

GHA Trees
5 South Drive
High Wycombe
Bucks
HP13 6JU



Glen Harding MSc (Forestry), MA ArborA
t: 07884 056025
e: info@ghatrees.co.uk
www.ghatrees.co.uk

**BS5837:2012 TREE SURVEY AND
ARBORICULTURAL IMPACT ASSESSMENT:
82 Caldbeck Drive, Woodley, RG5 4JX**

Dated: 7th April 2025

Our reference: GHA/DS/160356:25

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Arboricultural Impact Assessment

Location: 82 Caldbeck Drive, Woodley, RG5 4JX
Our reference: GHA/DS/160356:25
Client: Creative Design & Structure Ltd
Dated: 7th April 2025
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA
Date of Inspection: 4th April 2025

Instructions

Issued by – Creative Design & Structure Ltd

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to 82 Caldbeck Drive, Woodley, in order to assess their general condition and to provide a planning integration statement for the indicative proposed development that safeguards the long term wellbeing of the retained trees in a sustainable manner.

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Executive Summary

The proposal for the site is to renovate the existing house, work that will include a new rear extension. The proposed scheme does not require the removal of any trees; therefore, the landscape character of the site will be unaffected by the proposal. The proposal requires a new structure to be installed within the root protection area of a nearby tree; however, mitigations are proposed to ensure these structures will not adversely affect this tree. The retained trees require protection in accordance with industry best practice and BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations, in order to ensure their longevity.

Documents Supplied

The client supplied the following documents:

- Existing layout plans
- Proposed layout plans

Scope of Survey

- 1.1 The survey is concerned with the arboricultural aspects of the site only.
- 1.2 The planning status of the subject property was not investigated in detail.
- 1.3 A qualified Arboriculturist undertook the report and site visit and the contents of this report are based on this. Whilst reference may be made to built structure or soils, these are only opinions and confirmation should be obtained from a qualified expert as required.
- 1.4 Trees in third party ownership were surveyed from within the subject property, therefore a detailed assessment was not possible and some (if not all) measurements were estimated. Where the stem location of a third party tree has been estimated, this is noted on the plan.
- 1.5 Dense vegetation or climbers (such as ivy) also prohibited full inspections for some trees; this is noted where applicable.
- 1.6 No discussions took place between the surveyor and any other party.
- 1.7 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breleor (The body language of tree, DoE booklet Research for Amenity Trees No. 4, 1994)
- 1.8 The survey was undertaken in accord with British Standard 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.
- 1.9 The client's attention is drawn to the responsibilities under the Wildlife and Countryside Act (1981).

Survey Method

- 2.1 The survey was conducted from ground level with the aid of binoculars if needed.
- 2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.
- 2.3 No soil samples were taken.

- 2.4 The height of each subject tree was estimated using a clinometer and recorded to the nearest half metre.
- 2.5 The stem diameter for each tree was measured in line with the requirements set out in BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.
- 2.6 The crown spreads were measured with an electronic distometer and recorded to the nearest half metre. Where the crown radius was notably different in any direction this has been noted on the Plan (appendix A) and within the tree table (Appendix B). The crowns of those trees that are proposed for removal, or trees where the crown spread is deemed insignificant in relation to the proposed development are not always shown on the appended plan; however their stem locations are marked for reference.
- 2.7 The Root Protection Area (RPA) for each tree is included in the tree table, both as an area, and as the radius of a circle.
- 2.8 The crown clearance was measured using a clinometer and recorded to the nearest half metre. Where it is significantly lower in one direction, this is noted within the tree table at appendix B.
- 2.9 All of the trees that were inspected during the site visit are detailed on the plan at Appendix A; this plan was produced in colour and **MUST** only be scanned or reproduced in colour. The trees on this plan are categorised and shown in the following format:

COLOUR CODING AND RATING OF TREES:

Category A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. Colour = light **green** crown outline on plan.

Category B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Colour = mid **blue** crown outline on plan.

Category C – Trees of low quality with an estimated remaining life expectancy of at least 10 to 20 years, or young trees with a stem diameter below 150mm. Colour = uncoloured crown outline on plan.

Category U – Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Colour = **red** crown outline on plan.

All references to tree rating are made in accordance with BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations', Table 1.

The Site

- 3.1 The site is located on Caldbeck Drive, a residential through road located Woodley, to the west of Reading town centre.
- 3.2 Access to the property is currently gained via a driveway to the front of the site.

The Subject Trees

- 4.1 The details of the subject trees are set out in the Schedule at Appendix B.
- 4.2 Of the five individual trees and groups of trees surveyed, two have been assessed as BS 5837 category C, with the remaining trees being assessed as BS 5837 category C.

Category B	2 trees / groups
Category C	3 trees

The Proposal

- 5.1 The proposal for the site is to renovate the existing house, work that will include a new rear extension.
- 5.2 The proposed location of the above structures can be seen on the appended plan.

Arboricultural Impact Assessment

PROPOSED TREE REMOVAL / RETENTION:

- 6.1 The proposed site layout and all of its associated structures allows for the healthy retention of all of the trees on the site itself, and within nearby adjacent sites; therefore, the arboricultural landscape character of the site will be retained.

TREE PRUNING TO ACCOMMODATE THE PROPOSAL OR ACCESS TO THE SITE

- 6.2 The implementation of the proposal does not lead to the requirement to prune any of the retained trees.
- 6.3 There is a slight overhang of the new structure from the crown of T4. The defining branch structure of this tree is however clear of the proposed upper building line and therefore building works can progress safely without the need for any facilitation pruning.

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

- 6.4 Section 4.6.3 of BS 5837: 2012 states that the Root Protection Area (RPA) of each tree should be assessed by an arboriculturalist considering the likely morphology and disposition of the roots, when known to be influenced by past or existing site conditions.
- 6.5 Following the assessment described in section 6.4, the RPAs have all been drawn as notional circles as there are no existing site structures (visible from the available access) which are assessed to have the potential to significantly affect tree root morphology.

ASSESSED IMPACT ON RPAS BY PROPOSED STRUCTURES & PROPOSED MITIGATIONS

- 6.6 There is an encroachment into the RPA of T4 from the new extension as shown on the appended plan; thus, the use of traditional strip foundations will not be acceptable as this would cause harm to this tree.
- 6.7 The use of systems employing mini piles in conjunction with ground beams will instead be used and is now widely accepted. Localised piles will be positioned (following trial digs) to ensure that any significant roots (over 25mm) that are present in the area where the new building will sit can be retained and protected to coexist with the new structure.
- 6.8 In order to arrive at a suitable foundation design (which minimises root disturbance within the RPAs of nearby retained trees), site specific and specialist advice regarding footings should be sought from an Engineer, in close discussion with the projects Arboriculturalist.
- 6.9 The proposed new structure is situated outside of the assessed RPAs of all of the other trees; therefore, these trees pose no below ground constraints on the new structure or vice versa.

ACCESS TO THE NEW DEVELOPMENT

- 6.10 The existing driveway and parking areas will be retained and there are no plans to upgrade or extend these areas as part of the proposed site works.

HARD LANDSCAPING IN RPAS

- 6.11 Patios: Where sections of any new patio are within the RPA of T4, a no-dig construction will be necessary, to ensure that all existing ground levels are retained in their current form, as well as ensuring that satisfactory moisture and oxygen can be obtained from the underlying soil by any tree roots in this area.

INSTALLATION OF SERVICES

- 6.12 The full details of existing and proposed new services have not been made available at the time of writing.
- 6.13 The installation of underground apparatus and drainage systems with the use of mechanical excavators will undoubtedly sever any roots that may be present and can change the hydrology and structure of the nearby soil in a way that will

adversely affect the health of any nearby trees. Particular care should therefore be taken when assessing the layout of new services and consideration must be given to the methods of installation of all underground apparatus.

Post Development Pressure

FUTURE TREE AND STRUCTURE RELATIONSHIPS

- 7.1 Regular inspections of the retained trees by a suitably qualified Arboriculturalist and subsequent remedial works will ensure that the trees are maintained in a suitable manner, to exist in harmony with the new structures and its occupants for many years to come.

Tree Protection Measures and Preliminary Method Statement for Development Works

8.1 TREE PROTECTION BARRIERS

It is essential for the future health of the trees to be retained on site, that all development activity is undertaken outside the root protection zone of these trees. The position of the fence **MUST** be marked out with biodegradable marker paint on site and agreed with appropriate representatives from the LPA and contractor. The fencing **MUST** be erected **prior** to any works in the vicinity of the trees and removed only when all development activity is complete. The protective fencing **MUST** be as that shown in BS 5837 (see Appendix C). The herras panels **MUST** be joined together using a minimum of two anti-tamper couplers which **MUST** be installed so they can only be removed from the inside of the fence. The panels **MUST** supported by stabilizer struts, which **MUST** be installed on the inside and secured to the ground using pins or appropriate weights.

The Fence must be marked with a clear sign reading:

“Construction Exclusion Zone – No Access”

8.2 GROUND PROTECTION – LIGHTWEIGHT ACCESS ONLY

Where any additional ground protection is required, these areas **MUST** be covered with a permeable membrane, with 150mm layer of compressible woodchip overlaying it; an 18mm marine ply boards will then be secured on top of the woodchip to allow a 1.5tonne mini-digger to access the area without causing major compaction or soil erosion.



Above: ground protection make-up

8.3 IMPLEMENTATION OF THE NEW BUILDING ON A SPECIALIST FOOTINGS

- **NOTE: any excavations in the RPAS with the use of mechanical excavators will undoubtedly sever any roots that may be present and can change the hydrology and structure of the nearby soil in a way that will adversely affect the health of any nearby trees.**
- In order to arrive at a suitable foundation design (which minimises root disturbance within the RPAs of nearby retained trees), site specific and specialist advice regarding footings should be sought from an Engineer, in close discussion with the projects Arboriculturalist.

8.4 INCOMING SERVICES, DRAINAGE AND SOAKAWAYS

Any new underground services which are to be located within (any portion of) the RPAs of any trees which are to be retained **MUST** be installed in accord with the guidance given in BS5837 together with the National Joint Utilities Group Booklet 4: 2007 Guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG4). Service installation layouts **MUST** be planned to keep apparatus together in common ducts, in order to minimise the need for excavations. Service trench excavation within the RPAs **MUST NOT** be undertaken with the use of any mechanised machinery (minidiggers, JCBs or alike).

8.5 ON SITE SUPERVISION

Regular site supervision is essential to ensure all potentially damaging activities near to trees are properly supervised. A pre start site meeting **MUST** occur to ensure all parties are aware of their responsibilities relating to tree protection on site; this **MUST** include a site induction for key personnel.

Key personnel:

Name	Position	Contact number / email:
Glen Harding	Retained arboriculturalist	07884 056 025 Or info@ghatrees.co.uk
TBC	Local authority Arboricultural Officer	TBC
TBC	Site manager	TBC

After this pre start meeting, day-to-day responsibility for tree protection will be devolved to the site manager who will make contact with the retained arboriculturalist as needed.

8.6 OTHER TREE PROTECTION PRECAUTIONS

- **NO** fires lit on site within 20 metres of any tree to be retained.
- **NO** fuels, oils or substances which will be damaging to the tree shall be spilled or poured on site.
- **NO** storage of any materials within the root protection zone.

8.7 DISMANTLING PROTECTIVE BARRIERS

Protective barriers must only be completely removed when all machinery, and equipment has left site.

Conclusion

- 9.1 In conclusion, the principal arboricultural features within the site can be retained and adequately protected during development activities.
- 9.2 Subject to precautionary measures as detailed above, the proposal will not be injurious to trees to be retained.

Recommendations

- 10.1 Site supervision – An individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. This person must:
- a. Be present on the site the majority of the time.
 - b. Be aware of the arboricultural responsibilities.
 - c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
 - d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
 - e. Make immediate contact with the local authority and / or retained arboriculturalist in the event of any related tree problems occurring whether actual or potential.
- 10.2 It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees, that details are passed by the architect or agent to any contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

7th April 2025

Signed:



Glen Harding MICFor, MSc (Forestry), MArborA
For and on behalf of GHA Trees

Appendix A
TREE PLAN
(see separate PDF)

Appendix B

TREE TABLE

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
G1	Beech	14	420	1	5.04	4	4	4	4	M	3	20-40	B2	Off site - full inspection not possible. Some measurements estimated.
T2	Apple	6	350	3	4.20	2	2	2	2	M	3	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T3	Silver birch	9	80	1	0.96	3	2	0.5	2	MA	3 north	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T4	Silver birch	15	350	1	4.20	4.5	4	4	2	M	5 over site	10-20	B1	Off site - full inspection not possible. Some measurements estimated.
T5	Laburnum	6	269	2	3.22	2.5	2.5	2.5	2.5	M	2	10-20	C1	No significant / notable defects observed during inspection.

KEY :

Tree No: (T= individual tree, G= group of trees, W= woodland)
Age class: Young (Y), Middle aged (MA), Mature (M), Over mature (OM),
Veteran (V)

Height (Ht): Measured in metres +/- 1m

Appendix C
TREE FENCING DETAIL

Figure 3 Examples of above-ground stabilizing systems



