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Arboricultural and Planning Integration Report: Wesley Gate, Units 1 and 2, Reading, RG1 4AP

27th January 2020

Ref: GHA/DS/124160:20a

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Arboricultural Report

Location: Wesley Gate, Units 1 and 2, Reading, RG1 4AP
Ref: GHA/DS/124160:20a
Client: Hives Architects
Date: 27th January 2020
Report Prepared by: Glen Harding MSc (Forestry), MArborA
Date of Inspection: 1st October 2019

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

Instructions

Issued by – Hives Architects

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to Wesley Gate, Units 1 and 2, Reading.

This report has been prepared to cover two planning applications. Both applications require removal and replacement of one tree at the rear, and protection of trees generally:

-the first application is for changes to the fenestration and other external work in relation to the PD conversion of the existing building from office to residential use.

-the second application deals with the proposed extension of the building at current roof level, to create further residential accommodation.

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Executive Summary

The proposal for the site is to renovate the existing building, installing glass balustrades to the front. The rear carpark will be retained and will have some new lightweight bin stores installed. 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

Hives Architects 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 No discussions took place between the surveyor and any other party.
- 1.6 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)
- 1.7 The survey was undertaken in accord with British Standard 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.
- 1.8 Underground services near to trees will need to 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).
- 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 40 years. Colour = mid blue crown outline on plan.

Category C – Trees of low quality with an estimated remaining life expectancy of at least 40 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 Queens Road in the centre of Reading.

The Subject Trees

4.1 The details of the subject trees are set out in the Schedule at Appendix B.

4.2 Of the seven individual trees, and groups of trees surveyed, two have been assessed as BS 5837 category B, four have been assessed as BS category C, with the remaining tree being assessed as BS 5837 category U.

Category B	2 trees
Category C	4 trees / groups
Category U	1 tree

The Proposal

5.1 The proposal for the site is to renovate the existing building, installing glass balustrades to the front.

5.2 The rear carpark will be retained and will have some new lightweight bin stores installed.

5.3 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.

6.2 T2 is however proposed for removal as it is deemed to be in an unsafe condition. This work would be required regardless of any development, to assure the safety of the site owners, and their guests. This tree will be replaced with a new birch tree (12 / 14cms girth), which will be planted in a similar location.

TREE PRUNING TO ACCOMMODATE THE PROPOSAL OR ACCESS TO THE SITE

- 6.3 The implementation of the proposal does not lead to the requirement to prune any of the retained trees, including the two TPO'd trees to the front.
- 6.4 The crowns of T6 and T7 are sufficiently far from the frontage of the building that scaffolding can be installed carefully around these trees without the requirement for facilitation pruning (similarly to the works recently undertaken at the neighbouring property where similar trees exist).

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

- 6.5 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.
- 6.6 The RPAs of some off-site trees to the rear have been amended to take account of the boundary wall and T6 and T7 have been amended to take account of the existing building and road, as can be seen on the appended plan.
- 6.7 The other RPAs have been drawn as notional circles, as there are no structures within their RPAs that have been assessed to significantly impact the root layout.
- 6.8 The building outline will remain unaltered so there will be no impact on the RPAs of T6 or T7.
- 6.9 The new bin and bike stores to the rear will be lightweight above ground structures and will therefore not impact the roots of trees in this area.

INSTALLATION OF BALUSTRADES

- 6.10 The new glass balustrades at ground floor would not require any additional foundations or fixing in the ground, as they will span between the existing building and existing brick columns. The new glass balustrade at first floor would not require access other than from the existing balcony; the glass would be in small sections, so it can be carried by hand and would be fixed to the inside of the existing steel balustrade, using discreet local fixings.

INSTALLATION OF SERVICES

- 6.11 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.
- 6.12 New services should 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 also be sited outside the RPAs of any nearby trees.

Post Development Pressure

FUTURE TREE AND STRUCTURE RELATIONSHIPS

- 7.1 The retained trees are at a satisfactory distance from the proposed new building, and highly unlikely to give rise to any inconvenience.
- 7.2 Some minor lateral pruning of the retained trees and shrubs may be required in the medium term, however any such work would not have a significant impact on the health or amenity value of these trees.
- 7.3 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.

REMEDIATION / REPLACEMENT PLANTING AND SOFT / HARD LANDSCAPING

- 7.4 T2 will be replaced by a new birch tree as shown on the appended plan. This will be a Himalayan birch (*Betula utilis* var *jacquemontii*) and will be 12 / 14cms girth. The tree pit for this new tree will be excavated within an area of soft existing soft landscaping. It will be dug to a suitable depth to accommodate the new rootballed tree and ensure it is planted so its root collar is at the same level as the adjacent ground. The tree pit will be 1m x 1m in size. The new tree will be supported using two wooden stakes and hessian tree ties.
- 7.5 All new pathways and soft landscaping areas within the Root Protection Areas (RPA's) of the retained trees should be designed using no-dig, up and over construction and in close co-ordination with the retained Arboriculturalist using porous materials.

Tree Protection Measures and Preliminary Method Statement for Development Works

8.1 TREE PRUNING / REMOVAL

A list of all tree works that are required (including trees to be removed) is included in the tree table at Appendix B. Pruning / removal has only been specified for the following reasons:

- Where work is necessary to implement the proposed scheme.
- Where works are required for safety reasons.
- Where work is required to improve tree form, or improve the appearance of overgrown areas of the site.

Where any tree work is needed, this work will be in accordance with British Standard 3998 – 2010 (Tree Work - Recommendations).

8.2 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, whenever this is practical. The position of the proposed protective fencing for the site is shown on the plan 'Appendix A' by a **pink** line. The position of the fence is to be marked out with biodegradable marker paint on site and agreed with appropriate representatives from the LPA and contractor. The fencing will be erected **prior** to any works in the vicinity of the trees and removed only when all development activity is complete. The protective fencing will be as that shown in BS 5837 (see Appendix C) however T6 and T7 will be protected using wooden 'boxing' to a height of 2.4m.

The Fence must be marked with a clear sign reading:

"Construction Exclusion Zone – No Access"

8.3 SCAFFOLDING / CROWN PROTECTION

The new scaffold will come out to a distance of 1.3m from the front wall of the building, so the outer bar will be situated outside the stem of both trees for the first two sections of the scaffold tower and then inside for the upper levels, due to the lean of both stems. The tree stems will be wrapped in hessian (or alike) to stop any risk of the trees being damaged. It was agreed that both trees can be worked around without any need for pruning. The upper level of the scaffold design will incorporate a barrier which will protect the upper sections of the crown from construction works; these will include a mesh / plastic netting to protect the canopies from any dust.

8.4 GROUND PROTECTION – LIGHTWEIGHT ACCESS ONLY

The area beneath the scaffolding to the site frontage will be covered with a permeable membrane, with 100mm layer of compressible woodchip overlaying it; an 18mm marine ply boards will then be secured on top of the woodchip to allow pedestrian access to the area without causing major compaction or soil erosion.

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

All site huts will be positioned outside of the retained trees RPA's.

8.6 MIXING OF CONCRETE

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

8.7 USE CRANES, RIGS AND BOOMS

Precautionary measures must be observed to avoid contact of any retained trees when manoeuvring cranes rigs or booms into position.

8.8 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.

8.9 ON SITE SUPERVISION

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

The key personnel relating to this project are:

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

8.10 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.

8.11 HARD / SOFT LANDSCAPING NEAR RETAINED TREES

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

8.12 TREE PLANTING

The proposed location for one new tree can be seen on the appended plan. Tree planting should be undertaken between the months of November and March by a suitably experienced contractor. The scheme should include the implementation of an aftercare package to include: weed management, tree hydration, stake and tie maintenance, replacement of any failures, mulching and formative pruning.

8.13 DISMANTLING PROTECTIVE BARRIERS

Protective barriers must only be completely removed when all machinery, and equipment has left site. A minimum of seven days notice must be given to the local planning authority prior to dismantling works begin.

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.

27th January 2020

Signed:



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

Appendix A

Appendix B

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	Ash	18	600	1	7.20	3.5	6	6	6	M	4	10-20	C1	Off site tree. Decay noted on main stem.
T2	Laburnum	5	250	1	3.00	4	3	2	2	M	2 (north)	Less than 10	U	Major decay on main stem - south side. Recommend: remove and replace.
T3	Malus	5	100	1	1.20	3	3	3	3	M	2.5 (north)	10-20	C1	Small tree of little value.
T4	Sycamore	10	600	1	7.20	2.5	2.5	2.5	2.5	M	4	10-20	C1	Off site tree. Topped in past.
G5	Ash	9	200	1	2.40	3	3	3	3	M	4	10-20	C2	Off site trees.
T6	Alder	12.5	340	1	4.08	5	4	0	4	M	4 (north) + epicormic	20-40	B2	No notable defects.
T7	Alder	7	130	1	1.56	2	1.5	2.5	2	M	2	20-40	B2	No notable defects.

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

Figure 3 Examples of above-ground stabilizing systems



