



## **Tree Condition Report for Bingham Town Council**

**12th August 2020**



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## Introduction

This report has been prepared with reference to trees that are the responsibility of Bingham Town Council.

## Methodology

The trees were inspected from ground level. The soil was not examined and no samples were taken for analysis. There has been no attempt to assess potential root damage or subsidence potential. The weather was fine and bright.

It would be impractical to inspect every tree in detail, especially in areas of woodland. Instead, the review checks for obvious signs of decay or likely failure in the context of the value of any potential target and makes recommendations for appropriate action. Thus, a collapsed tree away from paths and buildings may require no action whilst a dead limb overhanging a path or property may present a significant risk.

Trees are living organisms whose health and condition can change rapidly – best practise recommends that trees are inspected every 18 months when they are alternately in and out of leaf. They should also be checked for storm damage following any extreme weather events.

## Trees subject to Statutory Control

Local Planning Authorities may assess trees as beneficial to the wider community in terms of their amenity value. They may protect such trees with a Tree Preservation Order (TPO). Work may still be permitted on protected trees but permission for the works must first be obtained from the LPA.

Some areas are designated conservation areas. Before carrying out works on a tree in a conservation area notice must be given to the LPA. The LPA can either allow the works to proceed or impose a TPO.

Where felling would produce more than five cubic metres of saleable timber a felling license may be required from the Forestry Commission.

## Trees and Wildlife

Trees are hosts to nesting birds and animals. It is an offence under the Countryside and Wildlife Act to disturb any nesting bird or bat. Before carrying out any works it is important to ensure that there are no birds or bats in residence.

## Implementation of Tree Works

BS 3998: 2010 *Recommendations for Tree work* is the standard by which any contractor should carry out tree work.



## Tree Report

### Obligations

Under the Occupier's Liability Act (1957 & 1984) land owners have a duty of care to ensure that their trees do not pose an unreasonable risk to people or property. Owners should take preventative action with trees that could reasonably be expected to present a hazard. Trees must not be allowed to cause an "actionable nuisance" which would include branches dislodging tiles or damaging brickwork. Falling leaves and honeydew (aphid) drop are not an actionable nuisance and nor is loss of light except in extreme cases. There is no legal "right to light" so owners have no obligation to prune the trees that may be shading a neighbouring property unless they are hazardous. Similarly, there is no legal right to receive a television or satellite signal that comes over a neighbour's property. Neighbours may, at their own expense, cut back trees to their boundary (subject to the statutory constraints of any Conservation areas or Tree Preservation Orders) and the tree owner may choose to allow neighbours to carry out tree surgery beyond their boundary, again, at the neighbours' expense.



### Clearance over roads, pavements and street furniture

Trees overhanging roads may be a nuisance to traffic. Crown lifting to around 5.5 metres is sufficient for trucks and buses though in practice, on busy roads the passage of traffic tends to knock off any new growth that might cause an obstruction.

Branches over pavements should be lifted to a clearance of 2.5 metres. Low branches are particularly hazardous for partially sighted pedestrians.

Foliage may need to be target pruned to keep street lights clear and to avoid road signs being obscured.



### Dead wood

It is common for trees to have some dead wood in the crown where branches have died back. Dead wood has good habitat value but it can present a hazard to people and property below. In high risk areas such as paths, play areas and property it is recommended that dead wood greater than 25mm in diameter and more than a metre long is removed. In low risk areas it is recommended that dead wood greater than 40mm is removed.

# AT2 Tree Surveys

## Stakes and ties on trees

Many of the stakes and ties used to support young trees are still attached many years later. This causes two problems. As the girth of the tree grows the tie becomes embedded and can effectively strangle the tree. Also, when over-staked the tree is not encouraged to become self-supporting and so, when the stake eventually rots away, the tree loses its support and collapses. Trees should typically only be staked for the first two growing seasons. The ties should be flexible and there should be a rubber spacer block between the tree and the stake to prevent chaffing.



## Epicormic growth

Trees such as lime and sycamore can produce bushy epicormic growth around the trunk. This does no harm but it gives a cluttered appearance and may be considered unsightly. The young growth can be safely removed to leave a clear stem. This is often carried out in conjunction with crown lifting where lower branches are pruned to raise the canopy. "Crown cleaning" is a term used for a combination of dead wooding and removal of cluttered growth.



## Ivy

Ivy has many habitat benefits for wildlife but its presence in trees can have disadvantages. It can outcompete and overshadow weaker trees – this is common in older hawthorns. Whilst it doesn't take anything directly from the tree it does use the tree for support. Large growths can be very heavy and will increase the sail area which can lead to failure in strong winds. Ivy may also obscure other problems such as fungal brackets or areas of decay. In low risk areas it may be beneficial to retain ivy for its habitat value but in higher risk areas it should be carefully cut to leave a clear section of trunk and allowed to die back ("ringed"). Care should be taken not to cut the bark of the tree resulting in damage to the cambium layer below.




## Tree Preservations Orders and Conservation areas

Although none of the trees are protected by a tree preservation order part of the town is within the Bingham conservation area where council permission would be required to carry out tree works except for deadwooding which is exempt. Most of the recommended works would fall under the "*de minimis*" exemption for small items of routine maintenance but the reduction of the horse chestnut (ref. 31) will require a notification to Rushcliffe Borough Council.

## Observations and recommendations

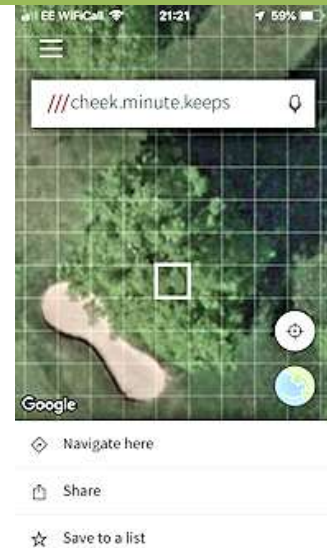
### Key to recommendations

This report contains a table of recommendations for tree work around the course. An explanation of the table columns is given below.

Column header	Explanation
<b>Ref.</b>	Sequential numbering for recommendations and accompanying photographs.
<b>Name/species</b>	Common and biological tree species
<b>Age category</b>	<p>Young: establishing, usually with good vigour but as yet of limited significance in the landscape.</p> <p>Semi-mature: established, normally vigorous, increasing in height and of increasing landscape significance.</p> <p>Early-mature: established; approaching mature height with crown spreading.</p> <p>Mature: fully established trees around the middle of their typical life expectancy; generally retaining good vigour and achieving full height but their crowns still spreading.</p> <p>Over-mature: fully established trees toward the end of their typical life expectancy with declining vigour.</p> <p>Ancient: surviving beyond the typical age range for the species. Very old with low vigour and liable to decline. May include important Veteran Trees.</p>
<b>Physiological condition</b>	Good, fair, poor, dead
<b>Structural condition</b>	Good, fair, poor, collapsing
<b>BS5837 Grading</b>	Tree quality assessment relating to decreasing useful life expectancy or contribution – A, B, C, U. (see appendix B)
<b>Recommendations</b>	<p>Recommendations with a  have an accompanying photograph.</p> <p>Some of the recommendations should be within the capabilities of the gardeners, for example, removing tree stakes and ties and planting replacement trees.</p>
<b>Priority</b>	<p>High: usually unsafe trees or branches that should be cordoned off until the works can be carried out e.g. severe fungal decay that might lead to imminent failure.</p> <p>Medium: trees with a significant fault that, if not addressed, could damage persons or property within the next 6 - 12 months.</p> <p>Low: everything else. This usually includes preventative maintenance - removing deadwood before it decays and falls out of the tree; cutting back branches before they cause damage.</p>

# AT2 Tree Surveys

Column header	Explanation
<b>what3words location</b>	Rather than using latitude and longitude or Ordnance Survey coordinates, what3words is a free phone app that uses a three-word string to specify a GPS location. The tree positions have been recorded in this way – entering the three words into the app will display the aerial view and clicking “Navigate here” will direct you to the precise location.



## Google Earth .kmz file













Accompanying this report is a **.kmz** file that can be loaded into Google Earth on a computer or a smartphone to show all the tree positions. Clicking on a tree will display a panel with details including the recommended work.



**Google Earth screenshots showing information loaded from a .kmz file.**














To load into Google Earth on a computer choose “Open...” from the “File” menu and pick the .kmz file or just double click on the .kmz file in a file explorer window. To load into Google Earth on a smartphone, click on the menu ☰ icon and select “Projects” > “Open” > “Import KML file”.

**Table of recommended tree works**















Ref.	Name/species	Age category	Physiological condition	Structural condition	BS5837 Grading	Recommendations	Priority	W3W Location
1	Mixed group	Young	Poor	Poor	U	Wild area of goat willow, brambles and cherry suckers. Clear and then reinstate mowing to control spread. 	Low	capillary.froth.shiver Wynhill sports ground
2	Mixed group Mixed group	Mature	Good	Good	C2	Crown lift to 2.5m over pavements around the park. Remove epicormic growth. Clear below street lamps. 	Low	defaults.message.straying Wychwood Road play area
3	Ash Fraxinus excelsior	Semi-mature	Good	Good	B2	Remove deadwood > 25mm in diameter and > 1m in length. 	Low	treaties.beyond.afterglow Wychwood Road play area
4	Mixed group Mixed group	Mature	Fair	Fair	C2	Continue phased coppicing to maintain width of grassed walkway. 	Low	cult.batches.proclaims Soundbund
5	Wild cherry Prunus avium	Mature	Good	Good	C2	Crown lift to 2.5m over pavement. 	Low	back.newly.crinkled Between Milburn Grove & Rothbury Grove
6	Crack willow Salix fragilis	Mature	Good	Fair	C2	Cut back limbs overhanging pavement and road. Cut back collapsed limb. 	Medium	selection.tonsils.totals Old A46
7	Elm Ulmus procera		Dead	Collapsing	U	Dead elms - fell where within falling distance of road. 	Medium	conductor.cartoons.ordering Old A46
8	Elm Ulmus procera		Dead	Collapsing	U	Dead elms - fell where within falling distance of road. 	Medium	printout.recap.proved Old A46
9	Ash Fraxinus excelsior	Semi-mature	Poor	Collapsing	U	Declining canopy - fell. 	Low	autumn.hires.escalates Old A46
10	Mixed hedgerow	Mature	Good	Good	C2	Crown lift to 2.5m over pavement. (Highways?) 	Low	hush.hedgehog.banks Nottingham Road
11	Buddleja Buddleja	Mature	Good	Good	C2	Cut back to clear pavement. 	Low	plan.attention.excusing Balmoral Road
12	Cherry Prunus	Mature	Good	Good	C2	Obscuring signage. Crown lift to 2.5m over pavement. 	Low	inflates.roosts.centrally Nottingham Road
13	Sycamore Acer pseudoplatanus	Mature	Good	Good	B2	Cut back to clear property ≥ 1.5m. 	Low	downfield.revised.sands Linear Walk
14	Ash Fraxinus excelsior	Mature	Good	Good	B2	Remove split dead branch at 10m. 	Low	instilled.return.presenter Linear Walk







# AT2 Tree Surveys

Ref.	Name/species	Age category	Physiological condition	Structural condition	BS5837 Grading	Recommendations	Priority	W3W Location
15	Sycamore Acer pseudoplatanus	Semi-mature	Dead	Collapsing	U	Dead - fell.		Low units.packages.cavalier Linear Walk
16	Mixed group	Mature	Good	Good	B2	Cut back/remove sycamore limb overhanging property. Cut back damsons to clear property by ≥ 1m.		Low young.enjoys.purist Linear Walk
17	Cherry Prunus	Mature	Poor	Fair	U	Declining canopy - fell.		Low awakening.clerics.cares Linear Walk east side 40m beyond bridge
18	Ash Fraxinus excelsior	Semi-mature	Good	Fair	C2	Remove dead limb overhanging path.		Low bicker.rejoined.frog Linear Walk west side 100m beyond bridge
19	Elm Ulmus procera		Dead	Collapsing	U	Dead - fell.		Low scribbled.fumes.atoms Tythby Road - west side
20	Elm Ulmus procera		Poor	Poor	U	Declining - OK at present but will continue to decline and will eventually need to be removed.		Low cornfield.jumpy.scribbled Tythby Road - west side
21	Cotoneaster Cotoneaster frigidus	Mature	Fair	Fair	C2	Cut back to clear garage roof by 1m.		Low remedy.feuds.armrests Tythby Road - west side
22	Elm Ulmus procera		Dead	Poor	U	Dead - fell.		Low fenced.unlocking.calendars Tythby Road - west side
23	Oak Quercus robur	Semi-mature	Good	Good	A2	Crown lift to 2.5m over pavement. Cut back branches to edge of road to clear street lighting.		Low absorbing.gave.vaccines Mill Hill Road
24	Sycamore Acer pseudoplatanus	Mature	Good	Good	B2	Crown lift to 4m over road. If possible, reinstate posts to prevent parking on top of roots. (Check for electricity cables.) If using concrete/postcrete use impermeable liner to prevent soil contamination.		Low obstinate.likely.discount Langtree Gardens
25	Sycamore Acer pseudoplatanus	Semi-mature	Good	Good	B2	Remove fence support. Now becoming embedded and harming tree.		Medium ballroom.groom.handsets Langtree Gardens
26	Ash Fraxinus excelsior	Mature	Good	Good	B2	Target prune to clear lamp pattern and security cameras.		Low evenings.lanes.conqueror Butt Field
27	Mixed group	Mature	Good	Good	B2	Cut Russian vine to prevent it overwhelming birch & ash canopies.		Low simulator.carpentry.passenger Butt Field

# AT2 Tree Surveys

Ref.	Name/species	Age category	Physiological condition	Structural condition	BS5837 Grading	Recommendations	Priority	W3W Location
28	Sycamore Acer pseudoplatanus	Mature	Good	Fair	B2	Remove hanging branch at 6m in centre of canopy. Target prune to clear building by 1m. 	Low	directors.reserving.flocking Butt Field
29	Sycamore Acer pseudoplatanus	Mature	Good	Good	A2	Remove deadwood > 25mm in diameter and > 1m in length. Fungal bracket ( <i>Polyporus Squamosus</i> ) not usually serious - watching brief. 	Low	visions.amphibian.reactiving Churchyard
30	Lime Tilia x europaea	Mature	Good	Good	A2	5 trees - remove epicormic growth and crown lift to 4m. 	Low	proved.airports.vets Around perimeter of churchyard
31	Horse chestnut Aesculus hipposcastanum	Mature	Good	Fair	A2	Crown reduce to take weight out of canopy. Reduce height by 5m and spread by 4m on NE side and 2m elsewhere. N.B. Conservation area. 	Low	fluffed.amending.rings Cemetery
32	Lime Tilia x europaea	Mature	Good	Good	A2	Remove split branch over garage. 	Low	slang.glorified.burying Cemetery
33	Lime Tilia x europaea	Mature	Good	Good	A2	Remove dead wood > 40mm in diameter and > 1m in length. 	Low	mixer.forever.activates Cemetery
34	Lime Tilia x europaea	Semi-mature	Good	Good	A2	Correct poor pruning cuts and clear fly tipped waste. 	Low	fragment.unfounded.professes Cemetery
35	Cherry Prunus	Mature	Good	Good	C2	Correct poor pruning cuts and clear fly tipped waste. 	Low	basics.assist.inner Cemetery
36	Beech Fagus sylvatica	Mature	Good	Good	A2	Remove dead wood > 40mm in diameter and > 1m in length. 	Low	wires.munch.rucksack Cemetery
37	Beech Fagus sylvatica	Mature	Good	Good	A2	Remove dead wood > 40mm in diameter and > 1m in length. 	Low	huddle.bibs.dodging Cemetery
38	Ash Fraxinus excelsior	Mature	Good	Fair	B2	Cut back broken limb overhanging The Banks. Retain stump of 0.5m. 	Low	unlisted.slimmer.loops Cemetery
39	Red oak Quercus rubra	Early-mature	Good	Fair	B2	Remove dead wood > 40mm in diameter and > 1m in length over The Banks. 	Low	respect.roadblock.amplified Cemetery
40	Beech Fagus sylvatica	Mature	Good	Good	A2	Remove dead wood > 40mm in diameter and > 1m in length over The Banks. 	Low	opened.nickname.gourmet Cemetery
41	Lawson cypress Chamaecyparis lawsoniana	Mature	Good	Good	C2	Remove split branch in crown break at 9m. 	Low	uncle.groomed.capers Cemetery

# AT2 Tree Surveys

Ref.	Name/species	Age category	Physiological condition	Structural condition	BS5837 Grading	Recommendations	Priority	W3W Location
42	Horse chestnut Aesculus hippocastanum	Mature	Fair	Fair	B2	Some dieback in canopy. Review May 2021. 	Low	quickly.breaches.opposing Cemetary
43	Ash Fraxinus excelsior	Young	Poor	Collapsing	U	Remove stem collapsing over The Banks. 	High	good.otter.fits The Banks
44	Crack willow Salix fragilis	Mature	Fair	Fair	C2	Remove deadwood. Ownership/liability? 	Low	spouse.remaking.quite Crow Close
45	Mixed group	Semi-mature			C2	Remove dead birch and cut back collapsed rose stems. Continue phased coppicing around perimeter. 	Low	mole.relished.elite Wallenfells Play Area

## Notes:

- The following areas were visited but no actions were recorded:
  - Allotments
  - Carnarvon play area
  - Land between Champion Way and Nottingham Road
- Last winter's work to cut back and coppice growth along the sound bund has opened up the path and allowed the hedges to regenerate. This work should continue in annual phases.
- The vegetation is closing in on the Linear Walk. This area would benefit from a phased approach similar to the sound bund where sections are cut back to maintain sufficient width for vehicle access.
- The Linear Walk was checked as far as the next bridge southeast of the A52.
- The eastern end of Wynhill sports ground has areas which are overgrown with brambles and sucker growth. These could be cleared and a mowing regime reinstated to manage growth.
- Warner's paddock has a large number of trees including many around the perimeter that overhang roads and byways but the position and ownership of boundaries is very unclear. It would be useful to clarify the ownership and liability before a detailed assessment of the trees is made.
- Although ownership is unclear, item 43 requires urgent attention – the branch could be hit by oncoming traffic.
- The responsibility/ownership of the willows on the south side of Crow Close is unknown.

## Plan of tree locations



©Google Earth

# AT2 Tree Surveys

## Photographs



**1. Clear sucker growth & reinstate mowing.**



**2. Crown lift over pavements & clear lights.**



**3. Remove deadwood >40mm x 1m.**



**4. Continue phased copicing.**

# AT2 Tree Surveys



**5. Crown lift over pavement.**



**6. Cut back willow over road.**



**7. Fell dead elms within falling distance of road.**



**8. Fell dead elms within falling distance of road.**

# AT2 Tree Surveys



**9. Fell declining ash.**



**10. Cut back overhanging hedge.**



**11. Cut back buddleja overhanging pavement.**



**12. Crown lift cherry to 2.5m over pavement.**

# AT2 Tree Surveys



**13. Target prune to clear property by  $\geq 1.5\text{m}$ .**



**14. Remove split dead branch from ash.**



**15. Fell dead sycamore stem.**



**16. Cut back overhanging sycamore branch & damsons.**



# AT2 Tree Surveys



**17. Fell declining cherry.**



**18. Remove dead ash branch over path.**



**19. Fell dead elm.**



**20. Elm x 2 declining.**

# AT2 Tree Surveys



**21. Cut back cotoeaaster to clear garage by 1m.**



**22. Fell dead elm.**



**23. Crown lift oak to 2.5 & cut back to edge of road to clear light pattern.**



**24. Crown lift to 4m and, if possible, reinstate posts to prevent parking over roots.**

# AT2 Tree Surveys



**25. Remove fence support strut which is damaging tree.**



**26. Target prune ash to clear lamp & security cameras.**



**27. Cut vine to prevent smothering of canopies.**



**28. Remove dead branch & crown lift over building.**

# AT2 Tree Surveys



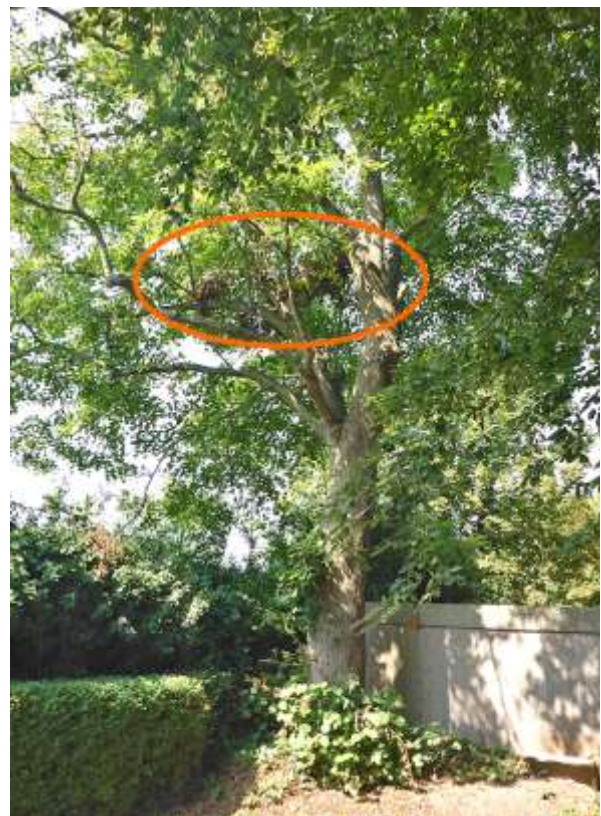
29. Remove dead wood >40mm x 1m.



30. Crown lift limes x 5 to 4m & remove epicormic growth.



31. Crown reduce horse chestnut.



32. Remove split lime branch over garage.

# AT2 Tree Surveys



**33. Remove dead wood >40mm x 1m.**



**34. Correct pruning cuts & clear fly tipping.**



**35. Correct pruning cuts & clear fly tipping.**



**36. Remove dead wood >40mm x 1m.**

# AT2 Tree Surveys



**37. Remove dead wood >40mm x 1m.**



**38. Cut back broken ash branch over The Banks.**



**39. Remove dead wood >40mm x 1m over Banks.**



**40. Remove dead wood >40mm x 1m over Banks.**

# AT2 Tree Surveys



**41. Remove split branch at 9m.**



**42. Some dieback in canopy – review May 2021.**



**43. Remove stem collapsed into road.**



**44. Deadwood willows – ownership unknown.**

# AT2 Tree Surveys



**45. Remove collapsed rose & dead birch.**



## Appendix A – References

- 1 British Standards Institution, (2012). *BS 5837: 2012 – Trees in relation to design, demolition and construction – Recommendations*. Milton Keynes: BSI
- 2 British Standards Institution, (2010). *BS 3998: 2010 – Recommendations for tree work*. Milton Keynes: BSI
- 3 Patch, D. & Holding, B. (2007). Through the Trees to Development. *Trees in Focus*. APN 12. Arboricultural Advisory and Information Service, Farnham
- 4 Crow, P. (2005). *The Influence of Soils and Species on Tree Root Depth*, Forestry Commission Information Note, Forestry Commission, Edinburgh
- 5 Cowan, A. (2007) Arb Development. *TotalARB – a World of Trees*, Issue 10, April 2007, pages 20-25
- 6 Mattheck, C. & Breloer, H. (2006). *The Body Language of Trees, A Handbook for Failure Analysis*. The Stationery Office.
- 7 Strouts, R. G. & Winter, T. G. (2000). 2<sup>nd</sup> ed. *Diagnosis of Ill Health in Trees*. The Stationery Office.
- 8 Shigo, A. L. (1991). 3<sup>rd</sup> ed. *Modern Arboriculture*. Shigo & Trees, Associates.
- 9 NHBC Standards Part 4 (2008). *Chapter 4.2 Building near trees*. National House Building Council.
- 10 NJUG Volume 4: *Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*, (Issue 2: 16<sup>th</sup> November 2007). National Joint Utility Group.
- 11 Smiley, E. T. Does Included Bark Reduce the Strength of Codominant Stems?, *Journal of Arboriculture* 29(2), March 2003, pages 104-106
- 12 Guy Watson & Ted Green. *Fungi on Trees – An Arborists Field Guide* (2011) Arboricultural Association
- 13 Cavanagh v Witley Parish Council (1) and D Kevin Shepherd (t/a Shepherd Tree Surgeons & Forestry Contractors) (2) [2017]

## Appendix B – BS 5837:2012 chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan			
<b>Trees unsuitable for retention</b> (see Note)					
<b>Category U</b> Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> <li>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve</i></p>				Red
<div style="display: flex; justify-content: space-around;"> <span><b>1 Mainly arboricultural qualities</b></span> <span><b>2 Mainly landscape qualities</b></span> <span><b>3 Mainly cultural values, including conservation</b></span> </div>					
<b>Trees to be considered for retention</b>					
<b>Category A</b> <b>Trees of high quality</b> with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green	
<b>Category B</b> <b>Trees of moderate quality</b> with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue	
<b>Category C</b> <b>Trees of low quality</b> with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey	

## Appendix C – Codominant Stems or compression forks

Codominant stems occur when a tree grows with two or more main stems or 'leaders' that are about the same diameter and emerge from the same location on the main trunk. As the tree grows older the stems remain similar to each other in size without any single one becoming dominant. They are especially common in some species including ash, acer and lime.

Depending how the tree has grown codominant stems can result in an increased risk of failure.



### 'V' shaped union with included bark

Where the stems have grown in a tight 'V' shape bark may have been trapped in the junction in between. The trapped or 'included' bark prevents the tree forming a strong joint between the stems.



### 'U' shaped union with bark ridge



A more open 'U' shape forms a stronger union with no included bark.

Instead the bark maintains a barrier or crack that weakens the union.



Another example showing a crack formed by included bark



The annual growth ring for each stem pushes against the opposing stem acting like a wedge forcing them apart. This is also known as a compression fork.

The tree will produce reactionary growth forming ribs at the ends of the crack to bind the stems. The size of these ribs is a strong indicator as to the extent of the bark inclusion.

# AT2 Tree Surveys

The presence of codominant stems with included bark reduces the strength of the union and therefore increases the risk of failure under loading during strong winds.



**Failed ash tree with two codominant stems.**

However, the presence of included bark does not mean the tree will fail. Codominant stems are a common feature of many trees and most will live to the end of their natural life without a problem. The decision whether to take remedial action should take a range of factors into consideration including the size, position and condition of the tree and the proximity of 'targets' close to the tree.