



Connick Tree Consultants

Specialist in Arboricultural Assessment

ARBORICULTURAL REPORT Individual Tree Assessment Aerial and Tomography

OUR REFERENCE	232410/RT
CLIENT	Mr Andrew Hall for Knighton Close Residents
SITE	Land opposite 6 and 7 Knighton Close, Caversham, Reading. RG4 7SZ
REPORT BY	Mr Richard Tilling
SURVEY BY	Mr Richard Tilling and Mr Joe Howard
DATE	18 th August 2026
DATE OF INSPECTION	17 th August 2026
DATE OF NEXT INSPECTION	August 2029

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QUALIFICATIONS AND EXPERIENCE

1 INTRODUCTION

1.1 INSTRUCTION

Connick Tree Consultants were instructed by Mr Andrew Hall on behalf of the residents of Knighton Close to undertake a climbing assessment and tomography assessment upon a Common Beech (*Fagus sylvatica*) which is situated on a strip of land opposite property numbers 1 to 8 within the close and provide an analysis of the findings.

The principal objective of the survey was to assess the crown condition following a large limb failure in May 2026 along with an assessment of the stem due to a large pre-existing cavity and advise on any remedial action to ameliorate any findings that present an unacceptable risk to people and surrounding infrastructure.

1.2 SCOPE OF REPORT

The inspection was conducted using the Visual Tree Assessment (VTA) method (Mattheck, C and Breloer, H, 1994) examining the external features of the individual tree. All measurements, proportions and assessments of age are approximate, except where stated.

The Aerial inspection was undertaken within the tree canopy from rope and harness. The Tomography assessment was undertaken from ground level, utilising the rope and harness for the higher assessment levels.

The report and recommendations relate to the condition of the tree and its surroundings at the time of inspection only.

The conclusions and recommendations in this report are valid for one year. Any changes to the site as it stands at present will invalidate this report, e.g., building of extensions, excavation works, importing of soils, extreme weather events etc.

1.3 SUMMARY OF LEGAL OBLIGATIONS

A considerable body of case law has established that, in order to be in a position to foresee and indeed to prevent harm arising from a tree failure, it is necessary to subject the tree or trees in question to 'regular inspection,' with this inspection undertaken by someone competent both to identify any defects present and to interpret their significance for public safety.

Within the United Kingdom the landowner in which a tree stands upon has a duty in relation to the health and safety of those on or near the land. This duty is covered by both civil and criminal law and would leave the owner responsible for any liabilities arising from the falling of a tree or branch either financially or through prosecution (NTSG, 2011).

The breach of or infringement of this duty can lead to potential liabilities to pay damages within civil law under the Occupiers' Liability Act 1957 and 1984 or to the risk of prosecution within criminal law under the Health and Safety at Work etc Act 1974.

1.4 QUALIFICATIONS AND EXPERIENCE

We have based this report on site observations and investigations and have come to conclusions in the light of qualifications gained and experience obtained whilst working in the field of arboriculture. We have qualifications and practical experience in arboriculture and list the details of this in Appendix II.

1.5 LIMITATIONS AND USE OF COPYRIGHT

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means without our written permission. Its contents and format are for the exclusive use of the person, firm, or company to whom it is addressed (and that of any other person, firm or company whose interest was disclosed to us prior to its preparation). It may not be sold, lent out or divulged to any third party not directly involved in this situation without the written consent of Connick Tree Care.

Trees are living organisms whose health and condition can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only.

DISCLAIMER: We have no connection with any of the parties involved in this situation that could influence the opinions expressed in this report.

2 ARBORICULTURAL SURVEY

2.1 SITE VISIT

The site visit was undertaken on Monday the 17th of August 2026. The weather was dry and sunny during the visit and follows a prolonged period of intense heat and drought conditions.

2.2 SITE DESCRIPTION

The site is located towards the centre of Caversham town. Knighton Close is accessed from Hemdean Road and consists of a row of town style houses developed in the 1980s facing the road with parking bays, turning area and a wide verge of scrub understorey and a number of trees.

The subject tree is opposite numbers 6 and 7 Knighton Close and over sails the rear gardens of period properties on Queen Street. The subject tree has a number of semi-mature Sycamore trees to the east, which have undergone pruning.

The site is level, but the wider area rises to the north-east and east, as does the west and south-west.

2.3 SURVEY SUMMARY



Photograph 1: Showing subject Beech T1 to centre of image

Common Beech T1

The tree is a mature specimen with a single clear stem to approximately 8 metres, the stem diameter is 125 cm at breast height. The full tree height was measured at 24 metres, with a crown radius of between 10 and 15 metres.

The crown is asymmetrical with evidence of historic pruning work focussed on the southern crown. Further work has been undertaken to the lower north west crown by a resident in Queen Street; this work is not as obvious as the southern crown pruning.

The crown of the subject Beech is extended to the north from a primary scaffold limb. The crown structure extends with long secondary and tertiary branches, many of which descend to the shed roof height. The crown does, however, contain numerous upright secondary limbs that could be utilised in target pruning. (**Images A and B.**)

A primary scaffold limb has failed in the north east crown at 8.5 metres above ground level. The limb fractured close to the stem but did not fail at the union with the stem. Short fibres extend from the fracture point. The limb failure has opened the northerly crown to south easterly winds. (**Images C,D,E and F**)

The crown structure is typical of a mature Beech, with numerous crossing branches, dog legged branches and some fusing of limbs. Most notably by the failure point back into the southern crown structure. (**Images G,H,I and J**) There is very little evidence of deadwood throughout the mid and upper crown, no apical dieback is evident and the leaf is of a good colour and dense on the branch. The continued drought conditions do not appear to be affecting the tree at present.

The stem of the tree is visible to all cardinal points and fully accessible due to the location which allowed a detailed inspection to take place.

The Beech stem was sounded with a lightweight nylon tipped mallet. Soundings were conducted from the base of the stem up into the crown break and along the secondary limbs.

There was low resonance picked up in the stem to the west, above and around the visible cavity opening. No low resonance was heard around the woodpecker hole on the southern stem or on limbs within the crown structure.

The historic cavity on the western stem extends from 1 metre above ground level to 3 metres, there is approximately 25cm of callus tissue surrounding the site, this is forming a strong 'rams' horn' appearance around the edge of the cavity.

There is bacterial staining on the lower north east buttress root extending to 50cm above ground level. The staining appears to be restricted at present, but the limb failure is above this location. The lower north east stem also appears to have Felted Beech Scale (*Cryptococcus fagisuga*) which may be the vector of Beech Bark Disease (*Nectria coccinea*) and the resultant staining of the bark in this area.



Image A



Image B



Image C



Image D



Image E



Image F



Image G



Image H



Image I



Image J

2.4 TOMOGRAPHY ASSESSMENT

Following the aerial assessment and initial stem sounding with a nylon mallet it was decided that the historic cavity should be assessed using Level 3 non-invasive Sonic Tomography with the Fakopp Arborsonic. This assessment allows a basic safety factor to be calculated for each SOT layer based on the stem cavity, crown size and maximum anticipated wind speeds in the area. Safety factors can normally be increased with a reduction in the trees overall crown dimensions. Therefore, the tomography assessment can help in calculating the amount the crown should be reduced both to reduce stress on the stem and stress on the crown structure.

The Beech tree grows on level ground at the lowest point in the surrounding landscape, the tree is exposed to southerly winds and reasonably sheltered from other directions. The 'topping' of the adjacent sycamore trees has increased the exposure of the lower limbs. The loss of the large limb has opened the northerly crown to increased wind where mass damping would have reduced wind speed. There is a moderate target risk to the properties in Knighton Close but a high target risk due to the location of outbuildings and their usage to properties in Queen Street.

The VTA (visual tree assessment) of the Beech relates to the crown assessment from rope and harness and the stem assessment primarily from ground level. As this section relates to the stem assessment, the following observations were seen as relevant.

The tree stem has no discernible lean.

There is a large historic cavity on the western side of the stem (**Photos V, VI and VII**)

Low resonance was recorded around the cavity opening as well as above and below.

Due to the above observations we decided to undertake a sonic tomography assessment (SOT) of the stem at 170cmH, 250cmH and 330cmH. These will be referred to as layers in this report.

The assessment was conducted using 16 microsecond sensors for each layer or plane. **Images 1 to 3** below shows the position of each assessment level.

SOT assessment positions



Image 1 170cm Layer



Image 2 250cm Layer



Image 3 330cm Layer

Image 4. Looking south with dimensions & lean angle

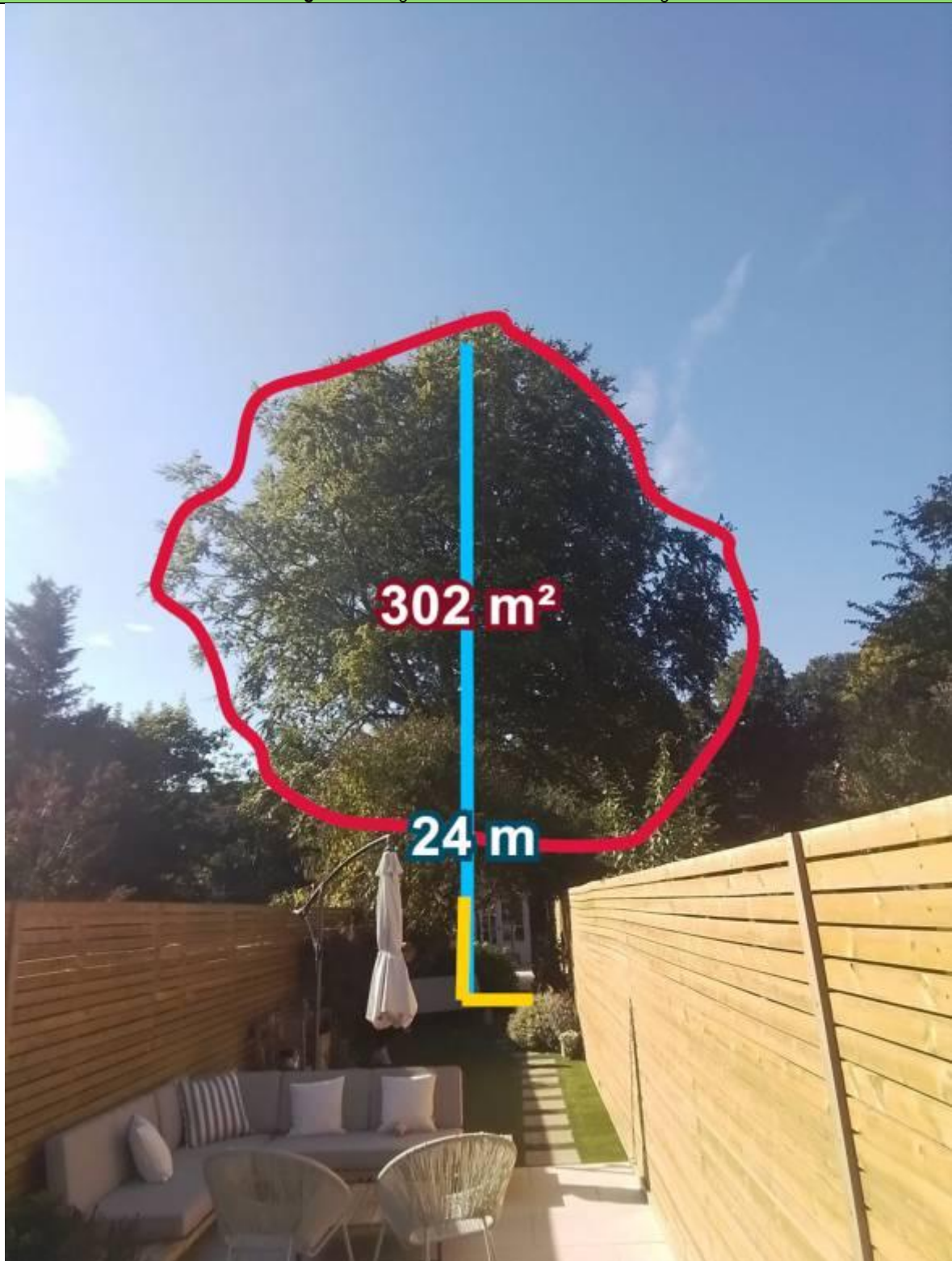


Image 5. 170cmH layer sound speed graph

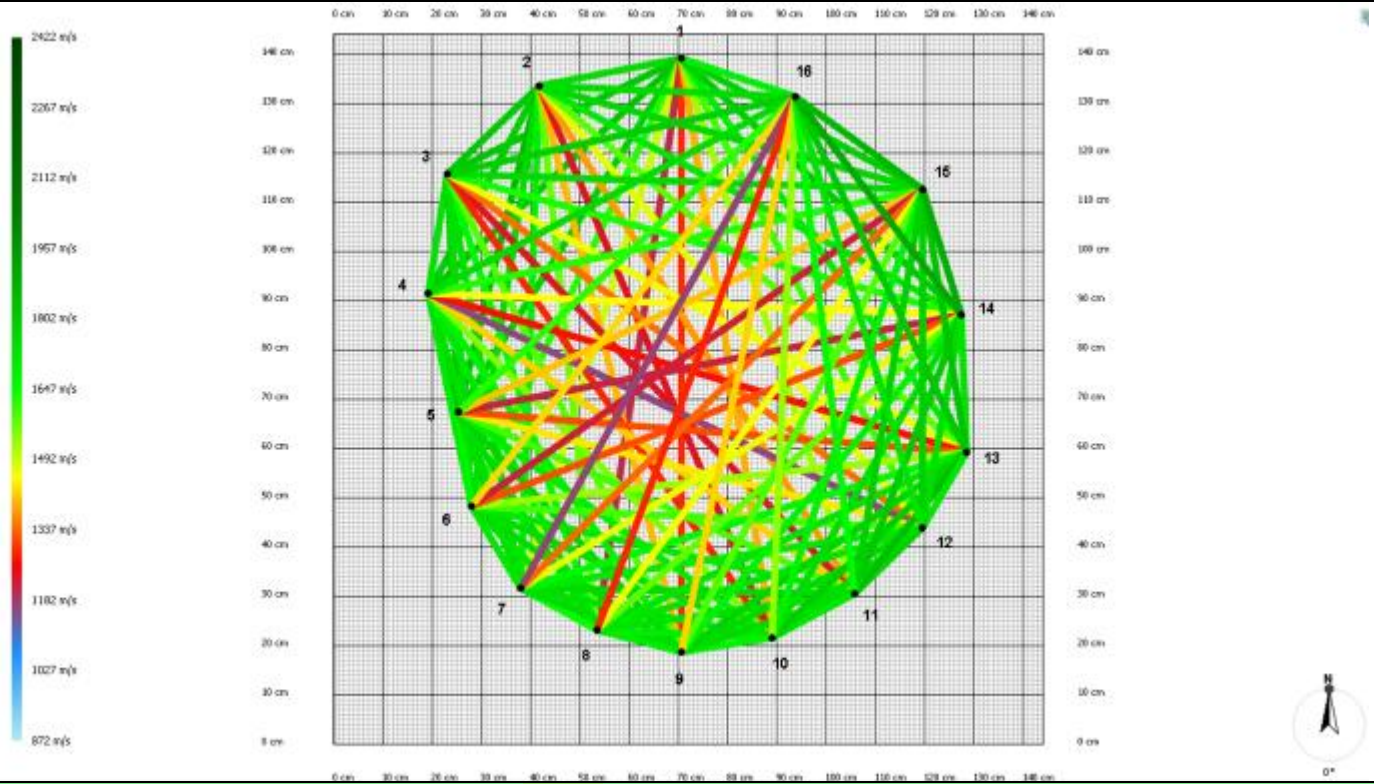


Image 6. 170cmH layer - 2D Map

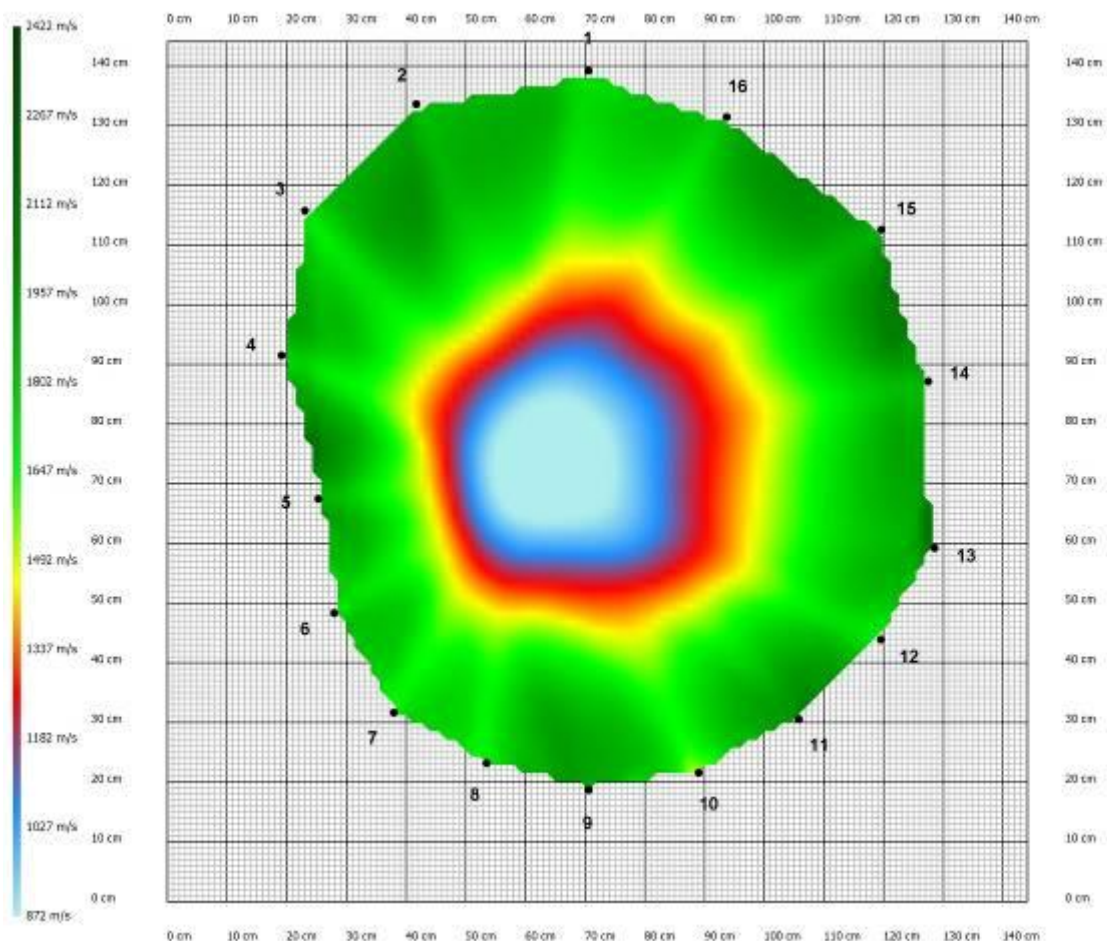


Image 7. 170cmH layer – Biomechanical Layer Map

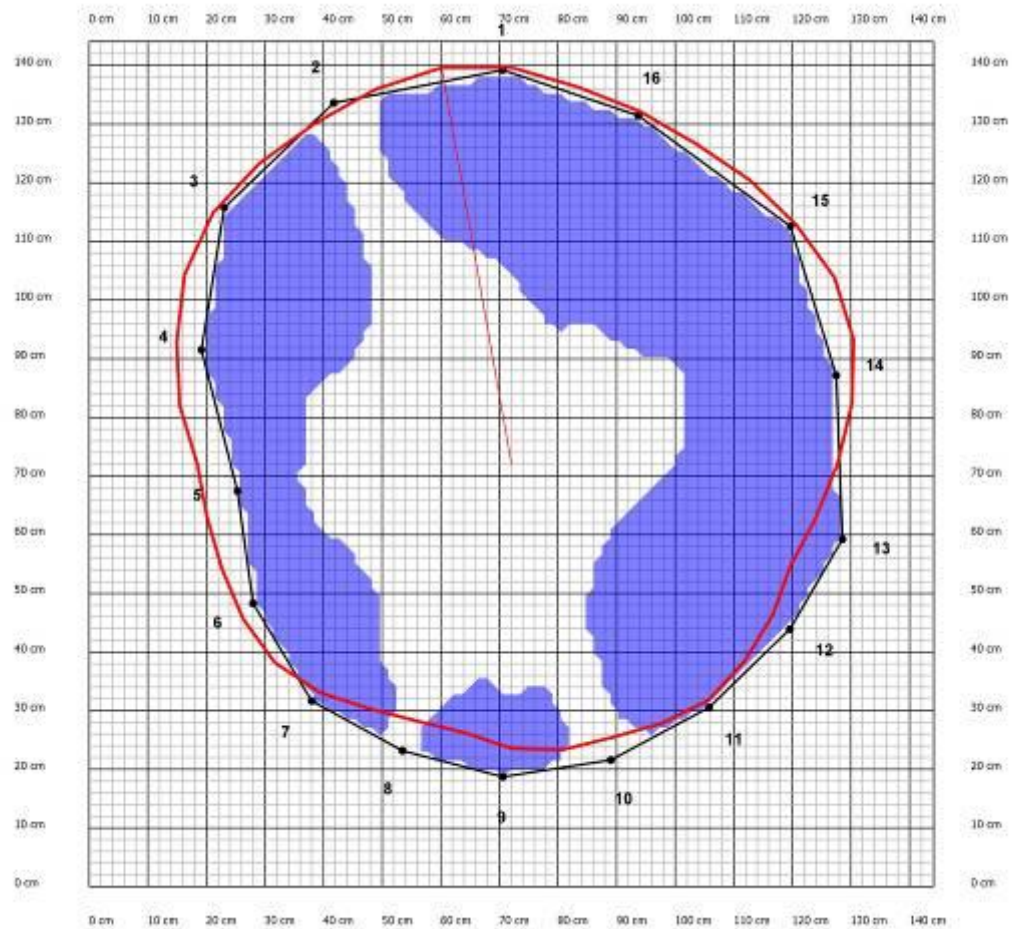


Image 8. 250cmH layer - 2D Map

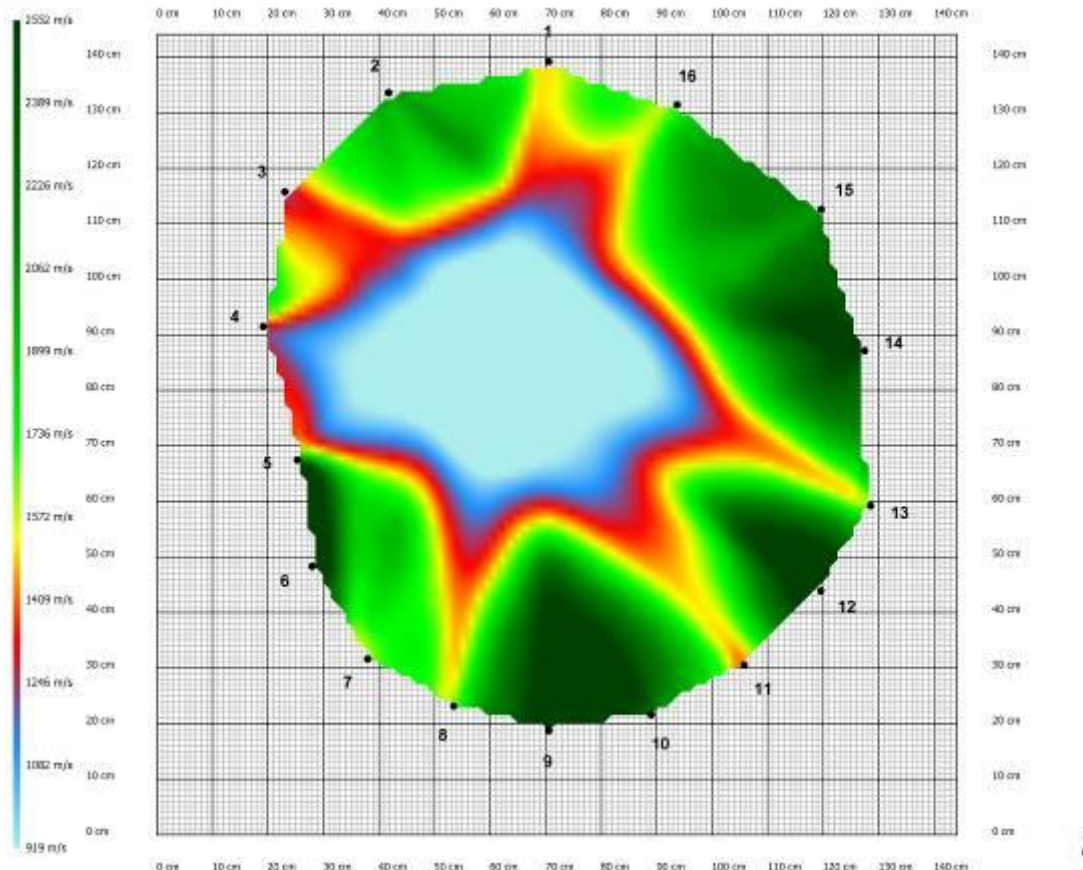


Image 9. 250cmH layer – Biomechanical Layer Map

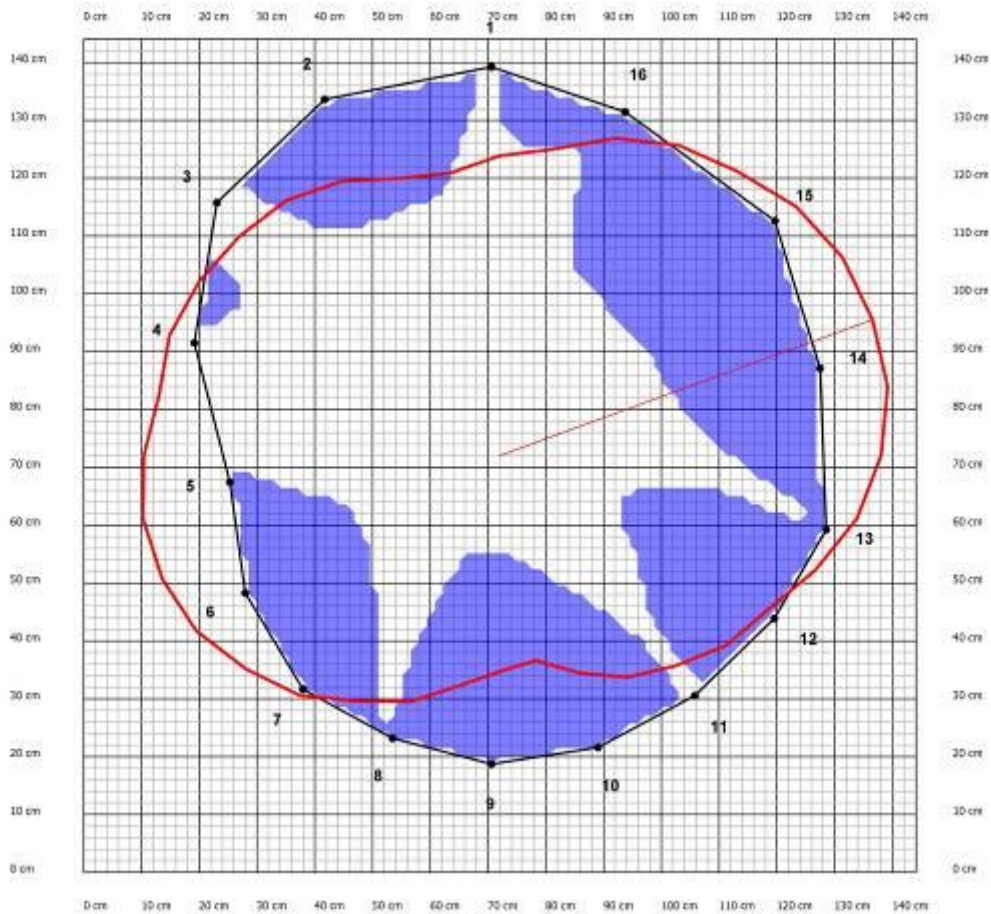


Image 10. 330cmH layer - 2D Map

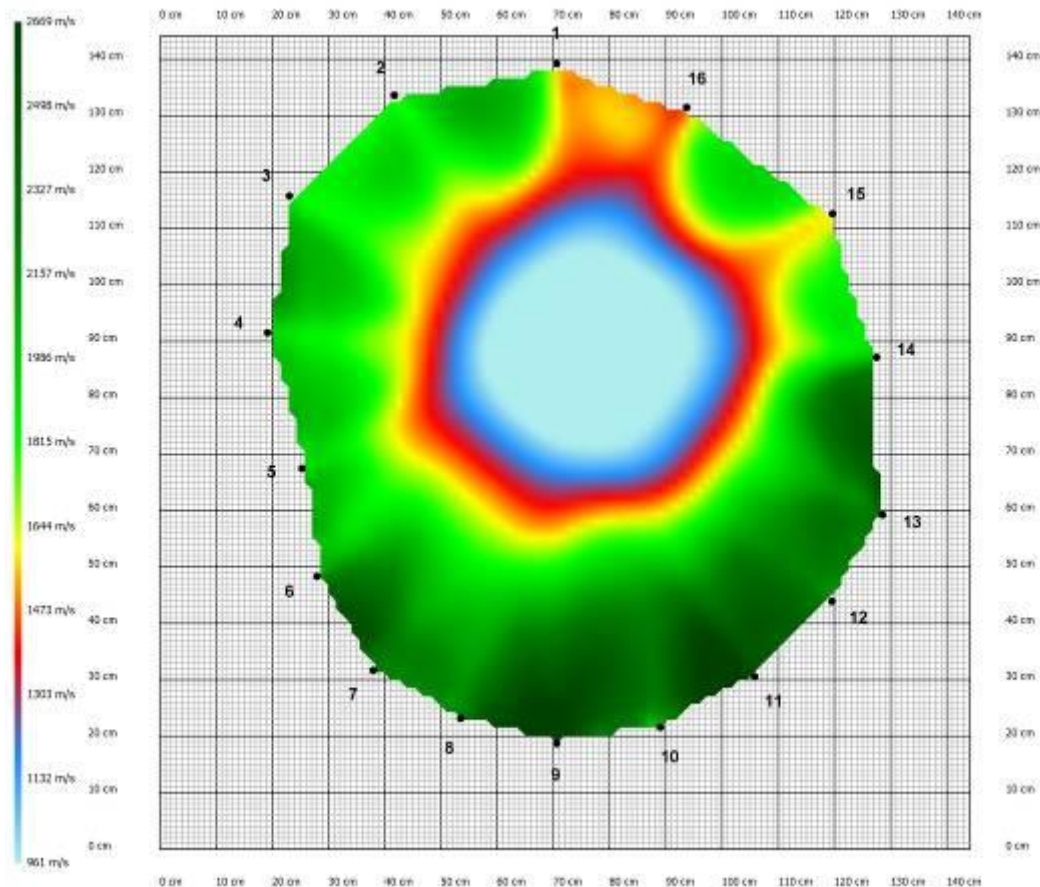


Image 11. 330cmH layer – Biomechanical Layer Map

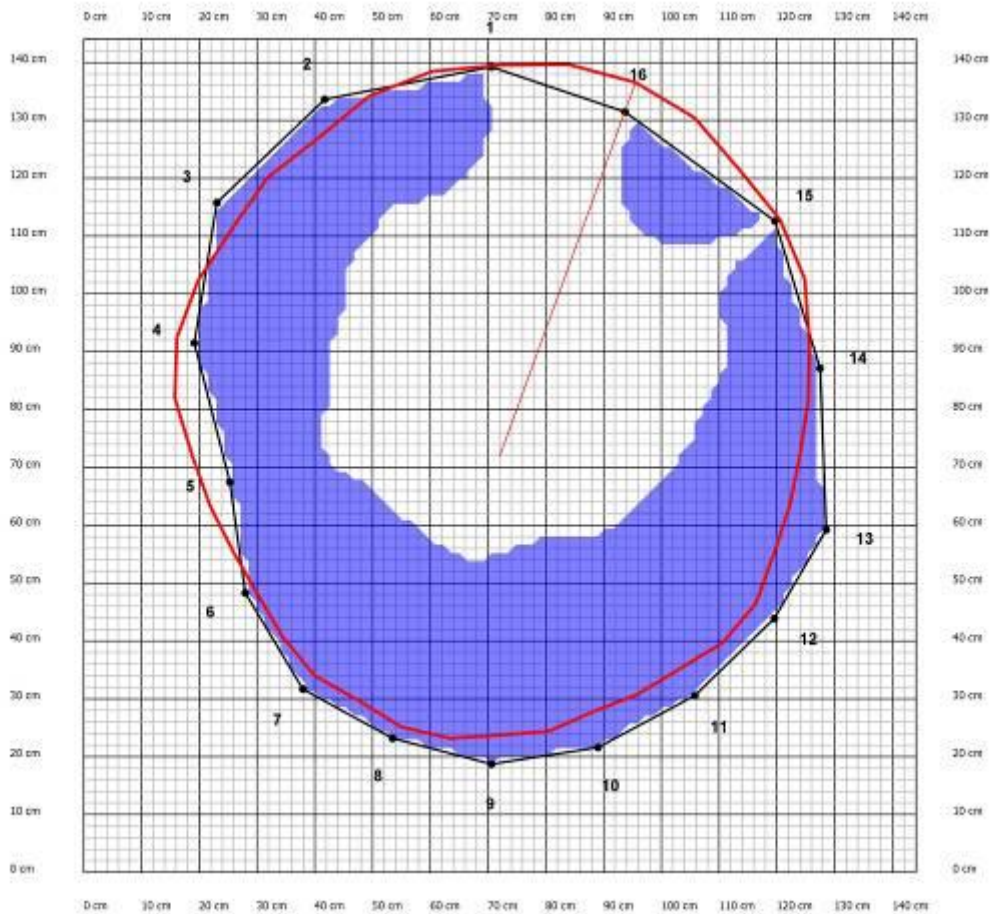
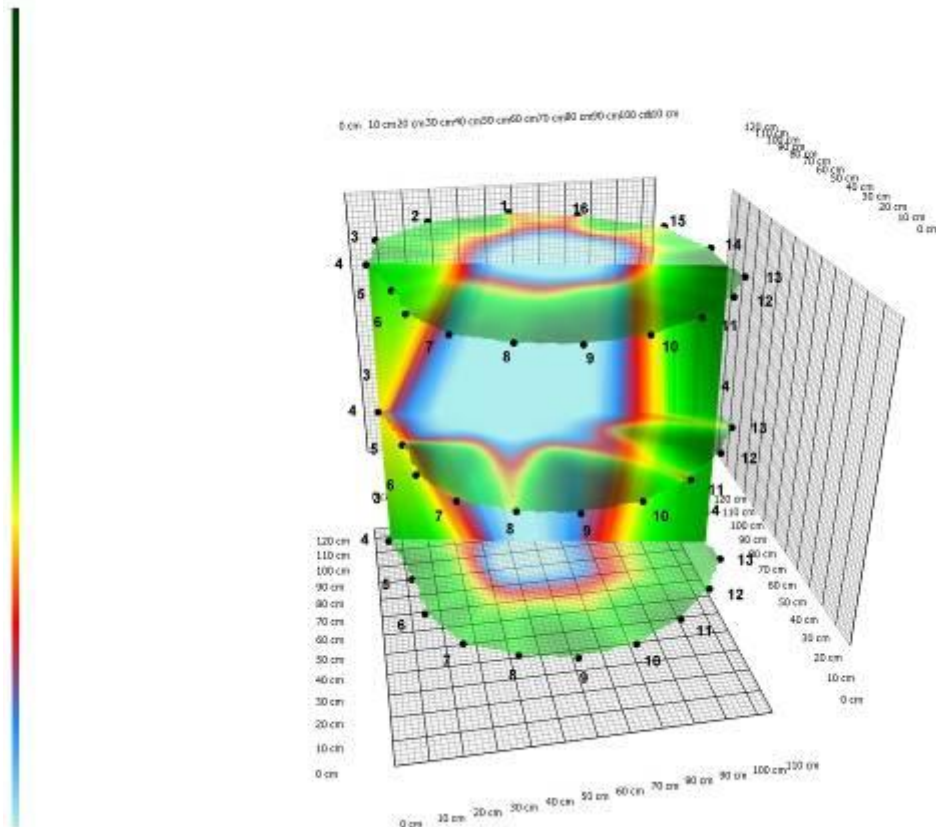


Image 12. Multilayer view



2.5 INTERPRETATION OF RESULTS

Common Beech (*Fagus sylvatica*) T1

- An example of how the SOT data is processed is shown above in **Image 5** using the 170cmH layer. This shows the variations in the transfer of sound through the stem. The speed sound is transferred between sensors is coloured depending upon the time taken in meters per second.
- The green lines indicate high sound transfer abilities between sensors indicating that the wood in these areas is generally free of defects.
The darker red through to light blue lines indicate a slower transfer of sound suggesting decay is present within the wood.
- The software did identify possible cracking within the wood. Between sensors 5-7 at layer 2. The visual inspection of the stem shows this to be the location of the cavity opening and this has been interpreted by the software as a 'crack'.
- The 2D layer(**Images 6, 8 and 10**) provides a pictorial representation of the sound transfer between sensors. This gives a simplified view of the data gathered and indicates visually any transition from unaffected to decayed wood across the section of stem assessed. These images show that ripe wood decay is present within the stem around the cavity site.
- The Multilayer view (**Image 12**) shows the layers through the lower stem which have been 'stitched' by the software into a continuous profile. To represent the area between the assessment layers.
- Analysis of the data collected indicates that the potential extent of decay for each section is:
170cmH layer 27%
250cmH layer 46%
330cmH layer 37%
- The biomechanical layer maps (**Images 7, 9 and 11**) are generated by the software. These consider the on-site measurements recorded for the tree, calculations using **Image 4** and the SOT results.
- A comparison of the bearing capacity of the stem based upon the biomechanic layer (supportive tissue in blue) and wind loading from the estimated crown area (shown as the red perimeter line), provides the most critical direction of the wind load (shown by the straight red line). For this Beech tree it would be from:
North-north west for 170cm layer
East-north east for 250cm layer
North-north east for 330cm layer

The prevailing wind on site is assumed to be from the south east.

The following photographs show the stem features identified during the inspection.



I. Occluded wound with woodpecker hole



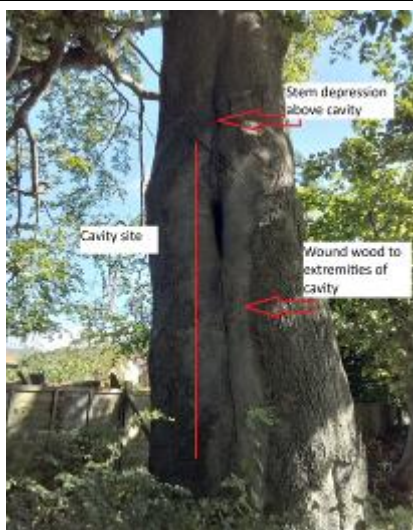
II. Occluded wound with woodpecker hole



III. Occluded wound with woodpecker hole



IV. Occluded wound with woodpecker hole



V. Annotated Cavity photograph



VI. Cavity photograph



VII. Cavity photograph



VIII. Lower north east stem

3 DISCUSSION

Analysis of the above findings combined with additional measurements such as the stem lean angle and maximum anticipated wind speed allow a basic safety factor to be calculated for each SOT layer in the stem. The minimum requirement for most situations is a percentage figure above 150%.

This tree has a basic safety factor of:

170cmH layer	534%
250cmH layer	339 %
330cmH layer	408 %

Based upon the nominal 'city' environment, this setting has been used due to the surrounding infrastructure, land use and surrounding vegetation of the area.

The above results assume a low risk of stem failure at layers 1, 2 and 3 of assessment, assuming an upper wind speed of 33m/s (118.8 km/h or 73.8 mph or Beaufort Force 12) which may be experienced on site in the next year.

The prevailing wind on site is from the south east which is not the direction of most critical concern for a tension side failure of the stem.

Considering the above I conclude that the amount and location of decay is not affecting the stem at the heights of the SOT assessments. Currently this decay is assumed to offer a low risk of stem failure as assessed by the software.

The visual assessment of the tree stem indicates that it has good vitality and is laying down new wound wood sufficient to bolster the wound site. The visible decay lies within the ripe wood of the Beech stem and is not colonised by any visible fungi at present.

The lower north east stem (**Photo VIII**) is the area of stem with some concern. If the dark bacterial staining is caused by Beech Bark disease. Continued spreading of the fungi through the activities of the coccus beetle may result in the scattered areas of necrotic bark coalescing to produce larger dead areas. The death of the bark in turn may cause localised disruption to the sapwood. Drought conditions could

exacerbate these symptoms. The disease may however, abate over time depending on environmental conditions with complete tree death rare amongst specimen mature trees.

Although significant delamination and fungal activity on the lower stem of trees can reduce the 'connected' upper limb tissue to become less resilient to adverse weather conditions, it is not believed that this is the case with the subject Beech. The bacterial infection is minor and the crown is in good vigour considering the current weather.

The crown assessment found the structural limbs and branches to be of a normal appearance with no decay visible, no squirrel damage or sun scorched upper branch surfaces. There were a number of peculiar branch shapes and fused limbs, but all major limbs and unions appear normal.

The loss of the large limb in late May appears to have occurred during the night. The limb loss does not meet the anecdotal and limited research information available relating to the conditions in which 'Summer Branch Drop' occurs.

The species is susceptible to the phenomenon, the crown is large and the weather has been exceptionally hot and dry, but the timing of the loss is not consistent with recorded instances.

Although Summer Branch Drop shouldn't be ruled out as a potential issue, the failed limb is more likely to have suffered from storm damage.

The average wind speed in Caversham throughout May 2026 was 8-10 mph. There were however maximum gusts of 36 mph which equate to a force 7- near Gale on the Beaufort Scale. The adjacent Sycamore trees had been 'topped' some time prior to the incident and this may have reduced the mass dampening effect that the trees mutually benefited from. The full healthy leaf on the extended Beech limb acting as a lever arm once exposed.

4 CONCLUSION

On completion of the Climbing assessment, it is believed that overall, the tree is in a Good physiological condition with Good structural crown. Although, the loss of a significant limb, the extended crown to the north and the increased potential for summer branch drop conditions to occur over the coming years makes pruning an essential requirement.

On completion of the Sonic Tomography assessment of the stem exhibiting historic wounding and cavity formation, it is believed that overall, the stem is in a Good structural condition and has a low risk of failure at the points of assessment.

5 RECOMMENDATIONS

It is recommended that the Beech tree is subject to a targeted crown reduction focussed on the north, north west and north east low to mid crown.

The reduction will remove approximately 4 metres of secondary limb growth back to significant upright limbs. The removal of the lower drooping branches over shed roofs, also to be undertaken. The image below shows the area requiring significant pruning in red.



A 0.5m to 1m reduction shown in yellow, should be undertaken to the remaining crown to increase the overall stem safety factor calculation and reduce the winds potential effect on the extended tertiary branches.

This work should be undertaken within 12 months from the date of this report to allow for TPO applications and correct planning of the work.

The tree should be re-inspected from ground level only within 3 years of the date on the report, no further internal decay detection is recommended at this time.

TREES SUBJECT TO STATUTORY CONTROLS

A Tree Preservation Order (TPO) covers the tree, no works can be undertaken without the relevant statutory processes being followed.

The Tree Preservation Order reference is Knighton Close 126/08 (T1) Land Opp 6 and 7

REFERENCES and BIBLIOGRAPHY

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APPENDIX I TREE LOCATION PLAN

Knighton Close, Caversham, Reading, RG4 7SZ

Page size: A4

1 : 401

0 10 m 20 m



APPENDIX II

QUALIFICATIONS AND EXPERIENCE

1. QUALIFICATIONS

Richard Tilling

Subject	Date
Fakkop Tomography training	April 2025
Vet Cert training	October 2023
Microdrill Training	November 2019
Getting to grips with subsidence	March 2019
Undertaking Aerial Inspections	February 2019
Lantra Accredited Professional Tree Inspection	May 2010 - Refreshed May 2018 and May 2025
CMI Level 3 certificate in First Line Management	July 2017
NPTC Level 3 Certificate of Competence in the Thorough Examination of Arboricultural Equipment	April 2006 – Refreshed May 2016
IOSH Training - Managing Safely	April 2013
Higher National Diploma in Arboriculture	September 1992 – June 1995

2. CAREER SUMMARY

Completed a Higher National Diploma course in 1995, with work placements in Guildford Borough Council's Arboricultural Department, National Trust Winkworth Arboretum, and 12 months with an independent Tree Surgery company.

Working in Tree Surgery from 1995 until 2017, from groundsman through to Contract Management. Managing contracts including Sutton, Bromley, Bexley, Richmond upon Thames, Hounslow and Islington.

Undertaking tree surveys of Camden Councils tree stock, 'dead, dying and dangerous' surveying for The Royal Borough of Kingston upon Thames Council, Health and Safety surveying for Transport for London (Southern) and climbing bat roost inspection surveying for Chiswick House and Gardens.

I joined Connick Tree Care in January 2018 as an Arboricultural Consultant undertaking individual tree assessments, Veteran tree management, Sonic Tomography and Micro drill assessment, health and safety surveying, Climbing inspections, Insurance or Mortgage surveys and woodland inspection.



1. QUALIFICATIONS

Joe Howard

Technician member of the Arboricultural Association	2023 ongoing
Professional Tree Inspection (LANTRA)	April 2023
Level 3 diploma in forestry and arboriculture	2015
NPTC cs30, cs31, cs38, cs39	from 2015 ongoing.

2. CAREER SUMMARY

I began my career in forestry and arboriculture in 2015 by completing a Level 3 Diploma through a two-year college course. This provided me with the essential knowledge and practical skills needed to enter the industry. After qualifying, I started work as an arborist with a local Arboricultural company, where I gained hands-on experience in tree care and management.

Over time, I developed my skills further and took on greater responsibilities, eventually progressing to a team management role. This position helped build both my technical and leadership abilities as I oversaw tree operations and coordinated projects.

To advance my career, I pursued additional training and became a certified professional tree inspector, which expanded my opportunities within the field. With this qualification and a solid foundation of practical experience, I moved into a consultancy role at Connick Tree Care.

As an Arboricultural Consultant, I now provide expert advice to clients on managing their tree assets safely and sustainably, drawing on my years of field experience and ongoing professional development.

3. AREAS OF EXPERTISE

Tree hazard risk assessments for tree owners
Decay assessment and mapping
BS5837 Surveys
Tree management reports on prioritizing maintenance programs.
Diagnosis of tree disorders
Trees in relation to subsidence