BB Trees Ltd
Tree and Woodland Consultancy
ben@bbtrees.co.uk
www.bbtrees.co.uk

Arboricultural Survey Report:
Trees to the frontage of 9 Burnley Road, Hempstead, Bacup, Lancashire, OL13 8AB

Prepared for:
Mr Ian Boyd
Estates and Maintenance Manager
Pebbles Care
Sovereign House
Crossgates Road
Dunfermline
Fife
KY11 7EG

Document reference: 843/23, Revision 0

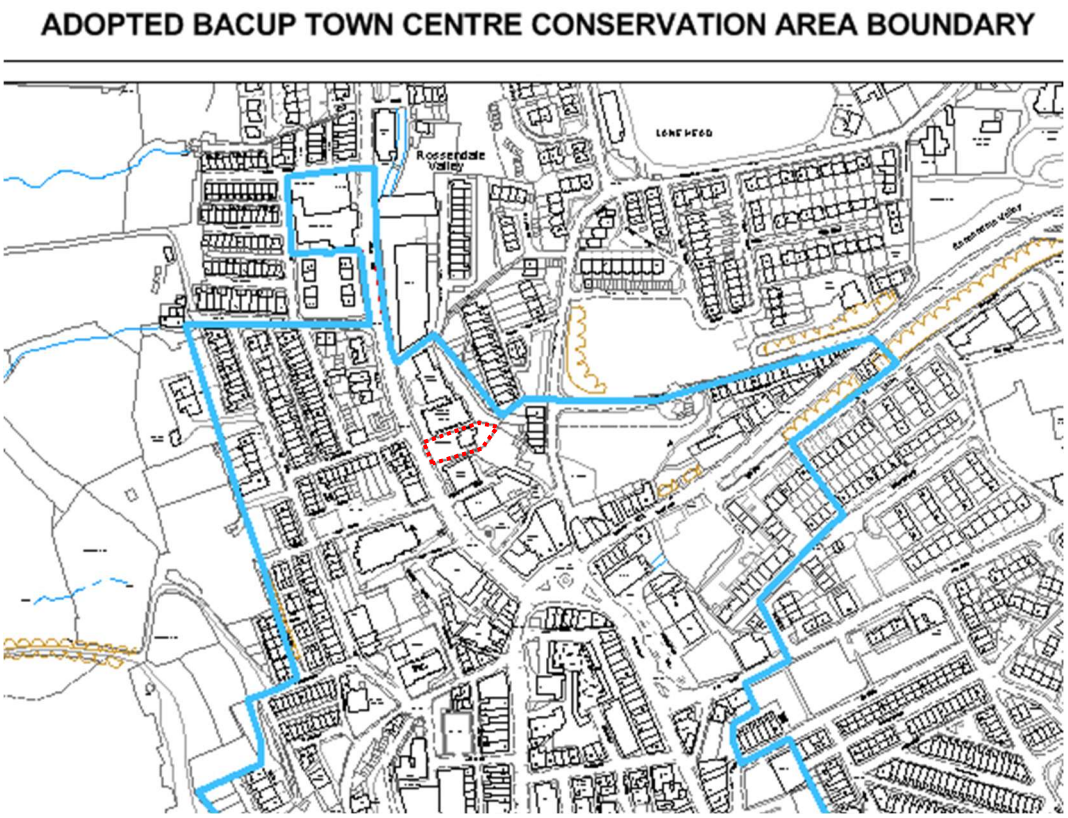
1. Introduction and background

1.1 I received instruction from Ian Boyd on behalf of Pebbles Care on 23 October 2023 to provide arboricultural consultancy under their purchase order reference MPIC3578. Arboricultural advice has been commissioned in relation to confirming the condition of trees located to the frontage of 9 Burnley Road, Hempstead, Bacup (originally known as Hempsteads but also understood to go under the name of Kirren Cottage).

1.2 The local planning authority is Rossendale Borough Council. Reference to their website confirmed that the report property falls within the bounds of the Bacup Conservation Area, and this affords initial protection to all report trees.

1.3 Prior to instruction, it was suggested that the trees may in addition be protected by virtue of a Tree Preservation Order. The Council does not provide online details regarding this, and no prior correspondence was available from staff at the site. To all intents and purposes, whilst the protected status of the trees should be confirmed, in any event a six week prior notification of any intended works should be provided to the Council in the first instance ahead of undertaking any of the recommended works. As part of validation, the Council will confirm if indeed any Tree Preservation Order applies.

Figure 1: Showing an extract of the Bacup Conservation Area with the report property edged in a red dashed line.



1.4 I inspected the trees on 21 November 2023, primarily from ground level. However, I also used extendable ladders to aid my inspections. Weather conditions were generally dry and bright. All photographs reproduced within this document were taken during this visit to site.

1.5 To aid my observations I utilised an IML PD400 Resistograph microdrill and the pertinent read-out graphs are reproduced at Appendix 1.

2. Overview and the report trees

Overview

2.1 9 Burnley Road is a detached stone property set back around 20m from the Road frontage with access via wrought iron gates giving way to a small flight of stone steps and a central path leading to the front door of the property. To the north western side, the property is adjoined by Central Church, whilst to the south east the adjacent property is a large detached stone building currently occupied as the ABD Centre.

2.2 Originally, the full curtilage of the frontage was edged in walls, often with a retaining function. Along the boundary with the ABD Centre, the stepped retaining wall featured iron railings above. However, at an offset of around 0.8m to the internal side, a new close board wooden fence has been erected.

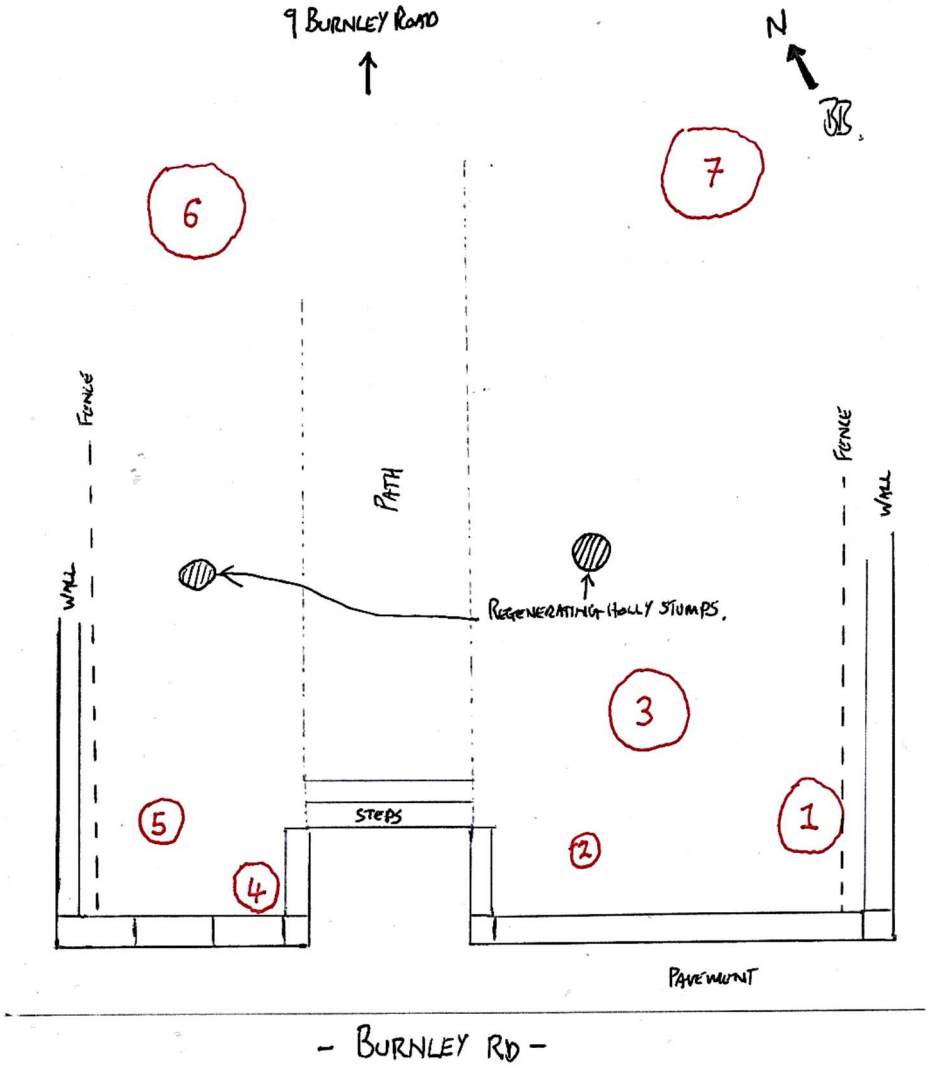
2.3 The boundary to the side of the church is similar, albeit at a higher level with a stepped stone wall with railings above and a more recent close board wooden fence to the internal side. In terms of the frontage with Burnley Road, the pavement runs immediately beyond the stone wall with gate piers either side of the original entrance. Land is retained at a typical height of 1–1.2m above that of the pavement.

2.4 The report trees range from early mature to fully mature with the oldest examples likely being contemporary with the property itself. These are located within the garden to either side of the path.

2.5 In addition to the surveyed report trees, there are two regenerating holly stumps and mature examples of mahonia shrub and rhododendron, albeit these are of no relevance to my report.

The report trees

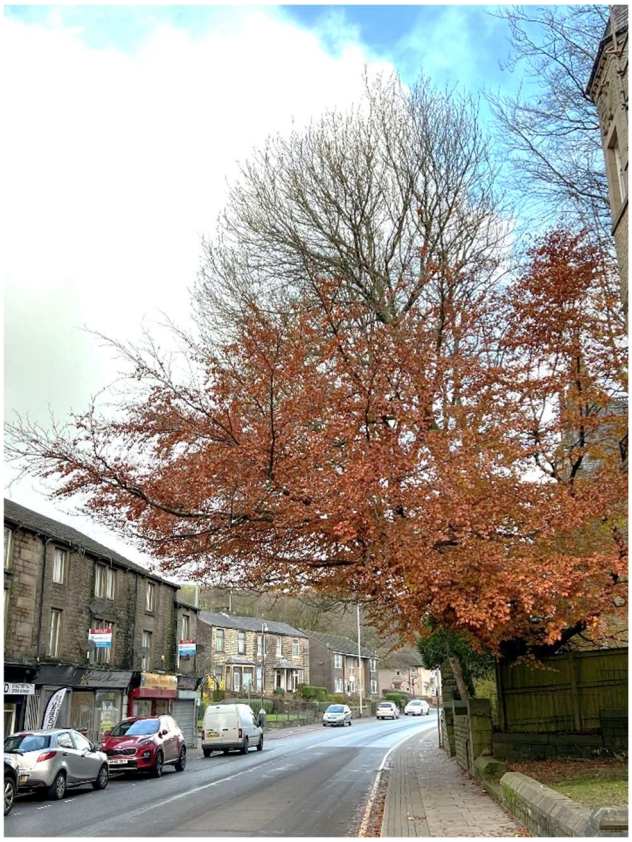
Figure 2: Sketch plan showing the approximate location of the surveyed trees at 9 Burnley Road.



Photograph 1: Overview of report trees as viewed from Burnley Road.

Photograph 2: Showing the setting of the trees.

Photograph 3: Looking towards the report trees from outside the ABD Centre.



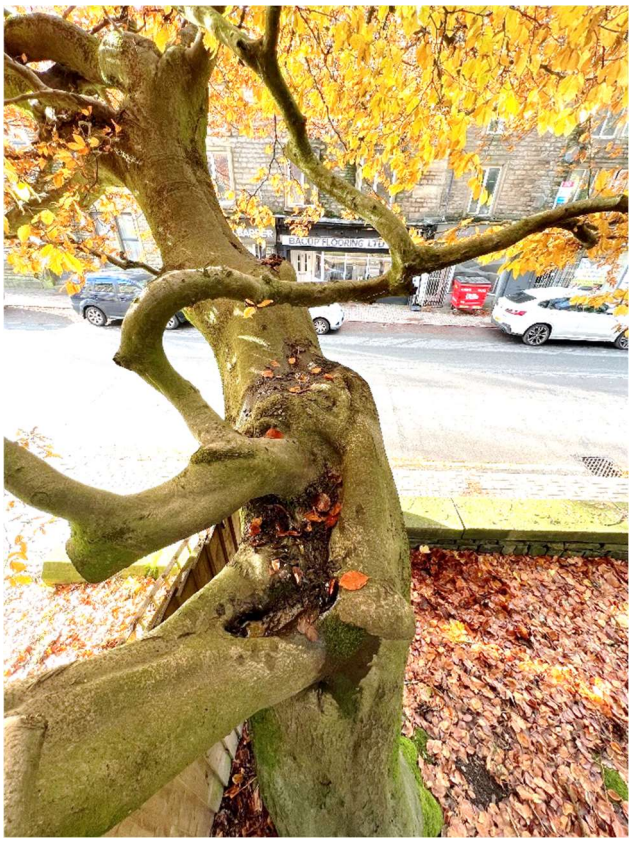
Photograph 4: Wider view towards the trees from opposite Central Church.

Tree 1: Beech (*Fagus sylvatica*)

2.6 The tree stands at an approximate height of 10m and has a measured trunk diameter of 620mm at around 1.5m above the ground. The base of the tree is set back around 1.6m from the frontage stone wall with a round 1m separation from the lower stone wall forming the boundary adjacent to the ABD Centre. This lower level wall shows some displacement, however not excessive, and retains some additional support from the railings that remain above. The frontage wall is not noticeably displaced.

2.7 The tree is of an unusual habit with a short stout trunk extending to around 1.8m before the first point of branching. The largest of these lower branches is around 250mm in diameter and features outer growth that brushes up against the face of the adjacent building, including balustrading, stonework and windows at second storey level. To the road side, the main stem continues almost in the manner of a side limb (extending over the road at an approximate angle of 20–30^0). Looking down upon this part of the primary structure, there were minor sunken pockets which were water-filled at the time of assessment. However, there was no indication of deep-penetrating decay.

Photograph 5: Looking down upon the spring of the crown of tree 1.

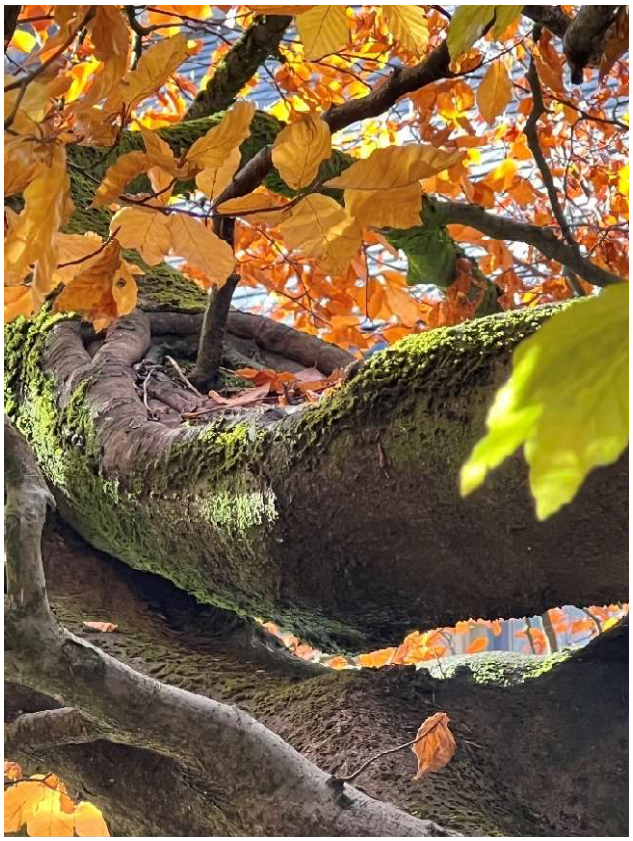


2.8 In terms of the stem extending to the road side, there is an opening at around 1m distance from the trunk and a slight rib formation running back from the opening towards the main stem. There is clearly some decay associated with this point and I made a test drilling D1 at around 200mm to the main stem side of the opening. This noted some insipient decay within outer wood ahead of a cavity extending between 14cm and 21cm (which I predict runs back close to the main stem itself). In terms of the residual sound wood thickness to the boundary side of this limb, this appeared acceptable to me. The tested section of stem itself had a diameter of around 500mm.

2.9 The section of crown overhanging Burnley Road is horizontal in its habit and currently features around 4.5m clearance above the carriageway (adequate clearance being noted when HGVs were seen passing beneath the crown during my site visit).

2.10 Evident from ladders was the fact that the upper side of a number of these branches features substantial old bark wounds which has given way to localised decay, almost certainly caused by previous bark stripping damage by grey squirrels. This is clearly longstanding as there has been some adventitious new growth which appears to be rooting into pockets of organic detritus. The tree maintains fair vigour with a reasonable crown density being observed at the time of inspection.

Photograph 6: Showing old wounds to the upper side of limbs of tree 1 over the road.



2.11 **Recommendation:** Lateral branch growth extending towards the neighbouring building should be pruned back to give at least 2m and preferably 3m clearance. Such works have been done previously, resulting in some internodal pruning stubs. Wherever possible, these should be reduced back to a stronger natural growth point, limiting future dysfunction.

2.12 The remaining crown growth to the road side should also be selectively reduced, primarily to reduce end weight given the observed defects to the upper side of limbs. The typical extent of reduction should be 3–4m. At which point, any minor compensatory branch reduction pruning should be carried out to retain the crown in as pleasing a shape as possible when viewed from the road frontage. Minor remaining growth over the lawn is to be crown lifted to give 2m clearance.

Tree 2: Smooth leafed holly (*Ilex altaclerensis ssp*)

2.13 The tree stands at a height of around 12m with a trunk diameter of 170mm. At greatest, it features a radial branch spread of 2.5m towards the road. Above 2m, the trunk is closely aligned to that of adjacent tree 3 and receives considerable companion shelter. The crown is generally free from defect.

2.14 The adjacent retaining wall (returning section of stone wall adjacent to internal steps) has historically had some displacement. However, it appears unlikely to me that this is due to the holly tree.

2.15 **Recommendation:** The tree requires no works at present.

Tree 3: Common ash (*Fraxinus excelsior*)

2.16 The tree stands at an approximate height of 18m and has a trunk diameter of 610mm.

2.17 At the time of inspection, all of the leaves had cast. However, looking at the buds on lower live growth plus remnants of cast leaves, it appears to be a plain ash tree, albeit its location indicates that it was intentionally planted.

2.18 The tree is of unusual form with a heavily swept lower trunk extending vertically for around 2.5m before there is a major elbow offsetting the crown to the side of Burnley Road (at around 2m from the trunk centre) before reverting to near vertical growth, albeit with a general bias over the road. In all, the tree has an estimated radial spread of around 11–12m on the road side.

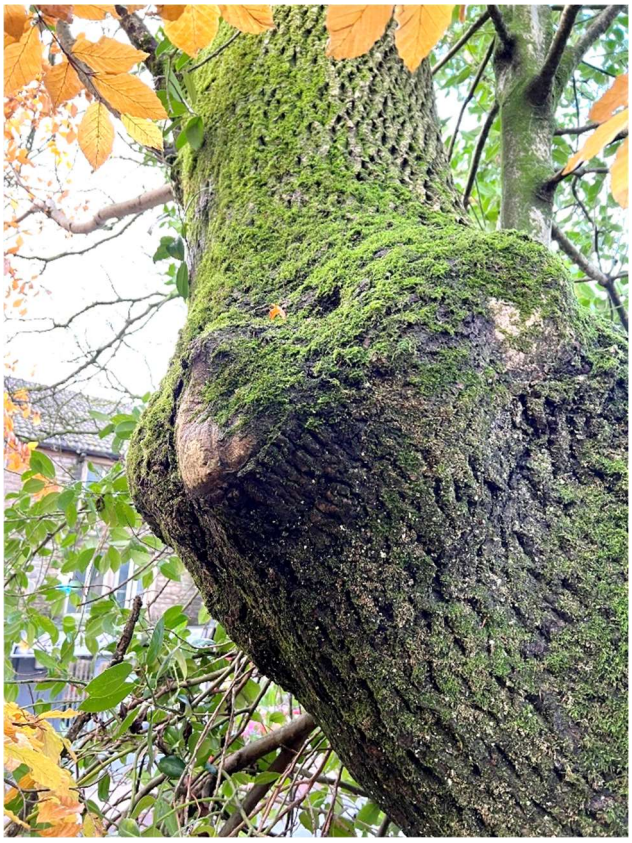
Photograph 7: Showing the swept form of tree 3.

2.19 Just at the point where the stem regains vertical alignment (beyond the elbow), there are a group of closely aligned old pruning wounds, giving rise to the potential of possible coalesced decay.

2.20 Test drilling D2 was made sideways into the main stem just beneath this point. However, it revealed entirely normal wood patterns. Due to the significant mechanical forces being placed upon the horizontal elbow section of the trunk, a further test drilling D3 was made into the middle of the horizontal section at around mid-stem height. This indicated some minor insipient decay alteration between 24cm and 30cm penetration. However, there was no clear degradation as to the wood quality.

2.21 At this point of the structure of the tree, it is heavily clad in moss and bryophytes, slightly hindering visual inspection and interpretation of biomechanical symptoms. Due to the mechanical forces, such an area is susceptible to delamination cracking, informing as so-called hazard beam.

Photograph 8: Showing the closely aligned old pruning wounds just at the point where the stem of tree 3 regains vertical alignment.



2.22 The upper crown features some substantial dead branches of up to 110mm in diameter by 6–7m in length which, should they fall, may potentially do so onto the pavement. Other minor deadwood was noted overhanging the road.

2.23 Going by bud set, the tree appears to have reasonable vigour and there are no indications of substantial crown decline associated with ash dieback disorder at this stage.

2.24 **Recommendation:** Deadwood is to be removed from the crown of the tree. The tree is to be paid particular attention during future monitoring.

Tree 4: Sycamore (*Acer pseudoplatanus*)

Photograph 9: Showing sycamore tree 4 next to the wall with lime tree 5 to the rear.

Photograph 10: Showing displacement of the wall and gate pier adjacent to tree 4.

2.25 The tree is in mid-maturity and grows immediately to the rear of the frontage stone retaining wall. It is responsible for the gate pier listing and historic displacement to the internal section of the retaining wall leading to the steps (the returning section from the frontage).

2.26 The tree has an estimated total height of around 19m and a trunk diameter of 580mm. The radial crown spread extends for a maximum of around 8m, overhanging the full width of Burnley Road. There is at least 5m clearance over the carriageway with only minor sucker growth at a lower level. The trunk is clad in moss and bryophytes, including ferns, and is part suppressed by the crown of an adjacent lime.

2.27 The tree is in fair physiological vigour. Given the location of a contemporary lime adjacent, it is almost certain that this tree has opportunistically self-seeded. It is clearly responsible for the displacement of the adjacent wall, likely due to a combination of both direct and indirect growth pressure (including the flexing of roots when the tree sways in the wind). The tree still has significant trunk increment potential, which undoubtedly would cause further conflict with the wall. There is no indication of the crown subsiding away from that of the adjacent lime at present. Small sized deadwood was noted, including overhanging the road.

2.28 From a layman's perspective, the wall does not appear unsafe at present. However, it will inevitably be subject to future displacement if the tree is retained. Intrinsically, the tree has a very short acceptable life expectancy in this respect. Although a significant tree in terms of the visual amenity of the street scene, a high quality lime tree remains within a few metres which was clearly an original component of the planting scheme, offering substantial mitigation.

2.29 **Recommendation:** Ongoing damage to the wall cannot be mitigated so long as the tree remains. Should such damage worsen significantly, the wall may need to be reconstructed in the future, itself having a potential negative impact upon the adjacent lime tree. On this basis, it is recommended to carefully dismantle the sycamore to a low stump which should be chemically treated to abate regrowth, noting it may take multiple applications to achieve this.

2.30 If the tree is to be retained in the short term, deadwood should be removed from its crown.

Tree 5: Lime, thought to be broad leafed lime (*Tilia platyphyllos*)

2.31 The tree stands at a height of around 22m and has a trunk diameter of 530mm. The tree has a radial crown spread of around 7m with a bias towards the road frontage. The base of the trunk is set back around 1.6m from the frontage stone wall and the trunk extends near vertically. Minor basal suckers. The crown features co-dominant stems above circa 7m based upon a broad fork and appears in good physiological condition.

2.32 **Recommendation:** The tree would be acceptable for retention following potential removal of the previous sycamore. Basal suckers should be cut back and low level epicormic growth stripped to give a clean trunk height of around 4m. Any deadwood should be removed from the crown.

Tree 6: Beech (*Fagus sylvatica*)

Photograph 11: Showing previously reduced beech trees with tree 6 to the right and tree 7 to the left.

2.33 One of two fully mature beech trees believed to be contemporary with the property standing at a height of around 20m and with a trunk diameter of 920mm. At greatest, the radial branch spread back towards the property was 12m, just extending up to the line of the building façade.

2.34 There are co-dominant stems above 2.1m with that to the house side further dividing at 3.3m above ground level, meaning that the crown is borne from three main stems, giving it a somewhat congested structure. The fork at around 3m was accessed off ladders and appears acceptable in its configuration. The upper crown has clearly been reduced but now features substantial growth beyond of up to around 140mm in diameter. Growth is now extending into contact with the verge of the adjacent church roof and lowest level growth on the property side is of horizontal habit and features minimal clearance off the porch.

2.35 **Recommendation:** Selectively reduce the crown to a post-pruning height of around 16m (typically 1m higher than previous points of pruning). The crown is heavily asymmetric. However, side growth should be selectively shortened so that there is at least 3m clearance off the church and back from the report property frontage.

2.36 Any deadwood should also be removed from the remaining crown. Post-pruning, there should be around 4m clearance above the lawn height, to be effected only by the selective shortening of low pendulous secondary growth.

2.37 The tree remains in good physiological vigour and is predicted to respond positively to such pruning.

Tree 7: Beech (*Fagus sylvatica*)

2.38 The tree is in maturity with an estimated height of around 20m and a measured trunk diameter of 900mm. The current radial branch spread towards the report property is 8m with a similar radial spread over the neighbouring property (ABD Centre) whereby lower level branches have been pruned back to give clearance to a second storey fire escape but upper growth remains overhanging the roof.

2.39 At around 2m on the path side, a side branch has an upswept nature, maintaining dominance up into the high crown structure. However, in the main, the crown has a strong bias to the south east, overhanging the neighbouring property. Previous lateral branch reduction has been internodal, resulting in some stubs that have died back.

2.40 The crown is congested and includes some squirrel damaged branches. However, it holds a considerable volume of deadwood, some of which is decayed with other examples having fallen but being lodged up in lower level branches.

2.41 The primary stem at around 6–7m features an acute fork and previously the tree was reduced at a height of around 17m. Much of the regrowth has occurred beyond abrupt elbows, increasing the likelihood of future branch failure. Overall, the tree maintains good physiological condition as indicated by the current density of set buds.

2.42 **Recommendation:** The tree should be further reduced to a post-pruning height of around 17m, ensuring that the section of contiguous crown with the previous beech remain at the same height. Previous branch pruning stubs should be, where appropriate, further reduced back to a natural growth point. From the remaining crown, any significant deadwood should be removed.

3. General provisions

3.1 It is essential that tree works be undertaken by a suitably experienced and qualified specialist arboricultural contractor with proven experience of, in particular, the reduction pruning of mature large trees.

3.2 Wherever applicable, all tree works should be undertaken in accordance with BS3998:2010 *Tree work – Recommendations*.

3.3 Ideally, the works would be undertaken outside of the typical closed bird nesting season extending from the beginning of March until August. However, if there is a potential conflict then a pre-works inspection should be made to ensure that there is no unacceptable impact upon nesting birds.

3.4 The extent of wall displacement should be the subject of ongoing monitoring. If it is intended to rebuild the walls or undertake trial excavations then further arboricultural advice must be sought, noting that tree roots as well as above ground parts are protected by virtue of the Conservation Area and/or potential Tree Preservation Order.

Signed:

Ben Bennett BSc (Hons) For, Cert Arb (RFS), MArborA
Director, BB Trees Ltd

Appendix 1: Resistograph decay detection methodology and read-out graphs

Methodology

A1.1 Throughout the course of my experience as an Arboriculturist, I have gained a sound understanding of tree biomechanics and the nature of decay caused by principal decay organisms. I have employed the Visual Tree Assessment methodology during my assessment. I have received intensive training in this methodology and its application and have been assessed at Elite Practitioner status.

A1.2 Invasive investigations have been undertaken using an IML PD400 Resistograph, in this instance, to assess the potential extent of internal decay.

A1.3 The Resistograph measures the relative density of wood by drilling into the tree with a flexible 3mm diameter drill of 400mm in length. The model of Resistograph used is the latest incarnation of well-proven technology and is capable of measuring wood quality and the presence of internal defects such as included bark or decay-altered wood. In simple terms, the higher the quality of the wood encountered, the greater the resistance offered to the drilling force and a higher output is recorded on the graph.

A1.4 The read-out graph identifies the depth of penetration for the testing (read right to left) along the horizontal (Z) axis. The vertical (Y) axis records the amplitude which is a relative measurement as to the density of the encountered wood.

A1.5 The read-out graph consists of two independently recorded, overlaid measurements. The green graph is the resistance measured at the tip of the drill and is equal to the torque force required to drill into the wood. The blue graph relates to the feed rate ie the force required to drill through the wood at a predetermined rate.

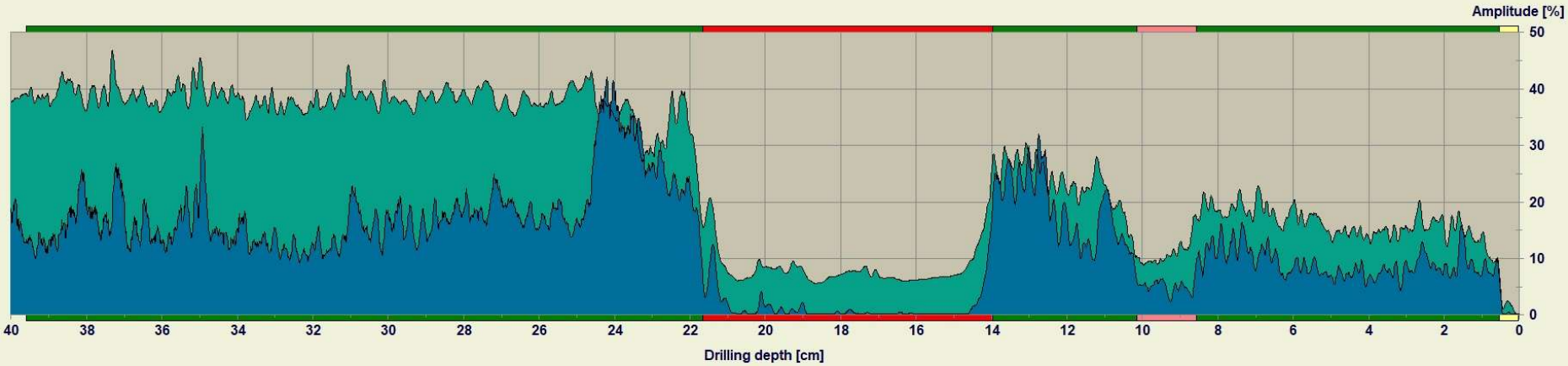
A1.6 Although a highly accurate precision tool, the Resistograph is only capable of interpreting the quality of wood within a very small area subject to the drilling. Whilst this is important in reducing the damage to the assessed tree, this tool does not measure wood quality beyond the area of testing. However, multiple testing points can be made in order to map potential defects.

Resistograph read-out graphs

Test drilling D1

Measuring / object data

Measurement no.	1	Speed	2500 r/min	Diameter	
ID number		Needle state	---	Level	
Drilling depth	40,11 cm	Tilt	---	Direction	
Date	21.11.2023	Offset	73 / 289	Species	
Time	12:51:07	Avg. curve	off / off	Location	
Feed	50 cm/min			Name	



Assessment

From	0,02 cm	to	0,53 cm	Bark/Cambial Zone
From	0,53 cm	to	8,56 cm	Normal Wood
From	8,56 cm	to	10,16 cm	Incipient Decay
From	10,16 cm	to	13,96 cm	Normal Wood
From	13,96 cm	to	21,65 cm	Decay
From	21,65 cm	to	39,59 cm	Normal Wood

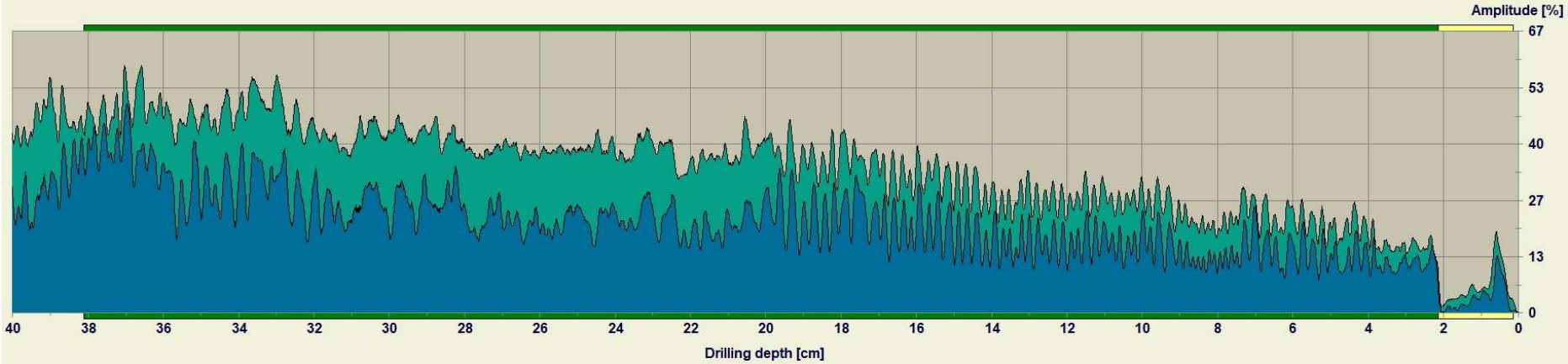
Comment

D1

Test drilling D2

Measuring / object data

Measurement no.	2	Speed	2500 r/min	Diameter	
ID number		Needle state	---	Level	
Drilling depth	40,11 cm	Tilt	---	Direction	
Date	21.11.2023	Offset	89 / 280	Species	
Time	13:09:48	Avg. curve	off / off	Location	
Feed	100 cm/min			Name	



Assessment

From 0,16 cm to 2,13 cm : Bark/Cambial Zone
From 2,13 cm to 38,12 cm : Normal Wood

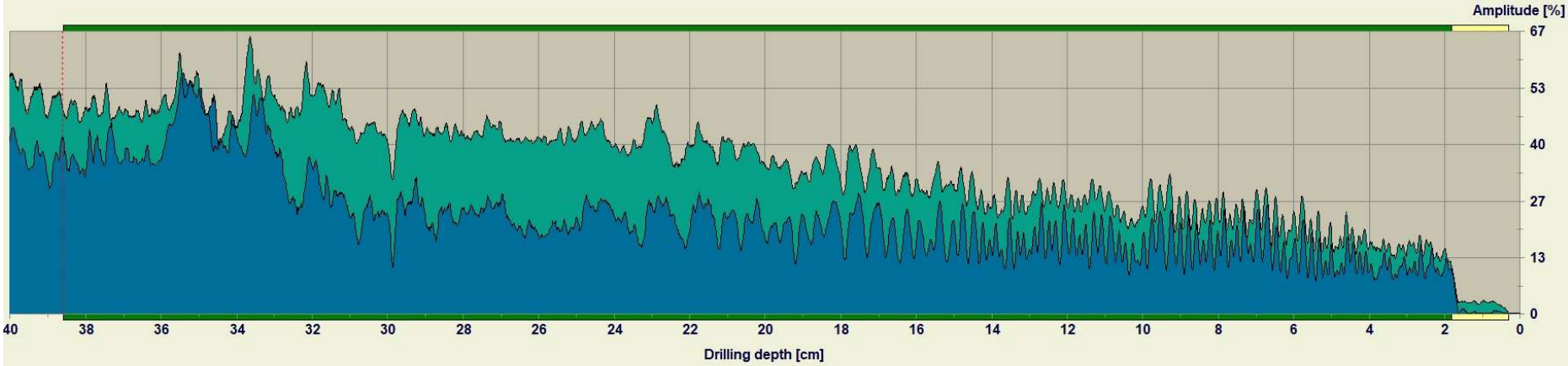
Comment

D2

Test drilling D3

Measuring / object data

Measurement no.	: 3	Speed	: 2500 r/min	Diameter	:
ID number	:	Needle state	: ---	Level	:
Drilling depth	: 40,12 cm	Tilt	: ---	Direction	:
Date	: 21.11.2023	Offset	: 90 / 289	Species	:
Time	: 13:10:59	Avg. curve	: off / off	Location	:
Feed	: 100 cm/min			Name	:



Assessment

From 0,30 cm to 1,81 cm : Bark/Cambial Zone
From 1,81 cm to 38,60 cm : Normal Wood

Comment

D3