TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS3
REVISIONS: SS3 (TREES T38& T40 RETAINED. PRUNING SPECIFICATIONS MODIFIED)

SURVEYED BY: M. J. ELLISON
DATE: 02 NOVEMBER 2015
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 *(Acer pseudoplatanus)*	EM	14	16	580	R	• 2m ground clearance over site • Evidence of grade having been raised at base • Rubble around base • Occluding basal wound on west side with exposed heartwood – possibly mechanical damage • Some small epicormic shoots on branches • Telephone wire running in east-west direction on north side	• Crown lift over site by removing 2 low lateral branches to achieve a ground clearance of 4.5m	3G	B	B	6.9
T2	Common lime *(Tilia x europaea)*	EM	17	16.5	630	R	• 2m ground clearance over site • Co-dominant stems at a height of 6.0m with good union • Minor deadwood • Sparse foliage in upper canopy • Telephone wire running in east-west direction on north side	• Shorten the lowest primary branch over the site to achieve a ground clearance of 3-3.5m	3G	B	B	7.5

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 R = reduced from the normal range for the species and age, 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

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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	SM	13	13	480	N	• Slightly suppressed • Telephone wire running in east-west direction on north side	• Fell to ground level and grind stump to a depth of 0.2 metres	2G	B	U	
T4	Common lime	EM	15	13	600	N	• Deadwood to 75mm diameter in lower canopy • Telephone wire running in east-west direction on north side	• Fell to ground level and grub out stump	3G	B	U	
T5	Common lime	EM	13	10	580	N	• Extensive basal shoots • Co-dominant stems at a height of 4m • Telephone wire running in east-west direction on north side	• Remove epicormic shoots from base and remove 2 lowest lateral branches over the site	3G	B	B	6.9
T6	Sycamore	EM	14	10	480	N	• Canopy growing around lamp-post on north side • Telephone wire running in east-west direction on north side	• Prune to obtain a 4m clearance over the highway	3G	B	B	5.7
T7	Sycamore	EM	14	8	550	R	• Occluding basal wound on south side with limited decay present • Deadwood up to 100mm dia. • Undersized foliage	• Prune to obtain a 4m clearance over the highway	3G	B	B	6.6
T8	Sycamore	EM	15	12	600	N	• Minor deadwood to 50mm dia. • Outer canopy on east side growing around telegraph pole • Telephone wire running in east-west direction on north side • Crown biased to north		3G	B	B	7.2
T9	Sycamore	SM	10	9	450	N	• Suppressed growth with crown biased to east • Canopy to 1.5m from ground on east side		2G	B	B	5.4
T10	Common lime	Y	11	4	300	N	• Supressed • Limited potential for future development	• Fell to allow development of adjacent trees	1G	C	C	
T11	Sycamore	EM	15	9	480	N	• Old basal wound • Deadwood up to 100mm dia.		2G	B	B	5.7
T12	Common lime	EM	14	7.5	450	N	• Basal shoots	• Remove epicormic shoots up to a height of 2m	2G	C	C	5.4

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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)
T13	Sycamore	EM	15	14	575	N	• Ground clearance of 2m over site	• Fell to ground level and grind out stump to a depth of 0.3m	3G	B	U	
T14	Horse chestnut *(Aesculus hippocastanum)*	EM	5	1.5	750	N	• Large open wound from past co-dominant stem failure on north side	• Fell to ground level and grind out stump to a depth of 0.3m	2G	C	C	
T15	Horse chestnut	Y	5	5	300	N	• Occluding basal cavity on south side • Growing below canopies of larger trees	• Fell to ground level and grind out stump to a depth of 0.3m	1G	C	C	
T16	Sycamore	Y	7	4	300	R	• Supressed with low vitality • Limited potential for future development	• Fell to ground level and grind out stump to a depth of 0.3m	1G	C	C	
T17	Common lime	SM	12	5	440	R	• Suppressed growth with crown biased to north-east • Epicormic shoots to stem • Sparse foliage	• Prune to remove epicormic shoots from stem up to a height of 3m	1G	B	C	5.4
T18	Ash *(Fraxinus excelsior)*	M	18	23.5	1145	N	• Low spreading branches to 3m from ground on east side. These branches have been used for rope swings and have several broken lateral branches • Basal wound on south side with sunken necrotic strip extending to a height of 5m below a primary branch union. The basal wound is occluding • Second wound on north side at basal - fire damage within • Deadwood to 100mm dia.	• Fell to ground level and grind out stump to a depth of 0.3m	3G	B	U	
T19	Ash	Y	10	9	380	N	• Heavily suppressed with crown biased to north-west • Old bark wound	• Fell to ground level and grind out stump to a depth of 0.3m	1	C	U	
T20	Sycamore	Y	10	9	380	N	• Heavily suppressed with crown biased to west • Low canopy to 1m from ground to west	• Fell to ground level and grind out stump to a depth of 0.3m	1G	C	U	
T21	Sycamore	EM	12	15	550	N	• Slightly suppressed with crown biased to east and west • 2.5m ground clearance over site	• Prune to obtain a ground clearance of 3.5m over site	3G	B	B	6.6

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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)
T22	Sycamore	SM	12	13	480	N	• Minor deadwood to 50mm diameter • Slightly suppressed growth with crown biased to east and west • 1.2m ground clearance over site	• Prune to obtain a ground clearance of 4m over site	3G	B	B	5.7
T23	Common lime	EM	14	12	550	R	• Deadwood to 100mm diameter • Wound on south side of stem with limited decay • 8m ground clearance over site		2G	B	B	6.6
T24	Common lime	EM	14	10	650	R	• Deadwood to 75mm dia. • Wound on north side from base to a height of 4m with limited decay • 0.5m ground clearance over site	• Prune to obtain a ground clearance of 5m over site	2G	B	B	7.8
T25	Horse chestnut	EM	14	10	650	N	• Basal stem wound on east side • Long-standing and ongoing horse chestnut bleeding canker • 3.5m ground clearance over site	• Fell to ground level and grind out stump to a depth of 0.3m	2G	C	B	7.8
T26	Common lime	SM	13	11	450	N	• Basal wounds on northwest and southeast sides • 1m ground clearance over site	• Prune to obtain a ground clearance of 4m over site	2G	B	B	5.4
T27	Lombardy poplar *(Populus nigra 'Italica')*	SM	25	3	330	N			2G	C	C	3.9
T28	Lombardy poplar	SM	25	3	400	N			2G	B	B	3.9
T29	Sycamore	EM	12	12	500	N	• Displacing small retaining wall • 2.5m ground clearance over site	• Remove young ash growing at base • Prune to obtain a ground clearance of 4m over site	2G	B	B	6.0
T30	Common lime	SM	12	11	500	N	• Large wound from a height of 1m to 3m on southwest side. • Canopy to ground on west side	• Remove basal and epicormic shoots up to a height of 2m • Crown lift to obtain a ground clearance of 4m over site	2G	B	B	6.0

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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)
T31	Sycamore	EM	12	15	660	N	• Co-dominant stems at a height of 1.5m • Occluding basal wound on south-east side • Wounds to undersides of branches on east side • 2m ground clearance over site	• Prune to remove two lowest lateral branches overhanging site and obtain a minimum ground clearance of 3.5m over site	2G	B	B	7.8
T32	Sycamore	Y	9	8	350	N	• Highly suppressed growth with crown biased and stem lean to east • Small occluding basal wound on north side • Limited potential for future development • 2m ground clearance over site	• Fell to ground level and grind out stump to a depth of 0.3m	1G	C	C	4.2
T33	Sycamore	EM	12	15	600	N	• Base displacing low wall to east • 2.5m ground clearance over site	• Prune to obtain a ground clearance of 4.5m over site	2G	B	B	7.2
T34	Ash	EM	12	17	600	N	• Spoil around base on south-west side • Canopy was lost or tree was topped in past at a height of 2-3m. Large upright epicormic shoots with attachments at right angles now form the branch system • 2m ground clearance over site	• Remove lowest primary branch over site and remove hanging dead branch • Prune to obtain a ground clearance of 5m over site	2G	C	C	7.2
T35	Hawthorn	EM	6	6.5	1X100 3X90 1X120	N			1	B	B	2.6
T36	Ash	EM	12	8	600	N	• Spoil to base on south side • Extensive past pruning • 9m ground clearance over site		2G	A	A	7.2
T37	Sycamore	Y	6	5	140	N			1	B	B	1.8
T38	Sycamore	EM	14	13	600	N	• Tree roots displacing wall to south • Spoil to base on south side • Poor relationship with neighbouring dwelling • 4.5m ground clearance over site	• Prune to remove three lowest lateral branches over site	2G	C	C	7.2
T39	Ash	M	16	13	800	N	• Several large branches previously removed at a height of 3m on south side • Poor relationship with neighbouring dwelling • 2.5m ground clearance over site	• Fell to ground level and grub out stump	2G	C	U	

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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)
T40	Sycamore	EM	13	12.5	580	N	• Roots displacing wall to south • Evidence of possible past root damage on north side - well occluded wound • 2.5m ground clearance over site	• Prune to remove four lowest lateral branches over site and lowest lateral branch overhanging neighbouring property to the south	2G	B	C	
T41	Beech *(Fagus sylvatica)*	EM	11	12	550	N	• Partially suppressed growth with crown biased to south • Cavity with fire damage, to one third of stem circumference on north side - from base to a height of 1.5m	• Fell to ground level and grub out stump	2	C	U	6.9
T42	Beech	EM	12	8.5	700	N	• Partially suppressed growth with crown biased to west • Cavity to half of stem circumference on east side from base to a height of 1.5m with fire damage	• Fell to ground level and grub out stump	2	C	U	
T43	Beech	Y	8	6	300	N	• Heavily suppressed with crown biased and stem lean to north west	• Fell to ground level and grub out stump	2	C	U	
T44	Sycamore	Y	12	7	375	N	• Lowest branch at a height of 6m	• Fell to ground level and grub out stump	2G	B	U	
T45	Ash	EM	13	16.5	730	R	• Stem bifurcates at a height of approximately 4.5-5m • Epicormic growth on branches	• Fell to ground level and grub out stump	2G	B	U	
T46	Pedunculate oak *(Quercus robur)*	Y	6	5	290	N	•	• Fell to ground level and grub out stump	2	B	B	
T47	Ash	Y	9	6	1X180 1X280	N	• Bark wounds • Girdled primary branch	• Fell to ground level and grub out stump	1	C	U	
T48	Ash	EM	13	8	750	N	• Ivy to stem and branches • Western half of canopy has been removed • 9m ground clearance over site		1G	B	B	9
T49	Sycamore	SM	13	6	450	R	• 4m ground clearance over site		2G	B	B	5.4
T50	Beech	EM	12	12	600	N	• Co-dominant stems at a height of 1.5m • 2.5m ground clearance over site	• Prune to obtain a ground clearance of 4m over site	2G	B	B	7.2
T51	Beech	Y	6	5	200	N			1G	C	C	2.4

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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)
T52	Sycamore	EM	13	9	650	R	• Multiple branch attachments at a height of 4m • 9m ground clearance over site		2G	C	C	7.8
T53	Beech	Y	6	7	280	N	• 3m ground clearance over site	• Prune to crown lift to obtain a 4m ground clearance over site	1G	C	C	3.3
T54	Sycamore	SM	13	10.5	400	N	• Slightly suppressed with crown biased to north-east • 6m ground clearance over site		2G	B	B	4.8
T55	Sycamore	SM	8	6	350	N	• 8m ground clearance over site		1G	C	C	4.2
T56	Sycamore	SM	7	6	375	N	• 4.5m ground clearance over site with overhang from a single branch		1G	C	C	4.5
T57	Ash	EM	13	12	550	R	• Bacterial cankers on stem • Recently topped at 4.5-5m		1G	C	C	6.6
T58	Beech	SM	11	11	550	N	• Suppressed growth with crown biased to east and west • 2m ground clearance over site	• Prune to crown lift to obtain a 3-4m ground clearance over site	2G	B	B	6.6
T59	Beech	SM	11	6	550	N	• Co-dominant stems at a height of 3m • 2m ground clearance over site	• Prune to crown lift to obtain a 3-4m ground clearance over site	2G	C	C	6.6
T60	Sycamore	EM	11	14	600	N	• Co-dominant stems at a height of 4m • 5m ground clearance over site		2G	B	B	7.2
T61	Sycamore	EM	13	12	800	N	• 3.5m ground clearance over site		3G	B	B	9.6
T62	Lime	Y	10	6	300	G	• 3m ground clearance over site		2G	B	B	3.6
T63	Sycamore	Y	8	7	350	G	• On adjacent property abutting fence • 1m ground clearance over site	• Prune to crown lift to obtain a 3m ground clearance over site	1G	C	C	4.2
T64	Lime	Y	6	9	300	N	• Suppressed growth with crown biased to east and west • 1.5m ground clearance over site	• Prune to crown lift to obtain a 3.5m ground clearance over site	1G	C	C	3.6
T65	Sycamore	EM	13	12	600	N	• 3.5m ground clearance over site		2G	B	B	7.2
T66	Lime	SM	10	9	370	P	• Almost completely defoliated • 5m ground clearance over site		1G	C	C	4.5

TREE SURVEY SCHEDULE

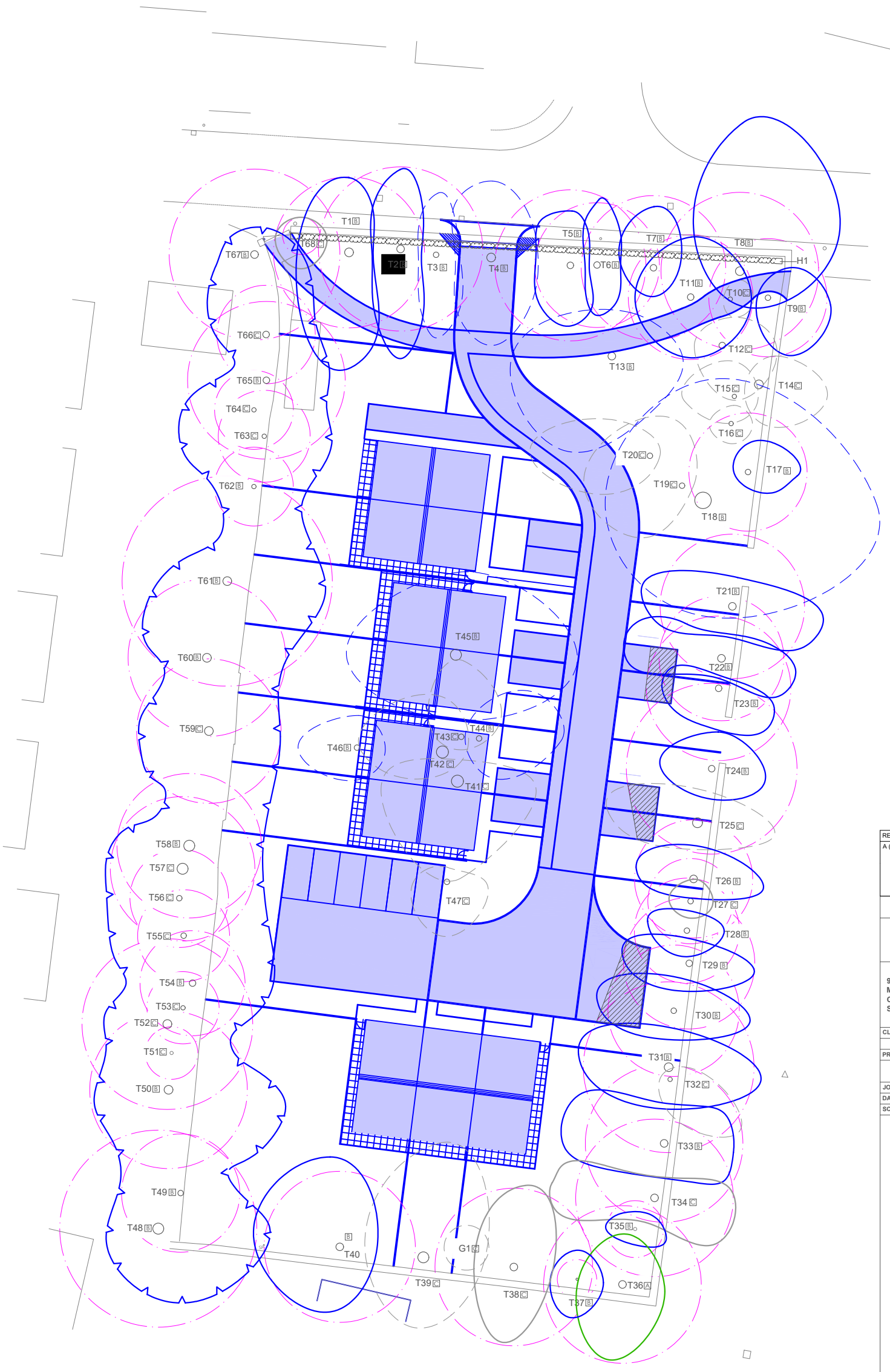
cheshire woodlands arboricultural consultancy

PROJECT: LAND AT CHAPEL LANE, HADFIELD
CLIENT: EDWARD MELLOR
REF: CW/6775-SS2

SURVEYED BY: M J ELLISON
DATE: 02 NOVEMBER 2015

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)
T67	Sycamore	EM	12	10.5	650	N	• Previously topped • 2.5m ground clearance over site		3G	B	B	7.8
T68	Holly	SM	7	4.6	2X100	N			1	C	C	1.7
G1	Lime	Y	6	SEE PLAN	10X50	N	• Regrowth to stump of felled tree	• Fell and poison stumps	1	C	C	1.5
H1	Privet	-	4	3	-	N	• Unmanaged hedge		N/A	N/A	N/A	N/A

TREE CONSTRAINTS PLAN



REVISION:	NOTES:
A (15/08/2016)	Reduced from 10 units to 8 and six parking spaces relocated to a parking court and away from trees. 4 parking spaces on east side of access road reduced in size to 4.8 x 2.4m. Trees T38 and T40 retained. Footpath at northern end of site realigned to avoid tree T9.

TREE CONSTRAINTS PLAN

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CLIENT	EDWARD MELLOR
PROJECT	LAND AT CHAPEL LANE HADFIELD
JOB REF	CW/6775-P-TC [Rev A]
DATE	12 AUGUST 2016
SCALE	1:200 at A1

- LAYOUT PROPOSAL
- SURVEYED INDIVIDUAL TREE
- SURVEYED GROUP OF TREES
- SURVEYED HEDGE
- BS 5837 RETENTION VALUE
- TREE TO BE REMOVED
- BS5837 ROOT PROTECTION AREA RADIUS
- BS5837 CATEGORY 'A' TREES
- BS5837 CATEGORY 'B' TREES
- BS5837 CATEGORY 'C' TREES
- NEW ENGINEER DESIGNED HARD SURFACING TO BE INSTALLED WITH NOT MORE THAN 100MM EXCAVATION TO REMOVE SURFACE VEGETATION ONLY

SCALE:	1:200
UNITS:	METRES

0 5 10

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

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.

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 that 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. The dead central wood that has become dysfunctional as part of the aging processes and being distinct from the sapwood

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

Removal of major deadwood. 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. The older central wood of those tree species in which sapwood gradually ages without being converted to 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

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

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

Single-up. Removal of stems from a multi-stemmed tree with the aim of developing a tree with a single stem.

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

Sporophore. The spore bearing structure of fungi

Sprouts. Adventitious shoot growth erupting from beneath the bark

Squirrel damage. Stripping of the bark from stems or branches by squirrels. This can result in the death of branches or even entire trees

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

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

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

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

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