

GHA Trees
5 South Drive
High Wycombe
Bucks
HP13 6JU



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

**BS5837:2012 ARBORICULTURAL
METHOD STATEMENT:
5a The Broadwalk, Northwood, HA6 2XF**

Dated: 22nd July 2024

Our reference: GHA/MS/555160:24

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Arboricultural Method Statement

Location: 5a The Broadwalk, Northwood, HA6 2XF

Our reference: GHA/MS/555160:24

Client: R Singh

Dated: 22nd July 2024

Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA

Date of Inspection: 10th July 2024

Please note that abbreviations introduced in (brackets) may be used throughout the report.

Instructions

Issued by – R Singh

TERMS OF REFERENCE – To survey the subject trees within 5a The Broadwalk, Northwood, in order to assess their general condition and to provide an arboricultural method statement for the approved development, that safeguards the long term well-being of the nearby retained trees.

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Executive Summary

The proposal for the site is to renovate the existing house, work that will include new extensions to the rear and a new rear terrace. 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:

1. Existing layout plans
2. 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 The Broadwalk, a residential road located to the south of Northwood.
- 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 twelve individual trees and groups of trees surveyed, two have been assessed as BS 5837 category A, one has been assessed as BS category B, eight have been assessed as BS category C with the remaining group being assessed as BS 5837 category U.

Category A	2 trees
Category B	1 tree
Category C	8 trees / groups
Category U	1 group

The Proposal

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

Method Statement and Procedures for Development Works

6.1 TREE WORKS

A list of all tree works that are required (including trees to be removed) is included in the tree table at Appendix B. Where any tree work is needed, this work **MUST** be in accordance with British Standard 3998 - 2010 (Tree Work - Recommendations).

6.2 TREE PROTECTION BARRIERS

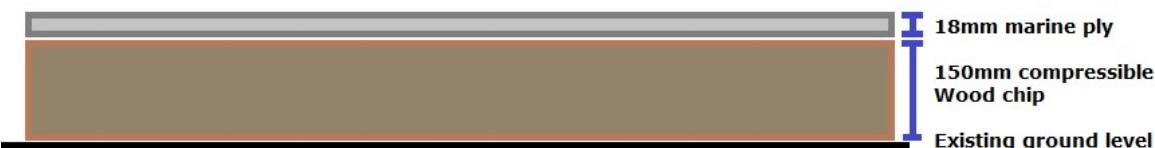
The position of the proposed protective fencing for the site is shown on the Tree Protection Plan (TPP) by a **pink** line. The position of the fence **MUST** be marked out with biodegradable marker paint on site and agreed with appropriate representatives from the LPA and contractor. The fencing **MUST** 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** be 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"

6.3 GROUND PROTECTION – LIGHTWEIGHT ACCESS ONLY

An area of the site will require ground protection to ensure that soil erosion or excessive compaction does not occur. The areas where this protection is required are outlined in **orange** hatching on the appended plan. This area **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

6.4 GROUND PROTECTION (EXISTING)

The hard surfacing that exists on the front drive provides adequate ground protection and **MUST** therefore be retained in situ for the entirety of the site works.

6.5 IMPLEMENTATION OF THE NEW BUILDING ON PILED FOOTINGS

The following principles will only apply when working within the RPAs of the retained trees in this area.

- **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.**
- The design of the new pile layout must have sufficient flexibility that the locations of the supporting piles is changeable. The location for these piles will be confirmed following hand excavated, trial digs of the top 1000mm of each potential hole (this is where the majority of roots exist).
- The foundation design must also incorporate a void that will allow for water to reach the area beneath the structure and ensure that gaseous exchanges are not restricted.
- Hand tool excavations will only be undertaken by fully briefed site personnel. This operation will be done slowly and carefully to ensure the retention and protection of any roots that are discovered that are in excess of 25mm. These roots **MUST** then be covered and protected using damp hessian whilst further excavation commences; hessian must be left in situ until backfilling commences and re-wetted if needed to avoid root desiccation. **NOTE: OPERATIVES MUST CHECK FOR THE PRESENCE OF ANY EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF SUCH WORK.**
- Any roots discovered in these trial pits in excess of 25mm diameter will immediately signal the requirement for a change of pit location.
- These trial digs will be attended by the retained arboriculturalist and site manager who will agree the final locations of the piles.
- **Ground protection as that detailed above OR a piling mat of appropriate thickness / loading capability MUST** be placed over the working area whilst the deeper piling the final locations commences, with the use of a lightweight rig. This will alleviate the possibility of excessive compaction or erosion within the RPAs.
- Once the trial holes are excavated to the correct depth, care must then be taken to ensure the new piles are installed so as to avoid any roots present. **Any roots that require pruning (those less than 25mm diameter) should be cut using sharp tools to leave a 'clean' cut, in order to minimise the risk of infection by decay pathogens.**
- Once the piles are installed, the excavated holes **MUST** then be backfilled and the soil compacted using hand tools only, to ensure not air pockets are left as these can be damaging to tree roots.

6.6 ROOT PRUNING

Where any root pruning is required, this work will be in accordance with British Standard 3998 : 2010 – Recommendations for tree work. Any such root pruning should be undertaken by the retained arboriculturalist.

6.7 DELIVERY AND STORAGE OF BUILDING MATERIALS

Storage areas **MUST** be to the front of the site and outside of the tree protection barriers (**pink** lines).

6.8 SITE HUTS, WELFARE FACILITIES AND STORAGE OF EQUIPMENT, MATERIALS AND CHEMICALS

All site huts **MUST** be positioned to the front of the site outside of tree RPAs and the tree protection barriers (**pink** lines).

6.9 MIXING OF CONCRETE

All mixing of cement / concrete **MUST** be undertaken outside of the RPA of all of the retained trees.

6.10 INCOMING SERVICES, DRAINAGE AND SOAKAWAYS

New services **MUST** be routed to avoid all RPAs of retained trees on site and within nearby sites. From an assessment of the subject site, undertaken in conjunction with the project architect, there is no reason to assume this isn't possible. Inspection chambers **MUST** be sited outside the RPA.

6.11 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

At this pre start meeting, a supervision programme **MUST** be devised by the site manager and retained Arboriculturalist, ensuring that Arboricultural supervision is present at the appropriate periods during construction. The critical phases as listed below will be supervised inspected on site by the retained Arboriculturalist. The records of these site monitoring visits will be recorded on the site monitoring sheet at appendix D.

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.

Critical phases to be supervised / inspected on site by the retained Arboriculturalist:

NOTE: THE RESPONSIBILITY TO ENSURE THESE ARE SCHEDULED APPROPRIATELY IN LINE WITH THE BUILD PROGRAMME IS WITH THE SITE MANAGER.

- Prior to tree pruning / removal to ensure work is correctly identified. **Date and time to be confirmed.**
- Following completion of the erection of protective fencing to ensure it is constructed to the correct specification at the required proximity to ensure the healthy retention of the trees. **Date and time to be confirmed.**
- Installation of the ground protection to ensure it is installed to the correct specification. **Date and time to be confirmed.**
- During exploratory digs for piled foundations. **Date and time to be confirmed.**

6.12 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.

6.13 HARD / SOFT LANDSCAPING NEAR RETAINED TREES

All new pathways and hard landscaping areas within the Root Protection Areas (RPAs) of the retained trees **MUST** be designed using no-dig, up and over construction techniques, and be specified in close co-ordination with the retained Arboriculturalist. Porous materials **MUST** also be used when surfacing near the trees. No machinery will be used for this work, which **MUST** all be done by hand.

6.14 DISMANTLING PROTECTIVE BARRIERS

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

Conclusion

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

Recommendations

8.2 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.

8.3 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.

22nd July 2024

Signed:

A handwritten signature in blue ink, appearing to read "Glen Harding".

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

Appendix A
TREE PROTECTION 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
T1	Oak	26	800	1	9.60	8	10	10	10	M	7 west	40+	A1	Off site - full inspection not possible. Some measurements estimated.
T2	Lawson cypress	14	350	1	4.20	2.5	2.5	2.5	2.5	M	5	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
G3	Cotoneaster	8	346	12	4.16	2.5	2.5	2.5	2.5	M	4 west	10-20	C2	Off site - full inspection not possible. Some measurements estimated.
G4	Lawson cypress	19	480	1	5.76	2	2	2	2	M	4 west	10-20	C2	Lapsed hedge. Off site - full inspection not possible. Some measurements estimated.
T5	Lawson cypress	17	380	1	4.56	1	1	1	1	M	8 west	10-20	C1	Lapsed hedge. Off site - full inspection not possible. Some measurements estimated.
G6	Yew	12	270	1	3.24	1.5	1.5	1.5	1.5	M	4 west	10-20	C2	Lapsed hedge. Off site - full inspection not possible. Some measurements estimated.
G7	Thuja plicata	14 to 18	350	1	4.20	2	2	2	2	M	7 west	10-20	C2	Lapsed hedge. Off site - full inspection not possible. Some measurements estimated. Topped at 6m in past.

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
G8	Lawson cypress	14 to 18	230	1	2.76	1.5	1.5	1.5	1.5	M	6	10-20	C2	Off site - full inspection not possible. Some measurements estimated.
G9	Lawson cypress	15	300	1	3.60	2	2	2	2	OM	2	Less than 10	U	Dead trees.
G10	Mixed shrubs - various species	4 to 6	50	1	0.60	as plan				M	0		C2	Small shrubs of limited value in the wider landscape. Recommend: section to be removed.
T11	Silver birch	20	602	2	7.22	5	5	5	5	M	4	20-40	B1	Off site - full inspection not possible. Some measurements estimated.
T12	Oak	20	450	1	5.40	4	4	4	4	M	6	40+	A1	Off site - full inspection not possible. Some measurements estimated.

KEY :

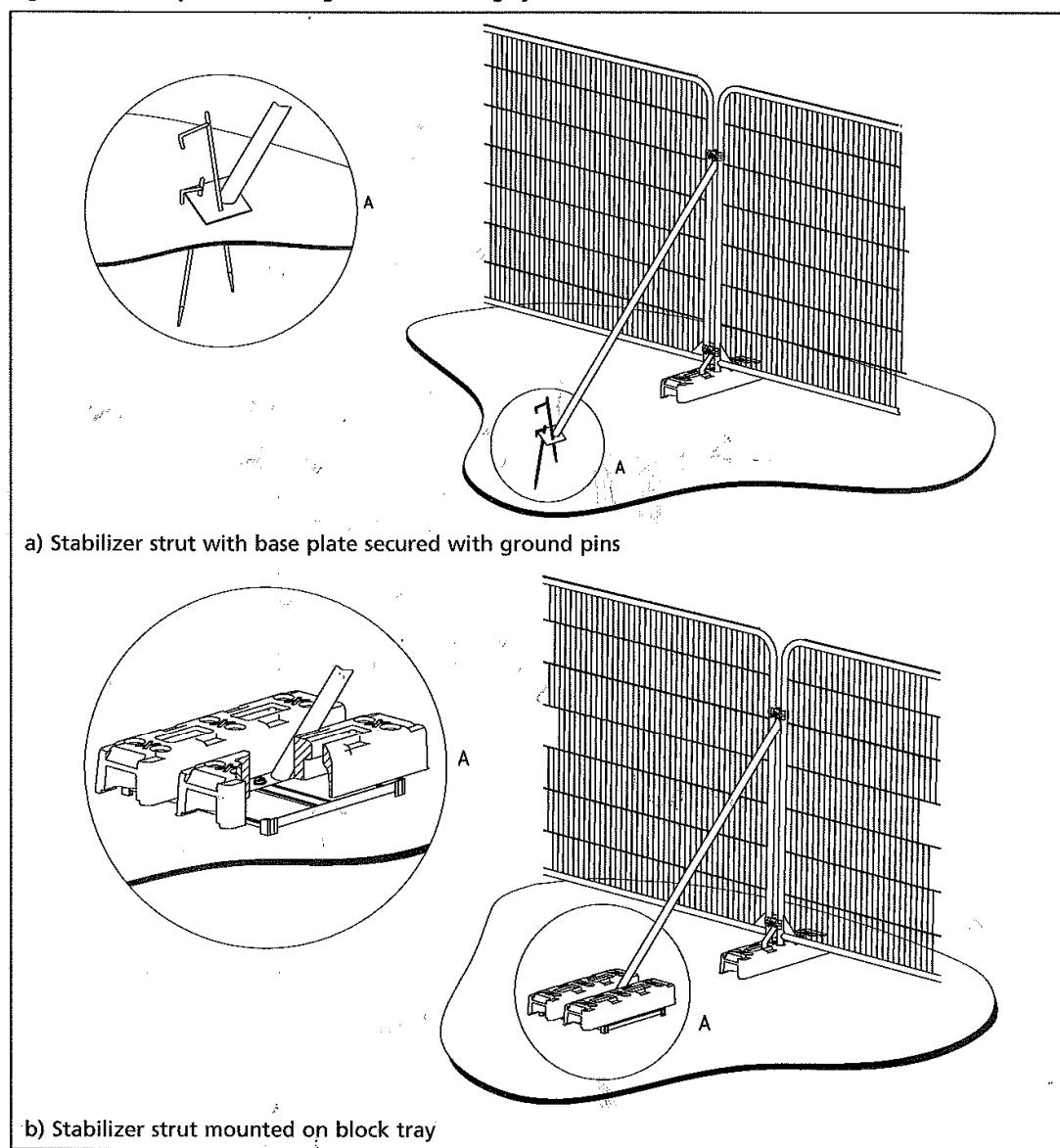
Tree No: (T= individual tree, G= group of trees, W= woodland)

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



Appendix D

Site Monitoring Sheet

Site:			
Project:			
Client:		Contact:	
Site monitoring inspection date:		Name of inspector:	
Notes:			
Action required to rectify any issues:			
Date Action taken:			
Site monitoring inspection date:		Name of inspector:	
Notes:			
Action required to rectify any issues:			
Date Action taken:			
Site monitoring inspection date:		Name of inspector:	
Notes:			
Action required to rectify any issues:			
Date Action taken:			

