



Part 2: BS: 5837 Arboricultural Impact Assessment & 'Draft' Tree Protection Plan Report

Site:

46 Greenways
Abbots Langley
Hertfordshire
WD5 0EU

Date of Site Visit:

Monday 19th February 2024

Prepared for:

Mr Russell Haines

Prepared by:

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Bartlett Project Reference:

JPL/230786/R2



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1.0 SCOPE OF REPORT

1.1 Instruction

- 1.1.1 Bartlett Consulting has previously been instructed to undertake a tree survey and compose a Tree Constraints Plan (TCP) following the guidance of British Standard 5837: 2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*, gathering data on trees and vegetation within the boundary of 46 Greenways, Abbots Langley, Hertfordshire, WD5 0EU, as well as those on neighbouring properties considered to be within influencing distance. Data pertaining to two trees within the rear gardens of 48 Greenways and 88 Gallows Hill Lane were obtained.
- 1.1.2 This report takes the previously gathered tree data and constraints and overlays that information with the proposed site plan and proposed site layout, allowing for an evaluation of how the proposed single storey side extension and two storey rear extension will co-exist with the tree population.
- 1.1.3 Where there are trees which have the potential to influence, those trees must be considered as a constraint within the project planning.

1.2 Documents & supporting information

- 1.2.1 Bartlett Consulting was provided with the following documentation and plans prior to composing this report. They were sent via email in both PDF and DWG file format:
- 20231109162303827_0001.pdf – Existing Ground Floor & Roof Plane & Elevations
 - 20231109162303827_0002.pdf – Proposed Second Floor & Roof Plan & Elevations
 - 20231109162303827_0003.pdf – Proposed Ground Floor & First Floor Plan & Elevations

1.3 Aspects included within report

- 1.3.1 The information contained within this report follows the guidance of British Standard 5837 2012: *Trees in Relation to Design, Demolition and Construction – Recommendations*.
- 1.3.2 This Arboricultural Impact Assessment (AIA) is accompanied by a 'Draft' Tree Protection Plan (DTPP). This plan illustrates trees to be retained and incorporated into the proposed development, identifies where above and below ground level constraints are caused and gives consideration to statutory controls, as well as the potential loss of trees on and adjacent to the site. Issues also considered identify any necessity to undertake facilitation pruning to retained trees, either arising from accommodation, excessive shading or due to an unacceptable amount of encroachment upon a retained tree's rooting zone.
- 1.3.3 The DTPP also identifies recommended locations of physical tree protection barriers, non-compacting ground protection, and site-specific working methodologies.
- 1.3.4 Mitigation measures are also provided within this report, identifying the need for physical tree protection barriers, non-compacting ground protection, as well as tree replacement planting.
- 1.3.5 Modified RPA's will be illustrated if known below ground level obstructions exist, or where considered appropriate to do so, whilst tree shade patterns and future canopy spread for young trees will also be illustrated where necessary.

1.4 Aspects excluded from report

- 1.4.1 This report does not include an Arboricultural Method Statement (AMS), or a 'final' Tree Protection Plan (TPP).
- 1.4.2 The contents of this report do not include discussions regarding subsidence and/or heave as a result of retention or tree removal, nor does this report consider the water demands of trees present to determine foundation design and depth. If required, this can be provided on request.

2.0 IMPLICATIONS OF PROPOSED DEVELOPMENT UPON EXISTING TREE POPULATION

2.1 Description of the proposed development

2.1.1 From the information provided to us and listed in Section 1.2 above, it is our understanding that the following aspects of proposed development which influence, or are influenced by the existing trees are:

1. Demolition of existing ancillary garage and conservatory.
2. Construction of single story side extension.
3. Construction of two storey rear extension.

2.2 Table 1: Implications of proposed development upon existing tree population

Tree Ref.	Species	Category	Removal due to		Mitigation Required		Aspect of Development affecting retained tree
			Works	Condition	Crown	RPA	
T01	Crab Apple (<i>Malus sp.</i>)	B1	N/A	N/A	✓	✓	<ul style="list-style-type: none"> General demolition & construction activities.
T02	Hinoki Cypress (<i>Chamaecyparis obtusa</i>)	C2	✓	N/A	N/A	N/A	<ul style="list-style-type: none"> No issues. Poor quality tree to be removed to permit new area of hard standing.
S03	Shrub group consisting of: Privet Holly Laurel Rhododendron	C2	N/A	N/A	✓	✓	<ul style="list-style-type: none"> General demolition & construction activities. Demolition of existing ancillary garage to occur opposite group of shrubs.
T04	Hinoki Cypress (<i>Chamaecyparis obtusa</i>)	U	N/A	N/A	N/A	N/A	<ul style="list-style-type: none"> No issues. Tree to be removed on the grounds of sound arboricultural management.
T05	Hinoki Cypress (<i>Chamaecyparis obtusa</i>)	U	N/A	✓	N/A	N/A	<ul style="list-style-type: none"> No issues. Tree to be removed on the grounds of sound arboricultural management.
T06	Windmill Palm (<i>Trachycarpus fortune</i>)	C2	N/A	N/A	✓	✓	<ul style="list-style-type: none"> General demolition & construction activities. Demolition of existing ancillary garage & conservatory to occur opposite tree.
T07	Atlas Cedar (<i>Cedrus atlantica</i>)	B2	N/A	N/A	N/A	N/A	<ul style="list-style-type: none"> General demolition & construction activities. Demolition of existing ancillary garage & conservatory to occur opposite tree.
T08	Whitebeam (<i>Sorbus aria</i>)	C1	N/A	N/A	✓	✓	<ul style="list-style-type: none"> General demolition & construction activities. Demolition of existing conservatory to occur opposite tree.

2.0 IMPLICATIONS OF PROPOSED DEVELOPMENT UPON EXISTING TREE POPULATION (Continued...)

2.3 Table 2: Mitigation measures required for proposed development & existing tree conflicts

Tree Ref	Species	Category	Mitigation Required
T01	Crab Apple (<i>Malus sp.</i>)	B1	1. Erection of Tree Protection Barriers, as per JPL/230786/DTPP – Draft Tree Protection Plan.
S03	Shrub group consisting of: Privet Holly Laurel Rhododendron	C2	1. Erection of Tree Protection Barriers, as per JPL/230786/DTPP – Draft Tree Protection Plan. 2. Installation of temporary non-compacting ground protection, as per JPL/230786/DTPP – Draft Tree Protection Plan.
T06	Windmill Palm (<i>Trachycarpus fortune</i>)	C2	1. Erection of Tree Protection Barriers, as per JPL/230786/DTPP – Draft Tree Protection Plan.
T07	Atlas Cedar (<i>Cedrus atlantica</i>)	B2	1. Erection of Tree Protection Barriers, as per JPL/230786/DTPP – Draft Tree Protection Plan.
T08	Whitebeam (<i>Sorbus aria</i>)	C1	1. Erection of Tree Protection Barriers, as per JPL/230786/DTPP – Draft Tree Protection Plan.

2.4 Table 3: Tree work

Tree Ref	Species	Category	Schedule of works prior to erection of tree protection barriers
T02	Hinoki Cypress (<i>Chamaecyparis obtusa</i>)	C2	<ul style="list-style-type: none"> Remove & grind out arising stump.
S03	Shrub group consisting of: Privet Holly Laurel Rhododendron	C2	<ul style="list-style-type: none"> Lateral reduction to crown by approx. 1.0 m.
T04	Hinoki Cypress (<i>Chamaecyparis obtusa</i>)	U	<ul style="list-style-type: none"> Remove & grind out arising stump.
T05	Hinoki Cypress (<i>Chamaecyparis obtusa</i>)	U	<ul style="list-style-type: none"> Remove & grind out arising stump.

3.0 SUMMARY OF IMPLICATIONS ASSESSMENT

3.1 Table 4: BS: 5837 categories & tree loss

BS: 5837 Category	Quantity	Tree Reference Number
A	0	0
B	0	0
C	1	T02
U	2	T04, T05
Total	3	-

3.2 Tree loss

- 3.2.1 The proposed scheme necessitates the removal of a single tree; T02 - Hinoki Cypress. tree. This is a poor specimen with a variety of structural issues and poor physiological condition. I have identified that it has suffered from a partial root plate failure, partial crown dieback and which has previously been unsympathetically topped, as such I have graded this tree to be a low value Category C tree. Whilst this tree can be viewed from Greenways, it contributed little to local landscape and not at all to the wider landscape. I do not believe that the loss of this tree will have a detrimental impact upon the visual amenities of the landscape of Greenways.
- 3.2.2 I have identified that trees T04 & T05 – Hinoki Cypress are also in a poor structural condition. T04 is what I would consider moribund, with significant dieback observed throughout the tree’s crown. It appears that one co-dominant leader has died, with the remaining clothed in common ivy. Whilst T05 is a dead standing specimen. Due to their poor structural conditions and limited life expectancy, I have graded these two trees as Category U. I prescribe the removal of trees: T04 & T05 – Hinoki Cypress on the basis of sound arboricultural management, regardless of any development works occurring on site.
- 3.2.3 The anticipated tree loss associated with this project could be effectively mitigated for with appropriate tree replacement planting, throughout the site.
- 3.2.4 A tree planting plan can be provided upon request.

3.3 Discussion of Direct Impacts

- 3.3.1 The proposed demolition works associated with this scheme will not have any direct impact on the existing tree population.
- 3.3.2 The proposed driveway widening will however require facilitation pruning, and formalisation of the southern boundary hedgerow of S03 – Mixed species shrubs. The prescribed lateral reduction of 1.0 m will not have a detrimental impact upon the shrub’s appearance, visual amenity or health.

3.0 SUMMARY OF IMPLICATIONS ASSESSMENT (Continued...)

3.4 Discussion of Indirect Impacts

- 3.4.1 All site traffic shall enter by the existing vehicular access leading from Greenways. No access to the front garden grassed lawn area shall be permitted.
- 3.4.2 The risk of soil compaction caused by general demolition and construction activities shall be mitigated by the erection of robust tree protection barriers. Please refer to the supporting drawing: JPL/230786/DTPP – Draft Tree Protection Plan.
- 3.4.3 I have identified, from an arboricultural perspective, suitable areas to be utilized for designated material storage areas. One at the front of the site which can be used initially to accommodate a skip associated with the demolition works and then later for the delivery of materials associated with the construction works. There is also provision for an area to the rear of the property, within the grassed lawn area, but sufficiently far away from the constraints caused by the existing tree population.

3.5 Infrastructure requirements

- 3.5.1 At the time of writing no information regarding services have been provided, it is assumed that the existing electricity, sewage, telecommunications etc serving 46 Greenways shall be utilized.
- 3.5.2 Proposed service runs should be designed with full consideration to the guidance and recommendations of National Joint Utilities Guidelines No.10 – Volume 04: *Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* and avoid the notional RPA of retained trees in all circumstances, in the first instance.
- 3.5.3 If services are proposed through a notional RPA of any retained tree, professional arboricultural advice must be sought to ensure that any potential impact is kept to a minimum. Proposed trenches will be highlighted for excavation using an air spade or thrust boring techniques should be employed to install underground utility services beneath the trees' rooting zone. These matters will be detailed in the Arboricultural Method Statement.

3.6 Erection of tree protection barriers and laying of non-compacting ground protection

- 3.6.1 In order to safeguard the retained tree on and adjacent to the site, it will be necessary to erect tree protective barriers prior to the commencement of works on site and to ensure that they remain in-situ for the duration of the project, unless otherwise directed.
- 3.6.2 The proposals presently do not necessitate the installation of non-compacting ground protection.

3.7 Shading of retained tree/s

- 3.7.1 Due to the orientation of the site and the positioning of the retained trees around its perimeter, the shade cast by the trees will not be considered as a constraint.

3.8 Potential growth and/or nuisance of retained trees

- 3.8.1 Leaf fall must be considered at this stage, as drains and guttering would potentially be affected by fallen leaves/needles, particularly during autumn months. As a result, the installation of gutter guards is considered to be pertinent to nuisance mitigation.

4.0 APPRAISAL OF TREE LOSS & RETENTION

4.1 Table 5: Summary of trees

BS: 5837 Category	Remove	Retained		Total
		Tree work	No works	
A	0	0	0	N/A
B	0	0	2 (T01, T07)	2
C	1 (T02)	1 (S03)	2 (T06, T08)	4
U	2 (T04, T05)	0	0	2
Total	3	1	4	8

APPENDIX 1 LIMITATIONS OF REPORT

Limitations of the Arboricultural Implications Assessment

- This assessment is based upon information obtained from the BS: 5837 Tree Survey.
- All dimensions and measurement are based upon previously obtained data the BS: 5837 Tree Survey and from drawings provided to Bartlett Consulting.
- This assessment considers the possible implications to the proposed built structures. Suggestions from an arboricultural perspective may be provided outlining an alternative site layout. Such suggestions must be considered by the project Architect/Designer/or Engineer before implementing any suggestions.

Data on which the assessment is based

- Validity, accuracy and findings of the report are directed by the accuracy of information provided to Bartlett Consulting at the time of conducting the tree survey and during report writing.
- Checking of independent data/information will not be undertaken, with particular reference given to scaled maps and drawings provided to Bartlett Consulting

Validation of the assessment

- The assessment considerations/findings in this report remain valid for a period of one year, from the date of issuance.
- Such considerations/findings will become invalid if any building works are undertaken, soil levels altered, or any unsolicited tree works undertaken.
- If any alterations to the existing building structures, or soil levels, or if any unsolicited tree works have been completed, it is the recommendation of Bartlett Consulting that a new BS: 5837 Tree Survey/report is undertaken to reflect these changes.

Tree in relation to other properties

- This assessment only considers the trees in relation to the site and the proposed structures within it, as identified.
- The assessment does not comment upon trees in relation to structures beyond the boundaries of the site as identified (third party properties).
- Consideration of potential impact upon neighbouring built structures may be provided if pertinent, in the instances where boundary tree planting is proposed/required.
- Damage to, or potential damage to, any other built structures that is not referred to within this report are not considered, unless otherwise stated. This includes both neighbouring structures as well as any other structure on the site.

Trees in relation to subsidence, heave and direct damage

- This report does not deal with matters concerning subsidence or heave to any existing built structure on or neighbouring the site. It may be prudent to consider the effects of heave on any built structure if trees are to be removed.
- Similarly, the issue of direct damage (physical damage caused by tree roots) is not dealt with in this report.

Tree subject to statutory controls

- Whilst Bartlett Consulting has made attempts to ascertain if any of the trees subject to this report are 'protected', their status is always subject to change. Therefore, the final responsibility for checking statutory protection for trees rests with the employed contractor and not with Bartlett Consulting
- Any prescribed tree works to a protected tree are provided due to perceived hazard and risk, and should be considered acceptable by the Local Planning Authority (LPA). However appropriate notification must still be provided to the LPA as they may take an alternative point of view.

Trees are subject to environmental factors

- The statements, findings and preliminary recommendations made within this report do not take into account any effects of extreme climate and weather incidences, vandalism, changes in the natural and built environment around the tree(s) after the date of this report, nor any damage whether physical, chemical or otherwise.

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APPENDIX 2 REPORT REFERENCES

As a progressive company, we keep abreast of research data relating to Arboriculture. All observations, recommendations and works are based on current industry standard reference material and a selection of pertinent items is shown below.

This survey and report have evolved from industry material including the following:

- BS 5837: (2012) *Trees in Relation to Design, Demolition and Construction – Recommendations*
- BS 3998: (2010) *Tree Works - Recommendations*
- Town & Country Planning Act (Tree Preservation) (England) Regulations 2012
- Town & Country Planning Act (As amended) 1990
- Mattheck, C, Bethge K, Weber K. (2015) *The Body Language of Trees – Encyclopaedia of Visual Tree Assessment*. Karlsruhe Institute of Technology Campus North.
- National Joint Utilities Group (2007) *Publication Volume 4: Issue 2 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.*
- National House Building Council Standard, Part 4.2 – *Building Near Trees*

Bartlett Consulting's arboricultural expertise has been used to interpret these references for practical application to the site and the trees which are the subject of this report, and to provide the most appropriate advice and guidance at this stage of project planning.

APPENDIX 3 TREE PROTECTION PLANNING

The draft Tree Protection Plan (dTPP) referenced JPL/230786/dTPP can be found as an appendix at the end of this report. The TPP has been prepared in accordance with Section 7.1 of British Standard 5837:2012.

Either tree protective fencing or ground protection will be required to safeguard the trees against damage which may be sustained throughout redevelopment of the site, and this plan is indicative of the anticipated locations and/or zone of tree protection measures. The TPP has also been annotated to show indicative locations where, from an Arboricultural perspective, there is free space for the various demolition and construction requirements as well as site huts, outside of the zone of influence for tree protection & preservation.

The TPP has been drafted at this early stage to inform the client and landowners of these requirements, as well as illustrate how the tree protection measures and tree constraints may influence the free space around the site once development commences.

Vertical Barriers: physical protection measures for the retained trees, which will ensure that the designated RPA becomes an exclusion zone during any stage of development. Fencing will prevent machinery, men, materials, and other site activities from occurring within the RPA or damaging the tree crown.

Vertical barriers should be fit for the purpose of excluding construction activities, and appropriate to the degree and proximity of the site operations. A final specification will be provided once the layout has been finalised and agreed by all parties. An illustration has been included below for reference.

The vertical barriers shall completely exclude access during all phases of site operations. The protected areas shall not be used for the storage of materials or spoil, nor for the mixing of substances or the disposal of any residues. Materials, equipment and arising debris will not be stacked against the vertical barrier, even temporarily. A4 sized Notice Signs must be laminated and attached to the vertical barrier at regular intervals so all visitors and operatives are aware of the tree protection requirements.

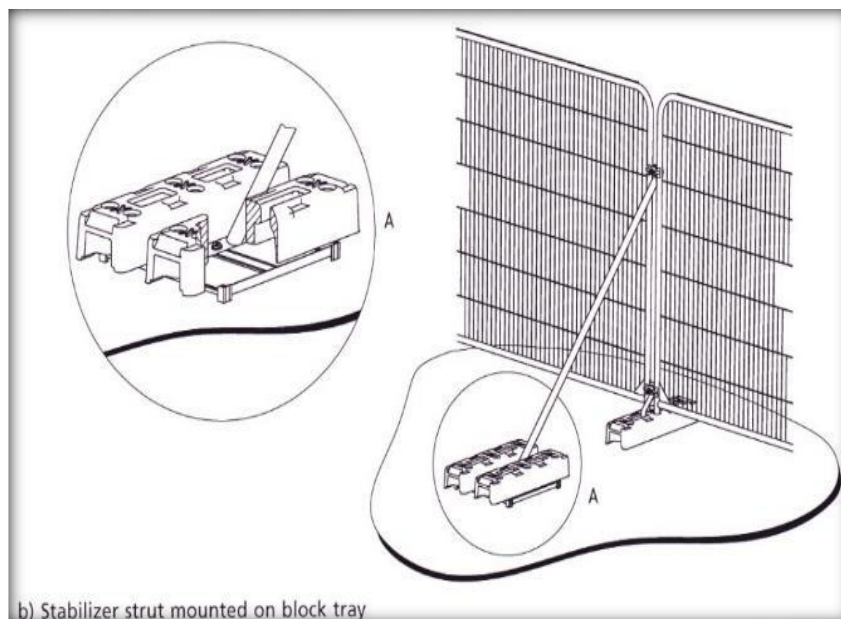


Figure 1: Illustration of Vertical Tree Protection Barrier

- Once erected, tree protection barriers will be sacrosanct and must not be moved or adjusted during any stage of site operations without the prior written consent of Three Rivers District Council and Bartlett Consultancy.

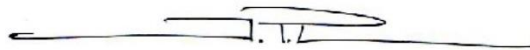
I trust that the contents and recommendations contained within this report were informative, easy to understand and helpful to you, with regards to managing your tree. Should you have any further questions or concerns, please do not hesitate to contact us again.

REPORT CLASSIFICATION: BS: 5837 Arboricultural Implications Assessment & Draft Tree Protection Plan

REPORT STATUS: Final

REPORT COMPLETED BY: Mr James Percy-Lancaster *CertArb (Lv.4) TechArborA*
Senior Arboricultural Consultant


SIGNATURE:



DATE: Monday 26th February 2024

REPORT REVIEWED BY: Ruth Le Poidevin
Bartlett Tree Experts Administrator- Consultancy

SIGNATURE:



DATE: 1st March 2024

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DRAFT TREE PROTECTION PLAN

SCALE :
1 : 150 @ A3 DATE :
28/02/2024














MAP FILENAME :
JPL/230786/DTPP - 46 GREENWAYS, ABBOTS LANGLEY

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LEGEND

-  Existing Buildings
-  Tree Works
-  Material Storage Area
-  Proposed Extension
-  Demolition Works
-  Existing Hard Standing
-  Hard Standing Extension
-  Retained Trees
-  Removed Trees
-  Tree Protection Barriers
-  Boundary Line

