Arboricultural report for the erection of a rear extension

Reference GRS.172.22 Site: 26 Malden Road, NW5 3HH Clients: Adam Fulrath and Caroline Hepker Local Planning Authority: Camden Council





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#### 1. BASE LINE DATA

- 1.1 The survey was carried out in accordance with section 4.4 4.5 of the BS 5837:2012 'Trees in relation to design, demolition, and construction Recommendation', hereafter to be identified as 'BS' Where it was not possible to gain access to record the relevant data, certain fields such as crown spread and diameter at breast height (dbh) were estimated.
- 1.2 If defects were noted and required further inspection the following inspection aids were used: laser distometer was used to measure the crown spread, binoculars to inspect the upper crown, magnifying glass for inspection of pest and diseases, steel probe to test strength of wood/depth of cavities and a mallet to give an audible indication of the extent of cavities.
- 1.3 Trees within the report were inspected from ground level only and any external faults and features were recorded. The following inspections were not carried out: aerial inspection, detailed excavation of the rooting system or the use of internal decay detection equipment. The use of such equipment would require an additional report.
- 1.4 Detailed ecological considerations are beyond the scope of this report. UK and European wildlife legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 (as amended). It is recommended that consideration is given to the requirement for ecological surveys. Bats in particular are afforded particular protection and a specialist may be required to determine if bats are present or could be affected when carrying out tree works.
- 1.5 Stem diameters are used to calculate Root Protection Areas (RPA) (see appendix C); where ivy or dense undergrowth has been noted in the comments section of the tree survey a precise stem diameter measurement may not have been possible. The stem diameter and RPA given in this instance is therefore provisional until such time that the ivy has been removed and the stem recalculated

# 2. GLOSSARY OF TERMS

Arboricultural method statement ('AMS')	Methodology for the implementation of any aspect of development that is within the root protection area (RPA), or has the potential to result in loss of or damage to a tree to be retained.
Arboricultural consultant	Appointed person to oversee all tree related matters and who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Tree protection plan ('TPP')	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures
Root Protection	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil
Area ('RPA') Construction	structure is treated as a priority. Area based on the RPA from which access is prohibited for the duration of a project
Exclusion Zone ('CEZ')	
Protective	Temporary fencing that excludes potentially harmful demolition or construction activity adiacent to trees to be retained.
Ground	Ground protection within RPAs capable of supporting traffic entering or using the site without being distorted or causing compaction of underlying soil or damage to surface
Arboricultural	roots. Throughout the demolition and construction process the arboricultural consultant shall
monitoring & supervision	undertake regular site monitoring visits and supervise specific works adjacent to trees. All supervisory and monitoring visits will be formally confirmed in writing and circulated to all relevant parties.

Table 1 Glossary of terms

# 3. GENERAL ADVICE

Extent and form of the root system	Within a short distance of the stem, the roots are highly branched, so as to form a network of small-diameter woody roots, which can extend radially for a distance much greater than the height of the tree, except where impeded by unfavourable conditions. All parts of this system bear a mass of fine, non-woody absorptive roots, typically concentrated within the uppermost 600 mm of the soil.
Damage to	All parts of the root system, but especially the fine roots, are vulnerable to damage. Once
10015	Mature trees recover slowly, if at all, from damage to their woody roots.
Soil	Soil that has been compacted will not provide suitable conditions for the survival and growth
compaction	of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth.

Table 2 General advice

#### 4. REFERENCES

AL Shigo (1991) 'Modern Arboriculture', Shigo and Trees Associates

BS 3998:2010 'Recommendations for Tree Work', British Standards Institution, London.

BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendation', British Standards Institution, London.

D. Lonsdale (1999) 'Principles of Tree Assessment and Management' HMSO

Mattheck and Broeler (1994) 'The Body Language of Trees' HMSO

Strouts and Winter (1994) 'Diagnosis of III Health in Trees' HMSO

National Joint Utilities Group. Volume 4, GUIDELINES FOR THE PLANNING, INSTALLATION AND MAINTENANCE OF UTILITY APPARATUS IN PROXIMITY TO TREES", Issue 2: 16<sup>th</sup> November 2007

- and an evaluation of the erection of a rear extension will have on the existing trees within
- within BS 5837:2012 Trees in relation to design, demolition and construction. There are four stages to this report.
- following: sequential number, species, height, radial crown spread, crown clearance, height to first branch, physiological and structural condition, category of the trees and general
- assesses the finalized layout will have on the retained trees. The report discusses the direct impact, trees to be removed/incursions into the RPA) and indirect impact e.g. relationship
- accordance with section 4. BS 5837:2012 -Trees in relation to design, demolition and
- visit.
- The inspection was carried out by Jamie Newman. The trees were inspected from the ground level using Visual Tree Assessment (VTA) techniques.
- No root or soil samples were taken during the site visit.
- condition can change and therefore they should be checked on a regular basis. The conclusions recommended that any trees within the site are inspected after adverse weather conditions such as high winds. The weather was overcast
- Council website at the time of preparing this report none of the trees are subject to a Tree a conservation area.
- key components within the local landscape.
- and T2 need to be removed, while T3 is shown to be removed because of its poor condition.



# Appendix A –Tree survey information - undertaken in accordance with section 4, BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations

Tree no:	Sequential reference number of trees or groups of trees commencing at "1". Prefixed with a letter indicating type: T: Tree. G: Group. H: Hedge. W: Woodland. A: Area								
Tree Preservation Order/ (TPO) conservation area (CA)	Served on individual, groups, woodland or as an area when the local planning authorities (LPA) consider it necessary to protect the visual amenity of the local area. Consent from the LPA must be sought prior to undertaking any works, failure to do so may lead to unlimited fines. Conservation area is an area designated under 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990. Works to trees located within a CA require six weeks notification (S211 notice) to be submitted to the LPA. If the works are considered excessive and will have an impact on the visual amenity of the CA a TPO can be served.								
Name	Species listed by common name/ latin name								
Height	Estimated height of tree shown in metres.								
Trunk Dbh:	Diameter at breast height measured at approximately 1.5 m above ground level given in millimetres and to the nearest 100 mm. Where there are more than 1 stem the average diameter is provided.								
Radial crown spread (M)	Given as a radial measurement in metres from the centre of the stem to the furthest point of the canopy at the four main compass points N, E, S, W								
Crown clearance (M)	First branch above ground level								
Height to first branch	Height and orientation of first significant branch.								
Age Class	<ul> <li>Y: Young: Age less than 1/4 life expectancy</li> <li>SM: Semi Mature: 1/4 to 1/2 life expectancy</li> <li>EM: Early Mature: 1/2 to 3/4 life expectancy</li> <li>M: Mature: Over 3/4 life expectancy</li> <li>OV: Over-mature: Mature, and in a state of decline</li> <li>V: Veteran: tree that, by recognized criteria, shows 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.</li> </ul>								
<b>Physiology</b> At the time of inspection the general health of the tree based upon its general appearance, vigour and the presence or absence of symptoms associated with poor health and physiological stress	<ul> <li>Good: Typical for species and age</li> <li>Fair: Signs of physiological stress or dysfunction; but not significant enough that the tree may not recover.</li> <li>Poor: Signs of physiological stress or dysfunction; significant enough that the tree might not recover.</li> <li>Dead: Dead specimen.</li> </ul>								

<b>Structure</b> Structural condition of the tree based on the structure of its roots, trunk and major stems and branches in relation to the presence of any physiological, pathological or mechanical defects.	<ul> <li>Good: No significant structural defects.</li> <li>Fair: Significant structural defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.</li> <li>Poor: Significant and irremediable structural defects, such that there may be a risk of early or premature collapse.</li> <li>Hazardous: Significant and irremediable structural defects, such that there is a risk of imminent collapse.</li> </ul>								
Landscape value	<ul> <li>High: Individuals specimens considered to be of visual importance</li> <li>Moderate: trees growing in a group no individual tree/s of significance:</li> <li>Low; located within woodland, or provide little landscape value</li> </ul>								
Estimated Years	<ul> <li>Estimated life expectancy based on current condition.</li> <li>0 Dead trees.</li> <li>&lt;10 Less than ten years.</li> <li>10+ more than ten years.</li> <li>20+ more than twenty years.</li> <li>40+ more than forty years</li> </ul>								
Comments:	General comments relating to identified structural defects or hazards, vitality, pathogens or observational notes.								
Recommendation of work	<ul> <li>Arboricultural – Remedial tree works that involves pruning to a specification in accordance with the arboricultural best practice BS3998: 2010 Tree work – Recommendations. Examples include crown reduction, crown thinning, reducing specific branches and crown lifting.</li> <li>Safety works- nature of the works is to ensure the trees are kept in a safe manner.</li> <li>Facilitative – one off pruning works associated with development works whereby branches are removed to allow the movement of plant machinery within the grounds of the site without harming the trees visual appearance.</li> </ul>								
Category	<ul> <li>A-Trees of high quality; B- Trees of moderate quality; C- Trees of low quality; 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</li> <li>1- Mainly arboricultural qualities 2- Mainly landscape qualities 3 – Mainly cultural values , including conservation values</li> </ul>								
Root Protection Area: (RPA)	• The RPA represents the minimum area of soil that the tree requires supporting a healthy and effective root system. The amount shown is based on the calculations set out in section 4.6 of the BS see attached appendices for the method of calculation.								
Root Protection Area m <sub>2</sub>	Root Protection Area (RPA) as radius (m) from the centre of the trunk								



No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear- ance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Recommendation	Category	RPA Radius	RPA m <sup>2</sup>
T1	Ash (Fraxinus excelsior)	9.5m	255mm	N4m E3m S4m W4m	4.5m	3.5m	SM	Good	Fair	Low	10+	Crown has been originally topped at 3.5m (multi-stemmed from thereon) and again more recently at about 8.5m; of no particular arboricultural merit.	Fell to ground level	C (1)	3.1m	29.4m²
T2	Elder (Sambucus nigra)	7m	2 stems @ 170mm	N3m E3m S3m W1m	2m	3m	SM	Good	Poor	Low	10+	Twin-stemmed from 0.5m; tight fork; crown has been previously lopped at 3m; of no particular arboricultural merit.	Fell to ground level	C (1)	2.9m	26.1m²
ТЗ	Ash (Fraxinus excelsior)	10m	330mm	N3m E3m S3m W3.5m	4m	4m	EM	Good	Hazardous	Low	<10	Twin-stemmed from 1.7m; tight compression fork with included bark and a seam / crack evident below the union. Tree is liable to fail at the union and should be removed for safety reasons; crown has been previously topped at 9m. Recommend removal of tree within 2 months from the date of issue of this report. To allow time for the Local Planning Authority to be given a 6 week (S211) Conservation Area notice of intent to fell, irrspective of the current planning application.	Fell to ground level	U	4.0m	49.3m²

#### APPENDIX C - Calculation of the Root Protection Area (RPA)

The RPA for single stem trees is an area equivalent to a circle with a radius 12 times the stem diameter.

For trees with more than one stem the following calculation methods should be used. Guidance is provided within the BS (Annex C) which provides details on how to measure the stem diameters. The calculated RPA for each tree should be capped to 707m<sup>2</sup>

a) Trees with two to five stems, the combined stem diameter should be calculated as follows:

 $\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \dots + (\text{stem diameter 5})^2}$ 

b) Trees with more than five stems (not shown in Annex C), the combined stem diameter should be calculated as follows:

 $\sqrt{(\text{mean stem diameter})^2 \text{ x number of stems}}$