

Landmark Trees

ARBORICULTURAL IMPACT ASSESSMENT REPORT FOR:

1 Wadham Gardens
London
NW3 3DN

INSTRUCTING PARTY:

Amek Property Investments LLP
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PART 1: MAIN TEXT

Section	Content	Page No
1.0	SUMMARY	3
2.0	INTRODUCTION	4
3.0	OBSERVATIONS	6
4.0	DEVELOPMENT CONSTRAINTS	8
5.0	ARBORICULTURAL IMPACTS	11
6.0	DISCUSSION	12
7.0	CONCLUSION	15
8.0	RECOMMENDATIONS	16
9.0	REFERENCES	19

PART 2 - APPENDICES

APPENDIX 1	Survey Data	21
APPENDIX 2	Recommended Tree Works	24
APPENDIX 3	Recommended Tree Works to Facilitate Development	26
APPENDIX 4	Trees for Urban Sites	28

PART 3 - PLANS

PLAN 1	Tree Constraints Plan	30
PLAN 2	Impact Assessment Plan(s)	32

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1. SUMMARY

- 1.1 There are 7 trees on and adjacent to the application site that are within close proximity and need to be assessed.
- 1.2 Of these 5 trees, 4 are category B (Moderate Quality) and 3 are category C (Low Quality); none are category A (High Quality) or U (Poor Quality).
- 1.3 The report has assessed the impacts of the development proposals and concludes there would be at most a very low impact on trees: less than 1% of the RPA of 2 trees to be affected by the basement level
- 1.4 Notwithstanding the above assurances, the report sets out a series of recommendations prior and during construction that will ensure impacts to trees are minimised. These are detailed in sections 6.3 and 8 of this report.
- 1.5 In conclusion, the proposal, through following the above recommendations, will have no, or very limited, impact on the existing trees and is acceptable.

* British Standards Institute: Trees in relation to design, demolition and construction BS 5837: 2012 HMSO, London

2. INTRODUCTION

2.1 Terms of Reference

- | | |
|-------|---|
| 2.1.1 | This Arboricultural Impact Assessment report has been prepared by Landmark Trees (LT) on behalf of Amek Property Investments LLP ('the Applicant'), to support a full planning application submitted to the London Borough of Camden ('LBC'). |
| 2.1.2 | <p>The application relates to the development of the existing apartment building. Specifically, full planning permission is sought for:</p> <p><i>"Excavation of single-storey basement level under footprint of existing building, sunken terrace to north-west of site, 4x front and side light-wells with grills, internal alterations to dwelling flats on ground, first and second floors, new window openings to rear ground floor elevation, block 1x window rear first floor level, demolition and re-building of the north-west end of the building, new boundary treatment with railings and landscaping works, in association with 6 existing dwellings (Class use C3)."</i></p> |
| 2.1.3 | This report will assess the impact on the trees and their constraints, identified in our survey. Although the proposals were known at the time of the survey, Landmark Trees endeavour to survey each site blind, working from a topographical survey, wherever possible, with the constraints plan informing their evolution. |
| 2.1.4 | I am a Registered Consultant and Fellow of the Arboricultural Association and a Chartered Forester, with a Masters Degree in Arboriculture and 25 years' experience of the landscape industry - including the Forestry Commission and Agricultural Development and Advisory Service. I am a UK Registered Expert Witness, trained in single and joint expert witness duties. I am also Chairman of the UK & I Regional Plant Appraisal Committee, inaugurated to promote international standards of valuation in arboriculture. |

2.2 Drawings Supplied

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|-------|---|
| 2.2.1 | <p>The drawings supplied by the client and relied upon by Landmark Trees in the formulation of our survey plans are:</p> <p>Existing site survey: 15191-100</p> <p>Proposals: DWG 1179-01 RevC Proposed Plans</p> |
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2.3 Scope & Limitations of Survey

- 2.3.1 As Landmark Trees' (LT) arboricultural consultant, I surveyed the trees on site on 15th June 2018, recording relevant qualitative data in order to assess both their suitability for retention and their constraints upon the site, in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations [BS5837:2012].
- 2.3.2 Our survey of the trees, the soils and any other factors, is of a preliminary nature. The trees were SURVEYED on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994). LT have not taken any samples for analysis and the trees were not climbed, but inspected from ground level.
- 2.3.3 A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.
- 2.3.4 The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

2.4 Survey Data & Report Layout

- 2.4.1 Detailed records of individual trees are given in the survey schedule in Appendix. General husbandry recommendations are distinguished at Appendix 2 from minimum requirements to facilitate development which form part of the planning application at Appendix 3. The former may still be relevant to providing a safe site of work, of course. Planning considerations notwithstanding, we trust these necessary recommendations are passed on to relevant parties with due diligence and the trees be managed appropriately.
- 2.4.2 A site plan identifying the surveyed trees, based on the Instructing Party's drawings / topographical survey is provided in Part 3 of this report. This plan also serves as the Tree Constraints Plan with the theoretical Recommended Protection Areas (RPA's), tree canopies and shade constraints, (from BS5837: 2012) overlain onto it. These constraints are then overlain in turn onto the Instructing Party's proposals to create a second Arboricultural Impact Assessment Plan in Part 3. General observations and discussion follow, below.

3.0 OBSERVATIONS

3.1 Site Description



Photograph 1: Aerial View of 1 Wadham Gardens (outlined in red)

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| 3.1.1 | The site is located on the south-west side of Wadham Gardens within the Elsworthy Conservation area in the London Borough of Camden. The property comprises an apartment building with 3 ground-floor apartments, 2 first-floor apartments and 1 second-floor studio apartment. |
| 3.1.2 | The site is relatively level, but terraced on the northern boundary to accommodate a rise in levels between properties. |
| 3.1.2 | In terms of the British Geological Survey, the site overlies the London Clay Formation (see indicated location on Fig.1 plan extract below). The associated soils are generally, highly shrinkable clay; e.g. slowly permeable seasonally waterlogged fine loam over clay. Such highly plastic soils are prone to movement: subsidence and heave. The actual distribution of the soil series are not as clearly defined on the ground as on plan and there may be anomalies in the actual composition of clay, silt and sand content. |
| 3.1.3 | Clay soils are prone to compaction during development with damage to soil structure potentially having a serious impact on tree health. The design of foundations near problematic tree species will also need to take into consideration subsidence risk. Further advice from the relevant experts on the specific soil properties can be sought as necessary. |

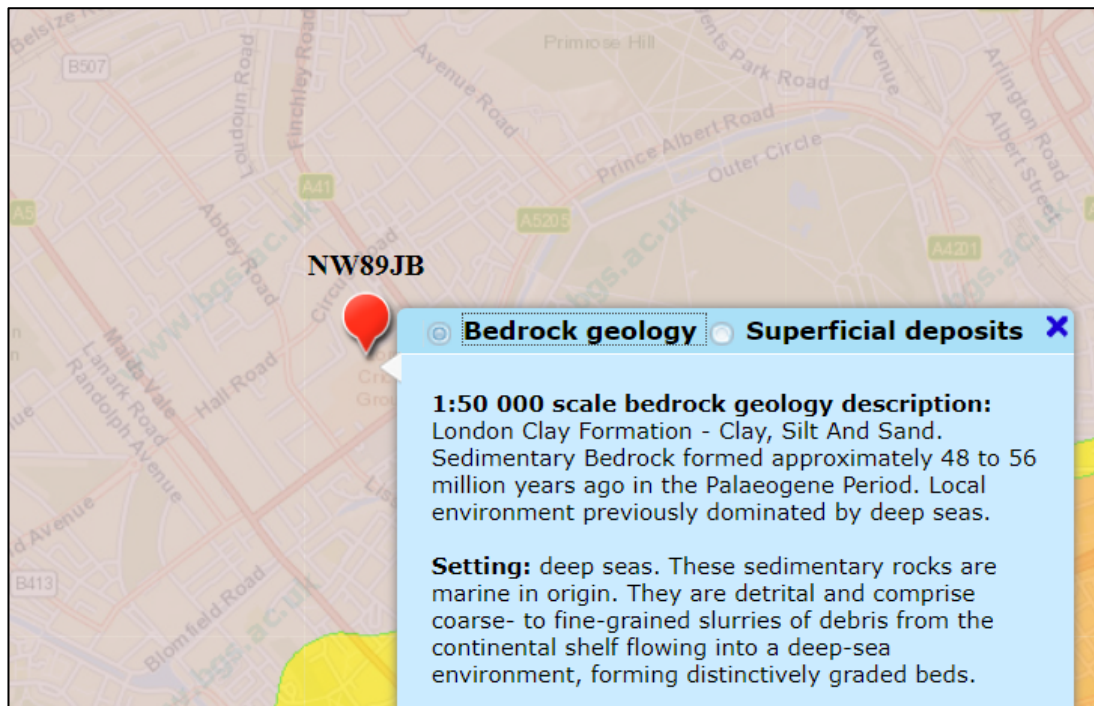


Figure 1: Extract from the BGS Geology of Britain Viewer

3.2 Subject Trees

- 3.2.1 There are 7 trees surveyed on or around the site, of which 4 are B category *(Moderate Quality) London plane and sycamores and 3 are C category *(Low Quality) trees, though the felling of T5 hawthorn and T7 oak is recommended regardless of development (see 3.3.3 below).

*page 9 of: [British Standards Institute: Trees in relation to design, demolition and construction BS 5837: 2012 HMSO, London](#)

- 3.2.4 Full details of the surveyed trees can be found in Appendix 1 of this report.
- 3.2.5 There are recommended works for 2 on-site trees (T5 & T7). These are listed in Appendix 2.

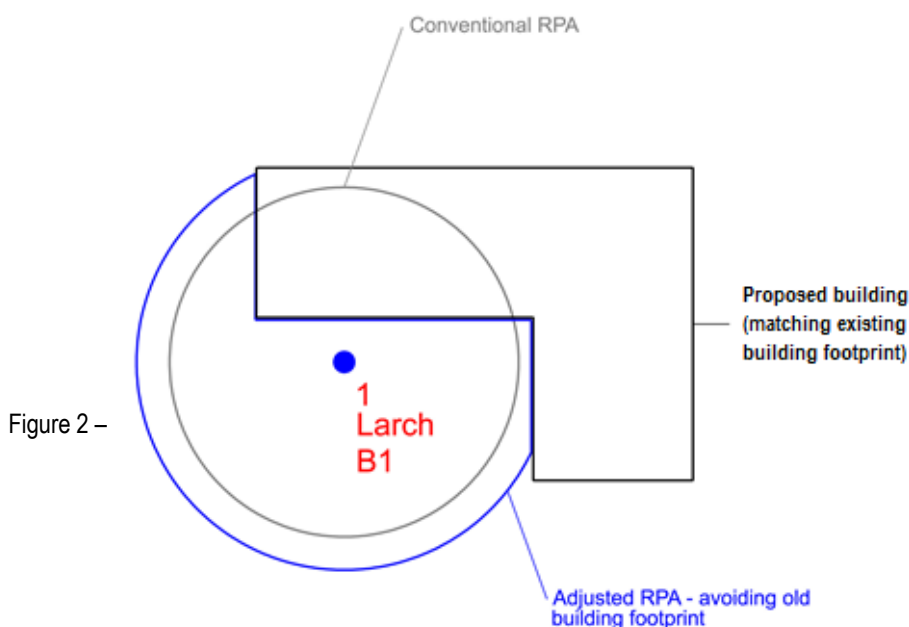
3.3 Planning Status

- 3.3.1 There is no on-line information regarding Tree Preservation Orders in the borough; to find out if a tree is protected it is necessary to contact the tree preservation team by email on the website or Tel: 020 7974 4444. The site stands within the Elsworth Conservation Area, which will affect the subject trees: it is a criminal offence to prune, damage or fell such trees without permission from the local authority.
- 3.3.2 Relevant local planning policies comprise Policy 7.21 of the London Plan 2016 and Policies A3, A5, D1 and D3 of the Camden Local Plan (adopted 3rd July 2017).
- 3.3.3 Oak T7 was felled in September 2024 under s211 consent reference 2024/2772/T

4.0 DEVELOPMENT CONSTRAINTS

4.1 Primary Constraints

- 4.1.1 BS5837: 2012 gives Recommended Protection Areas (RPA's) for any given tree size. The individual RPA's are calculated in the Tree Schedule in Appendix 1 to this report, or rather the notional radius of that RPA, based on a circular protection zone. The prescribed radius is 12-x stem diameter at 1.5m above ground level, except where composite formulae are used in the case of multi-stemmed trees.
- 4.1.2 Circular RPA's are appropriate for individual specimen trees grown freely, but where there is ground disturbance, the morphology of the RPA can be modified to an alternative polygon, as shown in the diagram below (Figure 2). Alternatively, one need principally remember that RPA's are area-based and not linear – notional rather than fixed entities.



- 4.1.3 In BS5837, paragraph 4.6.2 states that RPA's should reflect the morphology and disposition of the roots; where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.
- 4.1.4 **No *a priori* modifications have been made in this instance, though further investigations are recommended, where the proposals encroach / come near RPA and their modification could have a bearing on the impact assessment.**

4.1.5 The quality of trees will also be a consideration: U Category trees are discounted from the planning process in view of their limited service life. Again, Category-C trees would not normally constrain development individually, unless they provide some external screening function.

4.1.6 At paragraph 5.1.1. BS5837: 2012 notes that "Care should be exercised over misplaced tree preservation; attempts to retain too many or unsuitable trees on a site are liable to result in excessive pressure on the trees during demolition or construction work, or post-completion demands on their removal."

4.1.7 Only moderate quality trees and above are significant material constraints on development. However, low quality trees comprise a constraint in aggregate, in terms of any collective loss / removal, where replacement planting is generally considered appropriate.

4.1.8 In this instance, whilst the moderate quality trees have the potential to pose significant constraints upon the development of the site, their location outside its boundaries means these constraints will be significantly tempered.

4.2 Secondary Constraints

4.2.1 The second type of constraint produced by trees that are to be retained is that the proximity of the proposed development to the trees should not threaten their future with ever increasing demands for tree surgery or felling to remove nuisance shading (Figure 3), honeydew deposition or perceived risk of harm.

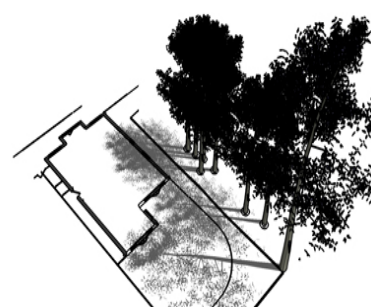


Figure 3 –
Generic Shading Constraints

4.2.2 The shading constraints are crudely determined from BS5837 by drawing an arc from northwest to east of the stem base at a distance equal to the height of the tree, as shown in the diagram opposite. Shade is less of a constraint on non-residential developments, particularly where rooms are only ever temporarily occupied.

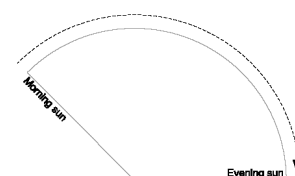


Figure 4 – Shading Arc

4.2.3 This arc (see Figure 4) represents the effects that a tree will have on layout through shade, based on shadow patterns of 1x tree height for a period May to Sept inclusive 10.00-18.00 hrs daily.

4.2.4 Assuming that they will be retained, the orientation of the on- and off-site trees will ensure that shading constraints are minimal, with leaf deposition and honey-dew likely to be as it is today. The significance of these constraints will vary depending on the location and proximity to the proposed re-development which is considered below (in Sections 5 & 6). As specified by BS5837, this section (4) of the report considers only the site as it is, not in the light of pending proposals.

Note: Sections 5 & 6 below will now assess the impacts of the proposals upon constraints identified in Section 4 above. Table 1 in Section 5 presents the impacts in tabular form (drawing upon survey data presented in Appendices 1 & 2). Impacts are presented in terms of whole tree removal and the effect on the landscape or partial encroachment (% of RPA) and its effect on individual tree health. Section 6 discusses the table data, elaborating upon the impacts' significance and mitigation.

(Impacts assessed prior to mitigation and rated with reference to Matheny & Clark (1998))

Ref: API_1aWDG_AIA

B.S. Cat.	Tree No.	Species	Impact	Tree / RPA Affected	Age	Growth Vitality	Species Tolerance	Impact on Tree Rating	Impact on Site Rating	Mitigation
B	3	Plane, London	Possibility of construction access damage	m ² N/A %	Semi-mature	Normal	Good	Very Low	N/A	Hoarding of stem
B	4	Plane, London	Basement Construction within RPA Note: Theoretical Impact only	0.4 m ² .14 %	Mature	Normal	Good	Very Low	Very Low	Hand dig top 750mm of basement line thro' RPA

6.0 DISCUSSION

6.1 Rating of Primary Impacts

- | | |
|-------|--|
| 6.1.1 | Whilst the RPA of T4 is encroached on plan by the basement level, this encroachment occurs entirely beneath the existing building's footprint. The distribution of an RPA below the existing building is in principle, unjustified: notwithstanding a reduced probability of rooting below significant structures, the principle of protecting and promoting root colonisation below vulnerable building foundations conflicts with other responsibilities of / liabilities for the council. As such, the impact to the tree is assessed as being negligible and will be mitigated using the measures detailed in paragraph 6.1.1. |
| 6.1.2 | Replacement hard surfacing within the RPA of a retained tree will require a no-dig construction method, ideally employing the existing sub-base with minor augmentation as necessary. Subject to the adoption of this mitigation, impacts will be negligible. |
| 6.1.3 | The removal of the Ailanthus sapling, bamboo and shrubs shown on plan but not recorded within the survey data do not constitute an impact under planning (unless the sapling is allowed to grow to >75mm diameter at 1.5m above ground). |

- 6.1.4 The principal of RPA encroachment is established within BS5837:2012 and supported by the source document, National Joint Utilities Guidelines 10 / Vol. 4 1995 / 2010. NJUG introduced the x12 diameter *Precautionary Zone* for supervised working and *Prohibited Zone* at a universal 1m from the base of the tree. RPA's are frequently confused with the NJUG Prohibited Zone, when they clearly correlate with the NJUG Precautionary Zone.
- 6.1.5 An RPA encroachment of <20% of RPA may be considered as low impact, given the permissive references to 20% RPA relocation and impermeable paving within BS5837:2012 and other published references to healthy trees tolerating up to 30-50% root severance in general (Coder, Helliwell and Watson in CEH 2006). The trees in question are healthy specimens of species with a good resistance to development impacts, and quite capable of tolerating these low impacts.
- 6.1.6 **"In practice 50% of roots can sometimes be removed with little problem**, provided there are vigorous roots elsewhere. Inevitably, this degree of root loss will temporarily slow canopy growth and even lead to some dieback" (Thomas 2000). LT do not recommend annexing such high proportions of the root system (or by extension, the *pro rata* RPA); rather that within the context of the published science, planning should not be unduly concerned by impacts that are well below the subcritical threshold – *tree health is not at stake*.
- 6.1.7 BS5837 recommends (at 5.3.a) that if operations within the RPA are proposed, the project arboriculturist should demonstrate that the tree(s) can remain viable and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA. On the basis of Thomas et al, above, it is possible to demonstrate that the tree can remain viable, and on the basis that the tree will be rooting no less freely in the garden / lawn / border / pavement than within the proposed footprint, with the RPA encroachment compensated elsewhere on contiguous land. The guide also recommends (at 5.3.b) the arboriculturist propose a series of mitigation measures (to improve the soil environment that is used by the tree for growth). These are provided at 6.3 below.

6.2 Rating of Secondary Impacts

- 6.2.1 There will always be marginal secondary impacts of honeydew / litter deposition and partial shade on this site, regardless of development. The subterranean nature of the proposals means that this status quo is unlikely to change with further development, which is the salient point for planning to consider. Thus, the secondary impacts of development are minimal.

6.3 Mitigation of Impacts

6.3.1 All plant and vehicles engaged in demolition works should either operate outside the RPA or should run on a temporary surface designed to protect the underlying soil structure. Hard surfacing can be lifted with caution by a skilled machine operator again working away from the tree.

6.3.2 The path of foundations through RPAs will be manually excavated to 750mm depth under arboricultural supervision; any roots encountered within the trenches / pits will be cleanly pruned back to an appropriate junction with a sharp pruning saw or secateurs back to a junction. Roots larger than 25mm diameter may only be cut in consultation with an arboriculturalist.

6.3.3 The replacement paving/hard landscaping will require a no-dig construction technique, either using a cellular confinement system with no fines aggregate for the sub-base or simply building upon the existing sub-base without disturbing the ground below. Choice of construction method will initially depend upon root penetration within the existing sub-grade. The key principle is not to excavate in the presence of roots and to provide a porous surface to promote healthy soil water relations for future root growth. A further consideration in the use of a more expensive cellular confinement system or similar, may be the claimed reduction in risk of possible future slab / surface displacement by roots of trees growing in paved areas.

7.0 CONCLUSION

- 7.1 The potential impacts of development are all low in terms of RPA encroachments of trees retained.
- 7.2 The full potential of the impacts can be largely mitigated through design and precautionary measures.
- 7.3 The species affected are generally tolerant of root disturbance / crown reduction and the retained trees are generally in good health and capable of sustaining these reduced impacts.
- 7.4 Therefore, the proposals will not have any significant impact on either the retained trees or wider landscape thereby complying with Policy 7.21 of the London Plan 2016 and Policies A3, A5, D1 and D3 of the Camden Local Plan (adopted 3rd July 2017). Thus, with suitable mitigation and supervision the scheme is recommended to planning.

8.0 RECOMMENDATIONS

8.1 Specific Recommendations

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|-------|---|
| 8.1.1 | Tree works recommendations in Appendix 2 are not part of the current application, but requirements of general maintenance that will need to be applied for (subject to para. 3.3 of this report and any other relevant constraints in planning or leasehold) by the client separately. Consent for the current planning application does not impart any consent for the Appendix 2 maintenance works. Please note, though, the owner and / or manager of a property have a duty to maintain a safe site of work and to protect occupiers of the surrounding land / members of the public from tree hazards. Works recommended in this report should be enacted in a timely fashion by the relevant party regardless of the progress of the development. |
| 8.1.2 | Excavation and construction impacts within the RPA's of trees identified in Table 1 above, will need to be controlled by method statements specifying mitigation methods suggested in para 6.3 above and by consultant supervision as necessary. These method statements can be provided as part of the discharge of conditions. |

8.2 General Recommendations for Sites Being Developed with Trees

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| 8.2.1 | Any trees which are in close proximity to the proposed development should be protected with a Tree Protection Barrier (TPB). Protective barrier fencing should be installed immediately following the completion of the tree works, remaining in situ for the entire duration of the development unless otherwise agreed in writing by the Council. It should be appropriate for the intensity and proximity of the development, usually comprising steel, mesh panels 2.4m in height ('Heras') and should be mounted on a scaffolding frame (shown in Fig 2 of BS5837:2012). The position of the TPB can be shown on plan as part of the discharge of conditions, once the layout is agreed with the planning authority. The TPB should be erected prior to commencement of works, remain in its original form on-site for the duration of works and be removed only upon full completion of works. |
| 8.2.2 | A TPB may no longer be required during soft landscaping work but a full arboricultural assessment must be performed prior to the undertaking of any excavations within the RPA of a tree. This will inform a decision about the requirement of protection measures. It is important that all TPBs have permanent, weatherproof notices denying access to the RPA. |
| 8.2.3 | The use of heavy plant machinery for building demolition, removal of imported materials and grading of surfaces should take place in one operation. The necessary machinery should be located above the existing grade level and work away from any retained trees. This will ensure that any spoil is removed from the RPAs. It is vital that the original soil level is not lowered as this is likely to cause damage to the shallow root systems. |
| 8.2.4 | Any pruning works must be in accordance with British Standard 3998:2010 Tree work [BS3998]. |
| 8.2.5 | Where sections of hard surfacing are proposed in close proximity to trees, it is recommended that "No-Dig" surfacing be employed in accordance with BS5837:2012 and 'The Principles of Arboricultural Practice: Note 1, Driveways Close to Trees, AAIS 1996 [APN1]'. |
| 8.2.6 | If the RPA of a tree is encroached by underground service routes then BS5837:2012 and NJUG VOLUME 4 provisions should be employed. If it is deemed necessary, further arboricultural advice must be sought. |
| 8.2.7 | Numerous site activities are potentially damaging to trees e.g. parking, material storage, the use of plant machinery and all other sources of soil compaction. In operating plant, particular care is required to ensure that the operational arcs of excavation and lifting machinery, including their loads, do not physically damage trees when in use. |

- 8.2.8 To enable the successful integration of the proposal with the retained trees, the following points will need to be taken into account:
- 1) Plan of underground services.
 - 2) Schedule of tree protection measures, including the management of harmful substances.
 - 3) Method statements for constructional variations regarding tree proximity (e.g. foundations, surfacing and scaffolding).
 - 4) Site logistics plan to include storage, plant parking/stationing and materials handling.
 - 5) Tree works: felling, required pruning and new planting. All works must be carried out by a competent arborist in accordance with BS3998.
 - 6) Site supervision: the Site Agent must be nominated to be responsible for all arboricultural matters on site. This person must:
 - be present on site for the majority of the time;
 - be aware of the arboricultural responsibilities;
 - have the authority to stop work that is causing, or may cause harm to any tree;
 - ensure all site operatives are aware of their responsibilities to the trees on site and the consequences of a failure to observe these responsibilities;
 - make immediate contact with the local authority and/or a retained arboriculturalist in the event of any tree related problems occurring.
- 8.2.9 These points can be resolved and approved through consultation with the planning authority via their Arboricultural Officer.
- 8.2.10 The sequence of works should be as follows:
- i) initial tree works: felling, stump grinding and pruning for working clearances;
 - ii) installation of TPB for demolition & construction;
 - iii) installation of underground services;
 - iv) installation of ground protection;
 - v) main construction;
 - vi) removal of TPB;
 - vii) soft landscaping.

9.0 REFERENCES

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Caveats

This report is primarily an arboricultural report. Whilst comments relating to matters involving built structures or soil data may appear, any opinion thus expressed should be viewed as qualified, and confirmation from an appropriately qualified professional sought. Such points are usually clearly identified within the body of the report. It is not a full safety survey or subsidence risk assessment survey. These services can be provided but a further fee would be payable. Where matters of tree condition with a safety implication are noted during a survey they will of course appear in the report.

A tree survey is generally considered invalid in planning terms after 2 years, but changes in tree condition may occur at any time, particularly after acute (e.g. storm events) or prolonged (e.g. drought) environmental stresses or injuries (e.g. root severance). Routine surveys at different times of the year and within two - three years of each other (subject to the incidence of the above stresses) are recommended for the health and safety management of trees remote from highways or busy access routes. Annual surveys are recommended for the latter.

Tree works recommendations are found in the Appendices to this report. It is assumed, unless otherwise stated ("ASAP" or "Option to") that all husbandry recommendations will be carried out within 6 months of the report's first issue. Clearly, works required to facilitate development will not be required if the application is shelved or refused. However, necessary husbandry work should not be shelved with the application and should be brought to the attention of the person responsible, by the applicant, if different. Under the Occupiers Liability Act of 1957, the owner (or his agent) of a tree is charged with the due care of protecting persons and property from foreseeable damage and injury.' He is responsible for damage and/or nuisance arising from all parts of the tree, including roots and branches, regardless of the property on which they occur. He also has a duty under The Health and Safety at Work Act 1974 to provide a safe place of work, during construction. Tree works should only be carried out with local authority consent, where applicable.

Inherent in a tree survey is assessment of the risk associated with trees close to people and their property. Most human activities involve a degree of risk, such risks being commonly accepted if the associated benefits are perceived to be commensurate.

Risks associated with trees tend to increase with the age of the trees concerned, but so do many of the benefits. It will be appreciated, and deemed to be accepted by the client, that the formulation of recommendations for all management of trees will be guided by the cost-benefit analysis (in terms of amenity), of tree work that would remove all risk of tree related damage.

Prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc.) may be affected.



Landmark Trees

PART 2 – APPENDICES

APPENDIX 1

TREE SCHEDULE

Botanical Tree Names

Cherry, Tibetan	: Prunus serrula	Plane, London	: Platanus acerifolia
Hawthorn, Common	: Crataegus monogyna	Sycamore	: Acer pseudoplatanus

Notes for Guidance:

1. Height describes the approximate height of the tree measured in metres from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is expressed as an average of NSEW aspect if symmetrical.
3. Ground Clearance is the height in metres of crown clearance above adjacent ground level.
4. Stem Diameter (Dm) is the diameter of the stem measured in millimetres at 1.5m from ground level for single stemmed trees. BS 5837:2012 formula (Section 4.6) used to calculate diameter of multi-stemmed trees. Stem Diameter may be estimated where access is restricted and denoted by '#'.
5. Protection Multiplier is 12 and is the number used to calculate the tree's protection radius and area
6. Protection Radius is a radial distance measured from the trunk centre.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat refers to (British Standard 5837:2012 section 4.5) and refers to tree/group quality and value; 'A' – High, 'B' - Moderate, 'C' - Low, 'U' - Unsuitable for retention. The following colouring has been used on the site plans:
 - High Quality (A) (Green),
 - Moderate Quality (B) (Blue),
 - Low Quality (C) (Grey),
 - Unsuitable for Retention (U) (Red)
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservational, Historic and Commemorative.
12. Useful Life is the tree's estimated remaining contribution in years.



Site: 1a Wadham Gardens
Date: 22/11/21, 15/04/24

Appendix 1

Landmark Trees Ltd
020 7851 4544
Surveyor(s): Ross Gamblin & Adam Hollis
Ref: API_1aWDG_AIA

BS5837 Tree Constraints Survey Schedule

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
1	Sycamore	10	5555	4.0	500	Mature	6.0	Normal	Good	B	2	>40	Remote survey only (RS) Restricted rooting N & W Unsuitable species for position long term; between houses. Of good form and condition
2	Cherry, Tibetan	5	1.5	2.0	100	Semi-mature	1.2	Moderate	Fair	C	2	>40	Remote survey only (RS) Forming part of wider boundary screening
3	Plane, London	14.5	6	2.5	350	Semi-mature	4.2	Normal	Good	B	2	>40	A tree with insignificant defects Pollarded, LPA managed Tree under cyclical reduction regime
4	Plane, London	15.5	5	4.5	790	Mature	9.5	Normal	Good	B	1	>40	Pollarded On cyclical reduction regime LPA managed, A tree with insignificant defects
5	Hawthorn, Common	4.5	2	1.0	283	Mature	3.4	Poor	Fair	C	2	<10	Decay in base Ivy smothered Low live crown ratio, tip dieback, wounds / decay on stem
6	Cypress, Hinoki	5	1.5	1.5	283	Early Mature	3.4	Normal	Good	B	1	40+	Remote survey only (RS)



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Appendix 1

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BS5837 Tree Constraints Survey Schedule

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Stem Diamete	Age Class	Protection Radius	Growth Vitality	Structural Condition	B.S. Cat	Sub Cat	Useful Life	Comments
7	Oak, English	8	3	3.0	120	Young	1.4	Normal	Good	C	2	20+	Unsuitable species for position In raised bed. Consented for felling under Camden Planning Ref: 2024/2772/T

APPENDIX 2

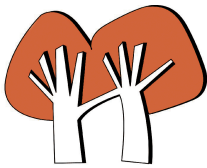
RECOMMENDED TREE WORKS

Notes for Guidance:

Husbandry 1 - Urgent (ASAP), 2 - Standard (within 6 months), 3 - Non-urgent (2-3 years)

- CB - Cut Back to boundary/clear from structure.
- CL# - Crown Lift to given height in meters.
- CT#% - Crown Thinning by identified %.
- CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs)*.
- CR#% - Crown Reduce by given maximum % (of outermost branch & twig length)
- DWD - Remove deadwood.
- Fell - Fell to ground level.
- FInv - Further Investigation (generally with decay detection equipment).
- Pol - Pollard or re-pollard.
- Mon - Check / monitor progress of defect(s) at next consultant inspection which should be <18 months in frequented areas and <3 years in areas of more occasional use. Where clients retain their own ground staff, we recommend an annual in- house inspection and where practical, in the aftermath of extreme weather events.
- Svr Ivy / Clr Bs - Sever ivy / clear base and re-inspect base / stem for concealed defects.

*Not generally specified following BS3998:2010



Landmark Trees

Site: 1a Wadham Gardens

Date: 22/11/21, 15/04/24

Appendix 2

Surveyor(s): Ross Gamblin & Adam Hollis

Ref: API_1aWDG_AIA

Recommended Tree Works

Hide irrelevant
Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
5	Hawthorn, Common	C	4.5	1.0	2	FInv	Decay in base Ivy smothered Low live crown ratio, tip dieback, wounds / decay on stem Recommended husbandry 2
7	Oak, English	C	8	3.0	3	Fell(ed) Consented for felling under Camden Planning Ref: 2024/2772/T	Unsuitable species for position In raised bed Recommended husbandry 3

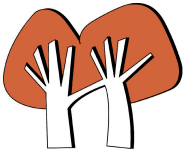
APPENDIX 3

RECOMMENDED TREE WORKS TO FACILITATE DEVELOPMENT (See Table 1)

Notes for Guidance:

- RP - Pre-emptive root pruning of foundation encroachments under arboricultural supervision.
- CB - Cut Back to boundary/clear from structure.
- CL# - Crown Lift to given height in meters.
- CT#% - Crown Thinning by identified %.
- CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs)*.
- CR#% - Crown Reduce by given maximum % (of outermost branch & twig length)
- DWD - Remove deadwood.
- Fell - Fell to ground level.
- FInv - Further Investigation (generally with decay detection equipment).
- Pol - Pollard or re-pollard.
- Mon - Check / monitor progress of defect(s) at next consultant inspection which should be <18 months in frequented areas and <3 years in areas of more occasional use. Where clients retain their own ground staff, we recommend an annual in- house inspection and where practical, in the aftermath of extreme weather events.
- Svr Ivy / Clr Bs - Sever ivy / clear base and re-inspect base / stem for concealed defects.

*Not generally specified following BS3998:2010



Landmark Trees

Site: 1a Wadham Gardens

Date: 22/11/21, 15/04/24

Appendix 3

Surveyor(s): Ross Gamblin & Adam

Ref: API_1aWDG_AIA

Recommended Tree Works To Facilitate Development

Hide irrelevant

Show All Trees

Tree No.	English Name	B.S. Cat	Height	Ground Clearance	Crown Spread	Recommended Works	Comments/ Reasons
7	Oak, English	C	8	3.0	3	Fell(ed) Consented for felling under Camden Planning Ref: 2024/2772/T	Unsuitable species for position In raised bed

APPENDIX 4: TREE SELECTION FOR URBAN LOCATIONS

Table A4.1: Small Ornamental Tree Species

Common Name	Species	(Columnar Form for discrete usage)
Hawthorn	<i>Crataegus monogyna</i>	Stricta
Cockspur	<i>Crataegus prunifolia</i>	Splendens
Cherry	<i>Prunus x hillieri</i>	Spire
Bird cherry	<i>Prunus padus</i>	Albertii
Rowan / Mountain ash	<i>Sorbus aucuparia</i>	Cardinal Royal
Swedish whitebeam	<i>Sorbus intermedia</i>	Brouwers
B. whitebeam	<i>Sorbus x thuringiaca</i>	Fastigiata

Table A4.2: Medium Specimen Tree Species

Common Name	Species	(Columnar Form for discrete usage)
Chinese red bark birch	<i>Betula albosinensis</i>	Fascination
Mongolian lime	<i>Tilia mongolica</i>	
Hornbeam	<i>Carpinus betulus</i>	Fastigiata Frans Fontaine
Turkish hazel	<i>Corylus columna</i>	
Maidenhair tree	<i>Ginkgo biloba</i>	
Pride of India	<i>Koelreuteria paniculata</i>	Fastigiata
European larch	<i>Larix decidua</i>	Sheerwater Seedling
Tulip tree	<i>Liriodendron tulipifera</i>	Fastigiata

Table A4.3: Larger Specimen Tree Species

Common Name	Species	(Columnar Form for discrete usage)
English oak	<i>Quercus robur</i>	f. Koster
American elm	<i>Ulmus americana</i> Princeton	
Cedar of Lebanon	<i>Cedrus libani</i>	



Landmark Trees

PART 3 – PLANS

PLAN 1**TREE CONSTRAINTS PLAN**

PLAN 2**ARBORICULTURAL IMPACT ASSESSMENT PLAN (S)**

- i. Ground Floor

