TREE CONSULTANTS

ARBORICULTURAL REPORT

to BS 5837:2012 at:

The Firehouse Group,
Heritage House,
Heritage Court,
Hemingfield,
Barnsley,
S73 0HZ

Prepared for:
The Firehouse Group

Date: *October 2022*

Reference: *AWA4588*

Institute of Chartered Foresters
Registered Consultant

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1. Introduction

1.1 Instructions and Brief

1.1.1 We were instructed by The Firehouse Group to visit the site and prepare our findings in a report.

1.1.2 The report is required in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations,* to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Survey Details

1.2.1 The survey took place during October 2022.

1.2.2 The trees were surveyed visually from the ground using "Visual Tree Assessment" techniques and in accordance with the guiding principles of British Standard 5837:2012.

1.2.3 Any additional off-site trees that could impact a new development design have been included in the tree survey parameters.

1.2.4 The tree positions were plotted on an Ordnance Survey map base-layer using enhanced GPS technology (1-2m accuracy) and laser distance measurer.

1.2.5 This report has been prepared by Mr Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, Principal and Director of AWA Tree Consultants Ltd. The tree survey data collection was carried out by Mr Joe Thomas, MSci Biology, Award L4 Arboriculture, TechArborA.

1.2.6 Full qualifications and experience are included within **Appendix 1**. Explanatory details regarding the survey methodology are included within **Appendix 2**. A full explanation of the tree data can be found at **Appendix 3**. Full details of all the trees surveyed are found in **Appendix 4**. For tree locations please refer to the Tree Constraints Plan at **Appendix 5**.

2. The Site

2.1 Location and Description

2.1.1 The site is located on Beech House Road in Hemingfield, Barnsley.

2.1.2 The site comprises an office building with associated parking and outbuilding. The site is surrounded by residential properties.

2.1.3 The approximate area of the survey is highlighted in the (2022 Google Earth) image below:

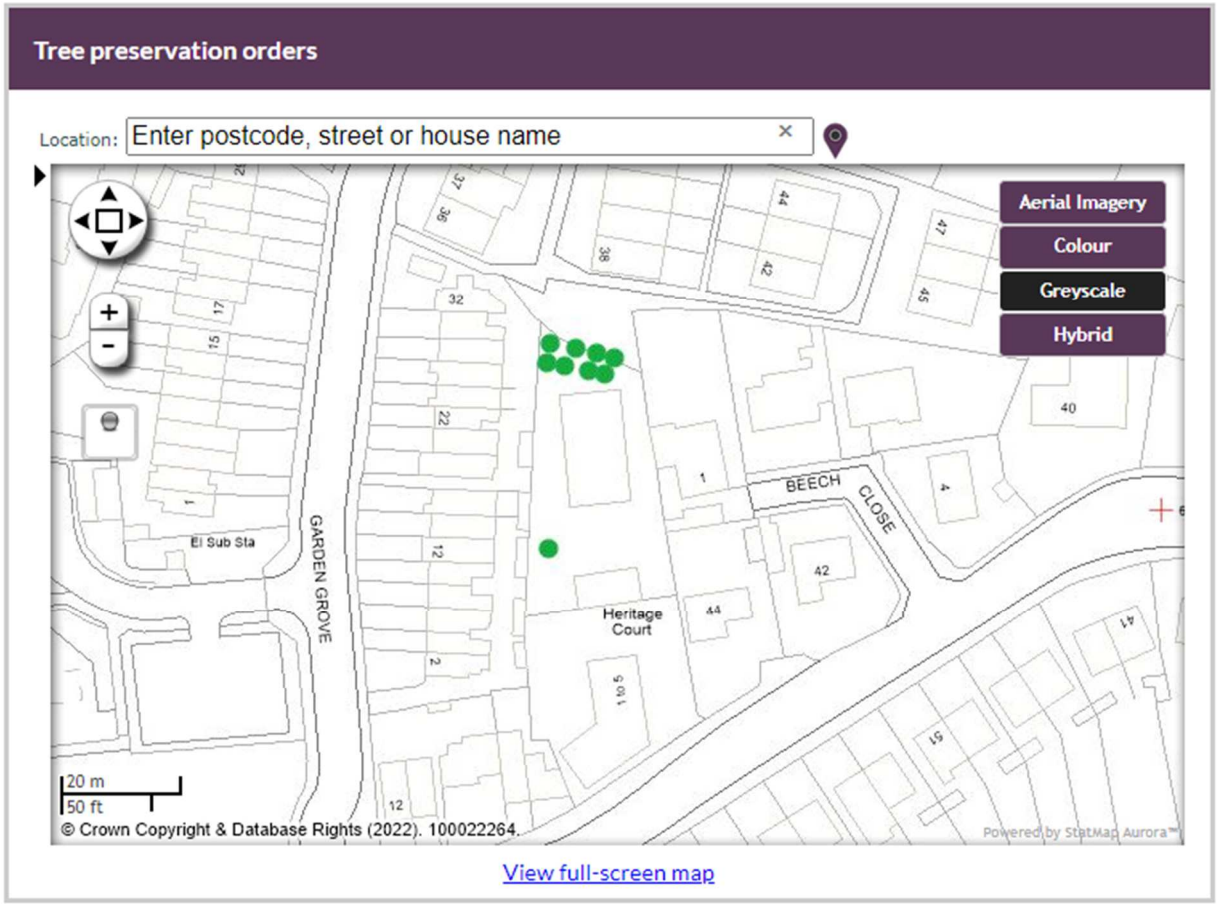
3. The Trees

3.1 Legal

3.1.1 The following advice is for guidance purposes only. Some trees are protected by legislation, and it is essential that the legal status of trees is established prior to carrying out works to them. Unauthorised work to protected trees could lead to prosecution, resulting in enforcement action such as fines or a criminal record. Tree Preservation Orders, Conservation Areas, Planning Conditions, Felling Licences or Restrictive Covenants legally protect many trees in the UK.

3.1.2 An online search was undertaken with Barnsley Metropolitan Borough Council on 22/10/22 to check whether any trees at the site are protected by a Tree Preservation Order or are located within a Conservation Area. Trees at the site are protected by a Tree Preservation Order and as such all trees within the site are legally protected.

3.1.3 The accessed map image from Barnsley Metropolitan Borough Council is detailed below:



3.1.4 Before carrying out any works to the protected trees the permission of the local planning authority is required. There are large potential penalties for illegally carrying out work to protected trees. Statutory permission is not required for the removal of deadwood.

3.1.5 Trees provide a wide range of habitats for many species, some of which are legally protected such as bats, nesting birds, badgers and dormice. It is essential that appropriate care is taken to ensure that this legislation is not contravened.

3.1.6 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance.

3.1.7 All tree work should be carried out according to British Standard 3998:2010 Tree Work - Recommendations.

3.2 Tree Survey Results

3.2.1 The tree survey revealed 8 items of woody vegetation, comprised of 8 individual trees.

3.2.2 Of the surveyed trees: 1 tree is retention category 'B', and 7 trees are retention category 'C' (explanatory details regarding the retention categories are included at Appendix 3).

3.2.3 Full details of the surveyed trees, tree groups and hedges are provided in the attached tree data schedule at Appendix 4. General comments are provided below:

3.2.4 The central areas of the site contain little of arboricultural significance, and the species diversity at the site is quite poor, with only Sycamore and Hornbeam present. Most of the trees are semi-mature with only one early-mature tree.

3.2.5 The sites most significant tree is T1, an early-mature Sycamore. Situated to the South West of the site. This tree is prominent throughout the entire site and surrounding area, providing a moderate level of amenity value. The tree has received previous crown lifting and reduction to provide clearance from the building to its South East and adjacent property to the West; leaving some moderate pruning wounds and somewhat reducing its value.

3.2.6 The group Hornbeam trees T2-T8 are situated at the Northern end of the site and are of lower arboricultural significance, though collectively they do provide some screening value. Several trees have been recently removed in a group thinning and all have been crown lifted, slightly reducing their

value. Additionally, there has been a minor increase in soil level in their rooting area and at the stem bases, slightly covering some stem tapers.

3.2.7 The tree Root Protection Area (RPA) for each tree has been plotted as a polygon centred on the base of the stem. Due to the presence of roads, structures, topography (and past tree management) the RPA is likely to be a simplified representation of the tree roots actual morphology and disposition. However, detailed modifications to the shape of the RPA would largely be based on conjecture and so have been avoided.

3.3 Photographs

Photo 1: T1 looking South West

Photo 2: T1 looking East

Photo 3: T1 looking North

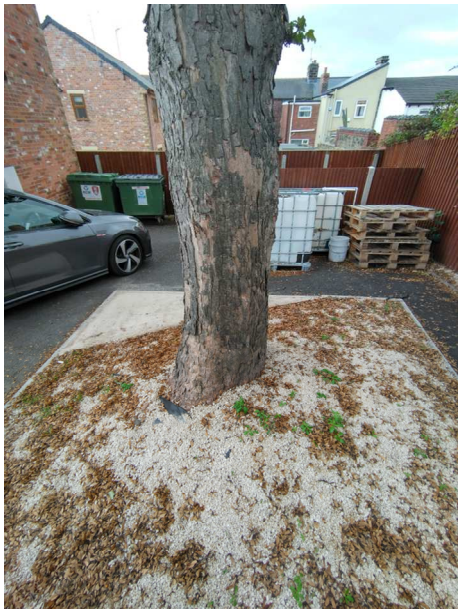


Photo 4: T1 stem looking South

Photo 5: T2-T7 looking North

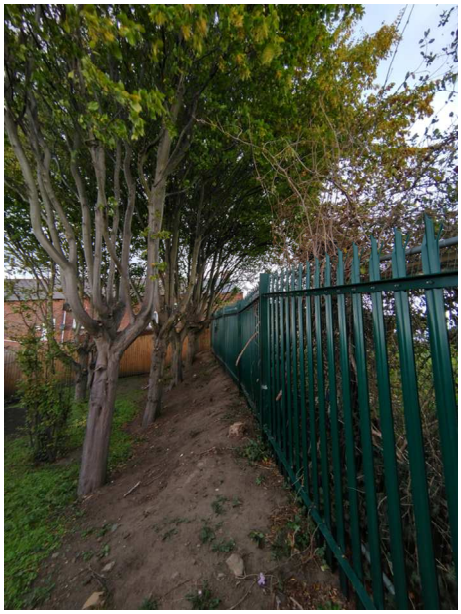


Photo 6: T2-T8 looking West

3.4 Arboricultural Development Advice

3.4.1 The higher value retention category 'A' and 'B' trees and tree groups should be retained, where possible, and incorporated into any new development design.

3.4.2 Where suitable, those category 'C' trees, tree groups and hedges with reasonable future prospects should be retained as part of any new development. However, care should be taken to avoid misplaced tree retention. Attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.

3.4.3 If required by the development proposals, occasional lower value, retention category 'C' trees, tree groups and hedges could be removed, and replacement planting would largely mitigate their losses.

3.4.4 The tree Root Protection Area (RPA), detailed on the Tree Constraints Plan at Appendix 5, should be used as a layout design tool, to inform on the area around a tree where the protection of the roots and soil structure is treated as a priority.

3.4.5 If construction of new buildings is required within the RPA of retained trees it may be possible to employ special foundation design such as mini/ micro pile and suspended beam foundations or cantilevered foundations.

3.4.6 Construction of hard surfaces, for drives and paths, within the RPA can have negative impacts on tree roots. However, the potential negative impacts can often be overcome or minimised by employing a 'no-dig' type construction method with a porous final surface.

3.4.7 The design of the new development should consider tree crown positions in relation to any new dwellings. The dappled shade of a tree is more pleasant than the deep shadow of a building, and some shade from trees may be beneficial. In particular, deciduous trees give shade in summer but allow access to sunlight in winter. Whilst either shade or sunlight might be desirable, depending on the potential use of the area affected, the design should avoid unreasonable obstruction of light and should give adequate provision for future tree growth.

3.4.8 The retained trees may require protection by fencing in accordance with BS 5837:2012, during the development phase.

3.4.9 If required by the Local Planning Authority, an associated Arboricultural Method Statement, detailing protective fencing specifications and construction methods close to the retained trees can be provided.

4. Signature

I trust this report provides all the required information.

Signed

.....

Adam Winson, *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, ACIEEM*

17th October 2022

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Appendices

Appendix 1: Authors Qualifications and Experience
Appendix 2: Survey Methodology and Limitations
Appendix 3: Explanation of Tree Descriptions
Appendix 4: Tree Data
Appendix 5: Tree Constraints Plan

Appendix 1: Authors Qualifications & Experience

Mr Adam Winson, *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, ACIEEM, QTRA Registered*
Adam is the company Director and Principal Consultant. He has a mix of the highest-level academic qualifications and relevant work experience. He has worked within the tree care profession for over 20 years and was awarded an MSc in Arboriculture and Urban Forestry, with distinction. Adam is a Chartered Arboriculturist and a Registered Consultant with the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association and he has original research published by the UK Forestry Commission. His work ranges from individual expert tree inspections to managing trees on major multimillion pound housing developments and infrastructure projects. His work often involves trees with preservation orders or litigation, and he has appeared as a tree expert, at planning appeal hearings up to the crown court. Adam has also undertook locum Tree Officer work for several local authorities.

Mr James Brown, *BSc (Hons) Arboriculture, MArborA, PTI (Lantra), QTRA Registered*
James has a BSc (Hons) in Arboriculture, attaining first class honours, as well as being awarded the Institute of Chartered Foresters student award. He is a Professional Member of the Arboricultural Association, an Associate of the Institute of Chartered Foresters, and he is working towards becoming a Chartered Arboriculturist. James joined AWA in 2016, he has several years' experience as an Arboricultural Consultant, he previously worked in Europe's largest container tree nursery and he has experience of local authority Tree Officer work.

Dr Felicity Stout, *PhD, MA, BA (Hons), Cert Ed Forestry, TechArborA, PTI (Lantra)*
Felicity has worked in the tree care profession for the last 10 years. She has a Certificate in Higher Education in Forestry, with a focus on Urban Forestry. She has practical arboricultural contractor experience and is a qualified and experienced social forestry practitioner. Felicity has a PhD in History, with a particular interest in the history of woodland and tree management and she has work published in The Arboricultural Journal on this subject. As well as working at AWA Felicity is the Tree Conservation Officer for the Peak District National Park Authority.

Mr James Godfrey, *BA (Hons), Dip Forestry and Arboriculture Level 4, Cert Arb L3, TechArborA, QTRA Registered*
James has extensive arboricultural experience working as a team leader within the public and private sector. By achieving a Distinction Star in the Extended Diploma in Forestry and Arboriculture, James was able to use his knowledge to inform and carry out appropriate maintenance that ensured the long term wellbeing of trees across the UK. During his time at Darlington Borough Council, James provided on site assessment and the management of the remedial works required to ensure safe and suitable retention of trees that provide a multitude of benefits to the urban environment. Currently, James is completing a Foundation Degree in Arboriculture and Tree Management, while working at AWA.

Mr Joe Thomas, *MSci Biology, Award L4 Arboriculture, TechArborA*
Joe achieved a first class degree in biology with an integrated Masters (MSci) from the University of Sheffield. Additionally, he has a Level 4 Award in Arboriculture. Joe joined AWA after an Urban Forestry role with the Sheffield and Rotherham Wildlife Trust and Sheffield City Council, where he gained a variety of experience in different aspects of the arboriculture sector.

Mr James Boyle, *HND Level 5 Arboriculture and Urban Forestry, Dip Arboriculture Level 4, TechArborA*
Jim joined AWA after having worked within the tree care profession for several years, alongside studying at college and university. During this time, he gained a wealth of experience and several professional and practical NPTC qualifications in the tree care industry. Jim has studied Arboriculture and Urban Forestry at Merrist Wood College in Surrey, Plumpton College in Sussex and University of Highlands and Islands in the Scottish Highlands, where he achieved a distinction in the Higher National Diploma Level 5.

Appendix 2: Survey Methodology and Limitations

The survey was undertaken in accordance with British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations.* The trees were assessed objectively and without reference to any proposed site layout. The trees were surveyed from the ground using 'Visual Tree Assessment' (VTA) methodology. VTA is appropriate and is endorsed by industry guidance. It is used by arboriculturists to evaluate the structural integrity of a tree, relying on observation of trees biomechanical and physiological features. Measurements are obtained using a diameter tape, clinometer, laser distometer and loggers tape. Where this is not practical measurements are estimated. Tree groups have been identified in instances as defined in BS 5837:2012. Shrubs and insignificant trees may have been omitted from the survey.

This report represents a BS 5837:2012 tree survey and should not be accepted as a detailed tree safety inspection report; however, tree related hazards are recorded and commented upon where observed, yet no guarantee can be given as to the absolute safety or otherwise of any individual tree. All recommended tree work must be to BS 3998:2010 - '*Tree Work: Recommendations*'.

The findings and recommendations contained within this report are valid for a period of twelve months from the date of survey. The author shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with these guidelines and terms.

Appendix 3: Explanation of Tree Descriptions

HEIGHT of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

CROWN HEIGHT is an indication of the average height at which the crown begins.

STEM DIAMETER is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level or else a combined stem diameter is calculated.

CROWN SPREAD is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

AGE CLASS of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

PHYSIOLOGICAL CONDITION is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

STRUCTURAL CONDITION is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

LIFE EXPECTANCY is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

Retention Categories

A (marked in green on Appendix 5) = retention most desirable. These trees are of very high quality and value with a good life expectancy.

B (marked in blue on Appendix 5) = retention desirable. These trees are of good quality and value with a significant life expectancy.

C (marked in grey on Appendix 5) = trees which could be retained. These trees are of low or average quality and value, and are in adequate condition to remain until new planting could be established.

U (marked in red on Appendix 5) = trees unsuitable for retention. These trees are in such a condition that any existing value would be lost within 10 years.

	Tree Species			Measurements				Crown (m)					Tree Condition						Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Average Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T1	Sycamore	*Acer pseudoplatanus*	Early-mature	13	1	630	No	4.5	6.5	6	4.5	6	No visual defects	Single stemmed. Vertical. Old pruning wounds. Epicormic growths. Pruning wounds from crown lifting. 3 10-15cm pruning wound on stem from crown lifting.	Normal. Well developed crown. Minor deadwood. Old pruning wounds. Overhanging adjacent land	In planter surrounded by tarmac carpark. Fine gravel laid over planter bed with permeable mat underneath and concrete laid in South Eastern corner. Ground slopes slightly, lower to South East. South Eastern crown just overhangs building and crown has been reduced to provide clearance, also reduced on North Western side to provide clearance from neighbouring garden.	Good	Good	>40 yrs	Moderate	B	None required in current site context
T2	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	420	No	4	3.5	2	3	3	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to South East, South, and West. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Average Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T3	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	440	No	3.5	6	3.5	3.5	4	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to W, SW, S, and SE. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context
T4	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	360	No	2	6	3.5	3.5	3	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to W, SW, S, and SE. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context

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T5	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	420	No	4	3.5	4	4	2.5	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to W, SW, S, and SE. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context
T6	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	350	No	3.5	6	3	3.5	3	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to W, SW, S, and SE. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context

	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Average Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T7	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	310	No	4	6	3	4	3.5	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to W, SW, S, and SE. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context
T8	Common Hornbeam	*Carpinus betulus*	Semi-mature	8.5	1	310	No	3.5	5	3.5	3.5	3	Increase in soil level. Ground level changes. Adjacent ground works	Single stemmed. Vertical. Old pruning wounds. Stubs. Pruning wounds from crown lifting. Pruning wounds - healing well. Pruning wounds - healing poorly with some decay. Epicormic growths. Bark damage	Old pruning wounds. Minor deadwood. Overhanging adjacent land	Hornbeam group: pruned to crown lift and provide clearance from surrounding gardens. New fence installed to W, SW, S, and SE. Increase in soil level by ~5cm, slightly covering some stem tapers. Many pruning wounds from the reduction and crown lifts, some healing well, some not.	Fair	Good	>40 yrs	Low	C	None required in current site context

T4
T3
T2
T5
T6
T7
T8
Hornbeam sapling
T1

NORTH

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Appendix 5: Tree Constraints Plan

The Firehouse Group, Heritage House, Hemingfield
Ref: AWA4588

BRITISH STANDARD 5837:2012
RETENTION CATEGORIES
Definitions of these categories can be found in Appendix 2 of the report.

SCALE: 1:200 PAPER: A3

	CATEGORY A: HIGH VALUE RETENTION MOST DESIRABLE
	CATEGORY B: MODERATE VALUE RETENTION DESIRABLE
	CATEGORY C: LOWER VALUE COULD BE RETAINED
	CATEGORY U: UNSUITABLE FOR RETENTION
	RPA: ROOT PROTECTION AREA
	TREE STEM