cheshire woodlands
arboricultural consultancy

ARBORICULTURAL STATEMENT

ON

PROPOSED RESIDENTIAL DEVELOPMENT

AT BOLTON HALL CARE HOME

CARR HEAD LANE, ROTHERHAM S63 8DA

ON BEHALF OF

H C DEVELOPMENT CO 3 LIMITED

91 – 95 HALE ROAD, ALTRINCHAM WA15 9HW

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Our Ref: CW/8130-AS1

Date: 10 November 2016

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1. EXECUTIVE SUMMARY

1.1 Planning permission is sought for demolition of existing buildings and erection of twenty-eight dwellings on the site of the former Bolton Hall care home in Bolton upon Dearne.

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

1.3 Eighteen trees (six of which are protected) have previously been authorised for removal by the local planning authority under an extant planning permission and a tree preservation order consent.

1.4 Two protected oak trees will be removed at the request of the Council's arboricultural officer and two dead/dying trees are also recommended for removal. These works are proposed in the interests of appropriate arboricultural management irrespective of the development.

1.5 Twenty-two individuals and two groups of moderate and low quality trees will be removed to accommodate the development. Thirteen of these, including two of the protected trees, have previously been agreed for removal with the local planning authority. The remainder are recent ornamental plantings associated with the care home, the loss of which will not harm the integrity of the tree preservation order.

1.6 All of the remaining trees will be retained and can be protected during the development in accordance with current best practice, with residual details to be resolved by planning condition.

1.7 Some construction works are proposed within root protection areas but are achievable, without significant conflicts, using tried and tested mitigation methods.

1.8 Minor pruning of some of the retained trees and hedges will not detract from their visual qualities or harm their long-term physiological health.

1.9 The spatial relationship of the retained trees with the new dwellings is sustainable and there are no significant post-development pressures likely to emerge that could not be dealt with either by routine maintenance or by selective felling of trees that have previously been agreed for removal by the LPA.

2. TERMS OF REFERENCE

2.1 Instruction

2.1.1 Cheshire Woodlands Limited is instructed by H C Development Co 3 Limited 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 survey drawing ref. 12387-200 Revision A
- Preliminary proposed site plan drawing ref. 12387-201 Revision D
- Tree survey plan drawing ref. CW/8130-P-TS
- Preliminary tree survey schedule ref. CW/8130-SS
- Various approved plans and documents associated with planning permission ref. 2014/1482 and tree preservation order [TPO] consent ref. 2014/1155
- Pre-application advice letter ref. 2016/ENQ/00106

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 site conditions limit access or 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 demolition of existing buildings and erection of 28 detached and semi-detached dwellings and associated parking, landscaping and external works as shown on the tree constraints plan 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. Residual details for the protection of retained trees during the development, and construction works within root protection areas [RPA] can be resolved by planning condition.

4. THE SITE

4.1 The site is a relatively flat, irregular shaped plot of 1.2 hectares, to the south side of Carr Head Lane, approximately 11 kilometres east-south-east of Barnsley Town Centre. The site is currently vacant and comprises buildings, hardstanding and gardens associated with a disused care home, bounded by Carr Head Lane to the north, residential properties to the east and west and Wath Road playing fields to the south.

4.2 The site has the benefit of:

- An extant full planning permission for the erection of five residential care bungalows granted in March 2015 under LPA planning ref. 2014/1482; and

- A TPO consent (LPA ref. 2014/1155) granted in December 2014 for the removal of four oak trees, one beech tree and four ash trees and pruning of three oak trees.

4.2.1 Trees previously authorised for removal under the above permissions are identified in the 'comments' column of the tree survey schedule at appendix 1.

4.3 The British Geological Survey - Geology of Britain Viewer records 'no data' for superficial geology and identifies the underlying bedrock as 'Mexborough Rock – Sandstone'. Borehole data in the vicinity identify shallow sandy brown clay with stones overlying sandstone.

5. STATUTORY TREE PROTECTION

5.1 Trees on and adjacent to the site are protected by The Barnsley Metropolitan Borough Council TPO No. 1/78 (Bolton Hall, Carr Head Lane, Bolton upon Dearne). The protected trees are identified in the 'comments' column of the survey schedule at appendix 1. See appendix 4 for further guidance.

5.2 The site is not in a conservation area.

5.3 The trees may 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.

5.4 Planning conditions can also impose controls on felling and pruning of, and wilful damage to trees.

6. SURVEY METHODOLOGY

6.1 The trees were surveyed on 3 June 2016 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 survey 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 in accordance with section 4.6 and table D.1 of BS5837.

6.7 Potential direct obstruction of sunlight by trees is represented on the drawing as illustrative 'shading segments', plotted in accordance with section 5.2.2 (Note 1) of BS5837.

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 T3, T6, T21, T22, T23, T24, T34, T38, G12/2, G13/2 and G13/3 and groups G4 and G9	None	Trees G12/1 and G13/1
Category B Moderate quality with life expectancy of at least 20 years	Trees T18, T19, T20, T29, T30, T35 and G14/2 and groups G3, G5 and G10	Trees T1, T2, T4, T10, T11, T12, T14, T15, T25, T28, T31, T32, T33 and T36	None
Category C Low quality with life expectancy of at least 10 years, or small young trees	Tree T37 and groups G1, G6, G7 and G8	Trees T5, T8, T9, T13, T16, T17, T26 and T27 and groups G2 and G11	None
Category U Cannot be retained in context of current land-use for longer than 10 years	None	None	Trees T7 and G14/1
Hedges	Hedges H1 to H9	None	None

7.3 A total of 38 individual trees, 14 groups of trees and 9 hedges have been assessed.

7.4 Trees T3, T6, T29, T30, T34 and T38, group G1 and hedges H1, H2, H4, H7 and H9 are off-site. The remaining trees and hedges are within the site boundary.

7.5 Trees T3, T20 to T24, T27, T33, T34, T35, T38 and possibly T30, groups G4, G5, G9, G12, G13 and one of the trees in G3 are protected by the TPO. The remaining trees are not currently protected.

7.6 Trees T1, T2, T4, T5, T7 to T13, T20, T24, T27, T31, T33, G12/1 and G13/1 have previously been authorised for removal, either as part of the extant planning permission (2014/1482), or by virtue of the TPO consent (2014/1155).

7.7 T3, T6, T21 to T24, T34 and T38, G4, G9, G12 and G13 are 'high quality' A category trees. T1, T2, T4, T10 to T12, T14, T15, T18 to T20, T25, T28 to T33, T35, T36, G3, G5, G10 and G14/2 are 'moderate quality' B category. T5, T8, T9, T13, T16, T17, T26, T27, T37, G1, G2, G6 to G8 and G11 are 'low quality' C category. T7 and G14/1 are 'unsuitable' U category. See appendix 3 for further guidance.

7.8 The dead and dying U category trees T7 and G14/1 are proposed for removal as appropriate arboricultural management, irrespective of the development.

7.9 The A category trees G12/1 and G13/1 will be removed at the request of the Council's Arboricultural Officer. Both trees have previously been authorised for removal by the LPA.

7.10 The B and C category trees T1, T2, T4, T5, T8 to T17, T25 to T28, T31 to T33 and T36 and groups G2 and G11 will be removed to accommodate the development. Of these, T1, T2, T4, T5, T8 to T13, T27, T31 and T33 have previously been agreed for removal by the LPA; T27 and T33 are included in the TPO. T14 to T17, T25, T26, T28, T32, T36, G2 and G11 are B and C category, mainly young and semi-mature minor ornamental plantings associated with the care home, the loss of which will have no impact on the

TPO or the remnant parkland landscape of the former Bolton Hall.

7.11 The remaining 'high quality' A category trees (T3, T6, T21 to T24, T34, T38, G12/2, G13/2 and G13/3, G4 and G9), the 'moderate quality' B category trees T18 to T20, T29, T30, T35, G14/2, G3, G5 and G10, C category trees T37, G1, G6, G7 and G8, and all of the boundary hedges (H1 to H9) will be retained within the development and can be protected during demolition and construction works in accordance with current best practice as set out in BS5837.

7.12 Two A and B category protected trees (T20 and T24) were previously authorised for removal but will be retained within the development, at least in the short to medium-term.

7.13 Retained trees T6, T18, T19, T21 to T24, T29, T30, T34, groups G1, G3, G4, G7 and G9 and hedges H1 to H7 will be pruned as detailed in the 'management' column of the tree survey schedule in order to improve the spatial relationship of the trees with the new dwellings at Plots 2, 11 and 25 and enhance the quality of the outdoor amenity space around the site. The proposed works are of a relatively minor nature, are consistent with current best practice as set out in British Standard 3998:2010 Tree work – Recommendations [BS3998] and will have no significant impacts on the long-term physiological condition or visual qualities of the retained trees and hedges.

7.14 Detailed best practice guidance for the construction of new hard surfaces within the RPAs of retained trees is described at section 7.4 of BS5837 and will be implemented in the areas identified by blue cross-hatching on the tree constraints plan, where the new driveways at Plots 2, 11, 25 and 28 extend into the RPAs of retained trees T6, T35, G4/1 and G9/1. In all cases, the proposed RPA coverage is well below the suggested 20%

recommended at section 7.4.2.3 of BS5837. Providing that the recommended safeguards are implemented during the design and build phases, the risk of significant long-term harm to these trees is very low.

7.15 Detailed guidance for the provision of construction access within RPAs, in the form of temporary ground protection, is set out at section 6.2.3 of BS5837 and will be implemented in the areas identified by orange diagonal-hatching on the tree constraints plan, where the new dwellings at Plots 2, 11 and 25 interface with the RPAs of retained trees T6, G4 and G9/1.

7.16 Details for the protection of retained trees and hedges during the development, and engineering details for proposed hard surface construction works within RPAs can be resolved by planning condition as a tree protection plan, arboricultural method statement and engineer-designed construction specifications.

7.17 The BS5837 'shading segments' on the tree constraints plan indicate that shading by the retained trees will be most noticeable in the northwest corner of the site, around Plots 10 and 11, and to a lesser extent at Plots 1 and 26. The potential removal of trees T20 and T24 (both of which were authorised for removal under TPO consent 2014/1155) and perhaps two of the hawthorn trees in G3 (only one of which is included in the TPO) would open up and reduce shading of the rear gardens at Plots 10 and 11. It should also be noted that the area of garden to the north of Plot 1 is unaffected by shading from trees and that the western part of the rear garden at Plot 26 adjacent to the rear elevation of the house, will receive good afternoon and early evening sunlight.

7.18 The majority of the retained protected trees adjacent to new dwellings (particularly T3, T23, G4 and G9) are at or approaching maturity and have only very limited potential for future growth. Any pruning of future growth

towards the dwellings will be minor and manageable as routine maintenance without imposing unreasonable burdens on future occupiers of the properties.

7.19 Plots 2, 10, 11 and 25 have been carefully designed to make maximum use of open aspects, which will receive generally good ambient light and air circulation, and with principal light-gathering windows facing away from retained trees.

8. CONCLUSIONS

8.1 Two protected oak trees will be removed at the request of the Council's arboricultural officer and a further two dead/dying trees are also recommended for removal. These works are proposed as appropriate arboricultural management irrespective of the development.

8.2 Twenty-two individuals and two groups of 'moderate' and 'low quality' trees will be removed to accommodate the development. Thirteen of these (including two of the protected trees) have previously been authorised for removal by the LPA under extant planning and TPO approvals 2014/1482 and 2014/1155. The remaining nine individuals and two groups are recent ornamental plantings associated with the care home the loss of which will not affect the integrity of the TPO.

8.3 The remaining 'high quality' trees, seven individual and three groups of 'moderate quality' trees, one individual and four groups of 'low quality' trees and all of the boundary hedges will be retained and can be protected during the demolition and construction works in accordance with current best practice.

8.4 Some construction works are proposed within RPAs but are achievable, without significant conflicts, using tried and tested mitigation methods.

8.5 Minor pruning of ten retained individual trees and five groups will improve the spatial relationship with the new dwellings and enhance the quality of the outdoor amenity space without detracting from the trees' long-term health or visual qualities.

8.6 The proposed spatial relationship of the retained trees with the new dwellings is sustainable, with no significant issues of post-development pressure likely to emerge that could not be dealt with either by routine maintenance or by removing trees that have previously been agreed for removal by the LPA.

8.7 Residual details for the protection of retained trees and hedges during development and construction works within RPAs can be resolved by planning condition.

9. RECOMMENDATIONS

9.1 No tree or hedge 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 scheduled for retention should be protected during site demolition and 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 areas of new hard surface identified by blue cross-hatching on the tree constraints plan should be installed to an engineer-designed construction specification and method statement to be agreed with the LPA and in compliance with the requirements of section 7.4 of BS5837.

9.6 Foundation design should take into consideration the juxtaposition of existing and proposed trees and the nature of the load-bearing soils.

9.7 Underground services should be installed in accordance with a scheme of work to be agreed with the LPA and in compliance with the requirements of BS5837 and NJUG Volume 4.

9.8 Landscaping should be implemented in accordance with a scheme of work to be agreed with the LPA.

10. REFERENCES.

Anon. Geology of Britain Viewer. British Geological Survey, Nottingham. http://www.bgs.ac.uk/ (accessed 8 July 2016)

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.

NJUG Volume 4. 2007. NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. National Joint Utilities Group, Milbank, London. 34pp.

APPENDIX 1

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2
REVISIONS:

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016
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	Cherry	EM	10	9.5	400	N	• Acute included bark union of co-dominant stems at 1m with no signs of failure • 1.5m ground clearance and could be raised to 3.5m by removal of low lateral and sub lateral branches • Crown slightly biased to east • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	3	B	U	N/A
T2	Ash	SM	10	9.5	310	N	• Crown slightly biased to east • Clear stem to 1.5m • 1.5m ground clearance and could be raised to 3.5m by removal of low lateral and sub lateral branches • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	3	B	U	N/A
T3	Turkey oak	EM	15 (EST)	13	450 (EST)	N	• Off-site and not assessed in detail • 2m crown overhang on east side with 3m ground clearance • Stem and crown biased to north east • Low ground clearance on north side over footway • Part Group G1 of the 1984 TPO	• No work required	3	A	A	5.4 (EST)

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
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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T4	Cherry	EM	7	8	230	N	• Clear stem to 1.8m • 1.8m ground clearance • Crown slightly biased to east • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T5	Ash	SM	10	8	240	N	• Partially suppressed on west side with stem and crown biased to north east • 1m ground clearance and could be raised to 3m by removal of low lateral and sub lateral branches • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grind stump to a depth of 0.3m	2	C	U	N/A
T6	Beech	M	18 (EST)	15	700 (EST)	N	• Off-site and not assessed in detail • Crown slightly biased to east • 5m crown overhang on east side with 3.5m ground clearance and could be raised to 6m by removal of minor low sub-lateral branches	• Protect during demolition and construction • Prune on east side by removal of low lateral and sub-lateral branches to obtain 6m ground clearance over site	3	A	A	8.4 (EST)
T7	Elm	-	-	-	-	D	• Partially failed co-dominant stem close to base • Previously agreed for removal under planning permission 2014/1482	• Fell and grind stump to a depth of 0.3m	0	U	U	-
T8	Cherry	EM	5	8	200	N	• Partially suppressed on west side with crown biased to east • 1.8m ground clearance • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	C	U	N/A
T9	Ash	Y	6	6	150	N	• Partially failed co-dominant stem from T7 resting in crown • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grind stump to a depth of 0.3m	1	C	U	N/A
T10	Ornamental damson	EM	8	9	230 200 120	N	• Partially suppressed on west side with crown slightly biased to east • Twin-stemmed from ground level • Minor basal shoots • Acute included bark union of co-dominant branches at 1m with no signs of failure • 1.8m ground clearance • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A

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T11	Ash	SM	13	8	260	N	• 2m ground clearance and could be raised to at least 4m by removal of minor low lateral and dead branches • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T12	Ash	Y	11	8	210	N	• Suppressed in the past on the south west side • 1.6m ground clearance and could be raised to 3.5m by removal of minor low lateral branches • Stem bifurcates at 2m • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T13	Ornamental damson	SM	6	8	MS ≤150	N	• Minor basal and epicormic shoots • Multi-stemmed from ground level • 1.5m ground clearance • Crown slightly biased to east • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	C	U	N/A
T14	Swedish whitebeam	SM	6	7	190	N	• Crown biased to east • 1.5m ground clearance	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T15	Swedish whitebeam	SM	9	6	240	N	• Clear stem to 1.2m • 1.5m ground clearance • Stem trifurcates at 1.2m	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T16	Cherry	Y	3.5	3	120	N		• Fell for development • Grub out or grind stump to a depth of 0.3m	2	C	U	N/A
T17	Golden Leyland cypress	SM	7	4	300 (EST)	N	• Crown extends to ground level • Multi-stemmed from just above ground level	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	C	U	N/A
T18	Ash	SM	11	9	300	N	• Clear stem to 2m • Ivy colonising stem to 4m • 1.5m ground clearance and could be raised to 4m by removal of low lateral and sub-lateral branches	• Retain and protect during demolition and construction • Prune by removal of low lateral and sub-lateral branches to obtain 4m ground clearance over site	2	B	B	3.6
T19	Cherry	EM	9	11	300	N	• Clear stem to 2.5m • Crown extends to ground level and could be raised to 3m by removal of minor low lateral and sub-lateral branches	• Retain and protect during demolition and construction • Prune by removal of low lateral and sub-lateral branches to obtain 3m ground clearance over site	2	B	B	3.6

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T20	Beech	M	20	10	680	N	• Partially occluded open cavity with decay and hollowing to the lower stem up to 1.5m • No external signs of cracking to lower stem • Clear stem to 4.5m • 2m ground clearance and could be raised to 6m by removal of low lateral and sub-lateral branches • Crown slightly biased to north east • Fire damage in mid crown on west side • Contains features which provide potential bird nest/bat roost sites • Part Group G1 of the 1978 TPO • Previously approved for removal under planning reference 2014/1155	• Retain and protect during demolition and construction • Monitor lower stem for signs of cracking	3	B	B	8.1
T21	Beech	M	16	17	650	N	• Partially suppressed on west side with crown slightly biased to east • Clear stem to 4m • 1m ground clearance and could be raised to 5m by removal of low lateral and sub-lateral branches of up to 100mm diameter • Minor partially occluded decay to base of stem on west side • Wire ingrown to mid stem • Part Group G1 of the 1978 TPO	• Retain and protect during demolition and construction • Prune by removal of low lateral and sub-lateral branches of up to 100mm diameter to obtain 5m ground clearance over site	3	A	A	7.8
T22	Turkey oak	M	19	13	700	N	• Epicormic shoots to mid stem • Primary branch stub in lower crown on west side where a first order branch has been shorten back to the boundary from over the neighbouring property • Bird nest in lower crown • 4m ground clearance and could be raised to around 7m by removal or shortening of low lateral and sub-lateral branches • Part Group G1 of the 1978 TPO	• Retain and protect during demolition and construction • Prune by removal or shortening of low lateral and sub-lateral branches to obtain 7m ground clearance over site	3	A	A	8.4

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
T23	Copper beech	M	13	10.5	650	N	• Minor partially occluded decay at base of stem • Clear stem to 4m • 1.6m ground clearance and could be raised to 5m by removal of low lateral and sub-lateral branches of around 150mm diameter • Partially suppressed on west side with crown slightly biased to south east • Minor branch stubs in lower crown where low lateral branches failed in recent years • Part Group G1 of the 1978 TPO	• Retain and protect during demolition and construction • Prune by removal of low lateral and sub-lateral branches of up to 150mm diameter to obtain 5m ground clearance	3	A	A	7.8
T24	Turkey oak	M	16	13	720	N	• Partially occluded open cavity with decay at base of stem with no external signs of cracking • Stem and crown slightly biased to south east • Clear stem to 3.5m • 1.5m ground clearance and could be raised to 5m by removal of low first order branches of up to 100mm diameter • Part Group G1 of the 1978 TPO • Previously approved for removal under planning reference 2014/1155	• Retain and protect during demolition and construction • Prune by removal of low first order branches of up to 100mm diameter to obtain 5m ground clearance over site	3	A	A	8.7
T25	Swedish whitebeam	SM	7	6	300	N	• Base of stem biased to north east • Acute included bark union of co-dominant stems at 1m with no signs of failure • 1.5m ground clearance and could be raised to 3m by removal of minor low lateral and sub-lateral branches	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T26	Swedish whitebeam	SM	7	6	280	N	• Growing through lower crown of and partially suppressed by T27 • 1m ground clearance	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	C	U	N/A
T27	Ash	M	18	19	900	N	• Stem and crown heavily biased to north east • Large partially occluded open cavity with extensive decay at base of stem. No external signs of cracking • Ground clearance of between 1 and 5m • Dead branches of up to 180mm diameter in lower and mid crown • Contains features which provide potential bird nest/bat roost sites • Part Group G1 of the 1978 TPO • Previously approved for removal under planning reference 2014/1155	• Fell for development • Grub out or grind stump to a depth of 0.3m • Provide suitable replacement planting	3	C	U	N/A

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
T28	Cherry	EM	11	12	400	N	• Clear stem to 1.6m • Branch tips extend almost to ground level and could be raised to 3.5m by removal of minor low lateral and sub-lateral branches	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T29	Ash	Y	11	11	270	N	• Off-site • Partially suppressed on east side with crown biased to west • 1.5m ground clearance and could be raised to 3.5m by removal of minor low lateral and sub-lateral branches	• Protect during demolition and construction • Prune on north side by removal of low lateral and sub-lateral branches to obtain 3.5m ground clearance over site	2	B	B	3.3
T30	Horse chestnut	SM	10	10	300 220	N	• Off-site • Twin-stemmed from ground level with an acute included bark union of co-dominant stems with no signs of failure • Ivy colonising lower stem and crown to 4.5m • Branch tips extend almost to ground level and could be raised to 3.5m by removal of minor low lateral and sub-lateral branches • Possibly part area A1 of the 1978 TPO	• Protect during demolition and construction • Prune on north side by removal of low lateral and sub-lateral branches to obtain 3.5m ground clearance over site	2	B	B	4.5
T31	Swedish whitebeam	SM	7	7	350	N	• Stem trifurcates at 1m with an acute included bark union of co-dominant stems with no signs of failure • 1m ground clearance and could be raised to 3m by removal of minor low lateral and sub-lateral branches • Low ground clearance on west side over public footpath • Previously agreed for removal under planning permission 2014/1482	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T32	Swedish whitebeam	SM	7	7	350	N	• Triple-stemmed from just above ground level with acute included bark unions of co-dominant stems with no signs of failure • 1.5m ground clearance and could be raised to 3m by removal of minor low lateral and sub-lateral branches • Dead branch stubs to lower stem	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
T33	Turkey oak	M	21	15	820	N	• Partially occluded open cavity with decay and hollowing to lower stem up to 1.8m • Stem and crown slightly biased to north east • Low ground clearance on west side over public footpath • Stem bifurcates at 4m • 1m ground clearance and could be raised to around 5m by removal of epicormic branches and removal or shortening of low lateral and sub lateral branches • Signs of internal cracking to upper half of the southernmost co-dominant stem • Part Area A1 of the 1978 TPO • Previously approved for removal under planning references 2014/1155 and 2014/1482	• Fell for development • Grind stump to a depth of 0.3m • Provide suitable replacement planting	3	B	U	N/A
T34	Copper beech	M	20	19	800 (EST)	N	• Off-site and not assessed in detail • 1.8m ground clearance on west side and could be raised to 5m by removal of minor low lateral and sub-lateral branches of up to 150mm diameter • Tree T2 of the 1978 TPO	• Protect during demolition and construction • Prune on south west side by removal of low lateral and sub-lateral branches of up to 150mm diameter to obtain 5m ground clearance over site	3	A	A	9.6 (EST)
T35	Yew	EM	10	7	470	N	• Low ground clearance on west side over public footpath • Reduced vitality in upper crown • Part Area A1 of the 1978 TPO	• Retain and protect during demolition and construction • No work required	2	B	B	5.7
T36	Swedish whitebeam	SM	6	6	210 220	N	• Twin stemmed from ground level with an acute included bark union of co-dominant stems with no signs of failure • 1.5m ground clearance	• Fell for development • Grub out or grind stump to a depth of 0.3m	2	B	U	N/A
T37	Ash	Y	7	4	150	N		• Retain and protect during demolition and construction • No work required	2	C	C	1.8
T38	Beech	M	20 (EST)	22	800 (EST)	N	• Off-site and not assessed in detail • Minor crown overhang on west side into site with 3.5m ground clearance • Partially occluded decay at base of stem on west side • Swelling to lower stem • Tree T1 of the 1978 TPO	• No work required	3	A	A	9.6 (EST)

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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	Elder Elm	Y-EM	≤12 (EST)	≤7 (EST)	≤300 (EST)	N-D	• Closely spaced linear group of off-site boundary trees and shrubs • Most probably natural colonisation • Up to 3m crown overhang on east side and could be cut back to the boundary • Several dead and dying elm trees • Several trees growing abutting the boundary wall with potential for future direct damage	• Prune on east side back to boundary • Monitor condition of boundary wall	2	C	C	≤3.6 (EST)
G2	Ornamental conifers	SM	3	≤3	-	N	• Internal ornamental plantings	• Remove for development • Grub out or grind stumps to a depth of 0.3m	1	C	U	N/A
G3	3 Hawthorn	M	≤8.5	≤8	300-380	N	• Closely spaced linear group • Multi-stemmed from just above ground level • Ground clearance of between ground level and 1.8m and could be raised to 2m by removal of basal shoots and shortening of low lateral branches • <u>One of the trees is part Group G1 of the 1978 TPO</u>	• Retain and protect during demolition and construction • Prune by removal of basal shoots and low lateral branches to obtain 2m ground clearance	2	B	B	3.6 – 4.5
G4	3 Turkey oak	M	≤21	≤14	600-750	N	• Closely spaced linear group • Ground clearance of between 1 and 12m G4/1 • Slight swelling to lower stem with no external signs of cracking • Main stem bifurcates at 5m • High ground clearance G4/2 • 1.5m ground clearance and could be raised to 4m by the removal of low lateral branches of up to 180mm diameter G4/3 • 1.8m ground clearance and could be raised to 5m by removal of low lateral and sub-lateral branches of 150mm diameter • <u>Part Group G1 of the 1978 TPO</u>	• Retain and protect during demolition and construction • G4/2 & G4/3 - Prune by removal of low lateral and sub-lateral branches of up to 180mm diameter to obtain ground clearance of between 4 and 5m	3	A	A	7.2 – 9.0

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
G5	3 Turkey oak	M	≤17	≤10	410-570	N	• Closely spaced linear group • Partially suppressed on east side with stems and crowns biased to west • Crowns on west side overhang neighbouring properties by up to 5m and extend close to rear elevation of a dwelling G5/1 • Partially suppressed with crown biased to south • Partially occluded open cavity with decay and hollowing at base of stem • Large primary branch stub in lower crown which has been recently cut back to the boundary from over the neighbouring property • Part Group G1 of the 1978 TPO	• Retain and protect during demolition and construction • No work required	3	B/C	B/C	4.8 – 6.9
G6	Swedish whitebeam Lawson's cypress Cherry laurel	Y-SM	≤5	≤4	≤250 (EST)	N	• Closely spaced linear group of boundary trees and shrubs • Mainly cherry laurel to the southern half which has been partially maintained in the past and would benefit from hard pruning	• Retain and protect during demolition and construction • No work required	2	C	C	≤3.0 (EST)
G7	Horse chestnut Ornamental damson Holly Hawthorn Elder	Y M	≤9	≤8 (EST)	≤600 (EST)	N	• Closely spaced linear group of boundary trees and shrubs • Remnants of ornamental boundary plantings to the north side within the subject site and an overgrown off-site boundary hedge to the south side	• Retain and protect during demolition and construction • Hard prune on north side to reduce height and radial crown spread into site	2	C	C	≤7.2 (EST)
G8	Sycamore	Y	≤9	≤6 (EST)	≤200 (EST)	N	• Closely spaced linear group of boundary trees • Most probably natural colonisation • The southern half are multi-stemmed from ground level and are probably regrowth from previously cut stumps • Supressed on the west side by G10 • Trees to the northern half colonised by dense ivy	• Retain and protect during demolition and construction • No work required	2	C	C	≤2.4 (EST)

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
G9	2 Turkey oak	M	≤21	≤15	670 840	N	• Closely spaced group G9/1 • Clear stem to 6m save for minor epicormic shoots and branches • Dead branch stubs of up to 100mm diameter in lower crown • 3m ground clearance and could be raised to 6m by removal or shortening of low lateral and sub-lateral branches • Branch tear-out stub in lower crown where a 150mm diameter lateral branch failed in recent years G9/2 • Slightly reduced vitality • Dead branches and branch stubs of up to 100mm diameter in lower crown • Decay to upper side of a low primary branch on south side • 1.5m ground clearance and could be raised to 4.5m by removal or shortening of low lateral and sub-lateral branches • Part Area A1 of the 1978 TPO	• Retain and protect during demolition and construction • Prune by removal or shortening of low lateral and sub-lateral branches to obtain between 4.5 and 6m ground clearance • G9/2 - Monitor crown for signs of deterioration	3	A	A	8.1 & 10.2
G10	2 Ash 2 Swedish whitebeam	Y Y	≤11	≤10	150-310	N	• Closely spaced linear group of boundary plantings G10/1 • Partially suppressed by G9 • Ivy colonising stem • 1.5m ground clearance and could be raised to 3.5m by removal of low lateral and sub-lateral branches	• Retain and protect during demolition and construction • No work required	2	B/C	B/C	1.8 – 3.6
G11	Ornamental conifers	Y	3	2	-	N		• Remove for development • Grub out or grind stumps to a depth of 0.3m	2	C	U	N/A

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
G12	2 Turkey oak	M	20	≤16	600 840	N	• Closely spaced group • Clear stems to between 5 and 6m • Ground clearance of between 1.5 and 4m and could be raised to between 4 and 6m by removal or shortening of low lateral, sub-lateral and epicormic branches G12/1 • Partially occluded open cavity with decay/hollowing at base of stem. No external signs of cracking • Past excavation of ground on east side almost up to base of stem • Part Area A1 of the 1978 TPO • G12/1 Previously approved for removal under planning references 2014/1155 and 2014/1482	• G12/1 – Fell and grind stump to a depth of 0.2m • G12/2 - Retain and protect during demolition and construction • No work required	3	A	A&U	7.2 & 10.2
G13	3 Turkey oak	M	≤19	≤18	510 - 940	N/R	• Closely spaced group • Signs of past excavation of ground beneath crowns on east side • 1.5m ground clearance and could be raised to 5m by removal or shortening of low lateral and sub-lateral branches G13/1 • Stem and crown biased to east • Reduced vitality with thinning/yellowing of foliage throughout crown G13/2 • Partially occluded decay and hollowing to mid and upper stem and a co-dominant branch in mid crown • Contains features that provide potential bird nest/bat roost sites G13/3 • Slight thinning of foliage throughout crown • Part Area A1 of the 1978 TPO • G13/1 Previously approved for removal under planning references 2014/1155 and 2014/1482	• G13/1 – Fell and grind stump to a depth of 0.2m • G13/2 & G13/3 - Retain and protect during demolition and construction • G13/3 - Monitor crown for signs of deterioration	3	A	A&U	6.0 – 11.4

TREE SURVEY SCHEDULE

cheshire woodlands arboricultural consultancy

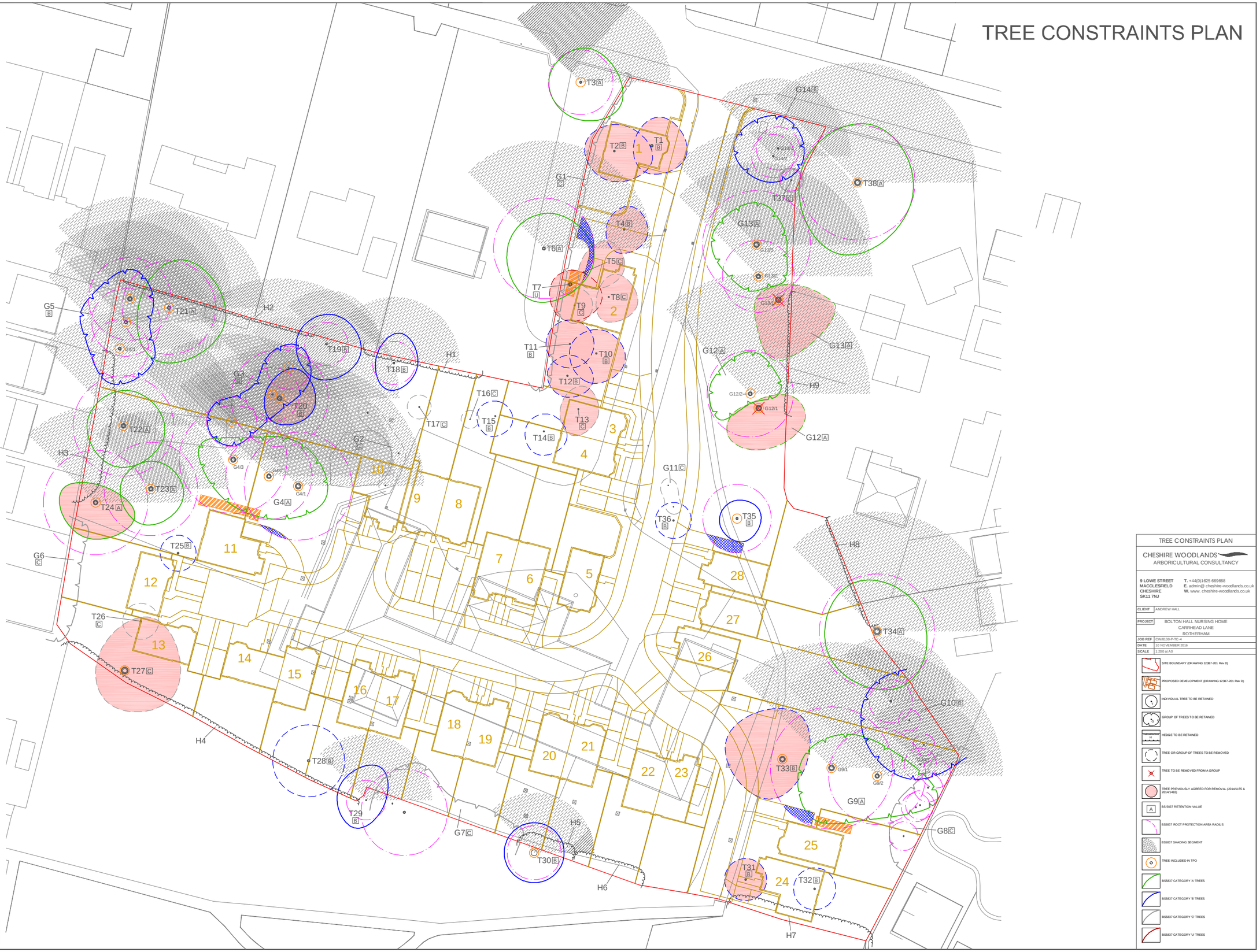
PROJECT: BOLTON HALL NURSING HOME, CARRHEAD LANE, ROTHERHAM
CLIENT: ANDREW HALL
REF: CW/8130-SS2

SURVEYED BY: G THOMAS
DATE: 3 JUNE 2016

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)
G14	2 Ash	SM	≤13	≤9	300	R/P	• Closely spaced group • Both trees show signs of reduced vitality G14/1 • Almost dead G14/2 • Extensive twig dieback throughout crown	G14/1 • Fell and grind stump to a depth of 0.2m G14/2 • Monitor crown for signs of deterioration	3	B&U	B&U	3.6
H1	Leyland cypress Elder	-	3.5	-	-	N	• Poor quality off-site boundary hedge • Recently hard pruned • Could be cut back to boundary	• Cut back to boundary	1	-	-	-
H2	Leyland cypress Cherry laurel Golden Leyland cypress	-	≤3	-	-	N	• Poor quality off-site boundary hedge • Could be cut back to boundary • Western half suppressed by T21	• Cut back to boundary	1	-	-	-
H3	Cherry laurel	-	≤3.5	-	-	N	• Overgrown boundary hedge • Would benefit from hard pruning	• Retain and protect during demolition and construction • Cut back to reduce height and spread	1	-	-	-
H4	Leyland cypress Hawthorn Ash	-	≤5	-	-	N	• Overgrown off-site boundary hedge • Mainly hawthorn with young natural colonisation of ash • A line of cypress tress to the northern edge have recently been cut down to 1.8m • Could be cut back to boundary	• Cut back to boundary	2	-	-	-
H5	Holly Elder	-	≤5	-	-	N	• Overgrown boundary hedge • Would benefit from management by pruning, removal of elder and pruning of T30	• Cut back to boundary	2	-	-	-
H6	Lawson's cypress	SM	7	3 (EST)	≤150 (EST)	N	• Closely spaced linear group, most probably an unmanaged boundary hedge • Would benefit from management to reduce height and spread	• Hard prune by up to 30% to reduce height and spread	2	-	-	-
H7	Hawthorn Holly Elder	-	≤4	-	-	N	• Discontinuous, poor quality, overgrown off-site boundary hedge • Would benefit from management	• Prune on north side back to boundary	2	-	-	-
H8	Holly Elder	-	2.5	-	-	N	• Clipped party boundary with young natural colonisation of elder at the southern end	• Maintain by regular clipping	2	-	-	-
H9	Cypress	Y	1.8	-	-	N	• Clipped off-site garden boundary hedge	• Maintain by regular clipping	1	-	-	-

APPENDIX 2

TREE CONSTRAINTS PLAN



SCALE: 1:200
UNITS: METRES
0 5 10

TREE CONSTRAINTS PLAN

CHESHIRE WOODLANDS
ARBORICULTURAL CONSULTANCY

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CLIENT	ANDREW HALL
PROJECT	BOLTON HALL NURSING HOME CARRHEAD LANE ROTHERHAM
JOB REF	CW/8130-P-TC-4
DATE	10 NOVEMBER 2016
SCALE	1:200 at A0

- SITE BOUNDARY (DRAWING 12387-201 Rev D)
- PROPOSED DEVELOPMENT (DRAWING 12387-201 Rev D)
- INDIVIDUAL TREE TO BE RETAINED
- GROUP OF TREES TO BE RETAINED
- HEDGE TO BE RETAINED
- TREE OR GROUP OF TREES TO BE REMOVED
- TREE TO BE REMOVED FROM A GROUP
- TREE PREVIOUSLY AGREED FOR REMOVAL (2014/1155 & 2014/1482)
- BS 5837 RETENTION VALUE
- BS5837 ROOT PROTECTION AREA RADIUS
- BS5837 SHADING SEGMENT
- TREE INCLUDED IN TPO
- BS5837 CATEGORY 'A' TREES
- BS5837 CATEGORY 'B' TREES
- BS5837 CATEGORY 'C' TREES
- BS5837 CATEGORY 'U' TREES

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APPENDIX 3

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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.

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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

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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

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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.

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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 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