



# Resistograph Report

**Site Address: The Montague on the Gardens, WC1B 5BJ**

**Ref: 026400**

**CSG Usher's Ltd**

Surveyed by James Forrest

Prepared by Scott Cook

**Signed:** \_\_\_\_\_

**Date: 23.02.17**

**CSG Usher's Ltd**

Unit 13 Waterways Business Centre, Navigation Drive, Enfield, Middlesex, EN3 6JJ

**Telephone:** 01992 703 840 – **Email:** [Enquiries@csgushers.co.uk](mailto:Enquiries@csgushers.co.uk)



## Our Findings:

### Introduction:

I visited the site on 22<sup>nd</sup> February 2017 following an instruction in person from the client, Neil Anderson. Recently the tree in the hotel's rear courtyard was heavily reduced following a branch snapping out. During that operation, the climber reported that the tree was heavily unstable from significant basal decay and needed to be removed without delay. The client sought an independent assessment from us which resulted in a Resistograph inspection being carried out to test the structural integrity of the basal area

In essence, a Resistograph lets the user know the structural integrity of the timber under test by measuring the resistance of the wood along a chosen path. Sound wood has a higher resistance than degraded wood and this is displayed on special paper strips that tracks a microdrill as it travels through the tree.

Trees and shrubs are living organisms whose health and condition can change rapidly. The assessment of structural integrity remains valid for a period of two years from the date of this report. The period of validity may be reduced in the case of any alteration to conditions in the proximity of the tree or following exceptional weather conditions. Under these circumstances a re-inspection is recommended.

The tree in question is a twin-stemmed Tree of Heaven (*Ailanthus altissima*) located in the rear, sunken courtyard area which is the area of multiple functions throughout the year as well as being the main outside leisure space for the hotel. As shown by the attached photos, the tree is covered from top to bottom in ivy save for a very small section of clear stem right at the base of the tree. The photos also show the severity of the recent reduction that effectively removed the entirety of the tree's crown.

### Test:

There were no signs of decay or disorder to influence where the test took place although, of course, the vast majority of the tree is shrouded in ivy masking any potential defects. As a result, the base of the tree was chosen given that this is a structurally crucial area of the tree as well as being the only clear section available.

#### Resistogram 1

- Stem diameter  $\approx$  800mm
- Drill length = 400mm
- South / 0.3m above ground level

Resistance along test within expected levels throughout. Wood deemed to be sufficiently sound to provide adequate support. Test stopped early as no anticipation that any degradation would be present any further in to the centre of the tree. Residual wall of

more than sufficient thickness and soundness even if there were a hollow central cavity present.

#### Resistogram 2

- Stem diameter  $\approx$  800mm
- Drill length = 400mm
- North / 0.3m above ground level

Resistance along test within expected levels throughout. Wood deemed to be sufficiently sound to provide adequate support. Test stopped early as no anticipation that any degradation would be present any further in to the centre of the tree. Residual wall of more than sufficient thickness and soundness even if there were a hollow central cavity present.

#### Resistogram 3

- Stem diameter  $\approx$  800mm
- Drill length = 400mm
- West / 0.3m above ground level

Resistance along test within expected levels throughout. Wood deemed to be sufficiently sound to provide adequate support. Test stopped early as no anticipation that any degradation would be present any further in to the centre of the tree. Residual wall of more than sufficient thickness and soundness even if there were a hollow central cavity present.

#### **Conclusion:**

In conclusion, the test gives no indication whatsoever that the integrity of the basal area is compromised in any way. In any case, given the heavy modification to the crown the level of decay would have needed to have been extensive to recommend any further remedial works. With all being well then, cyclical reduction work to remove regrowth every 3 years is the best course of future management.

The only area for immediate concern, however, is the near complete ivy coverage. Not only is it potentially obscuring significant defects from view but it also stands a chance of overwhelming the tree and swamping it to such a degree that the tree is unable to produce viable shoots. In the absence of these the tree will not be able to photosynthesize and will ultimately die as a result. As mentioned, the crown has been all but removed and so the tree will need to put on all new growth and, with an unknown about the vitality of the tree prior to reduction as well as the ivy dominance, there is no guarantee the tree will be able to do this. Therefore, it is recommended as much ivy as is practicable be stripped from the tree within the next 30 days. At the same time an assessment should be made to identify any defects with a particular focus on the condition of the fork between the two main stems. Information and pictures should be relayed to me to judge whether further works or investigations are warranted.

**Follow up visit:**

I made a second visit to the site following the stripping of the ivy was carried out along with a brief inspection from a climbed position. During that inspection, the climber stated that one of the stems appeared dead and recommended a 2m reduction of this stem.

I was asked to return to view the tree, attended on 24<sup>th</sup> May 2017, and found a tree that had failed to flush other than one very small, weak shoot. Often in these circumstances, stronger growth emerges from adventitious buds in the lower crown or the trunk but the ivy is still present in these areas which is preventing the opportunity of this happening. What may occur instead is sucker growth emerging from the root system – evidence of this is already apparent in adjacent land.

It is clear to me that the failure of this tree can be linked directly to the severity of last year's reduction. Any time that a tree's crown is removed totally, as seen in this instance, there is always a chance that the energy required to put on a crown once dormancy ends is greater than the potential energy stored in the root system strains the tree to a point where it cannot recover.

With that being said, the tree is structurally solid – as shown by the Resistograph test carried out 4 months ago – and that, coupled with the absence of a crown to catch the wind, means there is no imminent risk of mechanical failure. There will now be degradation of the timber as fungal colonization is allowed to take hold but this will not be a rapid procedure and so my recommendation is that the tree be felled as close as possible to ground level within 12-18 months of the date of this follow-up report.