cheshire woodlands
arboricultural consultancy

ARBORICULTURAL STATEMENT

ON

PROPOSED DEVELOPMENT AT

121 MANCHESTER ROAD, CHAPEL EN LE FRITH SK23 9TN

ON BEHALF OF

MR & MRS WILD

Author: Glyn Thomas

Our Ref: CW/9209-AS

Date: 8 August 2018

CONTENTS

APPENDICES

1. EXECUTIVE SUMMARY

1.1 Planning permission is sought for construction of a new access at 121 Manchester Road in Chapel en le Frith.

1.2 Trees on and adjacent to the site – the majority of which are protected by a tree preservation order – have been assessed and the effects of the development proposal on them evaluated in accordance with current best practice.

1.3 Two declining trees at the front of the site will be removed and the Council's Arboricultural Officer has confirmed she would not object to their loss, given their current condition. New native woody shrubs will be planted either side of the new roadway to mitigate the resulting visual impacts.

1.4 All of the remaining trees can be protected during construction in accordance with current best practice and retained in a sustainable manner. If the recommended safeguards are implemented, the risk of significant construction damage to the retained trees is very low.

1.5 Minor pruning of several retained trees complies with current best practice and will not be prominent in public views of the site.

1.6 The residual arboricultural, landscaping and engineering details can be resolved by planning condition.

1.7 The development proposal is sustainable in arboricultural terms.

2. TERMS OF REFERENCE

2.1 Instruction

2.1.1 Cheshire Woodlands Limited is instructed by Mr & Mrs Wild to:

- Survey and prepare a schedule of trees to comply with the general requirements of British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* [BS5837]
- Annotate a topographical land survey drawing and produce a tree constraints plan
- Appraise a development proposal in relation to trees and produce an arboricultural statement

2.1.2 The following documents have been considered in our evaluation:

- Existing site plan ref. 1474-02
- Untitled access working drawing (7 August 2018)
- Tree survey plan drawing ref. CW/9209-P-TS
- Preliminary tree survey schedule ref. CW/9209-SS

2.2 Limitations

2.2.1 This report and associated documents remain the copyright of Cheshire Woodlands Limited and there should be no transfer of rights to any third party without express written consent.

2.2.2 Trees are assessed in sufficient detail to gather data for and inform the current project. Appraisal of the structural condition of trees is of a preliminary nature and sufficient to inform the project.

2.2.3 Trees are assessed from ground level without invasive investigation and are viewed from within the site or from areas with public access. Assessment may be restricted where trees are wholly or partially off-site or obscured by vegetation. The disclosure of hidden defects cannot be expected.

2.2.4 Assessing the potential effects of trees on load-bearing soils beneath existing and proposed structures is not considered in this report. No soil samples have been taken.

3. INTRODUCTION

3.1 The shaded sections in this report highlight key issues that are specific to the project.

3.2 This assessment evaluates the effects of a development proposal on trees. The comparative values of trees are considered broadly in line with the guidance of BS5837 and their retention, protection and management are informed by this evaluation.

3.3 Glyn Thomas, senior consultant with Cheshire Woodlands Limited assessed the trees and evaluated the effects of the development proposal on trees.

3.4 The development proposal comprises construction of a new 4.1m wide vehicular access, gate pillars and walls as shown on the drawing at Appendix 2.

3.5 This report provides sufficient supporting information to demonstrate impacts on trees and enable the local planning authority [LPA] to determine the planning application insofar as it relates to trees.

4. THE SITE

4.1 The application site is a narrow, rectangular-shaped plot adjacent to the public highway in the northern part of the grounds of 121 Manchester Road, and comprises mature trees and part of an existing roadway. The site is bounded by Manchester Road (B5470) to the north, the house and grounds of 199 and 121 Manchester Road to the south and west, and a residential property to the east.

4.2 The British Geological Survey - *Geology of Britain Viewer* identifies the underlying soils as 'Till, Devensian – Diamicton'. Till is a general term referring to any kind of sediment deposited directly from glacier ice; typically unstratified and unsorted and sometimes called boulder-clay.

5. STATUTORY TREE PROTECTION

5.1 Trees on and adjacent to the site are subjects of The High Peak Borough Council (Manchester Road, Chapel en le Frith) Tree Preservation Order [TPO] 1985. The TPO is a blanket 'area' category Order that covers most of the grounds of 119 and 121 Manchester Road, and protects all of the trees that would have been present when the Order was made in 1985. The site is not in a conservation area. See Appendix 4 for further guidance.

5.2 The trees may also be subject to the provisions of The Forestry Act (1967), which limits the timber volume of growing trees that can be felled at any one time. See Appendix 4 for further guidance.

6. SURVEY METHODOLOGY

6.1 The trees were surveyed on 19 July 2018 and were identified, measured and recorded in the tabulated schedule at Appendix 1. Stem diameters and canopy spreads were mostly measured using a tape; tree heights using a tape and clinometer.

6.2 The structural condition of the trees was assessed on the basis of the 'visual tree assessment method' (Mattheck and Breloer 1994).

6.3 The trees were assessed for 'visual prominence' and were also broadly categorised as set out in Table 1 of BS5837. See Appendix 3 for further guidance.

6.4 A brief assessment for obvious signs of wildlife habitat in trees and hedges on the site was carried out during the survey. Any wildlife habitats of potential significance identified during the survey will be described in the 'comments' column of the survey schedule.

6.5 The existing site plan overlaid with the site layout proposal drawing is the base for the tree constraints plan at Appendix 2.

6.6 Below ground constraints are represented on the drawing as 'root protection areas' [RPA], calculated and where appropriate, modified in accordance with section 4.6 and table D.1 of BS5837. In this regard, the RPAs of trees T3 and T4 have been adjusted on an assumption that there is unlikely to be any significant root activity to the north side beneath the highway carriageway, and that the trees are likely to have rooted asymmetrically to the south.

7. EVALUATION OF THE TREES

7.1 BS5837 recommends that trees be evaluated and categorised as set out in Table 1, which also provides a summary of the impact of the development proposal on trees.

7.2 Table 1

	To be retained and protected	To be removed for development	To be removed for other reasons
Category A High quality with life expectancy of at least 40 years	Trees T1, T2 and T5, and group G1	None	None
Category B Moderate quality with life expectancy of at least 20 years	Trees T3 and T4	Tree T6	None
Category C Low quality with life expectancy of at least 10 years, or small young trees	Trees T8 and T9	Tree T7	None
Category U Cannot be retained in context of current land-use for longer than 10 years	None	None	None
Hedges and Shrubs	Hedge H1	None	None

7.3 Nine individual trees, one tree group and a hedge have been surveyed.

7.4 Tree T9 and group G1 are off-site. T1 to T8 and H1 are within the site or on the boundaries.

7.5 Trees T1 to T8 and group G1 are protected by the TPO; T9 and H1 are not protected.

7.6 T1, T2, T5 and G1 are 'high quality' A category trees; T3, T4 and T6 are 'moderate quality' B category; T7, T8 and T9 are 'low quality' C category.

7.7 The 'moderate quality' B category tree T6 and the 'low quality' C category tree T7 will be removed to accommodate the new roadway. Both trees are in decline; T7 most probably as a result of colonisation by Horse Chestnut Bleeding Canker *(Pseudomonas syringae* pv *aesculi),* T6 may be very early-stage infection by Dutch Elm Disease *(Ophiostoma novo-ulmi).* The Council's Arboricultural Officer has confirmed that, given the health and condition of both trees, she would not be minded to object to their removal.

7.8 To mitigate the visual effects of the loss of T6 and T7, mixed native woody shrubs will be planted to the west side of the new driveway, beneath trees T1, T2 and T3, and to the eastern edge alongside the neighbouring house. The areas set aside for new planting are shown on the drawing at Appendix 2.

7.9 Trees T1 to T5, T8 and T9, group G1 and hedge H1 will be retained and can be protected during the proposed construction works in accordance with current best practice as set out in BS5837.

7.10 Current best practice guidance for the construction of new structures and hard surfaces within RPAs is detailed at sections 7.4 and 7.5 of BS5837, and can be implemented in the areas identified by blue block-hatching and cross-hatching on the drawing at Appendix 2, where a new gate pillar and flank wall, and sections of the new roadway interface with the RPAs of retained trees T2, T3, T8, T9 and G1.

7.11 Retention of the orange dash-hatched section of existing driveway as 'temporary ground protection' during the development will limit the risk of construction damage to the underlying soils and roots within the RPAs of

retained trees T1, T2, T5 and G1. On completion of the construction work, careful removal of the surface wearing course and sub-base layer in this area, and replacement with clean topsoil will improve rooting conditions for the retained trees.

7.12 If the requisite best practice safeguards are implemented during construction, the risk of significant long-term harm to the retained trees is very low.

7.13 The retained trees T1, T2, T3, T5, T8 and G1 will be pruned, as detailed in the 'management' column of the survey schedule at Appendix 1, in order to improve ground clearances for construction and other traffic over the existing and proposed roadways. The proposed works are minor, comprising only the removal of minor low branches and basal growth, and comply with current best practice as set out in British Standard 3998:2010 Tree work – recommendations [BS3998]. The pruning works will not be prominent in public views of the site and will not harm the health or visual qualities of the trees.

7.14 The residual details for protection of the retained trees during construction, engineering works within RPAs, and replacement landscaping can be resolved by planning condition.

8. CONCLUSIONS

8.1 Two declining trees will be removed to accommodate the new access, and on the basis of their current condition the Council's Arboricultural Officer has confirmed she would not object to their loss. New native woody shrubs will be established either side of the new roadway to mitigate any resulting visual effects as viewed from outside the site.

8.2 All of the important 'high' and 'moderate quality' A and B category trees can be protected during construction in accordance with current best practice and retained in a sustainable manner.

8.3 Some construction works are proposed within RPAs and are achievable, without major conflicts, using tried and tested mitigation methods. If the recommended best practice safeguards are implemented during the development, the risk of significant construction damage to the retained trees is very low.

8.4 Removal of a section of existing roadway will benefit the rooting environment of some of the retained trees.

8.5 Minor pruning of some of the retained trees will improve ground clearances over the existing and new roadways without harming public views of the site or detracting from the trees' health or visual qualities.

8.6 The residual arboricultural, landscaping and engineering details can be resolved by planning condition.

9. RECOMMENDATIONS

9.1 No tree pruning or removal works should commence on site until the requisite consents have been obtained from the LPA, either in respect of the TPO or as part of a detailed planning permission.

9.2 All tree and hedge pruning and removal works should be implemented in accordance with the management recommendations in the survey schedule at Appendix 1 and in compliance with the requirements of BS3998.

9.3 Statutory protection of wildlife should be taken into account in the planning and implementation of tree and hedge pruning and removal. See Appendix 4 for further guidance.

9.4 All trees and hedges proposed for retention should be protected during site construction works in accordance with a tree protection plan and arboricultural method statement to be agreed with the LPA and in compliance with the requirements of BS5837.

9.5 The area of existing hardstanding identified by orange dash-hatching on the tree constraints plan at Appendix 2 should be retained to existing hard surface, as temporary ground protection, for the duration of the construction works. On completion, the surface wearing course and sub-base aggregate layer should be carefully removed by hand under arboricultural supervision in compliance with the requirements of section 7.3.6 of BS5837. The excavated ground should be made up to surrounding levels with clean sandy topsoil.

9.6 The new wall and gate pillar identified by blue block-hatching, and the areas of new hard surface identified by blue cross-hatching, on the drawing at Appendix 2 should be installed to engineer-designed construction

specifications and method statements to be agreed with the LPA and in compliance with the requirements of sections 7.4 and 7.5 of BS5837.

9.7 Landscaping should be implemented in accordance with a scheme of work to be agreed with the LPA, and based on the illustrative proposals on the drawing at Appendix 2.

10. REFERENCES.

Anon. *Geology of Britain Viewer.* British Geological Survey, Nottingham. http://www.bgs.ac.uk/ (accessed 8 August 2018)

BS5837:2012. Trees in relation to design, demolition and construction - Recommendations. British Standards Institute, London.

BS3998:2010. *Tree work - Recommendations.* British Standards Institute, London.

Mattheck. M, and Breloer. H,. 1994. *The Body Language of Trees A handbook for failure analysis*. Research for Amenity Trees No. 4.

APPENDIX 1

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: 121 MANCHESTER ROAD, CHAPEL EN LE FRITH
CLIENT: IAN AND JACKIE WILD
REF: CW/9209-SS-1
REVISIONS:

SURVEYED BY: G THOMAS
DATE: 19 JULY 2018
PAGE: 1

No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
T1	Sycamore	M	22	9	560	N	• Part of a closely spaced group • Partially suppressed • Ivy to base of stem. Dead ivy up to 5m • 3m ground clearance over driveway and could be raised to at least 6m by removal of minor low epicormic branches • Minor dead branches to upper stem	• Retain and protect during development • Prune on south side by removal of epicormic growth to obtain 6m ground clearance over driveway	4G	A	A	6.6
T2	Wych elm	M	22	12	550	N	• Part of a closely spaced group • Partially suppressed • Secondary stems of up to 100mm diameter at base of stem • Minor epicormic shoots • Dead ivy to stem and crown which has recently been removed to a height of 1.8m • Low ground clearance over driveway and could be raised to at least 5m by removal of secondary stems and minor sub-lateral branches • Bird's nest/squirrel's drey in mid-crown	• Retain and protect during development • Prune on south and east sides by removal of basal stems and minor sub-lateral branches to obtain 5m ground clearance over existing and proposed driveways	4G	A	A	6.6

Data in this schedule are time limited and subject to limitations described elsewhere.

HEADINGS & ABBREVIATIONS

Age Range	Y = young SM = semi-mature EM = early-mature M = mature PM = post-mature V = veteran
Stem Dia	Stem diameter (measured in accordance with Figure C.1 of BS5837: 2012) (MS = multi-stemmed EST = estimated)
Crown Spread	Maximum crown spread (EST = estimated)
Vitality	A measure of physiological condition. N = normal range for the species and age R = reduced, P = poor, MD = moribund, D = dead
Visual (Visual Prominence)	Broad indication of prominence in the landscape (0 = none 1 = very low up to 5 = very high) (G = contributes to a wider group)
Retention Category Existing	Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of the existing land-use)
Retention Category Proposed	Broadly in accordance with Table 1 of BS5837: 2012 (considers the merits of the tree or group in the context of a development proposal)
BS5837 RPA Radius	Calculated in accordance with Table D.1 of BS5837: 2012
Common Plant names	For scientific names refer to Mitchell, A. 2001. *Collins Field Guide – Trees of Britain & Northern Europe*. Harper Collins, London. pp. 420.

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No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
T3	Sycamore	EM/M	12	12	490 (OVER IVY)	N	• Part of a closely spaced group • Partially suppressed with stem and crown biased to north • Dense ivy colonising stem and lower crown • 3m ground clearance and could be raised to 5m by removal of minor low lateral branches • Several young maple, privet and hawthorn stems growing beneath crown	• Retain and protect during development • Sever and remove ivy to a height of 2m • Prune on east side by removal of minor low lateral branches to obtain 5m ground clearance over proposed driveway	4G	B	B	6.0
T4	Sycamore	SM	12	9	325 (OVER IVY)	N	• Part of a closely spaced group • Partially suppressed with stem and crown biased to north • Stem and crown colonised by dense ivy • Secondary stem of 100mm diameter • 2.5m ground clearance on north side	• Retain and protect during development • Sever and remove ivy to a height of 2m	4G	B	B	3.9
T5	Sycamore	EM/M	13	11	490	N	• Part of a closely spaced group • Partially suppressed with stem and crown biased to west • 2m ground clearance over driveway and could be raised to around 4.5m by removal of minor low sub-lateral branches • Ivy to base of stem. Dead ivy to upper half of stem and lower and mid-crown	• Retain and protect during development • Prune on south and west sides by removal of minor low sub-lateral branches to obtain 4.5m ground clearance over existing driveway	4G	A	A	6.0
T6	Wych elm	EM	16	9	500	R	• Part of a closely spaced group • Partially suppressed with stem and crown biased to north • Dead ivy colonising upper half of stem and crown and has recently been severed at 1.8m • Minor epicormic shoots and branches • Several young ash and elm stems beneath crown • 1.8m ground clearance and could be raised to around 4.5m by removal of minor low branches • Reduced vitality with thinning, undersized foliage and minor peripheral twig dieback, particularly in the upper crown	• Fell for development • Grind stump and major roots to a depth of 0.3m	3G	B	U	N/A

TREE SURVEY SCHEDULE

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CLIENT: IAN AND JACKIE WILD
REF: CW/9209-SS-1

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DATE: 19 JULY 2018

No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
T7	Horse chestnut	M	15	12	860 (OVER IVY)	P	• Part of a closely spaced group • Partially suppressed with stem and crown slightly biased to east • Stem and crown colonised by dense ivy • Several young ash and elm stems growing beneath crown • Crown extends almost to ground level and could be raised to around 4.5m by removal of epicormic growth and lower lateral and sub-lateral branches of up to 100mm diameter • Reduced vitality with undersized, yellowing foliage and peripheral twig dieback in the mid and upper crown, possibly associated with colonisation by Horse Chestnut Bleeding Canker	• Fell for development • Grind stump and major roots to a depth of 0.3m	3G	C	U	N/A
T8	Norway maple	EM/M	14	10	600	P	• Stem and crown slightly biased to east • Minor basal and epicormic shoots • Ivy colonising stem up to 4m • 2.5 ground clearance over driveway and could be raised to 5m by removal of minor low sub-lateral branches • Reduced vitality with thinning, undersized foliage and peripheral twig and shoot dieback, particularly in the mid and upper crown	• Retain and protect during development • Prune on west side by removal of minor low sub-lateral branches to obtain 5m ground clearance over proposed driveway • Prune to remove basal and epicormic shoots and sever and remove ivy to a height of 2m • Monitor crown condition for signs of deterioration	2	C	C	7.2
T9	Ash	SM	14	7 (EST)	(MS) 2 X 300 (EST)	N	• Off-site boundary tree • Not assessed in detail • Unlikely to be sustainable in the medium to long term without regularly ongoing management to contain height and radial crown spread given potential size at maturity and proximity to neighbouring house	• Retain and protect during development • No work currently required	2	C	C	5.1

TREE SURVEY SCHEDULE

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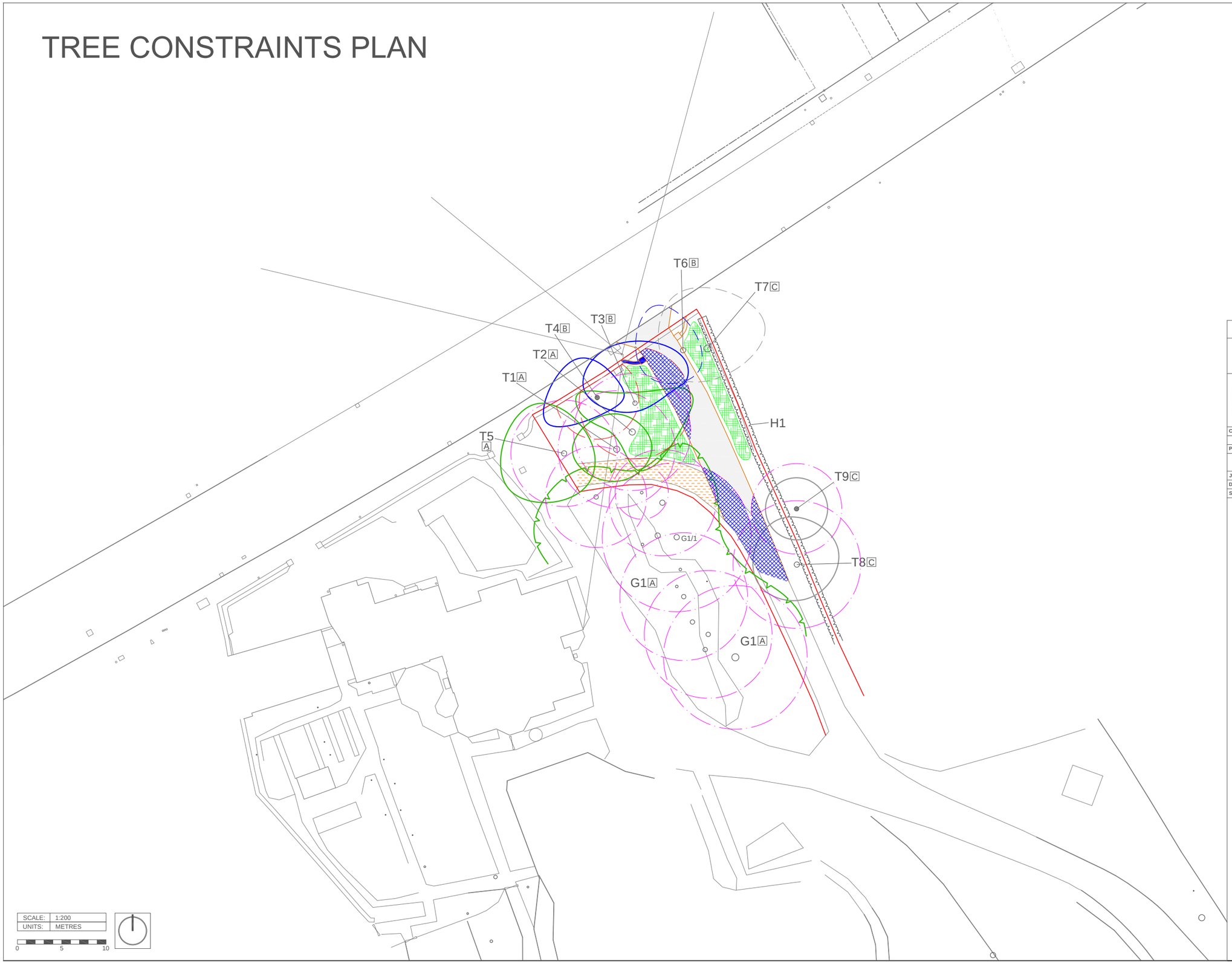
No.	Species	Age Range	Height (m)	Crown Spread (m)	Stem Dia. (mm)	Vitality	Comments	Management	Visual	Retention Value Existing	Retention Value Proposed	BS5837 RPA Radius (m)
G1	Wych elm Horse chestnut Norway Maple Hazel Hawthorn Ash Sycamore Copper beech	Y-EM/M M Y Y EM/M EM	≤22 (EST)	≤12 (EST)	≤700	N	• Closely spaced group of off-site trees, mainly wych elm with occasional horse chestnut, sycamore and copper beech • Most of the trees are colonised by ivy • Individual trees not assessed in detail • Dense understorey of young ash, elm, maple, hazel and hawthorn, most of which is probably natural colonisation • 1.8m ground clearance over driveway and could be raised to at least 4.5m by selective pruning/removal of the understorey and removal of minor low lateral and sub-lateral branches • Contains several low quality trees, the removal of which would not materially affect the visual quality of the group and would create space for enrichment planting to strengthen the shrub and mid-canopy layers • Control of ivy would be beneficial	• Retain and protect during development • Prune on north and east sides to obtain 4.5m ground clearance over existing driveway	4	A	A	≤8.4
H1	Privet	-	≤3	-	-	R	• Partially maintained party boundary hedge • Suppressed at the northern end by T7 • Sparse along the base • Would benefit from clipping to solid form	• Retain and protect during development • Clip to solid form	0	-	-	-

APPENDIX 2

TREE CONSTRAINTS PLAN



TREE CONSTRAINTS PLAN

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PROJECT	121 MANCHESTER ROAD CHAPEL EN LE FRITH
JOB REF	CW/9209-P-TC-1
DATE	8 AUGUST 2018
SCALE	1:200 at A1

- PROPOSED DRIVEWAY, WALLS & GATE PILLARS
- SITE BOUNDARY
- PROPOSED ENGINEER-DESIGNED WALL AND GATE PILLAR (BS5837)
- PROPOSED ENGINEER-DESIGNED HARD SURFACE (BS5837)
- EXISTING HARD SURFACE TO BE REMOVED (BS5837)
- PROPOSED NATIVE WOODY SHRUBS
- INDIVIDUAL TREE TO BE RETAINED
- GROUP OF TREES TO BE RETAINED
- HEDGE TO BE RETAINED
- TREE TO BE REMOVED
- STEM POSITION APPROXIMATED
- BS 5837 RETENTION VALUE
- BS5837 ROOT PROTECTION AREA RADIUS
- BS5837 MODIFIED ROOT PROTECTION AREA (T3 & T4)
- BS5837 CATEGORY 'A' TREES
- BS5837 CATEGORY 'B' TREES
- BS5837 CATEGORY 'C' TREES

APPENDIX 3

Guidance Note - Assessment of Visual Prominence and Assessment of Retention Values

Visual Prominence Values

Determined by assessment of current and potential visual prominence and taking account of location, tree size, growth potential and useful life expectancy. Visual prominence values are classified as follows:

(0) none, (1) very low up to (5) very high

Retention Values

Trees or groups of trees are evaluated twice in order to facilitate consideration of their relative merits. Firstly, the trees are assessed and categorised in the context of the pre-development situation to provide a broad valuation of all of their attributes and the contribution to their environs. Secondly, the trees are similarly assessed and categorised in the context of a development proposal. The evaluations consider current or projected:

- life expectancy (broad categorisation)
- visual prominence (current and potential)
- landscape function
- numbers of other trees and their maturity (continuity for landscape, amenity, habitat)
- wildlife habitats (incl. continuity)
- safety
- conflicts with the built environment or other land-use
- cultural, historical or other special value

Groups of trees are assessed and categorised as a single unit.

Pre-Development Retention Value

Each surveyed tree or group of trees is valued and placed into one of the following categories (A, B, C or U). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the pre-development context; any specific issues are noted in the tree survey schedule.

(A) Trees the retention of which in the pre-development context is most desirable and that have an estimated remaining life expectancy of at least 40 years (high value category)

Wholly appropriate to the pre-development situation and without significant conflict

(B) Trees the retention of which in the pre-development context is desirable and that have an estimated remaining life expectancy of at least 20 years (moderate value category)

Appropriate to the pre-development situation but not of highest value

(C) Trees that could be retained in the pre-development context and have an estimated remaining life expectancy of at least 10 years (low value category)

Ill-suited to the pre-development situation but could be retained with moderate conflicts

Trees of no particular merit in the pre-development context

(U) Trees unsuitable for retention in the pre-development context

Cannot reasonably be retained within the pre-development situation for longer than 10 years

Post-Development Retention Value

With reference to a development proposal, each of the trees or groups of trees is placed in one of the following categories (A, B, C or U). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the context of the development proposal; any specific issues are noted in the tree survey schedule.

(A) Trees the retention of which is most desirable (high value category)

Retention wholly appropriate to the proposed situation and without significant conflict

(B) Trees the retention of which is desirable (moderate category)

Retention appropriate to the proposed situation but not of highest value and/or having only minor conflicts

(C) Trees which could be retained (low value category)

Retention ill-suited to the proposed situation but could be retained with moderate conflicts

Trees of no particular merit in the proposed situation

(U) Trees for removal

Cannot reasonably be retained within the proposed situation

APPENDIX 4

GUIDANCE NOTE- STATUTORY CONTROLS

TREES AND HEDGES:

Subject to certain specified exemptions, the Town and Country Planning Act 1990, requires that an application must be made to the local planning authority (LPA), to carry out works upon or remove trees that are subject to a tree preservation order (TPO).

Six weeks' notice must be given to the LPA of intention to carry out works upon or remove trees within a conservation area and not protected by a TPO.

Local planning authority consent may be required to carry out works upon or remove trees, shrubs and hedges that are the subjects of planning conditions.

LPA consent may be required for the removal of hedgerows under the Hedgerow Regulations 1997.

Your Council's planning department will advise whether or not any of the above controls apply to your trees, shrubs and hedges.

Subject to certain exemptions, the Forestry Act (1967 specified) requires that a licence must be obtained for the felling of growing trees

Your nearest Forestry Commission office will advise whether you require a felling licence.

WILDLIFE

The Wildlife and Countryside Act 1981 (together with the amendments of 1985 & 1991, the subsequent variations to the schedule orders, and strengthening amendments made within the Countryside and Rights of Way Act 2000) forms the basis for legislation protecting Britain's flora and fauna.

Nesting birds and all species of bat are afforded statutory protection. It is an offence to:

- disturb a nesting bird
- disturb a roosting bat or damage, destroy or block access to a bat roost
- intentionally kill, injure or take a bat
- sell, hire, barter or exchange a bat, dead or alive
- be in possession or control of a bat or anything derived from a bat

Your local Wildlife Trust or your Council's Ecologist will provide guidance on statutory controls relating to wildlife.

APPENDIX 5

GLOSSARY OF ARBORICULTURAL TERMS

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

Absorptive roots. Non-woody, short-lived roots, generally having a diameter of less than one millimetre, the primary function of which is uptake of water and nutrients

Access facilitation pruning. One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site

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

Arboricultural Method Statement. Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained

Arboriculturist. Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction

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

Canopy species. Tree species that mature to form a closed woodland canopy

Cleaning out. The removal of dead, crossing, weak, and damaged branches, where this will not damage or spoil the overall appearance of the tree

Compartmentalisation. 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

Competent person. A person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

Compression fork. An acute angled fork that is mechanically optimised for the growth pressure that two or more adjacent stems exert on each other

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 condition 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. Site based operations with the potential to affect existing trees

Construction exclusion zone. Area based on the Root Protection Area from which access is prohibited for the duration of the project

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. Dead branch wood

Decurrent. In trees, a system of branching in which the crown is borne on a number of major widely-spreading limbs of similar size (cf. excurrent). In fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly

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

Distal. In the direction away from the main body of a tree or subject organism (cf. proximal)

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

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

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

Dysfunction. 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

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

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

Engineer-designed hard surfacing. Hard surfacing constructed within the 'Root protection area' of a tree, which will be designed by a structural or geotechnical; engineer in collaboration with an arboriculturist as set out in clause 7.4 of British Standard BS5837:2012. The purpose being to minimise the effects of the construction on the health of the tree.

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

Excrescence. Any abnormal outgrowth on the surface of tree or other organism

Excurrent. In trees, a system of branching in which there is a well-defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

Fastigiate. Having upright, often clustered branches

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

Field layer. Herbs, ferns, grasses and sedges

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

Ground layer. Mosses, ivy, lichens and fungi

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

Haloing. Removing or pruning trees from around the crown of another (usually mature or post-mature) tree to prevent it becoming supressed

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/ripewood. The dead central wood that has become dysfunctional as part of the 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

Lions tailing. A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to end-loading

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

Microdrill. An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

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, usually to a point just outside that of the previous cutting. 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) Trees in Relation to design, demolition and construction

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

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

Proximal. In the direction towards from the main body of a tree or other living organism (cf. distal)

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

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

Rams-horn. In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

Rays. Strips of radially elongated parenchyma cells within wood and bark. The functions of rays include food storage, radial translocation and contributing to the strength of wood

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

Respacing. Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees

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

Rib. A ridge of wood that has usually developed because of locally increased mechanical loading. Often associated with internal cracking in the wood of the stem, branch or root.

Ring-barking (girdling). The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage

Ripewood. See heartwood

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

Root-collar examination. Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and/or stem

Root protection area (RPA). Layout design tool indicating a national minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability and where the protection of the roots and soil structure is treated as a priority

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

Service. Any above- or below-ground structure or apparatus required for utility provision e.g. drainage, gas supplies, ground source heat pumps, CCTV and satellite communications

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

Silviculture. The practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values

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

Sporophore. The spore bearing structure of fungi

Sprouts. Adventitious shoot growth erupting from beneath the bark

Stem/s. Principle above-ground structural component(s) of a tree that supports its 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

Structure. Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork

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

Tree Protection Plan. Scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures

Tree Risk Assessment. An assessment and description of the risks and where appropriate the values associated with a tree or trees. The primary risk being considered is that from falling trees. Other risks, such as damage to infrastructure, interruption of service and building subsidence may also be considered

- Walkover – A general view of the tree population considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
- Drive-by - A general view of the tree population from a moving vehicle and considered in the context of the adjacent land-use to identify trees that present significantly elevated risks
- Individual – the assessment of risks from a single tree considered in the context of the adjacent land-use to identify trees that present significantly elevated risks

Understorey. This layer consists of younger individuals of the dominant trees, together with smaller trees and shrubs which are adapted to grow under lower light conditions

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

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Veteran tree. Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem

Vigour. The expression of carbohydrate expenditure to growth (in trees)

Vitality. A measure of physiological condition. N = within normal range for species and age, R = reduced from the normal range for the species and age, P = poor, MD = moribund, D = dead

Volunteer trees. Trees arising from natural colonisation rather than having been planted

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