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06.02.2020

Resistograph micro-drill decay mapping test report

Site address: 28 St. Edmunds Terrace, London NW8 7QH

1.0. Background:

1.1. This decay mapping investigation was requested by Christopher Hill of Woodland Tree Surgery. The instruction was to test one individual tree located within the communal grounds of the above site.

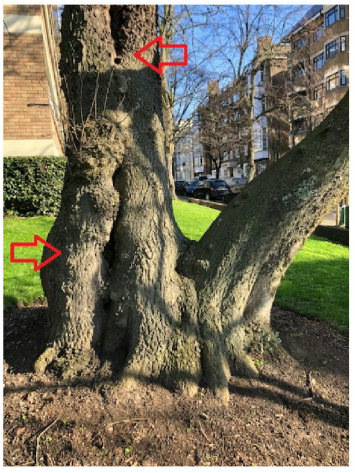
1.2. Accordingly, I inspected the tree on the morning of the 6rd February 2020, whereupon I carried out resistograph micro-drill decay mapping tests. The results of which are to be seen below:

2.0. Test results:

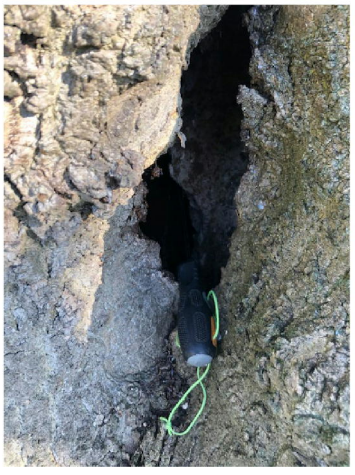
2.1. Tree number: T1
Species: Common Ash – Fraxinus excelsior
Tree location: Roadside location within communal green space/ gardens of a block of residential flats.
Approximate tree height: 16m
Approximate stem diameter at test heights: 30-50cm in height = 90cm & 240cm height = 70cm

2.2. Test area

2.2.1. 5 x drill points were taken; the first four of which were centred around a large, open, lower stem cavity, and the fifth alongside a smaller stem cavity at 2.4m high. All drilling points were on a horizontal plane towards the centre of the stem, to the full device depth of 400mm. See the photographs and drill results read-out graphs below for further details.



Photograph #1: Lower red arrow shows approximate height of drill points 1-4. Upper arrow shows height of drill point 5



Photograph #2: Shows lower stem cavity opening which extends into significant hollowing of the lower trunk. My 40cm long probe failed to reach sound wood when inserted to maximum depth from the cavity opening

Managing Director: William J. Kent Dip Arb (RFS); MArborA; Lantra: Professional Tree Inspector; QTRA: Licensed User

Company Secretary: J.M. Kent

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2.3. Results interpretation

2.3.1. All drilling points indicate a significant column of heart rot within the stem centre. Taking the stem diameter of 900mm for drill points (DP) 1-4, the ratio between sound and decayed wood across the stem at these points are: Drill point (DP) 1: t/R ratio of 0.22, DP2: 0.51, DP3 0.51, DP4: 0.20, DP5: 0.42 (*Mattheck & Breloer: The body language of trees 1994).* The ratio results of the remaining residual wall exceeds the recommended safety factor ratio of 0.3 for two of the drillings and is within the safety factor for the remaining three drilling points, when using the Mattheck model for tree failure analysis.

3.0. Considerations & recommendations:

3.1. The results demonstrate that whilst extensive, historic hollowing and decay is present within the heartwood/ centre of the trunk – the remaining residual wall thickness is on the borderline of what is regarded as acceptable in relation to a tree with a full crown canopy.

3.2. Given the above considerations, I recommend that the tree should not be retained at its current size - with a full crown canopy. However, the tree is located in a prominent location and provides a good level of visual amenity. Therefore, I believe it could potentially be retained, with some remedial pruning, to bring the tree to within a greater level of an acceptable safety factor, if the crown is reduced in size. A crown reduction will significantly reduce the 'wind sail' of the tree and henceforth improve its stability and capacity to resist strong winds or other extreme weather events. The tree is of reasonable physiological health and should have the vitality required to recover from a crown reduction, albeit a rather heavy one to be recommended.

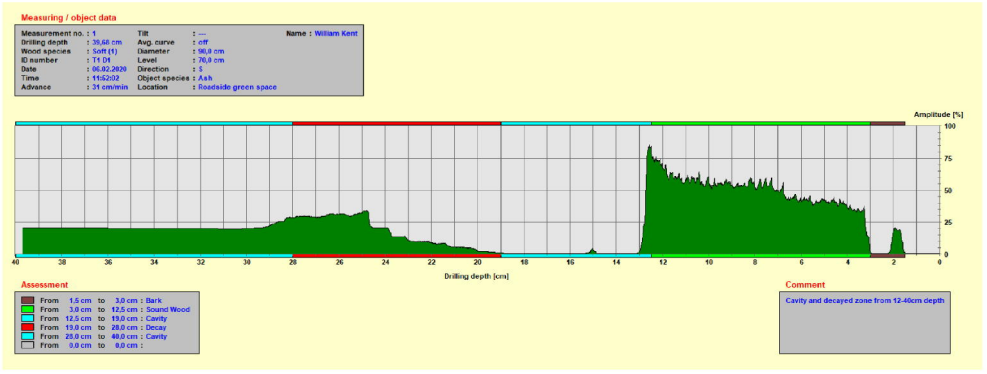
3.3. I recommend a height reduction of up to 3m and a radial reduction of the lateral branches of up to 2m in length. Pruning cuts should be made at suitable secondary growth points and kept to a small a diameter as is possible.

3.4. I recommend that the tree should be re-inspected within 2 years of the date of this inspection.

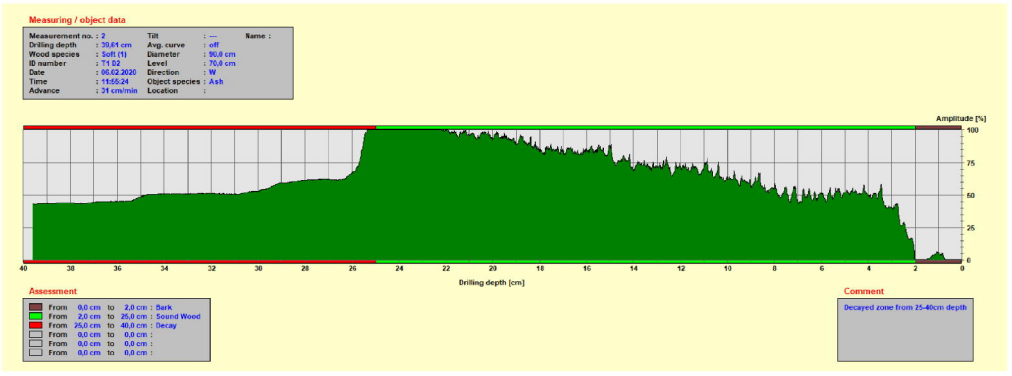
3.5. Checks must be made with the Local Planning Authority and permission must be sought if the tree is protected, prior to the above works being carried out.

Micro-drill test results

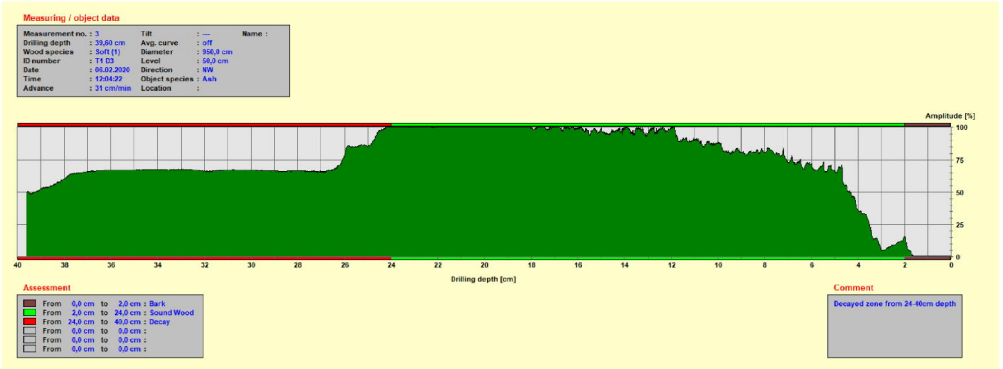
Tree No. T1 – Ash



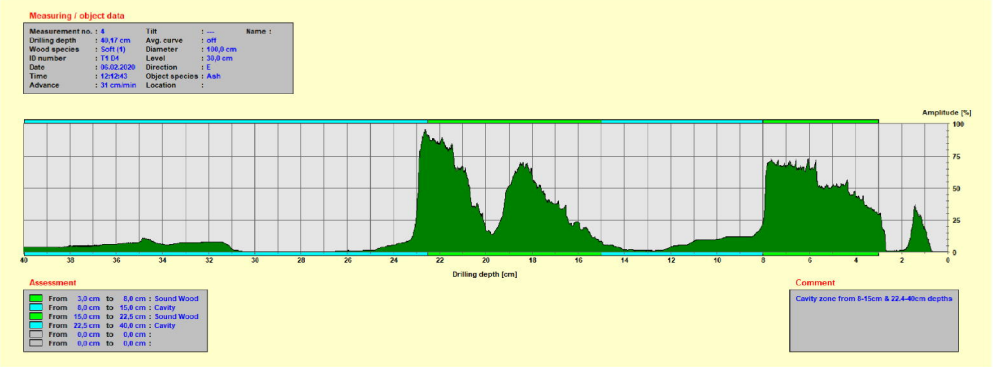
Micro-drill test results



Micro-drill test results



Micro-drill test results



Micro-drill test results