**BS5837:2005 Tree in Relation to Construction: Arboricultural Implications Assessment**

| **Site Address:** | 121 Lower Street  
|                   | Hillmorton  
|                   | Rugby  
|                   | Warwickshire  
|                   | CV21 |

| **Client Address:** | HB Architects  
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1. INTRODUCTION

1.1 Terms of Instruction

1.1.1 This report has been commissioned by Mr Craig Beech of HB Architects Ltd, on behalf of Mr Steve Curley of Curley Construction, who is currently managing the site.

1.1.2 The report is to provide a tree schedule, tree constraints plan and arboricultural implications assessment, to assess the impact of the future development proposal at 121 Lower Street, Hillmorton, Rugby on the trees on or adjacent to the site.

1.1.3 The instruction is to fulfil the initial requirements of Rugby Borough Council, who require an arboricultural implications assessment to provide an informed and judged decision on a planning application which is to be submitted.

1.1.4 These instructions were confirmed by Mr Craig Beech in an email dated 5th February 2010.

1.2 Scope of Project

1.2.1 The scope of this project is threefold:

I. Undertake a survey of trees on the site and within influencing distance of the site without prior reference to the proposed development.

II. Provide a tree constraints plan for the site including root protection areas, canopy spreads and shading arcs if necessary (orientation dependant).

III. Provide an arboricultural implication assessment in relation to the design proposal for the proposed extension of the existing property. This will assess the trees in relation to the proposals and the potential impacts the trees will have.

1.3 Caveats and Limitations

1.3.1 The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by the author.

1.3.2 This is an arboricultural report and as such no reliance should be given to comments relating to buildings, engineering or soil.

1.3.3 This is not an arboricultural health and safety survey, a more detailed survey of internal decay detection etc can be supplied but would be subject to a further fee.
1.3.4 This is a report which should be to accompany a planning application and provides no detail specifically in relation to the health and safety of the trees.

1.3.5 All tree inspections were undertaken from ground level and no climbing inspections were undertaken.

1.3.6 For the purposes of this survey all dimensions of trees and their associated parts are based on estimation unless otherwise stated.

1.3.7 Trees are growing dynamic structures. Whilst reasonable effort has been made to identify defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. No tree is ever absolutely safe due to the unpredictable laws and forces of nature. As a result of this, natural failure of intact trees will occur; extreme climatic conditions can cause damage to even apparently healthy trees.

1.3.8 Trees are living organisms whose health, condition and structure can change quickly and without warning. Therefore, the contents of this report are valid for a period of one year from the date of this survey. As such, it would be prudent for the trees discussed in this report to be re-inspected by a competent person where the frequency of inspection has been entered in the tree schedule found at Appendix 2.

1.3.9 On undertaking the recommended works, the arborist/tree surgeon must without delay report any defects that become apparent while climbing or working on the tree/s in question. Those defects must be reported immediately to the relevant project manager, landowner and/or the author of this report to enable the appropriate remedial action.

1.3.10 This is report an arboricultural and therefore does not rely on ecological or archaeological data. If either is commented upon within the report further professional advice should be sought.

1.4 Documents Provided

1.4.1 As background information I have been provided with the following documentation:

- Site plan with red line denoting boundaries of the site;
- Aerial photographs of the site;
- Tree constraints plan as prepared by Wharton Arboriculture Ltd; and
- The proposed development site layout plan.
1.5 Relevant Background Information

1.5.1 The arboricultural report is to fulfil the requirements of BS5837:2005 *Trees in Relation to Construction: Recommendations* and be prepared for trees directly on site or within influencing distance of the site.

1.5.2 It is appreciated that the trees could provide a constraint and therefore a BS5837:2005 survey has been commissioned during in the planning and design process to establish the full constraints that the trees pose to the site and ensure that they are a material consideration.

1.5.3 This report must be considered with the full planning application.

2. QUALIFICATIONS

2.1.1 The principal author of this report is Peter Wharton BSc(Hons) Arb., M.Arbor.A. I am an associate member of the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association, Consulting Arborist Society and International Society of Arboriculture. I am also a member and licensed user of Quantified Tree Risk Assessment and am LANTRA certified to undertake Professional Tree Inspections. I currently sit on the Arboricultural Association Media and Communications Committee and was previously a board member of the Midlands Tree Officer Association. Wharton Arboricultural Ltd is a recognised and approved member of Constructionline and CHAS. As an arboricultural consultant at Wharton Arboriculture Ltd, I specialise in dealing with trees in relation to planning issues.

2.1.2 A brief synopsis of qualifications and experience are at Appendix 1.

3. DATA COLLECTION

3.1 Site Visit

3.1.1 A site visit was undertaken on Saturday 6\textsuperscript{th} February 2010 and the trees inspected from ground level. The weather conditions were bright sunshine with a moderate prevailing wind; visibility was good throughout the visit.

3.1.2 The current site manager was informed of my presence on site prior to undertaking the inspection of trees.

3.2 Site Description

3.2.1 The site currently occupied by a large residential dwelling house with associated tiered gardens and outbuildings, the property is currently vacant. The main building is set back from Lower Street, which is located to the south by approximately 7m.
3.2.2 The site is surrounded on the north, east, south and west sides by other residential properties of which vary in style, age and condition.

3.2.3 The trees on the site and within close proximity to it are of a varied age (young to mature) and quality. The trees are on the peripheral boundaries and also located within integral parts of the site providing high and low level screening for adjacent/properties land and also amenity value.

3.3 Method of Data Collection

3.3.1 The trees on the site were originally surveyed without reference to site layout as detailed in paragraph 4.2 of BS5837:2005. However for the purposes of the arboricultural implications assessment the design proposal for the site has been considered.

3.3.2 The position of each tree was plotted with reference to the supplied topographical survey. Small trees with a stem diameter less the 75mm were generally not surveyed as they would either be easily replaced or relocated.

3.3.3 Each individual tree has been given a tree identification number, the groups and hedges clearly defined for the purpose of this report. Metal tags have been used for this survey and have been attached to the northern side of the trees where possible. The tags commence at 0221 – 0222 inclusive, where a tag has not been attached to a tree it is clearly indicated in the Tree Schedule at Appendix 2. The tree numbers associated with each tree are cross referenced within the schedule and plans at Appendix 2 and 3 respectfully.

3.3.4 The tree species have been recorded with both common and botanical names.

3.3.5 All tree heights have been assessed using a clinometer and where indicated in groups the height of the tallest tree was measured unless otherwise stated. Tree heights are given in metres.

3.3.6 All stem diameters were measured at 1.5 metres above ground level and are given in millimetre units (unless otherwise stated where “gl” is an abbreviation for ground level where diameter was measured just above root flare, “est” is an estimate and “av” is an average).

3.3.7 The canopy spread is recorded in either the four cardinal points or is given as an average diameter for the crown, especially in groups or where the crown is evenly weighted. Canopy spreads are measured in metres.

3.3.8 The height of the ground clearance is given in metres and is an estimate of the height of the first branch above ground level.
3.3.9 In absence of detailed information on the age the following classification has been used:

- **Yng**: Young trees age less than 1/3 life expectancy;
- **Mid**: Middle age trees 1/3 – 2/3 life expectancy;
- **Mat**: Mature trees over 2/3 life expectancy;
- **O/mat**: Over-mature – declining or moribund trees of low vigour; and
- **Vet**: Veteran trees – specimens exhibiting 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.

Age class is indicative and will vary between species.

3.3.10 The structural condition of the trees has been assessed and is summarised as:

- **Good**: Few minor defects of little overall significance;
- **Fair**: A significant defect or several small defects; and
- **Poor**: Major defect present or many small defects.

3.3.11 The physiological condition has been recorded to provide an indication of the tree’s general health and vitality. The trees have been described thus:

- **Good**: Generally in good health typical of the species;
- **Fair**: Reasonable health with few defects;
- **Poor**: Trees that exhibit significant defects which are irremediable or moribund tree; and
- **Dead**: Tree has died

3.3.12 Each tree was individually assessed and comments, where appropriate, were recorded for the condition of each tree’s roots, main stem and crown.

3.3.13 General comments have also been made where appropriate, with recommendations when relatively immediate works are given.

3.3.14 Estimated remaining contribution has been categorised as: less than 10 years, 10-20 years, 20-40 years or over 40 years, based upon an assessment of the tree’s potential safe useful life expectancy. The remaining contribution in years has not always been directly followed in relation to the retention categories of the trees as trees may have a long remaining life however be of little significance in terms of development.
3.3.15 The BS5837:2005 sets out the methodology for surveying trees on potential development sites in order to identify them within a prioritised system of retention categories, as summarised below:

**A Category** Trees of high quality and value in such a condition as to be able to make a substantial contribution for a minimum of 40 years;

**B Category** Trees of moderate quality and value in such a condition as to make a significant contribution for a minimum of 20 years;

**C Category** Trees of low quality and value currently in adequate condition to remain until new planting could be established and expected to remain for a minimum of 10 years, or young trees with a stem diameter less than 150 mm measured at 1.5 meters above ground level; and

**R Category** Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural or forestry management.

3.3.16 Each retention category A, B, C and R are sub-divided into sub-categories 1 – 3 as defined below and are provided in detail within Table 1, extract of BS5837:2005 at Appendix 2.

- **Subcategory 1** Arboricultural value;
- **Subcategory 2** Landscaping value; and
- **Subcategory 3** Cultural and conservation value.

### 4. SUMMARY OF DATA

4.1.1 The survey includes 2 individual trees and no groups of trees. The comments for each tree vary and are given in detail in the BS5837:2005 Tree Schedule and Root Protection Area Schedule at Appendix 2.

4.1.2 The location of each tree and their associated constraints including canopy spread, and root protection areas are illustrated on plan number DWG 2 and the associated implications on the proposed development are on plan DWG 3, both at Appendix 3. Shading arcs have been illustrated on the proposed development plans.

4.1.3 Of the trees surveyed it would appear that the most significant are an ash (*Fraxinus excelsior*) and sweet chestnut (*Castanea sativa*). The trees are located both on the peripheral boundaries of the site.

4.1.4 There are no A category trees, which are considered to be of high quality with a minimum of 40 years life remaining.
4.1.5 There is 1 individual B category trees, which is T1, a mature ash (*Fraxinus excelsior*). These trees are considered to be of moderate quality with a minimum of 20 years useful life remaining.

4.1.6 There is 1 individual C category tree, which is T2, a mature sweet chestnut (*Castanea sativa*). The aforementioned trees are all considered to be of poor quality and have a limited useful life remaining, with a minimum 10 years. The C category trees should not be considered a constraint on site in terms of development, however should be retained if possible.

4.1.7 There are no trees considered to be R category trees which are of poor quality with less than 10 years expected useful life remaining.

Table 1: *Distribution of Retention Categorisation for the Tree Survey*

<table>
<thead>
<tr>
<th>Retention Category</th>
<th>Individual Trees</th>
<th>Groups of Trees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>R</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

4.1.8 It should be noted that Table 1 of BS5837:2005 only gives recommendations in relation to remaining years. A tree may be considered to have a longer remaining life, however, still be considered to be of a lower category given its maturity, condition or overall impact to the application site.

4.1.9 In line with BS5837:2005 the Category A and B trees should be considered as providing a substantial contribution to a site. Therefore, Category A and B trees should be retained and incorporated into the proposed development, where possible and feasible.

4.1.10 Generally Category C and R trees are considered to be of low quality or are young specimens which can be readily replaced, therefore, should not be considered a constraint to future development.

4.1.11 However, it is considered desirable, wherever possible, that a tree should be retained as it ensures continuity of tree cover and provides a mature landscape to the proposed development.
5. TREE PROTECTION

5.1 Legal Status

5.1.1 The Local Planning Authority (LPA) has been contacted to establish whether any trees contained within the survey are protected by either a Tree Preservation Order (TPO) or are within a Conservation Area.

5.1.2 An email was received from Dave Gower, Tree Officer at Rugby Borough Council dated 9th February 2010, confirming the following:

- There is a TPO protecting both the ash and sweet chestnut trees.
- The TPO is no. 304 and entitled 121 Lower Street and was originally made on 1st November 2007. It protects two trees T1 the ash and T2 the sweet chestnut.

5.1.3 A Tree Preservation Order (TPO) is an order that is made by the local planning authority in respect of individual trees, groups of trees or woodlands. The order is made in the interests of public amenity. TPOs can be made following an initial enquiry and therefore the information gained on 9th February 2010 is only reliable for that day and further enquiries should be made prior to the commencement of development or tree works.

5.1.4 Once a TPO has been served it is a criminal offence to carry out the following works without the prior written consent of the local planning authority:

- Cutting down,
- Uprooting,
- Topping,
- Lopping,
- Wilful Damage, or,
- Wilful destruction.

5.1.5 Also whilst the cutting of roots is not expressly covered it is likely to damage the tree so as such requires the local planning authority's written permission.

5.1.6 If convicted of a contravention of a TPO it is possible to incur fines of up to £2,500 for wilfully damaging a tree, or £20,000 (in a Magistrates court. Higher courts can impose unlimited fines) for either destroying a tree or damaging a tree in a way that is likely to destroy it. The above fines can be implemented for each contravention of the TPO i.e. a separate fine can be incurred for each tree illegally felled or pruned.

5.1.7 Detailed TPO advice and guidance can be provided on request.
5.1.8 If full planning consent is granted then any trees which require felling to implement the approved plans are exempt from the statutory protection. It should also be considered that any proposed tree works detailed in the tree schedule are also implemented as part of the planning decision consent.

5.2 **Felling Licences**

5.2.1 Tree felling is also restricted under the Forestry Act 1967. Under this act, there is an exemption from the need for a felling licence for “Felling necessary for the prevention of danger or the prevention or abatement of a nuisance (e.g. which may involve threat of danger to a third party).”

5.2.2 The remedial work recommendations highlighted in this report would fall under this exemption. However, it is strongly recommended that the Forestry Commission is contacted in advance so that it is able to deal with any concerns raised by the general public.

5.2.3 If full planning consent is granted for the current proposal, then any trees which require felling to implement the approved plans are exempt from this statutory protection. It should also be considered that any proposed tree works detailed in the tree schedule are also implemented as part of the planning decision consent.

5.3 **Trees and Wildlife**

5.3.1 The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 and the Habitat Regulations 1994 (amended 2007) provides statutory protection of birds, bats and other species that can inhabit trees.

5.3.2 Great care is required to avoid disturbance and consideration should be given to the timing of tree works in order to avoid disturbance. Where the presence of such species is suspected, the author or Natural England should be contacted for advice.

6. **APPRAISAL**

6.1 **General**

6.1.1 The appraisal considers the whole development and the impact that it has on trees which are to be retained or removed. The original tree constraints survey has not considered the proposed development and was undertaken without prior knowledge of any design plans. Therefore it did not compromise the assessment of the trees and their associated retention suitability.

6.1.2 To aid assessment of the impact and implications of development, the trees and their constraints are given on plans DWG 2 and with the proposed development on plan DWG 3, both at Appendix 3.
6.2 Tree Removals

6.2.1 In general the proposed development plans will have an indirect impact on the tree population on the site. It is considered that all the trees located directly on the site will require removal for good arboricultural management; to ensure the site is safe; to increase longevity across the site in future years; and also to allow development to proceed.

6.2.2 As an indirect result of the proposed development there would be a loss of one individual tree.

6.2.3 The individual tree to be removed is T2, the sweet chestnut (*Castanea sativa*). At the current time the existing building is located within approximately a quarter of the RPA of T2, and the proposed extension would encroach further. The tree is considered to be a C category specimen, although it does have a significantly greater life expectancy than the minimum 10 years, as detailed within Table 1 of BS5837:2005.

6.2.4 There has previously been the removal of two large limbs at 0m and 1.6m above ground level which has resulted in two large pruning wounds. The trunk leans in a south easterly direction to 2m before dog – legging into a more upright form. The canopy has been lifted over many years and there are poor pruning cuts associated with it. The tree is very close to the property on this site and also the neighbouring property. The tree has also caused significant damage to the adjacent boundary wall dividing the two properties, which is only likely to worsen with time. It is considered that both the trunk and canopy exhibit poor overall form which cannot be resolved.

6.2.5 The tree is located between two properties and as a result has limited public views, unlike T1 to the front of the site and therefore planting a more prominent tree would be beneficial to the local area.

6.2.6 Therefore although a design solution could be achieved to retain this specimen, it has been considered on balance that its removal and replacement would be of more benefit to the site and its surroundings.

6.2.7 The tree proposed to be felled would be lost in the short term, therefore with a suitable and robust landscaping and tree planting scheme for the site, their loss would be mitigated for in the long term.

6.2.8 Work has been undertaken to initially address this issue by repositioning the building line, however, this is unfeasible given the nature of the site and the other significant constraints on site.
6.2.9 Considerable work has been undertaken in relation to the landscaping of the site, which is to include the planting of a number of large specimen trees in strategic locations to ensure that they are not compromised in future.

6.2.10 The aim will be to provide longevity, variety and diversity to the site and local area, ensuring that there is minimal future conflict between the trees and building and that they complement one another.

6.2.11 A list of trees to be felled on site in relation to the proposed development and as part of site management is given at Appendix 3 and illustrated on a plan 4 at Appendix 3.

6.3 Remedial Tree Works

6.3.1 There is only minor remedial tree works proposed which will include the lifting of lower canopies associated with those retained trees adjacent to the access drive. This will only involve lifting of secondary branches over the driveway side of each tree to 5m and will not be the removal of all lower limbs to 5m.

6.3.2 Other remedial works will include the removal of canopy deadwood and stub cuts which have previously been retained within the canopies of some of the larger trees. All proposed works are detailed within the complete tree schedule at Appendix 2.

6.3.3 It is likely that any new tree planting will require remedial works consisting of formative pruning whilst the trees establish. This is recommended as part of the three - five year tree management programme for the planting, maintenance and aftercare of the new trees. This will need to be finalised later as the required works and should be detailed as part of a planning condition if it is considered that new trees will be planted.

6.4 Effect on Amenity

6.4.1 The peripheral boundaries of the site have trees of varying species, size and quality located on them. Some of the peripheral trees on site are highly visual and contribute significantly to the amenity of the area, for this reason development of the main building has been located away from the trees, specifically those higher quality trees.

6.4.2 There will be the loss of one tree on the site, however this is of more significance when viewed from within the site and are of little value to the wider public. Replacing this tree with a good specimen to the front of the site would be more beneficial in the longer term to the amenity of the area.

6.4.3 The most significant trees are those of the south boundary which are not affected by the proposals. The other trees within close proximity to the site are also not
implicated by the current proposal and have not been surveyed in conjunction with this.

6.4.4 In summary the impact of the development upon amenity of trees will be insignificant. There is an opportunity to ensure the continuity of tree cover in this area with a robust tree planting scheme which can be finalised as part of a planning condition, however, planting suggestions are provided in section 10 below.

7. BELOW GROUND CONSTRAINTS

7.1.1 The below ground constraints are represented by the root protection area on plan DWG 2 and with the proposed development on plan DWG 3, both at Appendix 3.

7.1.2 The below ground constraints are generally summarised as the root protection areas (RPA). The RPA is an area equivalent to a circle with a radius 12 or 10 times the diameter of the trees measured at 1.5 metres or at ground level respectively. The RPA is an area in which no ground works should be undertaken without due care in relation to the retained tree(s) and this is to avoid soil compaction, changes in levels or soil contamination which could alter the trees condition and/or stability. The shape of the RPA and its exact location will depend upon arboricultural considerations and ground conditions.

7.1.3 The RPA for the trees are shown as polygons for simplicity and are calculated as prescribed by BS5837:2005. However, in many instances where there is previous site access through the RPAs this will be reused and improved to alleviate the compaction on the ground. A tree protection plan should be prepared prior to commencement of works on site which will provide details in relation to construction access, tree protective fencing, construction processes and site storage.

7.1.4 The relationship between the RPAs associated with the trees and the proposed development is illustrated on the implications plan DWG 3 at Appendix 3. As per BS5837:2005, a 20% off-set in one direction is considered acceptable where trees are open grown. In the current scheme none of the surveyed trees are considered to be ‘open grown’.

7.1.5 There has been previous encroachment into the RPAs of tree T1 for the existing access leading from Lower Street onto the site. The existing access will be utilised for this proposal and improved with a porous final surface, this have no more impact the what was the previous access onto the site. Currently the low rise retaining wall has been removed by hand, with no root damage and it is proposed that the current embankment is secured with a geotextile cellular confinement system, such as Cellweb and anchored to the embankment. Each of the cells should then be filled with topsoil and grass seed, providing a final green embankment.
7.1.6 Any further installation or excavation for the new foundations within the RPA or the area designated to be protected will be undertaken by hand and with the supervision of the Arboricultural Clerk of Works (ACoW)\(^1\) to ensure root damage does not occur, working in line with a detailed method statement.

7.1.7 The below ground infrastructure of services are not shown but there is adequate space for these to be installed outside of root protection areas. If services do enter root protection areas the use of hand digging as detailed in National Joint Utilities Group Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees (NJUG 10, Volume 4, 2007) would minimise impact on the tree roots. Services will not be installed beneath the access drive as any repairs would not be possible.

8. ABOVE GROUND CONSTRAINTS

8.1 General

8.1.1 The above ground constraints predominantly refer to the impact of the canopy of any retained tree on the site either by size and form, shadowing and nuisance factors. As a result it is sometimes required that a canopy protection zone is established to ensure it is not harmed during construction.

8.2 Future Growth

8.2.1 The future growth of the trees is considered to be limited given the location in which the trees are situated. The location of the building is within close proximity to the tree canopies however the trees to be retained have reached full maturity and size and therefore is not considered a constraint in relation to the proposals.

8.3 Shading, Windows and Orientation

8.3.1 This aspect is of limited concern for the present development due to its proposed location of properties in relation to the trees.

8.3.2 The site is relatively open and trees are around the perimeter of the site. The trees to the south and the west will have greatest effect of shading through midday to evening respectively. They will cast a deep shade across much of the western elevation however this is not considered to be a constraint or impact on development.

8.3.3 All new tree planting within the landscaping scheme will be located to provide strategic shade and species will be chosen accordingly for individual locations i.e. lime and sycamore trees will not be planted adjacent to parking or seating areas.

\(^1\) The Arboricultural Clerk of Works (ACoW) will be engaged by the developer to monitor the implementation of this management programme and to give advice in detail as the project proceeds.
8.4 Leaves, Fruit and Honeydew

8.4.1 Given the proximity of so many trees on and off site leaf fall will be a significant problem across the whole of the site in autumn. Where leaf fall will be a problem to the gutters this can be managed through regular clearance and incorporating grates into the gutters so avoiding regular blockages. Additionally by installing a final surface which can be swept and easily cleaned would also be advantageous.

8.4.2 Honeydew is most likely to be a significant problem from the lime and sycamore trees of which there are none on this site.

8.5 Apprehension

8.5.1 The proposed buildings are located sufficiently far from trees so that there will be little apprehension of potential users of the facility. The site is well treed and although trees are often neglected, as the trees are such a significant feature of the site it is expected that potential users will have taken account of the presence of trees.

9. MITIGATION PLANTING

9.1 Tree Planting

9.1.1 As part of the ongoing commitment to trees, their cultivation and management, new trees should be incorporated into the landscaping designs for the proposed development.

9.1.2 A detailed and robust landscaping scheme with suitable tree planting and species choice will mitigate for the loss of the single tree on the site, providing long term amenity and continuity of tree cover with an immediate short term loss.

9.1.3 The proposal for tree planting should be considered under either a landscaping scheme for the site or as part of a separate tree planting and management plan. Both of these should for part of a robust planning condition to be agreed following a formal decision.

9.1.4 It is currently recommended that two new trees are planted to the front of the site, providing impact to the streetscape and also significant amenity value. The suggested planting choices are a sweet chestnut (Castanea sativa), Turkish hazel (Corylus colurna) or silver maple (Acer saccharinum). Other potential species could also include birch. Whether it be one of the aforementioned species or a different species, it is recommended that the tree be planted as container grown specimens14 – 16cm or 16 – 18cm stems, which would therefore be a minimum planting height of 4m. This would provide immediate impact to the site.
10. CONSTRUCTION OF PROPOSED DEVELOPMENT

10.1.1 The proposed buildings are located sufficiently far from the trees so that the method of construction does not need to be significantly modified to avoid damage to the retained trees.

10.1.2 However although the development is sufficiently far from the retained trees not to compromise the associated RPAs, there will still be a requirement to erect tree protective fencing, in line with a tree protection plan detailed within an Arboricultural Method Statement. It is therefore recommended that a suitable Arboricultural Method Statement be prepared for the correct specification, installation and inspection of this by the ACoW. This should be made part of a planning condition, to be implemented and discharged prior to on-site works commencing.

10.2 Infrastructure

10.2.1 Although not confirmed the route for services are anticipated to follow the routes of the access drives. Following NJUG 10 Volume 4, 2007 will minimise the impact on root severance and damage within root protection areas.

11. END USE

11.1.1 The end use of the site is to be for the erection an extension to the existing residential dwelling house.

11.1.2 The balance of the building design, location and proposed tree planting area throughout the site is thought to be adequate and not lead to the long term loss of trees as sufficient landscaping areas have been provided.
12. CONCLUSIONS

12.1.1 There will be a loss of one tree to enable development of the site, however, the tree is of low quality and it is likely that they would be lost within the near future due to its condition and location.

12.1.2 This loss of trees needs to be considered in context of the development and it is considered to be negligible given the location and can be more than compensated and mitigated for with a robust planting scheme as described within section 10. It is likely that the loss of this tree would occur in the short term without development and therefore there planned removal for the purposes of development is considered appropriate.

12.1.3 The proposed extension will be sufficiently far from all retained trees so that the root protection areas are not directly compromised, although protection measures should be erected and installed as per the tree protection plan as part of a planning condition.

12.1.4 Above ground the future growth and shading have been designed for, and the impact of these on the development has been reduced to avoid future conflicts. The nuisance from leaves, fruit and honeydew has also been catered for and reduced to an acceptable level.

12.1.5 Construction and design techniques have been used to ensure that the proposed development has minimal impact upon retained trees. To ensure the risk of damage is reduced arboricultural method statements will be prepared for installation of hard surfacing, erection of protective fencing and on site supervision.

13. RECOMMENDATIONS

13.1 Planning Application

13.1.1 There would appear to be no arboricultural justification for this planning application not to be approved, given the general condition of the trees, building design, and layout in relation to the trees. It is considered that suitable new tree planting will mitigate for those trees recommended for removal.

13.1.2 It is recommended that planning conditions be adhered to any approval for a suitable tree planting scheme and for the production of an Arboricultural Method Statement implementation of tree protection, pre-commencement meetings and ongoing site supervision.

13.1.3 I would recommend that dialogue be had with the LPA to establish the preferred tree species and size to be planted to mitigate for the loss of the individual tree.
13.2 Arboricultural Method Statement

13.2.1 In order to ensure that the retained trees are correctly protected an Arboricultural Method Statement should be prepared for the erection tree protection by the ACoW and then agreed by the LPA and implemented prior to any on site works commencing. Additionally there is also likely to be a requirement for site supervision throughout the course of development to ensure that the trees to be retained are not damaged.

14. REFERENCES

14.1.1 British Standard 5837:2005 Trees in Relation to Construction A Recommendation


Signed

..................................................

Peter Wharton BSc (Hons) Arb., M.Arbor.A
Wharton Arboriculture Ltd
APPENDIX 1: QUALIFICATIONS

Peter Wharton
CURRICULUM VITAE
Peter Wharton BSc(Hons) Arb., M.Arbor.A

DATE OF BIRTH
21.03.82

PROFESSIONAL QUALIFICATIONS
BSc Honours in Arboriculture Upper Second, University of Central Lancashire 2004
Professional Member of the Arboricultural Association 2005
Professional Member of the International Society of Arboriculture 2005
Quantified Tree Risk Assessment Licensed User 2006
Professional member of the Consulting Arborist Society 2006
PACE Training 2008
Lantra Professional Tree Inspection 2009

CAREER
August 2008 – Onwards Wharton Arboriculture Ltd
September 2007 – August 2008 PKJ Wharton Arboricultural Consultancy
January 2007 – September 2007 Lockhart Garratt – Arboricultural Consultant
September 2005 – January 2007 Birmingham City Council – Arboricultural Officer
January 2005 – September 2005 Oxfordshire County Council – Arboricultural Officer
July 2004 – December 2004 Arboricultural Asset Management – Arboricultural Surveyor/Consultant
May 2004 – August 2004 ADAS Consulting – Trees in Towns II Survey
July 2001 – December 2001 Campbells Tree Services, Australia – Arborist/Supervisor
June 1998 – September 2000 James C Tonks Tree Surgery – Arborist

CONTINUING PROFESSIONAL DEVELOPMENT
International Society of Arboriculture Trees and Mortgage/Insurance Reporting Course
Arboricultural Associations Conference ‘Arboriculture – A New Awakening’
Quantified Tree Risk Assessment Licensed User
Arboricultural Training Initiative – BS5837:2005 Trees in Relation to Construction Recommendations
NHBC Building Near Trees – NHBC Training Service Manager
Special Surfacing – Installation of Hard Surfaces Under Trees
The Tree Advice Trust – What Future the Horse Chestnut
Arboricultural Association Conference – The Future of Tree Risk Management
Arboricultural Association Seminar – Crisis What Crisis?
Consulting Arborist Society – Tree Preservation Orders
Midland Tree Officers Association - Phytophthora
Midland Tree Officers Association – BS5837:2005 Living with the Decisions
Decay Fungi Update – David Lonsdale
PHF Training Ltd – PACE Training
Prof Dr Claus Mattheck – VTA Methodology Update
Midland Tree Officers Association – Claim or Calamity: Dealing with Insurance Claims
Arboricultural Association – Arboricultural Consultancy
Arboricultural Association – Report Writing
Institute of Chartered Foresters – Regional Autumn Event and AGM 2008
Midland Tree Officers Association – Autumn Seminar with Jeremy Barrell and Dealga O’Callaghan
Institute of Chartered Foresters – Regional Summer Event (Veteran Trees) and AGM 2009
Barcham Trees and Arborecology – Andrew Cowan
Arboricultural Association and LANTRA – Professional Tree Inspection
Arboricultural Association Technical Seminar – British Standards in Arboriculture

MEMBERSHIP TO PROFESSIONAL BODIES
Professional member of the Arboricultural Association
Professional member of the International Society of Arboriculture
Professional member of the Consulting Arborist Society
Associate member of the Institute of Chartered Foresters
Constructionline Approved
CHAS Accredited
Member of the Arboricultural Mortgage and Insurance User Group

APPOINTMENTS
Midlands Tree Officer Association Committee and Board Member 2006 - 2008
Arboricultural Association Media and Communications Committee 2009

EXPERIENCE

Arboriculture
Experience in dealing with all matters associated with trees and the urban environment from health and safety issues to trees in relation to development and planning issues.
APPENDIX 2: SCHEDULES

BS5837:2005 Cascade Chart

Complete Tree Schedule

Root Protection Areas

Tree Retention and Removal Schedule
Table 1 - Cascade Chart for Tree Quality Assessment

### TREES FOR REMOVAL

<table>
<thead>
<tr>
<th>Category and Definition</th>
<th>Criteria</th>
<th>Identification on Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category R</strong></td>
<td>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality.</td>
<td>DARK RED</td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).</td>
<td></td>
</tr>
</tbody>
</table>

### TREES TO BE CONSIDERED FOR RETENTION

<table>
<thead>
<tr>
<th>Category and Definition</th>
<th>Criteria - Subcategories</th>
<th>Identification on Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category A</strong></td>
<td>Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</td>
<td>LIGHT GREEN</td>
</tr>
<tr>
<td><strong>Those of high quality and value:</strong> in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</td>
<td>Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)</td>
<td></td>
</tr>
<tr>
<td><strong>Category B</strong></td>
<td>Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management or minor storm damage)</td>
<td>MID BLUE</td>
</tr>
<tr>
<td><strong>Those of moderate quality and value:</strong> those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</td>
<td>Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that include better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality</td>
<td></td>
</tr>
<tr>
<td><strong>Category C</strong></td>
<td>Trees not qualifying in higher categories</td>
<td>GREY</td>
</tr>
<tr>
<td><strong>Those of low quality and value:</strong> currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm</td>
<td>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit</td>
<td></td>
</tr>
<tr>
<td><strong>NOTE</strong></td>
<td>Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.</td>
<td></td>
</tr>
</tbody>
</table>
## BS5837:2005 Tree Schedule

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Tag No.</th>
<th>Species (Common Name)</th>
<th>Species (Botanical Name)</th>
<th>Height (m)</th>
<th>Stem Dia (mm)</th>
<th>Crown Spread (m)</th>
<th>Height of Crown Clearance (m)</th>
<th>Age Class</th>
<th>Phys Con</th>
<th>Struc Con</th>
<th>Additional notes</th>
<th>Preliminary works recommendations</th>
<th>Estimated remaining contribution (Years)</th>
<th>Ret Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>221</td>
<td>Common ash</td>
<td>Fraxinus excelsior</td>
<td>19.5</td>
<td>675</td>
<td>6.8</td>
<td>5.6</td>
<td>3</td>
<td>Mat</td>
<td>Fair</td>
<td>Large mature specimen located to front of site adjacent to access and highway. Levels on south eastern side drop by 0.75m with 400mm of trunk. Trunk bifurcates at 3m forming codominant stems. Large diameter deadwood associated with canopy. Some previous branch failure.</td>
<td>Remove large canopy deadwood and stub cuts associated with the canopy.</td>
<td>&gt; 40 Years</td>
<td>B</td>
</tr>
<tr>
<td>T2</td>
<td>222</td>
<td>Sweet chestnut</td>
<td>Castanea sativa</td>
<td>13</td>
<td>674</td>
<td>2.6</td>
<td>3.5</td>
<td>4</td>
<td>Mat</td>
<td>Fair</td>
<td>Mature specimen located 4.5m to east of existing building. Two large structural limbs have been previously removed on northern side of trunk at 0m and 1.6m. Trunk leans in easterly direction before dog legging at 2m. Eastern side of canopy has been heavily reduced away from neighbouring property. Specimen does not exhibit good form and has limited public amenity. The roots associated with the tree are causing the degradation of the adjacent boundary wall to the east.</td>
<td>Fell due to quality of specimen and as it is very unlikely to reach it maximum potential due to location.</td>
<td>20 - 40 Years</td>
<td>C</td>
</tr>
</tbody>
</table>
BS5837:2005 Tree Schedule
Root Protection Areas

Client Name: HB Architects
Consultant: P. Wharton
Site: 121 Lower Street, Hillmorton
Survey Date: 06/02/2010
Tags: 221 - 222
Ref: 060210 0089 S03 TSRPA V1 00-004

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Tag No.</th>
<th>Species (Common Name)</th>
<th>Species (Botanical Name)</th>
<th>Stem Dia (mm)</th>
<th>RPA (m²)</th>
<th>RPA Radius (m)</th>
<th>RPA 20% Off-Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>221</td>
<td>Common ash</td>
<td>Fraxinus excelsior</td>
<td>675</td>
<td>206</td>
<td>8.10</td>
<td>-</td>
</tr>
<tr>
<td>T2</td>
<td>222</td>
<td>Sweet chestnut</td>
<td>Castanea sativa</td>
<td>674</td>
<td>206</td>
<td>8.10</td>
<td>-</td>
</tr>
</tbody>
</table>
## Tree Retention

**Tree No.** | **Tag No.** | **Species (Common names)** | **Species (Botanical names)** | **Additional notes** | **Preliminary works recommendations** | **Estimated remaining contribution (Years)** | **Ret Cat** |
--- | --- | --- | --- | --- | --- | --- | --- |
T1 | 221 | Common ash | *Fraxinus excelsior* | Large mature specimen located to front of site adjacent to access and highway verge on south eastern side drop by 0.75m with 400mm of trunk. Trunk bifurcates at 3m forming codominant stems. Large diameter deadwood associated with canopy. Some previous branch failure. | Remove large canopy deadwood and stub cuts associated with the canopy. | > 40 Years | B |

## Tree Removal

**Tree No.** | **Tag No.** | **Species (Common names)** | **Species (Botanical names)** | **Additional notes** | **Preliminary works recommendations** | **Estimated remaining contribution (Years)** | **Ret Cat** |
--- | --- | --- | --- | --- | --- | --- | --- |
T2 | 222 | Sweet chestnut | *Castanea sativa* | Mature specimen located 4.5m to east of existing building. Two large structural limbs have been previously removed on northern side of trunk at 0m and 1.6m. Trunk leans in easterly direction before dog legging at 2m. East face of canopy has been heavily reduced away from neighbouring property. Specimen does not exhibit good form and has limited public amenity. The roots associated with the tree are causing the degradation of the adjacent boundary wall to the east. | Consider felling and replacement. | 20 - 40 Years | C |
APPENDIX 3: PLANS

Tree Constraints Plan

Arboricultural Implications Plan

Tree Removal and Retention Plan
APPENDIX 4: PHOTOGRAPHS

The two photos above illustrate T1 the ash and the existing access onto site.

The three photos above illustrate T2 the sweet chestnut and the current limited view and poor structural form of the tree.