



Arboricultural Report

Tree Condition Survey and Hazard Report:

Address: Queenshill Lodge, London Road, Ascot, SL5 7EQ

Date: 19th February 2024

Reference: RCG-TCQL-2024/201





Arboricultural Report

Tree Condition Survey and Hazard Report

Relating to: Queenshill Lodge, Ascot

Purpose of the Report:

This report is to document the findings of the detailed health and safety inspection with hazard assessment of the trees identified by the client.

Included Within the Contents of this Report is:

- Full survey recording all trees identified and agreed upon with the client using Visual Tree Assessment (VTA).
- Evaluation of the all trees surveyed identifying hazards and foreseeable risks posed.
- Recommendations for remedial tree works based on outcome of the inspection.

Report Produced for: Sam Jahanian

Date: 19th February 2024

Produced by: Russell Gibbons

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This report is for the exclusive use of the client and those involved in the submission and approval of the planning application to which the report relates and the implementation of the consented works. It may not be sold, lent, hired or divulged to any third party not directly involved in the subject matter without the express consent of RCG Arboriculture.



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1.0 Introduction

1.1 Instructions:

I have been instructed by Sam Jahanian to undertake a health and safety tree condition inspection and survey of all the trees identified with the client.

1.2 Site Details:

Site Address: Queenshill Lodge, London Road, Ascot, SL5 7EQ



[Above image from Google Earth](#)



1.3 Scope of the Report:

- Ground level and climbing inspection of the trees using the widely accepted Visual Tree Assessment (VTA) as defined in the Research for Amenity Tree Series.
- Recommendations for any necessary remedial tree surgery works.
- Time scale for which the remedial works should be completed.
- Time scale for re-inspection.

1.4 Limitations of the Report:

The report is based on the information gathered at the time of the inspection. If the site conditions change after the inspection dates documented, RCG Arboriculture shall not accept liability for the impact those changes may have on the health and condition of the trees.

Where appropriate, further investigative works to be undertaken have been detailed and recommended. This may include climbing inspections, below ground exploratory investigations, and the use of specialist decay detection equipment.

Detailed ecological considerations are also beyond the scope of my expertise and have not been included in this report. UK and European wildlife legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Information regarding the conservation of wildlife and their habitats is contained in the Wildlife and Countryside Act 1981 and Amendments. This includes information of wild birds, bats, badgers and some insects. Bats are afforded particular protection and a specialist is required to determine if bats are present or may be affected when carrying out tree works. Further information is available from Natural England (www.gov.uk/government/organisations/natural-england).

Tree work recommendations may be included where trees are visibly causing direct damage or potential damage from physical contact with structures or property. The assessment of indirect damage such as tree root related subsidence on clay soils has not been assessed. If tree root related subsidence is suspected, RCG Arboricultural would recommend contacting your household insurers to help investigate.



2. Tree Survey

2.1 Survey Method:

The trees were surveyed on 17th February 2024.

The trees were inspected from ground level and rope and harness using the widely accepted Visual Tree Assessment (VTA) as defined in 'Principles of Tree Hazard Assessment and Management: No. 7 (Research for Amenity Trees)' by David Lonsdale.

A climbing inspection was undertaken to investigate a previously identified cavities in the crown.

No samples of soil, tree tissue or suspected pests, diseases and pathogens were taken. Heights of trees were estimated by eye and crown spreads by physical pacing. Diameters were measured in mm using a diameter tape measure.

Any photographs taken on site were done so using a digital camera.

Tools used when appraising trees were a metric diameter tape, binoculars, digital measuring device, hand lens and where appropriate, metal probe, trowel and Engineer's mallet.

Locations of the trees were plotted by eye using site features as reference points.

2.2 Legal Protection Status of Trees:

The legal protection status of the trees on the proposed site and adjacent site was not checked. Prior to undertaking any works RCG Arboriculture advises you contact your local planning authority to check whether the trees identified in the survey are protected by a Tree Preservation Order, Conservation Area designation or prior planning conditions.

2.3 Tree Work Operations:

All recommended tree works should be carried out in accordance with B.S. 3998: 2010 'Recommendations for Tree Work' (as amended) and current arboricultural industry best practice. RCG Arboriculture recommends the works be carried out by a suitably qualified and experienced Arboricultural Contractor holding the necessary insurance cover. If you do not already have a tree surgery contractor in mind, a list of approved contractors is available from the Arboricultural Association (www.trees.org.uk).



2.4 Reinspection Timeframe:

Every 2 years – Next inspection will be due February 2026



Appendices

Appendix 1:

Tree Survey Schedule (including tree works recommendations)
Climbing Inspections

Appendix 2:

Tree Location Plan

Appendix 3:

Glossary of Arboricultural Terms



Appendix 1: Tree Survey Schedule



Site: Queenshill Lodge

Date: 17/02/2024

Surveyor: R. Gibbons

| Type | Tree No. | Tag No: | Species | Age Class | Height (m) | Crown Height | DBH (mm) | No. Stems | Crown N | Crown E | Crown S | Crown W | Physiological Condition | Structural Condition | Observations | Work Recommendations | Priority |
|------|----------|---------|----------------------------------|-----------|------------|--------------|----------|-----------|---------|---------|---------|---------|-------------------------|----------------------|---|--|---------------|
| T | 1 | | Castanea sativa (Sweet Chestnut) | M | 16 | 3 | 1300 | 1 | 7 | 6 | 5 | 6 | Good | Fair | Mature tree growing on the edge of the gravel and block paved access and square. Historic bark damage on East Side at ground level. Tree has been crown reduced in the past with some bark death and heart wood showing from the wounds. Several old wounds on the main stem have fully and partially occluded. Limb on West Side at 10m appears to only have live growth on the upper half but healthy growth. Small suspected nesting hole at 7m on North side. | Crown lift to provide 5m clearance from ground level over the access and paved area. | 6 Months |
| T | 2 | | Quercus ilex (Holm Oak) | EM | 15 | 4 | 500 | 1 | 4 | 3 | 5 | 7 | Good | Fair | Tree growing on the edge of the gravel car park. Straight stem with some old partially occluded crown lifting wounds between 4 - 6m. Crown bias towards the West due to mature trees in the adjacent property. | Crown lift the tips over the parking bays only, to provide 5m clearance from ground level. | 6 Months |
| T | 3 | | Quercus robur (Common Oak) | M | 19 | 9 | 850 | 1 | 10 | 10 | 10 | 7 | Declining | Fair | Mature tree in grass area but with garages within the rooting area. Tree has recently and historically been crown lifted. Small epicormic shoots on the stem have been remove. Two large partially occluded wounds on South side at 5 and 7m. Climbing inspection to assess extent of possible wood degradation. Crown is declining with approximately 50% less density. Small twiggy deadwood visible. | Monitor physiological condition. Allow epicormic shoots on stem to grow out. | Non-Essential |



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| Type | Tree No. | Tag No: | Species | Age Class | Height (m) | Crown Height | DBH (mm) | No. Stems | Crown N | Crown E | Crown S | Crown W | Physiological Condition | Structural Condition | Observations | Work Recommendations | Priority |
|------|----------|---------|------------------------------------|-----------|------------|--------------|----------|-----------|---------|---------|---------|---------|-------------------------|----------------------|--|--|----------|
| T | 4 | | Robinia pseudoacacia (Locust Tree) | EM | 12 | 5 | 350 | 1 | 4 | 6 | 7 | 3 | Typical | Fair | Stem leans towards the East due to adjacent trees. Cavities between the buttress roots and probe can be inserted underneath the stem into the ground 400mm+. Some wood degradation and decay present at the base of the stem. Buttress roots appear sound at the moment. Large old decaying stump to the East. Increase risk of failure over entrance. | Fell to ground level. | 3 Months |
| T | 5 | | Robinia pseudoacacia (Locust Tree) | EM | 15 | 3 | 340,160 | 2 | 2 | 4 | 9 | 4 | Typical | Fair | Twin stemmed from ground level. Crown bias towards the South due to adjacent trees on highway. Branches within 1m of garage roof. | Crown lift / reduce to provide 2m clearance from the garage roof. | 6 Months |
| T | 6 | | Robinia pseudoacacia (Locust Tree) | EM | 14 | 4 | 300 | 1 | 1 | 3 | 7 | 5 | Typical | Fair | Tree leans and bias towards the South due to adjacent highway trees. Unremarkable form /habit. Lower branches nearly touching the garages. | Crown lift / reduce to provide 2m clearance from garages. | 6 Months |
| T | 7 | | Tilia X europaea (Common Lime) | EM | 15 | 4 | 370 | 1 | 2 | 6 | 5 | 6 | Good | Fair | Large old wound on East Side at 1.5m with very thick old reactive growth occlusion. 300mn long by 50mm wide. Minor wood degradation visible. Tree should fully occlude in time. Rubbing limb at 5m. | Remove the smaller of the 2 rubbing limbs back to point of origin at the main stem. | 6 Months |
| T | 8 | | Quercus robur (Common Oak) | Y | 5 | 1.5 | 100 | 1 | 1 | 2 | 2 | 2 | Typical | Fair | Young tree. | None. | |
| T | 9 | | Previously removed tree | | | | | | | | | | | | Recorded for completeness & history. | | |
| T | 10 | | Acer pseudoplatanus (Sycamore) | M | 18 | 3 | 750 | 1 | 4 | 4 | 7 | 5 | Declining | Poor | Mature tree with garages built in rooting area. Various wounds on the main stem between 3 - 8m. Some have fully occluded while three on the South side around 7m have dark staining visible. Bark death from old snap outs / pruning wounds in the upper crown. Previously crown reduced. | Crown reduce / remove the damaged sections with major bark damage from the upper crown back to 1st available good side lateral. Approximately 1-2m from the tops only. | 3 Months |



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|------|----------|---------|---------------------------------|-----------|------------|--------------|----------|-----------|---------|---------|---------|---------|-------------------------|----------------------|--|--|----------|
| T | 11 | | Previously removed tree | | | | | | | | | | | | Recorded for completeness & history. | | |
| T | 12 | | Quercus robur (Common Oak) | M | 24 | 6 | 1170 | 1 | 13 | 12 | 6 | 12 | Typical | Good | Small wound to buttress on South side. Crown bias towards North due to adjacent trees. Small old fully occluded wounds on the main stem. Some strips of heart wood showing on branch tips on North West side from old wounds / tears which have partially occluded. Good crown density for the age. Little visible deadwood. | None | |
| T | 13 | | Quercus robur (Common Oak) | M | 24 | 7 | 1200 | 1 | 6 | 11 | 11 | 12 | Typical | Fair | Mature tree with various cavities and wounds throughout the main stem and upper scaffolds. Typical crown density. Further comments from climbing inspection. | Crown reduction by up to 3m. (See report for further details). | 3 Months |
| T | 14 | | Quercus robur (Common Oak) | M | 24 | 9 | 850 | 1 | 8 | 4 | 11 | 11 | Typical | Fair | Crown bias towards the West due to adjacent trees. Previously crown reduced on West side over neighbouring property. Approx 1m of regrowth. Old small occluding pruning wounds on the main stem. Small diameter deadwood present. | None | |
| T | 15 | | Previously removed tree | | | | | | | | | | | | Recorded for completeness & history | | |
| T | 16 | | Acer pseudoplatanus (Sycamore) | M | 18 | 5 | 350,550 | 2 | 7 | 6 | 8 | 6 | Declining | Poor | Twin stemmed from 1m above ground level. Cavity in Southern stem at 2m on South West side. 150mm high by 50mm wide. Depth is very limited but cavity extend into stem by 400mm. Thick reactive growth and stem is partially sheltered by Northern stem. Crown has been reduced on West Side with 600mm regrowth. Rubbing stems at 5m but has already been reduced. | None | |
| T | 17 | | Acer platanoides (Norway Maple) | M | 13 | 3 | 400 | 1 | 5 | 5 | 5 | 5 | Good | Good | Typical of species. Crown breaks at 4m. Slightly exposed surface roots with some minor damage. | None | |



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| Type | Tree No. | Tag No: | Species | Age Class | Height (m) | Crown Height | DBH (mm) | No. Stems | Crown N | Crown E | Crown S | Crown W | Physiological Condition | Structural Condition | Observations | Work Recommendations | Priority |
|------|----------|---------|----------------------------|-----------|------------|--------------|-------------|-----------|---------|---------|---------|---------|-------------------------|----------------------|---|---------------------------------|---------------|
| T | 18 | | Previously removed tree | | | | | | | | | | | | Recorded for completeness & history | | |
| T | 19 | | Quercus robur (Common Oak) | M | 19 | 5 | 950 | 1 | 9 | 7 | 11 | 9 | Declining | Fair | Stem splits into 2 at 4m with good union. Ground level drops on East side next to footpath. Exposed roots suggests no damage from soil level change. Small nesting hole on North side at 9m on North East stem. Moderate crown dieback in upper half of crown. Several old pruning wounds up main stems all mainly occluded. Manage decline in upper crown as lower crown looks healthy. Small to moderate deadwood present but over vegetation and low risk. | Monitor physiological condition | Non-Essential |
| T | 20 | | Taxus baccata (Yew) | EM | 14 | 4 | 400 | 1 | 4 | 4 | 3 | 3 | Good | Good | Typical of species with good form and habit. | None | |
| T | 21 | | Ilex aquifolium (Holly) | EM | 11 | 0 | 250,200,100 | 3 | 4 | 3 | 4 | 2 | Typical | Fair | Three stems from ground level. Growing on a bank. Difficult to inspect base. Typical of species. | None | |



Appendix 1: Climbing Inspections

| Tree Details | | | | | | | | | |
|--------------|----------------------------|-----------------|--------|-------------------|----|----|---|------------------------|------------------------------|
| Tree No: | Tree Species | Tree Height (m) | Age | Branch Spread (m) | | | | Diameter at 1.5m (DBH) | Height of first major branch |
| | | | | N | E | S | W | | |
| T3 | Quercus robur (Common Oak) | 19 | Mature | 10 | 10 | 10 | 7 | 850mm | 9m |



Above Left: Showing the location of the two cavities on South Side
 Above Right: Showing general crown density



Above Left & Right: Cavity 1 (upper at 7m)

Length – 250mm | Width – 70mm | Probe Depth – 150mm | Callus growth – 120mm | Stem diameter 700mm

Below Left & Right: Cavity 2 (Lower at 6m)

Length – 180mm | Width – 160mm | Probe Depth – 90 /100mm | Callus growth – 110-130mm | Stem diameter 700mm





T3 – Oak Climbing Inspection Summary :

Both the upper and lower cavities are slowly but successfully occluding. Upper cavity is collecting detritus and forming a sludgy pocket but the tree appears to have compartmentalised the wounds with limited wood degradation and decay.

No remedial works required.



| Tree Details | | | | | | | | | |
|--------------|----------------------------|-----------------|--------|-------------------|----|----|----|------------------------|------------------------------|
| Tree No: | Tree Species | Tree Height (m) | Age | Branch Spread (m) | | | | Diameter at 1.5m (DBH) | Height of first major branch |
| | | | | N | E | S | W | | |
| T13 | Quercus robur (Common Oak) | 24 | Mature | 6 | 11 | 11 | 12 | 1200mm | 7m |



Above Left: Showing setting and general vitality
 Above Right: Showing locations of cavities and defects inspected



Above Left Cavity 1 Suspected Nesting Hole (Upper Red Circle)

Length – 30mm | Width – 30mm | Probe Depth – 50mm | Callus growth – N/A | Stem diameter 350mm

Above Right: Cavity 2 (Upper Yellow Circle)

Length – 70mm | Width – 40mm | Probe Depth – 60mm | Callus growth – 40mm | Stem diameter 300mm

Below Left: Cavity 3 (Upper Light Blue)

Length – 450mm | Width – 250mm | Probe Depth – 50mm | Callus growth – 5-50mm |

Below Right: Cavity 4 (Green Circle)

Length – 260mm | Width – 220mm | Probe Depth – 40mm | Callus growth – 20-70mm | Stem diameter 430mm





Above Left Cavity 5 Suspected Nesting Hole (Lower Red Circle)

Length – 280mm | Width – 230mm | Probe Depth – 240mm | Callus growth – 20-70mm | Stem diameter 780mm

Above Right: Cavity 6 (Lower Red Circle)

Length – 270mm | Width – 180mm | Probe Depth – 150mm | Callus growth – 40-80mm | Stem diameter 750mm

Below Left: Cavity 7 (Lower Yellow Circle)

Length – 260mm | Width – 170mm | Probe Depth – 0mm | Callus growth – 40-90mm |

Below Right: Cavity 8 (Upper White Circle)

Length – 300mm | Width – 190mm | Probe Depth – 130mm | Callus growth – 50-80mm | Stem diameter 1200mm+





Above Left Cavity 9 (Lower White Circle)

Length – 400mm | Width – 280mm | Probe Depth – 350mm | Callus growth – 50-130mm | Stem diameter 1250mm+

T13 Oak Climbing Inspection Summary:

The associated reactive growth from a suspected old tear out above cavity 1 has resulted in a defect which will require some crown reduction remedial work to reduce the loading on the weakness.

Cavity 3 from a suspected lost old leader has produced a slight dog leg but with the cavity on the tension upper side of the main limb growing towards the main building. This limb will need to be crown reduced to lessen the loading and weight put through the branch at the structural weakness.

Collectively the remaining cavities all have some degree of healthy callus growth / reactive growth sealing over the wounds. The probe tests demonstrated a good degree of compartmentalisation with limited weakening of the overall stem diameter at each opening.



| Tree Work Recommendations | |
|---|---------------------------------|
| Recommended Works (T13 – Oak) | Priority / Timeframe |
| <p>T13 – Oak: Crown reduce the two identified limbs by up to 3m back to suitable growth points.</p> <p>2m crown reduction of remaining sections where necessary to balance the crown and prevent the shading out of the lower limbs.</p> <p>Reasons: To reduce the risk of limb failures from identified structural weaknesses.</p> | <p>3 months</p> |



T13 – Oak: Red arrows indicates limbs to be reduced by maximum specification. Red line is the approximate crown reduction specification for the remainder of the crown.



Appendix 2: Tree Location Plan

Redwood

T8
Quercus robur (Common Oak)

T7
Tilia X europaea (Common Lime)

T6
Robinia pseudoacacia (Locust Tree)

T5
Robinia pseudoacacia (Locust Tree)

T4
Robinia pseudoacacia (Locust Tree)

T10
Acer pseudoplatanus (Sycamore)

T3
Quercus robur (Common Oak)

T2
Quercus ilex (Holm Oak)

T12
Quercus robur (Common Oak)

T14
Quercus robur (Common Oak)

T13
Quercus robur (Common Oak)

T16
Acer pseudoplatanus (Sycamore)

T1
Castanea sativa (Sweet Chestnut)

Silverwood

1 to 6

The Coach House

T17
Acer platanoides (Norway Maple)

T21
Ilex aquifolium (Holly)

T19
Quercus robur (Common Oak)

T20
Taxus baccata (Yew)

Hornbeam

Wild



NOTES:
THIS PLAN IS TO BE READ AND PRINTED IN COLOUR.

KEY

| | |
|----|--|
| T1 | INDIVIDUAL TREE NUMBER |
| G1 | TREE GROUP NUMBER |
| | LATIN NAME (COMMON NAME) |
| | TREE & CANOPY DIMENSIONS NO WORKS REQUIRED |
| | TREE & CANOPY DIMENSIONS WITH REMEDIAL WORKS REQUIRED |
| | TREE & CANOPY DIMENSIONS RECOMMENDED FOR REMOVAL |
| | TREE NO LONGER PRESENT |

TREE SURVEY SCHEDULE KEY

TYPE: CLASSIFICATION OF FEATURE TYPE
T = TREE
G = GROUP

TREE NO. IDENTIFICATION NUMBER ALLOCATED TO EACH TREE, GROUP OF FEATURE WHICH IS ILLUSTRATED ON THE PLANS.

TAG NO. NUMBER OF PHYSICAL TAG ATTACHED TO TREE IF PRESENT

SPECIES: COMMON AND/OR BOTANICAL NAME OF THE TREE FROM A VISUAL IDENTIFICATION OF THE AVAILABLE FEATURES.

AGE CLASS: DETERMINED FROM VISUAL ESTIMATION CONSIDERING SPECIES
Y = YOUNG
SM = SEMI MATURE
EM = EARLY MATURE
M = MATURE
OM = OVER MATURE
V = VETERAN

HEIGHT: ESTIMATED HEIGHT OF TREE IN METRES

CROWN HEIGHT: HEIGHT OF THE LOWEST SECTION OF CROWN FROM GROUND LEVEL

DBH: DIAMETER OF THE STEM MEASURED AT 1.5M FROM GROUND LEVEL

NO. STEMS: NUMBER OF STEMS PRESENT AT 1.5M FROM GROUND LEVEL

CROWN NSEW: BRANCH SPREAD AT FOUR CARDINAL POINTS MEASURED IN METRES

PHYSIOLOGICAL: THE TREES PHYSIOLOGICAL CONDITION AND GENERAL VITALITY

CONDITION: GOOD
TYPICAL
DECLINING
POOR
DEAD

STRUCTURAL CONDITION: GENERAL STRUCTURAL CONDITION. ANY NOTABLE STRUCTURAL DEFECTS OF CHARACTERISTICS ARE NOTED IN OBSERVATIONS

OBSERVATIONS: ANY NOTABLE FEATURES OF THE TREE OR ITS SURROUNDINGS INCLUDING DEFECTS

MANAGEMENT RECOMMENDATIONS: A RECOMMENDATION FOR TREE WORKS BASED ON THE VISUAL INSPECTION OF THE TREE

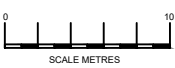
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Project :
QUEENSHILL LODGE, LONDON ROAD, ASCOT, SL5 7EQ

Title :
TREE LOCATION PLAN - CONDITION SURVEY

| | | |
|---------------|----------------------|---------------------|
| Scale : A3 | Date : 19-02-2024 | Drawn by : R. G. |
|---------------|----------------------|---------------------|

| | | |
|----------------------------|-----------------|--|
| Dwg No : RCG - QL - TLP | Revision : A | |
|----------------------------|-----------------|--|





Appendix 3: Glossary of Arboricultural Terms

Incorporating extracts from Lonsdale, D. 1999. Principles of Tree Hazard Assessment. Her Majesty's Stationary Office, London

Abscission. The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base; in some tree species twigs can be shed in this way

Abiotic. Pertaining to non-living agents; e.g. environmental factors

Adaptive growth. In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

Adaptive roots. The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

Adventitious shoots. Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

Anchorage. The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

Architecture. In a tree, a term describing the pattern of branching of the crown or root system

Axil. The place where a bud is borne between a leaf and its parent shoot

Bacteria. Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

Bark. A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

Basidiomycotina (Basidiomycetes). One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like structures (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

Bolling. A term sometimes used to describe pollard heads

Bottle-butt. A broadening of the stem base and buttresses of a tree, in excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

Bracing. The use of rods or cables to restrain the movement between parts of a tree

Branch:

- **Primary.** A first order branch arising from a stem
- **Lateral.** A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches
- **Sub-lateral.** A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

Branch bark ridge. The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

Branch collar. A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

Brown-rot. A type of wood decay in which cellulose is degraded, while lignin is only modified

Buckling. An irreversible deformation of a structure subjected to a bending load

Buttress zone. The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

Cambium. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

Canker. A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria



Compartmentalization. The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region

Compression strength. The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

Compressive loading. Mechanical loading which exerts a positive pressure; the opposite to tensile loading

Condition. An indication of the physiological vitality of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree

Construction exclusion zone. Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection

Crown/Canopy. The main foliage bearing section of the tree

Crown lifting. The removal of limbs and small branches to a specified height above ground level

Crown thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well-balanced branch structure

Crown reduction/shaping. A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

Crown reduction/thinning. Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

Deadwood. Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

Defect. In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

Delamination. The separation of wood layers along their length, visible as longitudinal splitting

Dieback. The death of parts of a woody plant, starting at shoot-tips or root-tips

Disease. A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

Dominance. In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

Dormant bud. An axial bud which does not develop into a shoot until after the formation of two or more annual wood increments; many such buds persist through the life of a tree and develop only if stimulated to do so

Disfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood

DBH (Diameter at Breast Height). Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

Endophytes. Micro-organisms which live inside plant tissues without causing overt disease, but in some cases capable of causing disease if the tissues become physiologically stressed, for example by lack of moisture

Epicormic shoot. A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

Felling licence. In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

Flush-cut. A pruning cut which removes part of the branch bark ridge and or branch-collar

Girdling root. A root which circles and constricts the stem or roots possibly causing death of phloem and/or cambial tissue

Guying. A form of artificial support with cables for trees with a temporarily inadequate anchorage

Habit. The overall growth characteristics, shape of the tree and branch structure



Hazard beam. An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

Heartwood/false-heartwood/ripenwood. Sapwood that has become dysfunctional as part of the natural aging processes

Heave. A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a wind-rocked root-plate

High canopy tree species. Tree species having potential to contribute to the closed canopy of a mature woodland or forest

Incipient failure. In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

Included bark (ingrown bark). Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

Increment borer. A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

Infection. The establishment of a parasitic micro-organism in the tissues of a tree or other organism

Internode. The part of a stem between two nodes; not to be confused with a length of stem which bear nodes but no branches

Lever arm. A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

Lignin. The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

Loading. A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

Longitudinal. Along the length (of a stem, root or branch)

Lopping. A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

Mature Heights (approximate):

- Low maturing – less than 8 metres high
- Moderately high maturing – 8 – 12 metres high
- High maturing – greater than 12 metres high

Minor deadwood. Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

Mulch. Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

Mycelium. The body of a fungus, consisting of branched filaments (hyphae)

Occluding tissues. A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

Occlusion. The process whereby a wound is progressively closed by the formation of new wood and bark around it

Pathogen. A micro-organism which causes disease in another organism

Photosynthesis. The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesizing carbohydrates and other biochemical products

Phytotoxic. Toxic to plants

Pollarding. The removal of the tree canopy, back to the stem or primary branches. Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

Primary branch. A major branch, generally having a basal diameter greater than 0.25 x stem diameter



Primary root zone. The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2012) Guide for Trees in Relation to Design, Demolition and Construction Recommendations.

Priority. Works may be prioritised, 1. = high, 5. = low

Probability. A statistical measure of the likelihood that a particular event might occur

Pruning. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

Radial. In the plane or direction of the radius of a circular object such as a tree stem

Reactive Growth/Reaction Wood. Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

Removal of dead wood. Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

Removal of major dead wood. The removal of, dead, dying and diseased branchwood above a specified size

Residual wall. The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

Root-collar. The transitional area between the stem/s and roots

Root protection area. An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival. Calculated with reference to Table 2 of BS5837 (2012) and shown in plan form in square metres

Root zone. Area of soils containing absorptive roots of the tree/s described. The Primary root zone is that which we consider of primary importance to the physiological well-being of the tree

Sapwood. Living xylem tissues

Secondary branch. A branch, generally having a basal diameter of less than 0.25 x stem diameter

Selective delignification. A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose

Shedding. In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

Silvicultural thinning. Removal of selected trees to favour the development of retained specimens to achieve a management objective

Simultaneous white-rot. A kind of wood decay in which lignin and cellulose are degraded at about the same rate

Snag. In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

Soft-rot. A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

Spores. Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

Shrub species. Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

Sprouts. Adventitious shoot growth erupting from beneath the bark

Stem/s. The main supporting structure/s, from ground level up to the first major division into branches

Stress. In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

Stress. In mechanics, the application of a force to an object

Stringy white-rot. The kind of wood decay produced by selective delignification

Storm. A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes



Structural roots. Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

Subsidence. In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

Subsidence. In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

Taper. In stems and branches, the degree of change in girth along a given length

Target canker. A kind of perennial canker, containing concentric rings of dead occluding tissues

Targets. In tree risk assessment (with slight misuse of normal meaning) persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it

Topping. In arboriculture, the removal of the crown of a tree, or of a major proportion of it

Torsional stress. Mechanical stress applied by a twisting force

Translocation. In plant physiology, the movement of water and dissolved materials through the body of the plant

Transpiration. The evaporation of moisture from the surface of a plant, especially via the stomata of leaves; it exerts a suction which draws water up from the roots and through the intervening xylem cells

Understorey. A layer of vegetation beneath the main canopy of woodland or forest or plants forming this

Understorey tree species. Tree species not having potential to attain a size at which they can contribute to the closed high canopy of a woodland

Vascular wilt. A type of plant disease in which water-conducting cells become dysfunctional

Vessels. Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees

Veteran tree. A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned

White-rot. A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

Wind exposure. The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity

Wind pressure. The force exerted by a wind on a particular object

Windthrow. The blowing over of a tree at its roots

Wound dressing. A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

Woundwood. Wood with atypical anatomical features, formed in the vicinity of a wound

