to the site and the proposed construction had been previously considered within an Arboricultural report by Crown Consultants in November 2013. This report was compliant with B.S.5837 and discusses the *Ailanthus altissima*, referred to in the report as T4.

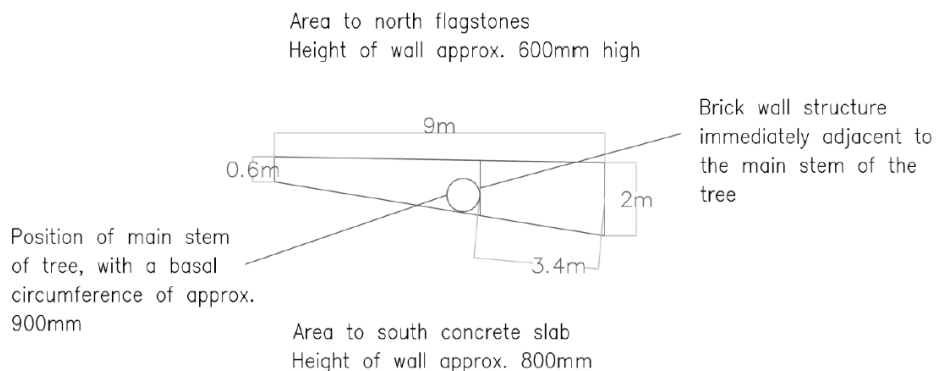
Oliver Booth, an experienced arboriculturalist, carried out a tree condition survey on the 7th March 2017 to assess the tree's current status. This report describes the finding of the survey, and specifies mitigation in relation to works to enable the retention of the tree, which is categorised as an A category tree.

Tree Preservation Orders (TPO) and Conservation Areas (CA)

It is understood that the tree falls within Eton Conservation Area administered by London Borough of Camden. It has not been ascertained whether the tree has been afforded a Tree Preservation order consequent to the current development.

Tree of Heaven, *Ailanthus altissima*

The *Ailanthus altissima* is situated within a planting structure the dimensions of which, and its position within, are given in the following diagram:



Please see the Appendix of this report for photos of the tree in question.

Visual Tree Assessment South Hampstead Synagogue Tree Condition Survey

Visual tree assessment:

All dimensions and measurements are estimated unless otherwise indicated

Tree no. and Species:	Tree of Heaven, <i>Ailanthus altissima</i> (T4)
Position within the Landscape:	The tree is sited within the boundaries of South Hampstead Synagogue, 21-22 Eton Villas, London, NW3. It is on the corner of Eton Villas and Eton Road and is visible from most aspects.
Surrounding environment:	There are roads to the north and east of the tree with associated footpaths. The tree is adjacent to what was the main entrance to the Synagogue building and its crown extends over the road way to the North.
Targets:	Pedestrians and traffic to the north and east. Those accessing the Synagogue site.
Height:	12m
Stem diameter	(at 1.5m from g/l): 575mm Basal diameter: approx. 900mm
Crown Spread:	North= 6, East= 6, South= 5, West= 6
Age Class:	Mature
Condition of root system:	The root system of the tree was exposed on the southern side only, at the time of inspection. It could be seen that the root growth clearly had been influenced by the position of the surrounding planter. The details of the findings are located within the 'Considerations of Findings' section of this report.
Basal Condition:	The base of the stem does not show signs of decay and has relatively good buttress root development. The proximity of the brick wall structure to the stem does not appear to have distorted the growth of this aspect of the tree.
Condition of stem:	The main stem is relatively straight but leans toward the south at approximately 2.5m. There is an area of occluded tissue on the main stem at 2.5m to the north. This would suggest that the tree had historically grown with two main leaders and that the main leader to the north has been historically removed. The main stem bifurcates at approximately 4m. The union is acute and there is inclusive bark development at this union.
Condition of crown structure:	The main crown has been historically pruned and partially occluded pruning wounds are evident on main laterals to the south of the crown. There are two areas of crossing and rubbing laterals to the north of the crown at approximately 6m height. There is some tip die back evident to the east of the crown constituting less than 5% of the total crown volume.
Condition of foliage and shoot growth:	The tree was out of leaf at the time of the inspection. Shoot development and bud proliferation appear normal.

Tree Inspection Results

South Hampstead Synagogue

Tree Condition Survey

Findings relating to the visible rooting structure of the tree to the south

As part of the development, the brick retaining wall to the south of the tree was removed. The original height of the wall is unknown. Within the previous B.S. 5837 report, photos of the tree and the surrounding area suggest that the wall to the south was approximately 2m and had a shed structure in front of it. It can be seen that the soil level from the base of the tree to the level of the existing concrete slab to the south is approximately 800mm. From what remains of the wall to the south, it can be ascertained that this wall was built on a shallow foundation of brick and concrete approximately 300mm deeper than the concrete slab to the south.

The removal of the wall to the south reveals the consequent root morphology of the tree. This has directly abutted the wall to the south and the immediate wall to the east. The roots have grown directly up to the wall.

The ground immediately beneath the tree cannot be fully established without further extensive investigation. From minor excavations it was revealed that directly below the tree was a level plinth of concrete suggesting that the planter was constructed with a base.

It can be seen to the south of this plinth that one root (approximately 40mm in diameter) does appear to grow deeper into the soils. Again the depth of this root cannot be established without in depth investigation of soils at this point (this issue is discussed in the 'Consideration of Findings' section of this report). The soils within the area are entirely made ground. The comparatively loose soils were filled with various concrete and brick rubble.

What can be established from the observable rooting morphology is that the main root plate has developed to the west and east and not to the south. It would appear, from the soils that can be observed, that rooting depth of the tree is limited. The central position of the observable plinth would negate the ability of the tree to form a significant centralised tap root that would allow significant anchorage of the tree.

There has been damage to a main structural root to the east, presumably as a consequence of removing the wall. This root is situated at a depth of approximately 500mm from the base of the tree and was approximately 200mm in diameter. It appears to have grown beneath the small brick wall immediately adjacent to the tree to the east. It is considered that its morphology was most likely similar to those roots to the west, following the line of the brick built structure.

No excavations were made elsewhere within the root plate of the tree. It is evident from the previous report that the brick structure/ planter previously accommodated other trees, including large laurel shrubs and semi mature Indian bean tree and Lawson Cypress as well as a young Cherry and a Holm Oak. These have since been removed.

Photographs that illustrate the information above are shown in Appendix 1.
