



Urban Tree Experts

BS5837 – Tree Surveys – Ecological Consulting

Bramley House
Newnham Bridge
Tenbury Wells
WR15 8NX

4 October 2022



Ref: SN/DD-22/14.09v1



Re: Decay Detection at 30 Elsworthy Road, London, NW3 3DL.

Thank you for your instructions to undertake decay detection upon 1 tree located to the rear of 30 Elsworthy Road, London, NW3 3DL. A summary of our findings is included in accordance with your instructions.

Site visit:

The site visit was undertaken on 14 September 2022 by Steve Noble (TechCert Arbor A) of Urban Tree Experts. The conditions were dry and bright, we had full access to the tree.

The tree measurements were recorded using a TruPulse™ hypsometer and rounded down diameter tape; the results are recorded in Table 1 below.

Table 1

| Tree Number | Tree Species | Height (m) | Diameter (mm) @ 1.5m AGL | Age Class |
|-------------|--------------|------------|-----------------------------|-----------|
| T001 | Sycamore | 22 | 760 | Mature |

Key to abbreviations:

m = metres, mm = millimetres, cm = centimetres, AGL = above ground level, est = estimated

Age Class: Mature - trees within the final third of the useful life expectancy for the species.



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Decay Detection

The tree was tested with the Resi PD400 decay detection drill. For convenience we have set out below the test protocols and procedures with an overview of the equipment used.

Resi PD400 (Synopsis):

The Resi PD400 (Resi) is a mechanical drilling machine with a constant drive, which measures the drilling resistance and rotational speed along a needle, when inserted into the tree. The result is displayed on a digital panel and stored electronically at a scale of 1:1, measurement is in metric units.

The object data field (top left of each page) provides information on the date, depth, needle speed and site-specific information. The assessment field (bottom left of each page) provides a detailed analysis of specific areas of dysfunction and is often colour coded. Readings are normally from right (entry into the tree) to left, with any specific comments in the box bottom right.

The drilling rate may be varied for hard or soft woods. The drilling resistance is correlated with the mechanical properties and the defective areas that have developed within the tree may be detected and assessed.

Examples of defects detected by the Resi may be dysfunctional areas such as internal cracks, areas of decay, resin pockets and hollows. Remaining wall thickness may be determined to a depth of 400 millimetres. The instrument is adept at detecting the early stages of decay in white rots as well as detecting brown rots at an early stage.

The drilling needle is specially formed, and the tip is only 3 millimetres wide with a shaft diameter of 1.5 millimetres, thereby keeping internal damage to a minimum and reducing the risk of further fungal infection.

Tree Location:

The tree is located within the rear garden of 30 Elsworthy Road, it is situated on the northern boundary approximately 28 metres from the rear elevation of the property. Neighbouring gardens are located to each side of the tree. The tree forms part of an avenue of trees that extends to the east and west. Whilst the tree is visible from the rear gardens of the properties it is barely visible from Elsworthy Road.

Findings and opinion:

The tree was drilled a total of 6 times 3 times at the base of the stem on the east, south and west sides and a further 3 times at 1 metre AGL again at the east, south and western sides. No drillings were conducted on the northern side of the stem due to the close proximity of the boundary fence.

The drillings conducted at the base of the tree (measurements 1-3) indicate a significant change in the wood density. The drilling conducted to the east above the fungal fruiting body (measurement 1) shows little residual wood structure remains with a cavity and decay extending 40cm into the stem. Measurements 2 and 3 also detected from 18cm to the south and 25cm to the west indicating that the decay has coalesced across the stem at the test locations.

The drillings conducted at 1 metre AGL (measurements 4-6) all detected decay both advanced and in the form of cavities to varying depths and it is highly probable that the decay detected at ground level has also ascended the stem.



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The extent and location of decay increases the risk of stem failure at or close to ground level and as the tree is located in a medium to high-risk location remedial measures are required to ensure the safety of residents and visitors to the properties.

Recommendations:

The biomechanical loading on the stem must be reduced to prevent failure. This can only be achieved by remedial pruning (canopy reduction) or felling. In considering the options reducing the canopy will lower the wind loading and reduce the risk of failure but may not prevent it. However, once pruned the canopy will require regular remedial work to maintain the size. Therefore, due to the tree's location and the extent of decay detected we recommended that the tree is felled to ground level and the stump ground out to a depth of approximately 300 millimetres below ground level. All works should be carried out within 3 months from the date of this report.

If the retention of the tree is a priority a crown reduction of no more than 3 metres to leave a finished height of approximately 19 metres should be undertaken. The crown lateral growth should be reduced to provide a suitable framework for redevelopment and be balanced to meet the natural characteristics of the tree.

The tree's location, risk of failure, presence of fungal fruiting bodies and the added stress a reduction may place on the tree will require a more frequent inspection regime and it is recommended that the tree should be visually inspected every 12 months.

We trust that our investigations and findings are of assistance to you. Should you have any queries or concerns please do not hesitate to contact us.

Yours sincerely

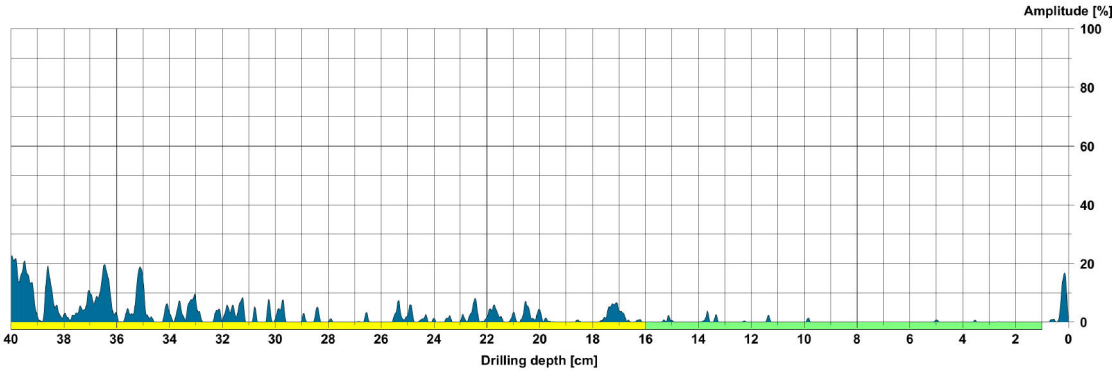


Stephen Noble (TechCert ArborA)
Arboricultural Consultant
Tree Surveys and Urban Tree Experts



Measuring / object data

| | | | | | |
|------------------|------------------|---------------|--------------|------------|--------------------|
| Measurement no.: | 1 | Speed | : 2500 r/min | Diameter: | 76,00 cm |
| ID number | : SN/DD-22/14.09 | Needle state: | --- | Level | : 10cm AGL |
| Drilling depth | : 39.99 cm | Tilt | : 0° | Direction: | East |
| Date | : 14.09.2022 | Offset | : 172 / 287 | Species | : Sycamore |
| Time | : 08:45:40 | Avg. curve | : off / off | Location: | : 30 Elsworth Road |
| Feed | : 200 cm/min | | | Name | : Mr R Fountain |



Assessment

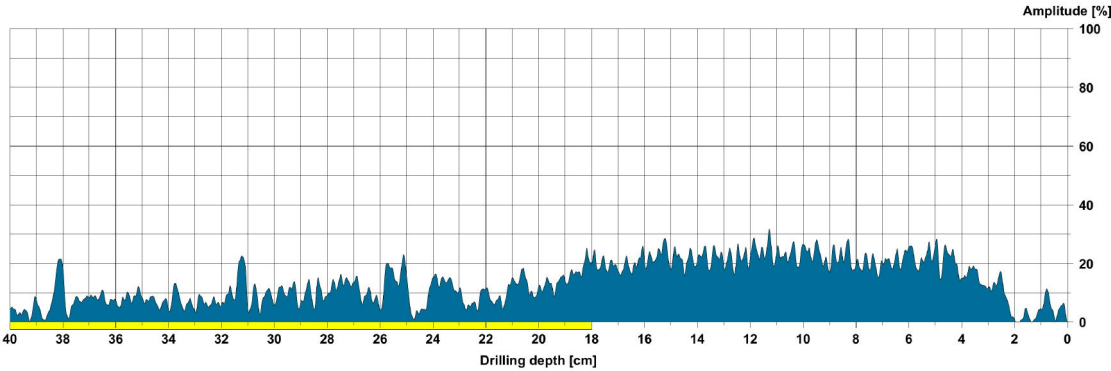
From 1,00 cm to 16,00 cm : Cavity
From 16,00 cm to 40,00 cm : Decay

Comment

Ground level east, cavity and decay extending to 40cm.

Measuring / object data

| | | | | | |
|------------------|------------------|---------------|--------------|------------|--------------------|
| Measurement no.: | 2 | Speed | : 2500 r/min | Diameter: | 76,00 cm |
| ID number | : SN/DD-22/14.09 | Needle state: | -- | Level | : 10cm AGL |
| Drilling depth | : 40,00 cm | Tilt | : 0° | Direction: | South |
| Date | : 14.09.2022 | Offset | : 149 / 303 | Species | : Sycamore |
| Time | : 08:46:29 | Avg. curve | : off / off | Location: | : 30 Elsworth Road |
| Feed | : 200 cm/min | | | Name | : Mr R Fountain |



Assessment

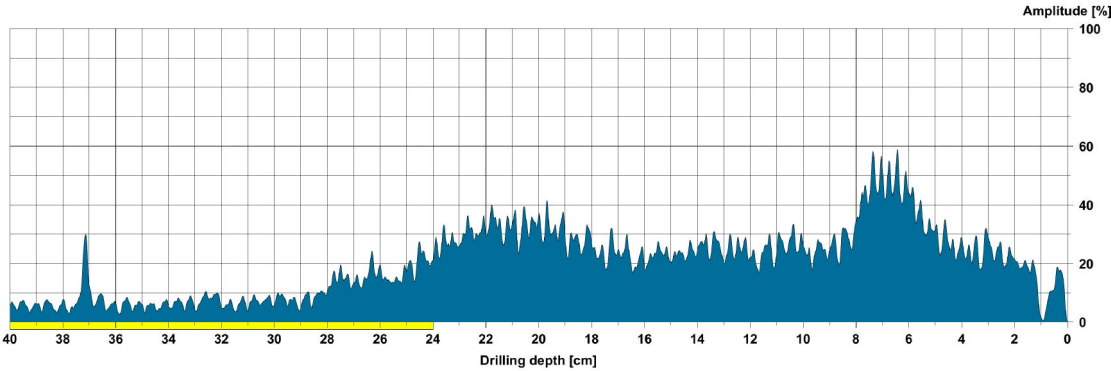
From 18,00 cm to 40,00 cm : Decay

Comment

Ground level south. Decay from 18cm.

Measuring / object data

| | | | | | |
|------------------|------------------|---------------|--------------|------------|--------------------|
| Measurement no.: | 3 | Speed | : 2500 r/min | Diameter: | 76,00 cm |
| ID number | : SN/DD-22/14.09 | Needle state: | --- | Level | : 10cm AGL |
| Drilling depth | : 39.99 cm | Tilt | : 0° | Direction: | West |
| Date | : 14.09.2022 | Offset | : 142 / 299 | Species | : Sycamore |
| Time | : 08:47:18 | Avg. curve | : off / off | Location: | : 30 Elsworth Road |
| Feed | : 200 cm/min | | | Name | : Mr R Fountain |



Assessment

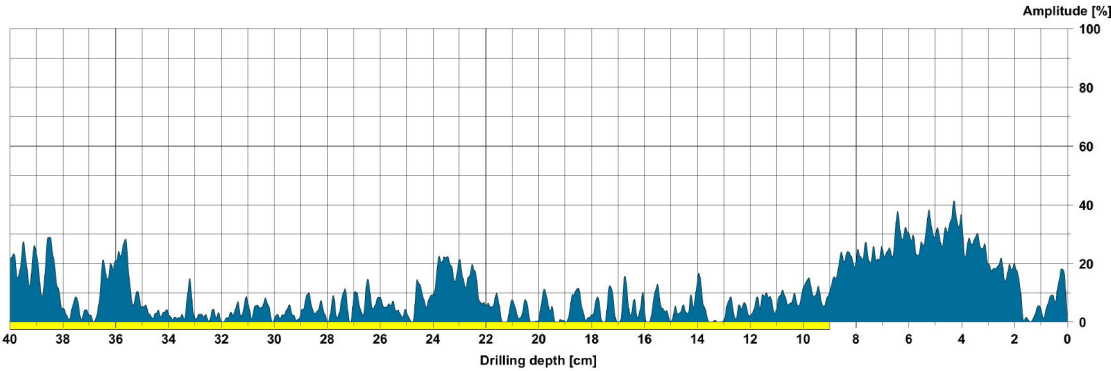
From 24,00 cm to 40,00 cm : Decay

Comment

Ground level west, decay from 24cm

Measuring / object data

| | | | | | |
|------------------|------------------|---------------|--------------|------------|--------------------|
| Measurement no.: | 4 | Speed | : 2500 r/min | Diameter: | 76,00 cm |
| ID number | : SN/DD-22/14.09 | Needle state: | --- | Level | : 1m AGL |
| Drilling depth | : 39.99 cm | Tilt | : 0° | Direction: | East |
| Date | : 14.09.2022 | Offset | : 148 / 302 | Species | : Sycamore |
| Time | : 08:48:37 | Avg. curve | : off / off | Location: | : 30 Elsworth Road |
| Feed | : 200 cm/min | | | Name | : Mr R Fountain |



Assessment

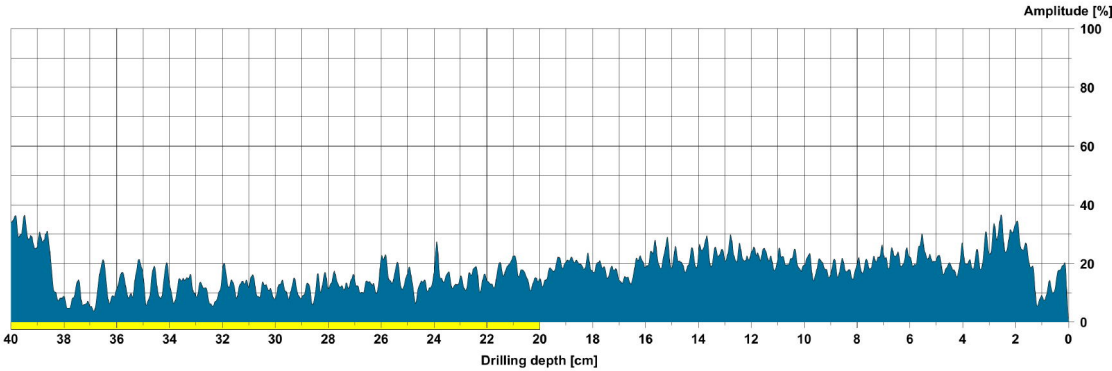
From 9,00 cm to 40,00 cm : Decay

Comment

1 metre AGL east. Decay from 9cm.

Measuring / object data

| | | | | | |
|------------------|------------------|---------------|--------------|------------|--------------------|
| Measurement no.: | 5 | Speed | : 2500 r/min | Diameter: | 76,00 cm |
| ID number | : SN/DD-22/14.09 | Needle state: | --- | Level | : 1m AGL |
| Drilling depth | : 40,00 cm | Tilt | : 0° | Direction: | South |
| Date | : 14.09.2022 | Offset | : 137 / 302 | Species | : Sycamore |
| Time | : 08:49:21 | Avg. curve | : off / off | Location | : 30 Elsworth Road |
| Feed | : 200 cm/min | | | Name | : Mr R Fountain |



Assessment

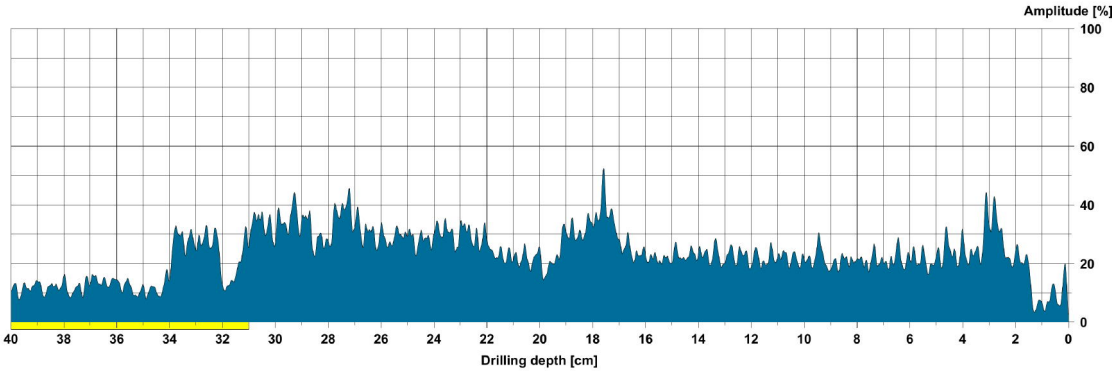
| |
|---|
| <div></div> From 20,00 cm to 40,00 cm : Decay |
|---|

Comment

| |
|------------------------------------|
| 1 metre AGL south decay from 20cm. |
|------------------------------------|

Measuring / object data

| | | | | | |
|------------------|------------------|---------------|--------------|------------|--------------------|
| Measurement no.: | 6 | Speed | : 2500 r/min | Diameter: | 76,00 cm |
| ID number | : SN/DD-22/14.09 | Needle state: | --- | Level | : 1 metre AGL |
| Drilling depth | : 39.99 cm | Tilt | : 0° | Direction: | West |
| Date | : 14.09.2022 | Offset | : 133 / 294 | Species | : Sycamore |
| Time | : 08:50:15 | Avg. curve | : off / off | Location: | : 30 Elsworth Road |
| Feed | : 200 cm/min | | | Name | : Mr R Fountain |



Assessment

From 31,00 cm to 40,00 cm : Decay

Comment

1 metre AGL west. Decay from 31cm.