



ARBORICULTURAL REPORT & Impact Assessment to BS5837:2012 at:

**6 Hall Close,
Worsbrough Hall,
Worsbrough,
Barnsley
S70 5LN**

Prepared for:
JRB Designs Ltd
1 Saville street,
Cudworth,
Barnsley
S72 8LT

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1. Introduction

1.1 Instructions and Brief

- 1.1.1 We are instructed by Alan Wyatt c/o JRB Designs Ltd 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 August 2019.
- 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, Principle and Director of AWA Tree Consultants Ltd.
- 1.2.6 The tree survey data collection was carried out by Mr Patrick Rowntree, PTI (Lantra), Cert Arb L3, TechArborA, Arboriculturist at AWA Tree Consultants Ltd.
- 1.2.7 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 refer to the Tree Constraints Plan at **Appendix 5** and for detail of the impacts of the new development refer to the Tree Impacts Plan at **Appendix 6**.

2. The Site

2.1 Location and Description

- 2.1.1 The site is located between Birdwell and Worsbrough, in the metropolitan borough of Barnsley, approximately 2 miles south of Barnsley town centre.
- 2.1.2 The site comprises Worsbrough Hall and its associated access, gardens and facilities. The house is located to the north of the site and Hall Close is to the east of the site boundary.
- 2.1.3 The approximate area of the survey is highlighted in the (2018) image below:



3. The Trees

3.1 Legal

- 3.1.1 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works a check should be made with the Local Planning Authority to see if the trees are covered by a Tree Preservation Order or if they are within a Conservation Area (unless such works are approved by planning permission). If either applies, then statutory permission is required before any works can take place.
- 3.1.2 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance. 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 15 individual trees. 3 trees are retention category 'U' and the remaining 12 trees are retention category 'C' (explanatory details regarding the retention categories are included within Appendix 3).
- 3.2.2 The significant tree cover within the site consists mainly of individual trees across the site and a line of self-set trees situated at the top of a near vertical bank to the west of the site.
- 3.2.3 Species diversity at the site is fair with several Sycamores and the occasional Elm, Holly, Ash, Cypress, Fir, Willow, Cherry and Beech.
- 3.2.4 Most of the trees are semi-mature with only occasional early mature to mature trees.
- 3.2.5 Situated to the west of the site is a mixed species line of trees (T1, T2, T3, T6, T7 and T8). These are self-set trees located at the top of a near vertical bank, with very limited rooting space. The entire bank has had some historic excavation work undertaken, resulting in significant root loss and damage to the trees in this area. As such, all of the trees are likely have only limited prospects in the longer term. In particular T1, T2 and T3 are in a poor condition such that they should be removed regardless of any future development.
- 3.2.6 The large mature Cypress, T9 is situated to the north-west of the site. This tree

is much larger than those that surround it and is visually prominent across the site. However, it has begun to outgrow its location, being only 2m from a listed building and overhanging its roof.

- 3.2.7 Towards the centre of the site are the Beech trees T4 and T5. These trees are visually prominent, but they have been excessively pruned in the past and have relatively poor vigour. Two large tree stems have been laid against the base of these trees along with some build waste, which is causing significant soil compaction.
- 3.2.8 To the south of the site is the Holly T13, adjacent to the garage structure. Historic excavations to the north of this tree have caused some significant root damage. However, the tree is in reasonable overall condition and appears to have not been significantly affected by the damage.
- 3.2.9 The Cherry trees T14 and T15 are located to the north-west. These are in reasonable overall condition and collectively provide some moderate amenity due to their prominent position close to the driveway.
- 3.2.10 Some trees were covered in dense Ivy or were inaccessible (as detailed in Appendix 4) in such cases measurements were estimated and the condition values are indicative only.
- 3.2.11 The tree Root Protection Area (RPA) detailed on the Tree Constraints Plan at Appendix 5, has been 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.
- 3.2.12 Some lower value tree, hedge and shrub groups do not have RPAs detailed on tree plans. The detailed extent and spread of the low value groups, in conjunction with the tree schedule, is sufficient to assess the associated potential constraints.
- 3.2.13 The 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.

4. Arboricultural Impact Assessment

4.1 Proposed New Development

4.1.1 It is proposed to convert the garage structure at the site into an annexe, extending the current footprint by 3m to the north. The development proposals have been provided by my client and inform this arboricultural impact assessment and the Tree Impacts Plan at Appendix 6.

4.2 Direct Impacts

4.2.1 From assessing the new development proposals, 1 tree will require removal as it is situated within 1m of the footprint of the structure and its retention and protection throughout the development is not suitable.

4.2.2 The tree that requires removal is the Beech tree, T4. This tree is in a relatively poor condition with significant defects that limit its value and prospects.

4.2.3 Due to the low value of the one tree to be removed, its removal will have only a negligible negative arboricultural impact.

4.2.4 In addition, the trees T1, T2 and T3 are unsuitable for retention within the current context of the site and so their removal is required regardless of the proposed development.

4.3 Indirect Impacts

4.3.1 The tree Root Protection Area (RPA) detailed on the Tree Constraints Plan at Appendix 5, has been 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. As such, no significant negative indirect impacts have been identified.

4.3.2 Potentially damaging activities are proposed in the vicinity of retained trees. The new development encroaches close to and into the edge of the RPA of T12 and T13. Construction within the RPA, can have negative impacts on tree roots. However, due to the existing foundations of the garage structure it is unlikely that any significant roots will be in this area. If the existing footprint is retained within the RPA, the trees should remain largely unaffected by the works, provided care is taken throughout the development.

- 4.3.3 The design of the new development has considered the trees crown position in relation to the dwelling. Some shade from trees may be beneficial. In particular, deciduous trees give shade in summer but allow access to sunlight in winter. However, the design proposals avoid excessive shading, and give adequate provision for future tree growth.
- 4.3.4 The buildability of the proposed development has been assessed in terms of access, adequate working space and provision for the storage of materials, including topsoil, in relation to the trees.

4.4 Suitable Mitigation

- 4.4.1 The development of the site provides an excellent opportunity to undertake new tree planting throughout the site as part of a soft landscaping scheme. As such, suitable new tree planting has the potential to mitigate for the required tree removals and, in the longer term, has the potential to improve the site's tree cover.

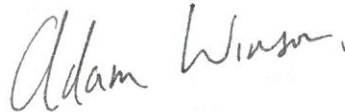
4.5 Protection of the Retained Trees

- 4.5.1 The retained trees will require protection by fencing in accordance with BS 5837: 2012, during the development phase.
- 4.5.2 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.

5. Signature

I trust this report provides all the required information.

Signed



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

12th August 2019

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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 6: Tree Impacts 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 Principle 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 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.

Mr James Brown BSc (Hons) Arboriculture, MArborA.

James has a BSc (Hons) in Arboriculture, attaining first class honours, as well as being awarded the Institute of Chartered Forester's Student award. He is a Professional Member of the Arboricultural Association and an Associate of the Institute of Chartered Foresters. James previously worked in Europe's largest tree nursery and has experience of Local Authority tree officer work. His main work consists of tree surveys for development projects and preparing Tree Protection Schemes to BS 5837:2012.

Mr Dave Farmer FdSc (Arb), MArborA, PTI (Lantra).

Dave has a Foundation Degree in Arboriculture (with Distinction) and is qualified in Professional Tree Inspection. He is a Professional Member of the Arboricultural Association and an Associate of the Institute of Chartered Foresters. Dave has many years of experience within the tree care profession, including lecturing in arboriculture. His work focuses on diagnosing potential tree risk problems, and recommending appropriate treatments and work programmes.

Dr Felicity Stout Ph.D, MA, BA (Hons), Cert Ed (Forestry), TechArborA.

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 has published in The Arboricultural Journal on this subject.

Mr Patrick Rowntree. Arboricultural Technician. Cert Arb L3. TechArborA.

Patrick is a trained arborist with 5 years of experience in the private and commercial sectors, both in the UK and New Zealand. Formerly a professional rugby player, Patrick was awarded a distinction in the Extended Diploma in Forestry & Arboriculture and is a technician Member of the Arboricultural Association. Patrick now uses his experience at AWA focusing on BS5837:2012 tree surveys for development projects; this involves accurate tree data collection and the preparation of tree reports to BS 5837:2012.

Appendix 2: Survey Methodology and Limitations of Report

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 BS5837 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 and includes information of the first significant branch and direction of growth.

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 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 for removal. These trees are in such a condition that any existing value would be lost within 10 years.

TREE DATA

Tree ID	Tree Species		Measurements					Crown (m)				Tree Condition				Value		Management				
	Common Name	Latin Name	Maturity	Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiological		Structural	Life Expectancy	Amenity	Category
T1	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	16	1	220	Yes	3	1	3.5	4.5	3	Trenching / excavations, Root damage / loss, Exposed roots	Single stemmed, Vertical, Ivy covered	Unbalanced, Minor deadwood	Situated atop vertical banking with extremely limited rooting area. Historic excavations at base. Limited inspection of stem possible due to location.	Fair	Poor	<10 yrs	Low	U	Remove regardless of future development.
T2	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	16	1	190	Yes	2	1	3.5	1	3	Exposed roots, Trenching / excavations, Root damage / loss	Single stemmed, Vertical, Stubs, Old pruning wounds, Epicormic growths, Ivy covered, Bark damage, Minor decay	Unbalanced, Minor deadwood	Situated atop vertical banking with extremely limited rooting area. Historic excavations at base. Limited inspection of stem possible due to location. Moderate basal bark damage with some historic decay.	Fair	Poor	<10 yrs	Low	U	Remove regardless of future development.
T3	Elm	<i>Ulmus glabra</i>	Semi-mature	15	4	180 130 190 120	Yes	5	4	5.5	2	4	Soil erosion, Exposed roots, Trenching / excavations, Root damage / loss	Multiple stemmed at base, Vertical, Stubs, Ivy covered, Tight union	Slightly unbalanced, Minor deadwood	Situated atop vertical banking with extremely limited rooting area. Historic excavations at base. Limited inspection of stem possible due to location. Limited long-term value due to species.	Fair	Poor	<10 yrs	Low	U	Remove regardless of future development.

TREE DATA

Tree ID	Tree Species		Measurements					Crown (m)				Tree Condition				Value		Management				
	Common Name	Latin Name	Maturity	Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiological		Structural	Life Expectancy	Amenity	Category
T4	Beech	<i>Fagus sylvatica</i>	Semi-mature	10	1	160	No	4	2	2	4	1.5	Soil compaction	Single stemmed, Vertical, Stubs, Old pruning wounds, Epicormic growths	Small / sparse, Unbalanced, Minor deadwood	Several stubs from significant crown raise. Several large logs and building waste piled around base.	Poor	Fair	20 to 40 yrs	Low	C	Remove to facilitate development
T5	Beech	<i>Fagus sylvatica</i>	Semi-mature	11	1	170	No	4.5	2	3	3.5	2.5	Soil compaction	Single stemmed, Vertical, Epicormic growths, Stubs, Old pruning wounds	Minor dieback, Minor deadwood	Several stubs from significant crown raise. Large logs and building waste piled at base and against stem.	Fair	Fair	>40 yrs	Low	C	No works required.
T6	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	14	6	150 avg	Yes	2.5	5	4.5	2	4	Exposed roots, Trenching / excavations, Root damage / loss	Multiple stemmed at base, Vertical, Stubs, Old pruning wounds, Epicormic growths	Unbalanced, Minor deadwood	Situated atop vertical banking with extremely limited rooting area. Historic excavations at base. Unbalanced crown from historic removal of co-dominant stem.	Fair	Poor	<10 yrs	Low	C	Remove regardless of future development.
T7	Ash	<i>Fraxinus excelsior</i>	Semi-mature	11	1	130	Yes	8	2	2	1	2	Exposed roots, Trenching / excavations, Root damage / loss	Single stemmed, Slight lean, Stubs	Minor deadwood	Situated atop vertical banking with extremely limited rooting area. Historic excavations at base. Several mixed species saplings at base. Limited long-term value.	Fair	Fair	10 to 20 yrs	Low	C	No works required.

TREE DATA

Tree ID	Tree Species		Measurements				Crown (m)				Tree Condition				Value		Management					
	Common Name	Latin Name	Maturity	Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments		Physiological	Structural	Life Expectancy	Amenity	Category
T8	Holly	<i>Ilex aquifolium</i>	Semi-mature	10	10+	110 avg	Yes	2	2	3.5	3	3	Exposed roots, Trenching / excavations, Root damage / loss	Multiple stemmed at base, Vertical, Stubs, Tight union, Partially included bark	No visual defects	Situated atop vertical banking with extremely limited rooting area. Historic excavations at base. Several mixed species saplings at base. Limited long-term value.	Fair	Poor	10 to 20 yrs	Low	C	No works required.
T9	Leyland Cypress	<i>Cupressocyparis x leylandii</i>	Mature	16	1	420	No	2.5	2.5	1.5	2.5	2.5	No visual defects	Single stemmed, Vertical	Normal, Minor dieback, Minor deadwood	Northern aspect encroaching on adjacent building. High proportion of deadwood and dieback in lower crown. Yew sapling at base.	Fair	Fair	20 to 40 yrs	Moderate	C	No works required.
T10	Fir	<i>Abies sp.</i>	Semi-mature	15	1	210	No	1	1.5	2.5	2	1	No visual defects	Single stemmed, Vertical	Moderate dieback, Minor deadwood		Fair	Fair	>40 yrs	Moderate	C	No works required.
T11	Cupressus	<i>Cupressus sp.</i>	Semi-mature	13	1	150	No	1	1	1	1.5	0.5	No visual defects	Single stemmed, Vertical	Moderate dieback	Northern aspect encroaching on adjacent building.	Poor	Fair	10 to 20 yrs	Low	C	No works required.

TREE DATA

Tree ID	Tree Species		Measurements				Crown (m)				Tree Condition				Value		Management					
	Common Name	Latin Name	Maturity	Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiological	Structural	Life Expectancy	Amenity	Category	Works
T12	Willow	<i>Salix caprea</i>	Semi-mature	7	8	130 avg	No	1	4.5	6	2	4	No visual defects	Multiple stemmed at base. Slight lean. Stubs, Old pruning wounds, Epicormic growths, Bark damage, Tight union, Partially included bark	Unbalanced, Minor deadwood	Adjacent wire fence causing bark damage to northern stems.	Fair	Fair	20 to 40 yrs	Low	C	No works required.
T13	Holly	<i>Ilex aquifolium</i>	Early-mature	12	6	140 avg	Yes	3	2.5	4	2.5	3	No visual defects, Limited access around base	Multiple stemmed at base. Vertical, Stubs, Epicormic growths, Tight union, Partially included bark, Minor cavities, Minor decay	Normal, Minor deadwood	Situated on banking. Limited access due to building waste, preventing detailed inspection. Historic excavations at base. Eastern co-dominant stem has significant lean.	Fair	Fair	20 to 40 yrs	Moderate	C	No works required.
T14	Wild Cherry	<i>Prunus avium</i>	Early-mature	12	4	210 150 190 190	No	2.5	3.5	5	2	4	No visual defects	Multiple stemmed at base. Vertical, Stubs, Old pruning wounds, Ivy covered, Tight union	Normal, Minor deadwood	Ivy preventing detailed inspection of stems.	Fair	Fair	>40 yrs	Moderate	C	No works required.
T15	Wild Cherry	<i>Prunus avium</i>	Early-mature	12	2	260 230	No	3.5	1	4	4	4	No visual defects	Twin stemmed at base. Vertical, Stubs, Old pruning wounds, Ivy covered	Normal, Minor deadwood	Ivy preventing detailed inspection of stems and overcrowing crown.	Fair	Fair	>40 yrs	Moderate	C	No works required.