TIM MOYA ASSOCIATES

Arboricultural Report

for planning purposes

31 Redington Road
Hampstead
London
NW3 7QY

June 2022

220542-PD-11

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1 INTRODUCTION

Instruction

1.1 This *Arboricultural Report* (the 'Report') has been instructed by *the homeowners of 31 Redington Road* (the 'Client').

Author

1.2 This Report was written by Christopher Wright (the 'Author'). Christopher is an arboricultural consultant dealing with trees in relation to all forms of human activity including built development. He is a *Technician Member* of the *Arboricultural Association*, a member of the *Royal Forestry Society*, a member of the *Institute of Chartered Foresters*, holds the *Level 6 Diploma in Arboriculture (ABC)*, the *Professional Tree Inspection certificate* (*LANTRA*), and has received a *BSc (Hons) Conservation and Environment* (2:1) from *Writtle University College*.

Proposed development

1.3 The proposed development at *31 Redington Road* ('the Site') is for the re-design of the frontage to the property to include a re-aligned step access to the lower ground floor and the construction of a bin store plus cycle parking ('the proposed development'), within the area administrated by the *London Borough of Camden* ('the LPA').

Scope

1.4 This Report has been provided to assist all parties involved in the planning process, in accordance with *British Standard 5837:2012 - Trees in relation to design demolition and construction - Recommendations* ('BS5837').

Site survey

1.5 The Site was visited, and the trees and other vegetation surveyed, referring to the recommendations of BS5837, on 24th of May 2022 by the Author. The details of this survey are found within the Report appendices.

1.6 The survey was not an assessment of the health and safety of the trees. However, any trees identified as a current notable risk to people and property will have been highlighted in the schedules, at Appendix B.

Map 1: *Showing the area discussed in this Report within the indicative line.*

Report preparation

External documents

1.7 This Report has been prepared, with reference to the following supplied documents and information:

- *SB6122 Topographical Survey*;
- *Proposed Lower Ground Floor*; and
- *Proposed Ground Floor*.

Appendix

1.8 The appendices of this Report include:

- Appendix A (plans); and
- Appendix B (schedules).

Definition of terms

1.9 The following terms and abbreviations may be used within this Report. These terms are defined by BS5837 as follows, unless provided without quotation marks:

- **Arboricultural Method Statement ('AMS')** - "*methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained*".
- **Local Planning Authority ('LPA')** - the planning department of the borough, district, or metropolitan council.

- **Root Protection Area ('RPA')** - "*layout design tool indicating 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 structure is treated as a priority*.
- **Service(s)** - "*any above- or below-ground structure or apparatus required for utility provision*" that may for example include "*drainage, gas supplies, ground source heat pumps, CCTV and satellite communications*".
- **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*".

2 SITE INFORMATION

Current Site use

2.1 The Site currently comprises a detached dwellinghouse that is in the process of being completely refurbished (see Photo 1 and Photo 2 below).

2.2 The dwellinghouse is set at a lower level than the public highway, with steps leading down to the front door at the lower ground floor level (with soil held back by a retaining wall at this lower ground floor level).

2.3 The rear garden is similarly at a slightly lower level than the dwellinghouse, which is held up by retaining walls to the south (where the hill that falls south-westwardly further descends).

Photo 1: *Looking west towards the Site, showing T2 (centre-right) as a point of reference.*

Geotechnical information

British Geological Survey

2.4 The *British Geological Survey* ('BGS') provides on-line information, regarding the general soil properties of an area, including the underlying bedrock and any superficial deposits that overlay the bedrock. This information indicates that the Site is situated upon a bedrock of *Claygate Member* (comprised of clays, sands, and silts), over which no superficial deposits are recorded.

2.5 There are no publicly available borehole logs within or adjacent to the Site that are provided by the BGS.

Root morphology

2.6 Soils where the clay content is significant will tend to encourage tree root growth at shallower depths - often, within the upper 600mm of soil[1]. Where other soil components are present to greater extents, root morphology may differ, though impermeable layers of heavy compacted clay may restrict penetrative root growth, which may influence how far roots radiate from the stem of the tree to acquire nutrients.

Photo 2: *Looking south-west towards the Site, showing T2 (right) as a point of reference.*

1 - Forestry Commission. (2005) Information Note FCN078 - The influence of soils and species on tree root depth.

3 TECHNICAL ARBORICULTURAL DETAILS

Landscape details

Distribution

3.1 The surveyed trees are located to the front of the Site (i.e., T1 & T2 - the latter of which is within the public footpath), within the rear garden (i.e., T9), and within adjacent rear gardens that back-on to the Site (i.e., T3-T8).

Visibility

3.2 Considering the bulk of the dwellinghouses along *Redington Road*, the trees to the rear of the Site are only visible by way of partial glimpses between buildings. Therefore, the most visible (and the most prominent) tree is the mature horse chestnut that is growing within the public footpath (i.e., T2 - see Photo 1 and Photo 2 above, and Photo 3 below), though the sycamore tree (i.e., T1 - see Photo 4 below) growing on the opposite side of the road is also very prominent.

Photo 3: *Looking south-east towards the front of the Site, showing T2 (left) as a point of reference.*

3.3 T2 is part of a number of trees growing along *Redington Road* within the footpath and inside front gardens, which combined create an avenue effect (i.e., a tree-lined street)

- particularly, further west of the Site, which is enclosed by canopy to a greater extent than to the east (see Photo 5 below).

BS5837 details

Survey criteria

3.4 The surveyed trees and other vegetation items have been generally categorised, in terms of the arboricultural and landscape criteria as defined in BS5837. These criteria consider the arboricultural merits of individual trees, in addition to the wider value afforded in contributing to the character of the landscape.

BS5837 categorisation

3.5 In BS5837 terms, the surveyed trees and other forms of vegetation comprise:

- *Category B* (i.e., moderate-quality): 5no. trees; and
- *Category C* (i.e., low-quality): 4no. trees.

Root Protection Areas

3.6 Based on the ground conditions of the Site that includes the known or foreseeable presence of buried structures, in addition to the context within which the surveyed trees and other vegetation items are growing (including in relation to the age of the trees), the standardised circular RPAs have not been amended.

Statutory protections

Conservation Areas

3.7 The LPA publishes details of its *Conservation Areas* ('CAs') online. According to this information, the Site is within the *Redington and Frognal* CA, which affords a baseline level of protection to the surveyed trees, under the relevant provisions of *The Town and Country Planning (Tree Preservation)(England) Regulations 2012*.

Tree Preservation Orders

3.8 The LPA have confirmed via email (dated 16th of June 2022) that there are no *Tree Preservation Orders* ('TPOs') that apply to any of the surveyed trees.

Photo 4: *Looking north along Redington Road, showing T1 (far right) and T2 (front left), as points of reference.*

4 PLANNING POLICY AND GUIDANCE

National

Background information

4.1 Planning policy at national level is set out in the government's *National Planning Policy Framework* (the 'NPPF')[2] that was published in July 2021.

4.2 At this level, policy addresses the key principles of development. At its core, there is a presumption in favour of sustainable development incorporating good and durable design, by combining economic, social, and environmental strands in a balanced manner. Trees comprise an element of green infrastructure, which is one aspect of the environmental strand of sustainability.

National Planning Policy Framework 2021

4.3 In the context of the proposed development, the NPPF provides the following guidance that is relevant in terms of the surveyed trees:

- **Paragraph 131** - "*Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.*"
- **Paragraph 174** - "*Planning policies and decisions should contribute to and enhance the natural and local environment by: ... b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services including the economic and other benefits of ... trees and woodland*".

Greater London

Background information

4.4 Planning policy at the *Greater London* level is set out in *The London Plan* (the 'LP'). The current iteration of the LP was published, in March 2021.

2 - Ministry of Housing, Communities and Local Government (2021). National Planning Policy Framework.

London Plan 2021

4.5 In the context of the proposed development, the LP provides the following guidance that is relevant in terms of the surveyed trees:

- **Policy G1 Green Infrastructure** - "*London's network of green and open spaces, and green features in the built environment, should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits*".
- **Policy G7 Trees and Woodlands** - "*Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy*".

Local

Background information

4.6 Planning policy at the local level is currently set out in the LPA's *Camden Local Plan* (the 'LDP'), published in 2017.

Camden Local Plan 2017

4.7 In the context of the proposed development, the current LDP provides the following guidance that is relevant in terms of the surveyed trees:

- **Policy D1: Design** - "*The Council will seek to secure high quality design in development. The Council will require that development: ... k. incorporates high quality landscape design (including public art, where appropriate) and maximises opportunities for greening for example through planting of trees and other soft landscaping*";
- **Policy D2: Heritage** - "*The Council will: e. require that development within conservation areas preserves or, where possible, enhances the character or appearance of the area; ... g. resist development outside of a conservation area that causes harm to the character or appearance of that conservation area; and h. preserve trees and garden spaces which contribute to the character and appearance of a conservation area*"; and
- **Policy A3: Biodiversity** - "*The Council will protect, and seek to secure additional, trees and vegetation. We will: j. resist the loss of trees and vegetation of significant*

amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees ... [and] l. expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development".

Redington and Frognal Conservation Area Statement 2000

4.8 The CA within which the Site is located has been appraised by the LPA, within the *Redington and Frognal Conservation Area Statement 2000* document (the 'CAA'); and it places the Site within *Sub-Area 4* ('SA4') of the CA, which is the *Redington Road & Templewood Avenue* area.

4.9 As regards trees, the CAA recognises that "*mature trees and vegetation form the dominant features of the street scene"*, within its introduction (i.e., this observation applies to the entire CA). In terms of SA4, the CAA reiterates that the Site is "*set in a mature landscape*" and places value on the "*street trees of a number of varieties including... chestnut*" (note: T2 is a mature horse chestnut street tree).

4.10 The CAA also includes some CA-specific policies, including the below that directly affects trees:

- **Policy RF35** - "*All trees which contribute to the character or appearance of the Conservation Area should be retained and protected. Developers will be expected to incorporate any new trees sensitively into the design of any development*".
- **Policy RF37** - "*Applications for development should take into account the possible impact on trees and other vegetation, and state clearly whether any damage/removal is likely and what protective measures are to be taken to ensure against damage during and after work.*"

Neighbourhood

4.11 Planning policy at the local level is currently set out in the *Redington Frognal Neighbourhood Plan* (the 'NDP'), published in 2021.

Redington Frognal Neighbourhood Plan 2021

4.12 In the context of the proposed development, the current NDP provides the following guidance that is relevant in terms of the surveyed trees:

4.13 **Policy SD2: Redington Frognal Conservation Area** - "*New developments must preserve or enhance the green garden suburb character and appearance of the Conservation Area. This includes retention of... trees, hedges and the open garden suburb character created by well-vegetated front, side and rear gardens.*"

4.14 **Policy SD4: Redington Frognal Character** - "*Development, including redevelopment, should complement the distinctive character of the Redington Frognal area and the immediate site context. This includes consideration of all of the following, as appropriate: ... viii. Landscaping should be an integral part of the design and layout of development and should include trees and other planting using species with a high value to biodiversity*".

4.15 **Policy BG12: Tree Planting and Preservation** - "*i. Trees should be retained and incorporated in any development. Where felling is required, on grounds of safety or because it is an invasive species, supported by a suitably qualified expert, one or more trees should be planted in replacement, unless it can be demonstrated to the Council's satisfaction that replacement planting is not appropriate.*"

Photo 5: *Looking north-west along Redington Road, showing T1 (centre) as a point of reference.*

5 ARBORICULTURAL IMPACT ASSESSMENT

Removals

5.1 The proposed development does not specify the removal of any of the surveyed trees.

Mitigation greening

5.2 The proposed development does not include the planting of any new trees, given that no trees are specified for removal.

Pruning

5.3 The proposed development does not specify the pruning of any of the surveyed trees.

Retained tree juxtapositions

5.4 In relation to the retained trees, the proposed development does not place any increased pressure upon them that may result in inappropriate management (e.g., major branch removal or heavy pruning) - in particular, this includes T2, which is not considered to be at any greater management pressure than is currently the case. The proposed development is therefore considered to be acceptable, regarding its juxtaposition to the retained trees.

Construction works

5.5 The indicative TPP at Appendix A sets out the specifications for tree protection that are associated with the implementation of the proposed development, based on the details that are currently available. This TPP includes an outline AMS, which provides some baseline information relating to the installation and management of tree protection measures.

5.6 Of particular note is the box protection that is specified around the stem of T2, which will protect it from damage as may otherwise be caused by materials colliding or striking its stem. The appropriate permissions will be required from the LPA to permit the installation of box protection, though its inclusion as part of the tree protection process is necessary.

Step realignment works

5.7 The realignment of the step access down to the front entrance of the dwellinghouse involves the partial demolition of the existing steps, as well as the construction of a new section of steps connecting from the east. This connection, in addition to some of the new step access, affects the RPA of T2 - specifically, at its closest, it is approximately 5.4m away from its stem, and overall it affects approximately 3% of the total area of the RPA.

5.8 Combined, there is unlikely to be any significant risk of harm occurring to the roots of this tree as associated with alterations to the step access, though this does assume that the works are undertaken in a particular manner (as discussed below). These principles will need to be further expanded upon within a detailed AMS, which can be provided in response to a suitable planning condition.

5.9 Primarily, it is assumed that all works are to be undertaken manually (i.e., with hand tools and with solely pedestrian access). The basis of this assumption is that Site levels are restrictive to access for plant, though the nature of the works are also such that dexterity and precision are required, to ensure that the risk of harm to T2 remains appropriately controlled.

5.10 Where pedestrian access is required over soft surfaces, ground protection will likely be necessary; though, levels may be prohibitive to this and as a consequence of this the AMS will need to address the approach to ground protection.

5.11 With regard to the demolition of the existing higher step element and its alteration to soft surface (as highlighted on the TPP - see also Photo 6 below), works in this area will need to be undertaken in a manner that avoids any excavations into the soil beneath sub-base elements, and subsequently ensuring that the area is back-filled with topsoil so that it aligns with adjacent soil levels. It may in fact be preferable to bury sub-base elements with topsoil, rather than removing them, though this does not particularly affect T2 and is a matter that ought to be considered more holistically. Either way, this will ensure that any roots of T2 are not affected by works.

Photo 6: *Looking up the existing steps towards T2 (left - behind the timber hoarding).*

5.12 As for the construction of the step element and the alterations to some of the existing steps to facilitate this new connection, the process is in comparison more complex and requires a series of carefully-completed working operations - specifically, the construction of the new step element down to the formation level (whilst avoiding lateral disturbances beyond its specified dimensions) and the amendment of the existing stairs to be in total alignment with this new connection.

5.13 In terms of the construction of the new step element, it is not feasible for it to be designed in a manner that avoids excavation into the existing soil, because levels need to be reduced (by up to 1000mm). Therefore, there is a risk of harm to tree roots of T2, though as noted above this risk is unlikely to be significant (due to the distance from its stem, in particular; and also because the existing step foundations may be acting a deflector or barrier to roots, though this is not substantiated at this time).

5.14 However, it is nonetheless necessary for the works to be undertaken manually, ensuring that all roots uncovered that are in excess of 25mm diameter are retained up until the point where the arboriculturist visits to review the situation. Upon this visit, the approach to the management of individual roots will be devised, with the arboriculturist recording all details and advising on whether roots are pruned or incorporated into designs in an appropriate manner.

5.15 With regard to the alteration of the existing steps at the connection point (i.e., where the steps shift from northward to eastward), the premise here will be for any existing sub-base and foundation elements to be retained, ensuring that this area is altered in a manner that avoids further downward excavations (unless it is first demonstrated that no roots in excess of 25mm diameter will be affected). This is considered to be feasible, subject to the careful design of any new foundation elements for the step walls (e.g., cantilevering or stepping-off from adjacent foundation elements).

Bin and cycle store construction

5.16 The construction of the combined cycle and bin store area to the front of the dwellinghouse involves the partial demolition of the existing wall, as well as the construction of a new piled structure upon which structures will sit (including new gates and extended piers). This affects the RPA of T2 - specifically, at its closest, it is approximately 1.5m away from its stem, and overall it affects approximately 6% of the total area of the RPA (i.e., a total of 9%, considering the 3% encroachment for the steps as per paragraph 5.7).

5.17 Combined, there is unlikely to be any significant risk of harm occurring to the roots of this tree as associated with the required demolition and construction activities, though this does assume that the works are undertaken in a particular manner (as discussed below). These principles will need to be further expanded upon within a detailed AMS, which can be provided in response to a suitable planning condition.

5.18 Primarily, it is once again assumed that all works are to be undertaken manually (i.e., with hand tools and with solely pedestrian access). The basis of this assumption is that Site levels are restrictive to access for plant, though the nature of the works are also such that dexterity and precision are required, to ensure that the risk of harm to T2 remains appropriately controlled.

5.19 Where pedestrian access is required over soft surfaces, ground protection will likely be necessary; though, levels may be prohibitive to this and as a consequence of this the AMS will need to address the approach to ground protection.

5.20 With regard to the demolition of the boundary brick wall element (as highlighted on the TPP), works in this area will need to be undertaken in a manner that avoids any excavations into the soil beneath its foundation element, and subsequently ensuring that the area is back-filled with topsoil so that it aligns with adjacent soil levels (note: the area may only be back-filled partially if at all, to create the new formation level for the bin and cycle store - this isn't an issue, in as much as the soil below this foundation element is not disturbed).

5.21 In terms of the construction of the foundations of the bin and cycle store, the only realistic means of delivering a flat base onto which the slab structure will be positioned

is by using screw piles that protrude above the existing ground levels (given the steep angle at which the ground levels rise - see Photo 7 below). Consequently, this is the approach that is to be used.

5.22 As a baseline, the use of screw piles greatly reduces the risk of harm to tree roots, because piles are isolated structures and can usually be positioned so that they do not strike tree roots (contrary to strip foundations that are continuous structures, for example). In this instance, in order to reduce the risk of harm to T2 to an almost negligible level, all roots in excess of 25mm diameter will need to be retained (i.e., by positioning piles at locations that avoids such roots) - this will necessitate prior ground investigations with the arboriculturist present, before the setting-out process in finalised, to ensure that this principle of protection can be adhered to absolutely. It will also be necessary for pile locations to be flexible, in the event that a rigid grid-based system affects tree roots.

Photo 7: *Looking up towards the area where the bin and cycle store is proposed, showing the level rise (with T2 behind the timber hoarding).*

5.23 Assuming that all piles are set at locations that avoid such tree roots, the process of installing the piles will require inly the use of a pneumatic handheld device; after which point the slab (or decking) structure will be manually constructed onto these piles and

at no point will it be set into the existing soil (i.e., the formation level is upon or slightly above the current soil level).

5.24 Currently, the finishing details of the base slab are not understood to be confirmed, though if concrete is to be used then it will need to be poured into a former under oversight by the arboriculturist, to ensure that no spillage occurs (noting that liquid cement is phytotoxic). Generally, this element of the process carries little risk, in as much as the piles are set at agreed locations to avoid tree roots as specified.

5.25 As regards the fixing of the gates into position, this will require them to be fixed onto the adjacent brick piers. Currently, these piers are too low to permit this, though they are specified to be increased in height (to facilitate this). Again, insofar as this height increase does not require deeper foundations than what currently exists, there is no risk of harm to the roots of T2 (as all works are confirmed to areas where structures are already in place). It is assumed that this is possible, given the required works are light in nature.

Services and utilities

5.26 At this stage of the planning process, details pertaining to the location of new service runs and any required access to existing runs are not established. In this context, it is not possible to determine the level of impact of this element of the designs to the retained trees. Though, it is unlikely that new services will be required, given that the proposed development does not intend to modify the dwellinghouse and all works specified do not absolutely require new service runs.

5.27 In the eventuality that access to existing service runs or to install new service runs involves work operations within the RPA of the retained trees, the impact to the trees can be managed by following the recommendations of BS5837, which includes as a normative reference the *National Joint Utilities Guidance*[3].

Planning policy considerations

National

5.28 The proposed development carries a low risk of significant harm occurring to the street trees that are adjacent to the Site (in particular, T2 - Paragraph 131 as per paragraph 4.3). Therefore, the benefits are provided by trees are sustained (Paragraph 174).

London

5.29 Green infrastructure (i.e., the trees, in this instance) are able to be protected to a sufficient degree and are subject to a low risk of significant harm, in the context of the proposed development (Policy G1 - as per paragraph 4.5). No trees are specified for removal (Policy G7).

3 - NJUG. (2007) Volume 4: Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees - Issue 2. UK: National Joint Utilities Group.

Local

5.30 The proposed development protects the character of the CA, given that it considers the necessary protection of the surveyed trees (again, specifically T2 - Policies A3 and D2 as per paragraph 4.7). Because no trees are specified for removal, it isn't deemed necessary for new tree planting to be included within the proposed development (Policy D1).

Neighbourhood

5.31 The proposed development, in arboricultural terms (given all trees are being retained), does not affect the character of the CA (Policies SD2 and SD4 as per paragraph 4.12). Notably, the roots of and the soil space used by T2 can be successfully incorporated into the Site in its proposed development form (Policy BG12).

6 CONCLUSIONS

6.1 The proposed development does not specify the pruning or removal of any of the surveyed trees.

6.2 The proposed development generally carries a low risk of significant harm to the surveyed trees, subject to compliance (and further refinement to) with the principles of this Report - particularly, in the case of T2, which is the mature horse chestnut within the public highway.

6.3 In order to ensure that this low risk is sustained, this Report recommends that an AMS be provided in response to a suitable planning condition. This AMS will, as stated above, develop upon the principles as set out in this Report, ensuring that the necessary works are undertaken to deliver a successful tree protection specification.

7 APPENDICES CONTENTS

APPENDIX A - Plans

- 220542-P-10 Tree Survey
- 220542-P-11 Proposed Layout
- 220542-P-12 Tree Protection Plan

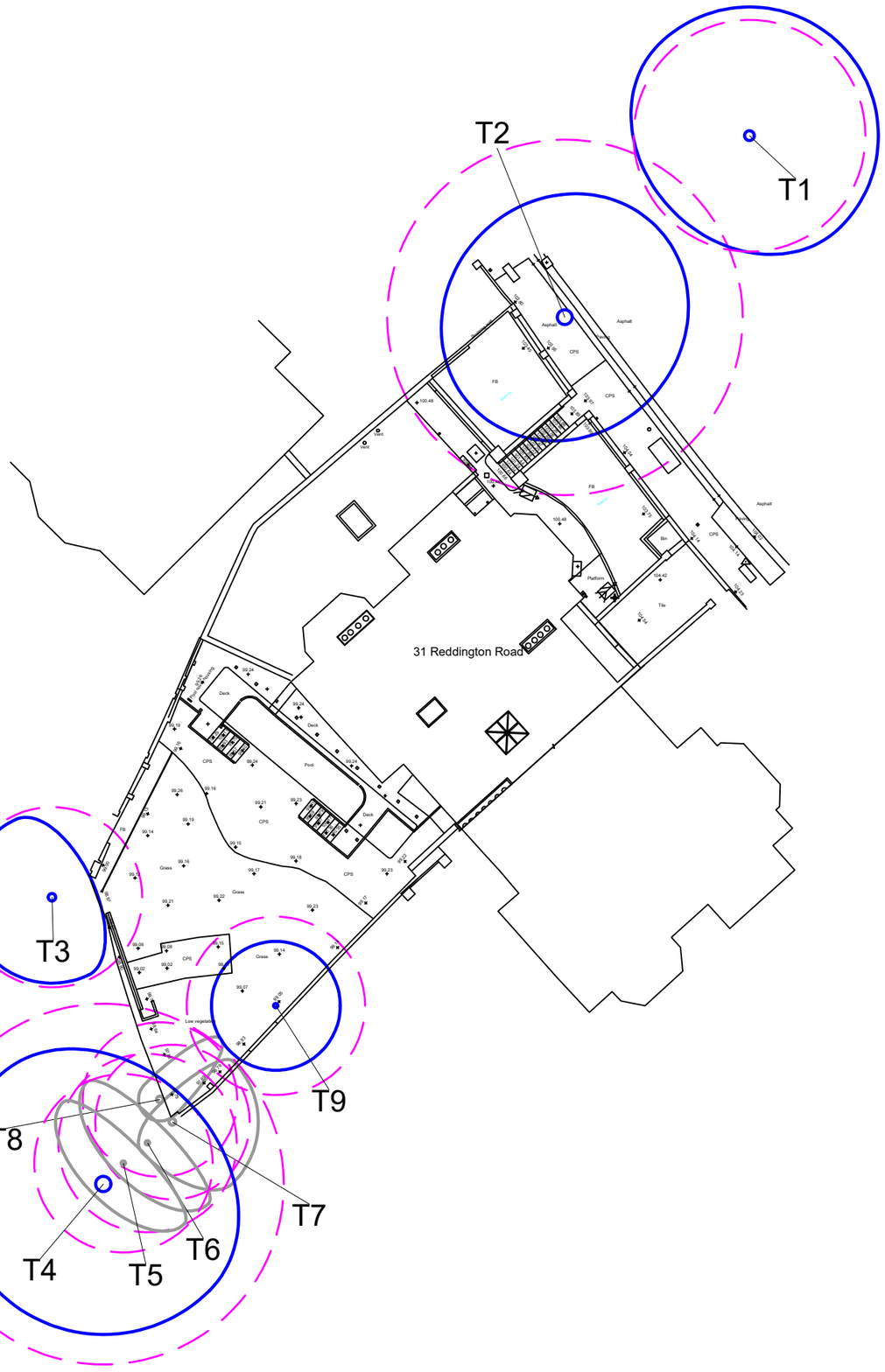
APPENDIX B - Schedules

- 220542-PD-10 Tree Schedule

APPENDIX A - Plans

- 220542-P-10 Tree Survey
- 220542-P-11 Proposed Layout
- 220542-P-12 Tree Protection Plan

0 1m 5m 10m 15m 20m 25m



BS 5837:2012 TREE RETENTION CATEGORIES

NORTH

Canopy spread (m)
Tree Stem
T1 — Unique tree identification number
Root Protection Area (RPA)

Group canopy extents shown in their retrospective retention category.
G2 — Unique group identification number
Root Protection Area (RPA)

Category A
Trees and groups of high quality with an estimated remaining life expec
least 40 years.

Category B
Trees and groups of moderate quality with an estimated remaining life e
of at least 20 years.

Category C
Trees and groups of low quality with an estimated remaining life expecta
least 10 years or young trees with a stem diameter below 150mm.

Category U
Those in such a condition that the tree cannot realistically be retained a
trees in the context of the current land use for longer that 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be p
All works within these areas will require special methods of work.

rev	date	description	drawn by
-	xx.xx.xx	-	xx

Base Drawing: TOPO

Title
Tree Survey

Client
Home owner of 31 Reddington Road

Project
31 Redington Road, Hampstead, London, NW3 7QY

Date	Drawn by	Authorised
May 2022	HR	CW

Drawing No	Rev	Scale
220542-P-10	-	1:250@A3

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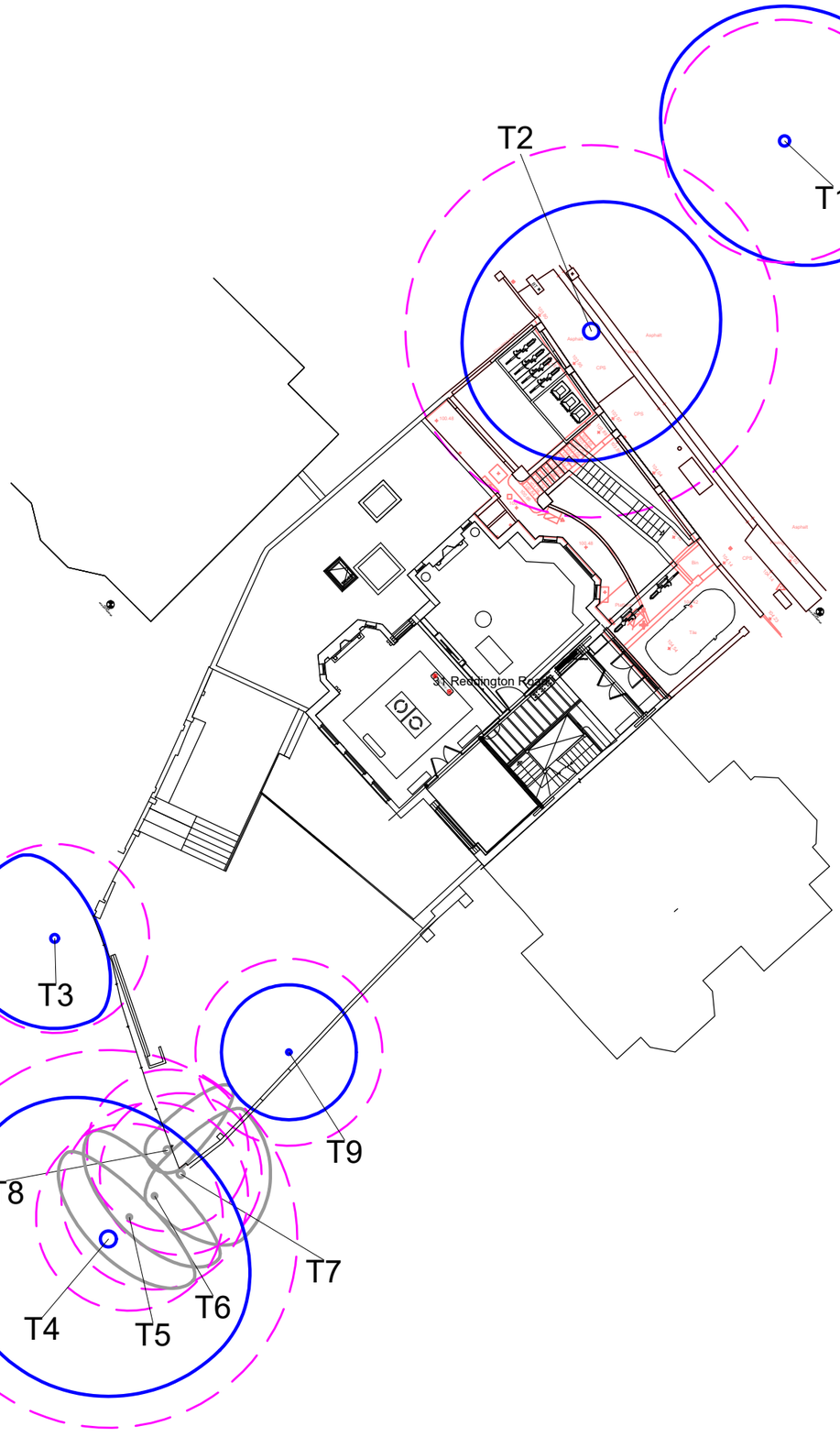
arboriculture ecology landscape innovation

0 1m 5m 10m 15m 20m 25m



BS 5837:2012 TREE RETENTION CATEGORIES

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BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be p
All works within these areas will require special methods of work.

rev	date	description	drawn by
-	xx.xx.xx	-	xx

Base Drawing: P002-Proposed Ground floor_Revised proposal

Title
Proposed Layout emovals

Client
Home owner of 31 Reddington Road

Project
31 Redington Road, Hampstead, London, NW3 7QY

Date	Drawn by	Authorised
June 2022	HR	CW

Drawing No	Rev	Scale
220542-P-11	-	1:250@A3

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ARBORICULTURAL METHOD STATEMENT

TREE WORKS

Only the tree works specified within this report may be undertaken, after the appropriate planning consents have been acquired and in order to implement the consent. In the event of any uncertainty regarding tree works, the arboriculturist will be consulted and where appropriate the Local Planning Authority.

All tree works will be undertaken, in accordance with the best-practice recommendations provided in BS 3998:2010. The statutory responsibilities as outlined in the Wildlife and Countryside Act 1981 (as amended) and the Habitat Regulations 2010 will also be complied with.

TREE PROTECTION FENCING

The tree protection fencing and (where appropriate) ground protection, will be installed as specified within this plan, prior to the commencement of any demolition and construction works. No plant or materials will be delivered to site prior to the construction of the tree protective fencing other than those required to install the tree protection fencing. On every third panel, a sign will be fixed that states "*Tree Protection Zone (CEZ). Keep out. Any incursion into this area must be agreed in advance with the arboriculturist and Local Planning Authority*." An example of this sign is provided within this plan.

The position of the tree protection fencing must not be amended and no individual panels will be uncoupled, without the agreement of the arboriculturist and/or Local Planning Authority.

SERVICES AND DRAINAGE

The installation of drainage runs, manholes, storage tanks, and utilities will be positioned outside the root protection areas of retained trees. If the installation of new services and drainage runs are required within the root protection areas (RPAs) of retained trees, all methods of working will follow the guidance within Table 3 of BS 5837 or the National Joint Utilities Group's (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (volume 4, issue 2).

Excavation works within the RPAs of retained trees will be undertaken manually with the use of hand tools only (under the supervision of the arboriculturist), unless otherwise agreed in advance by the arboriculturist. It is recommended that an air lance - and if required a soil vacuum - is used, to excavate service trenches within RPAs. If soil conditions are not suitable for this method of excavation, alternative hand tools can be used once agreed in advance by the arboriculturist.

All roots greater than 25mm in diameter will be retained and will immediately be wrapped in hessian or another appropriate material, to prevent desiccation and temperature fluctuations. Roots will be pushed aside to allow for runs to be installed, where this is practical and without causing root damage.

No machinery will be permitted within the CEZ, at any time, unless agreed in advance with the arboriculturist.

ARBORICULTURAL CLERK OF WORKS

The monitoring of activities at the Site will occur, at the following points:

- To sign-off the tree protection measures;
- To sign-off the tree works;
- At other points as specified within this Report and the TPP.

It will be the responsibility of the main contractor (or other managing individual or organisation) to confirm the date and time of attendance, providing at least five working days of notice so that the project arboriculturist can confirm attendance.

GENERAL PROTECTION METHODS

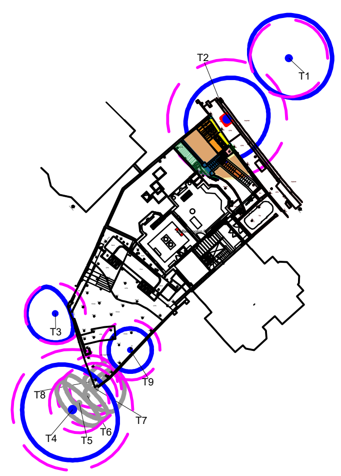
No fires will be permitted, within 20m of the crown of any tree or other area of vegetation that includes hedgerows and groups of trees.

No changes in soil level will occur, within the CEZs and RPAs, without agreement in advance with the arboriculturist.

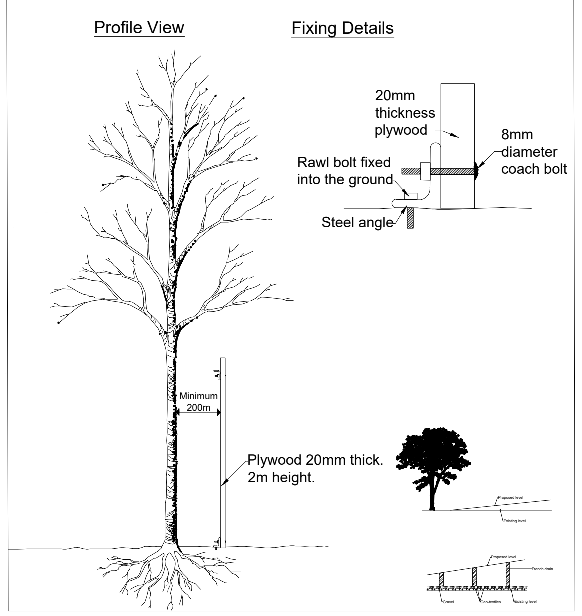
The CEZs will at all times remain free of liquids, materials, vehicles, plant, and personnel, without agreement in advance with the arboriculturist.

Any liquid materials spilled on site will immediately be cleared up. If liquids are spilled within 2m of any CEZ or RPA, the incident will immediately be reported to the arboriculturist, to determine the appropriate response.

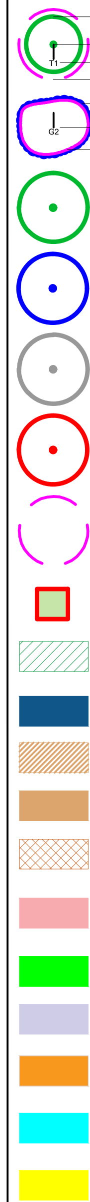
All damage to trees and other vegetation will immediately be reported to the arboriculturist, to determine the appropriate response.



Stem Protection Specification



BS 5837:2012 TREE RETENTION CATEGORIES



- Canopy spread (m)
- Tree Stem
- Unique tree identification number
- Root Protection Area (RPA)
- Group canopy extents shown in their retrospective retention category.
- Unique group identification number
- Root Protection Area (RPA)

Category A
Trees and groups of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees and groups of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees and groups of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer that 10 years.

BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.

Trees requiring box protection.

Existing surface below the retaining walls to remain unaffected by any development works, thoguh this area may be used to store materials temporarily.

Existing structures to remain unaffected by any development works. However, light works to repair/treat the external surfaces are permitted.

Pedestrian access only, if required, using scaffold boards laid upon the surface as ground protection. No excavations to occur into the soil.

Manual works only. Existing sub-base of steps to remain in place - all works confined to the area above this level.

Manual works only. New steps to be excavated to formation level. All exposed roots to be retained by being wrapped in damp hessian, until the point the arboriculturist attends site to review and record. Decisions to be taken on individual roots at this time, as rgeards pruning or retention.

Manual works only. Existing steps and sub-base to be removed. No works beyond formation level. Area to then be back-filled with topsoil to align with adjacent soil levels. Area to be covered with scaffold boards as ground protection, if access is required over this area afterwards.

Manual works only. New wall to be constructed no deeper than any existing sub-base level (e.g., cantilver from adjacent foundation elements).

Manual works only. Existing wall to be removed. No works beyond formation level. Area to be re-levelled to the required level, to align with surrounding finished levels.

Manual works only. New structure to be constructed on small screw piles positioned to avoid tree roots in excess of 25mm diameter (and smaller where feasible). This will require prior ground investigation works that will be undertaken under oversight by the arboriculturist, to document and agree pile positions.

Brick piers to be increased in height. No works beyond the current formation level of the piers, unless otherwise agreed with the arboriculturist following appropriate ground investigations to search for roots.

Manual works only. Gates to be installed so that they swing from adjacent brick piers.

rev	date	description	drawn by
-	xx.xx.xx	-	xx

Base Drawing: P002-Proposed Ground floor_Revised proposal

Title
Tree Protection Plan

Client
Home owner of 31 Reddington Road

Project
31 Redington Road, Hampstead, London, NW3 7QY

Date	Drawn by	Authorised
June 2022	HR	CW

Drawing No	Rev	Scale
220542-P-12	-	1:100@A3

tma
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APPENDIX B - Schedules

- 220542-PD-10 Tree Schedule

220542-PD-10 Tree Schedule

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220542 - 31 Redington Road

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T1	1	Acer pseudoplatanus (Sycamore)	14.0	45	1		6.0		6.0		5.0		6.0	3.0		Mature	Structural condition Good. Physiological condition Good. Off-Site.	24/05/2022	91.6	5.4	40+	B1/B2
Tree T2	1	Aesculus hippocastanum (Horse Chestnut)	15.0	69	1		6.0		5.5		6.0		5.5	3.0	2 SW	Mature	Structural condition Fair. Physiological condition Good. Arboricultural work - Historic. Buttresses / buttress roots - Minor adaptive growth / moderate development. Epicormic growth - Bole / principal stems. Structural impact - Footpath / highway / drive disturbance. Off-Site.	24/05/2022	215.4	8.3	40+	B1/B2
Tree T3	1	Taxus baccata (Yew)	8.0	35	1		2.0		4.0		4.0		4.0	1.0		Early Mature	Structural condition Fair. Physiological condition Good. Form - Spreading crown. Off-Site.	24/05/2022	55.4	4.2	20-40	B2
Tree T4	1	Acer pseudoplatanus (Sycamore)	23.0	70	1		5.5		7.0		7.0		7.0	3.0		Mature	Structural condition Fair. Physiological condition Good. Off-Site.	24/05/2022	221.7	8.4	40+	B1/B2
Tree T5	1	x Cupressocyparis leylandii (Leyland Cypress)	12.0	34 COM	3		1.0		4.0		2.0		4.0	2.0		Mature	Structural condition Poor. Physiological condition Fair. Off-Site. Position estimated - no topographical survey information.	24/05/2022	54.3	4.2	10-20	C2
Tree T6	1	x Cupressocyparis leylandii (Leyland Cypress)	12.0	34 COM	3		1.0		4.0		2.0		4.0	2.0		Mature	Structural condition Poor. Physiological condition Fair. Off-Site. Position estimated - no topographical survey information.	24/05/2022	54.3	4.2	10-20	C2
Tree T7	1	x Cupressocyparis leylandii (Leyland Cypress)	12.0	30	1		4.0		4.0		2.0		1.0	2.0		Mature	Structural condition Poor. Physiological condition Fair. Off-Site. Position estimated - no topographical survey information.	24/05/2022	40.7	3.6	10-20	C2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

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220542 - 31 Redington Road

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T8		x Cupressocyparis leylandii (Leyland Cypress)	12.0	30	1		4.0		1.0		1.0		1.0	2.0		Mature	Structural condition Poor. Physiological condition Fair. Off-Site. Position estimated - no topographical survey information.	24/05/2022	40.7	3.6	10-20	C2
Tree T9	1	Laburnum sp. (Laburnum sp.)	7.0	34 COM	3	3.0		3.0		3.0		3.0		2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Base / stems obscured - Structure. Base / stems obscured - Vegetation. Decay / structural defect - Base. Decay / structural defect - Bole. Ivy or climbing plant.	24/05/2022	54.3	4.2	20-40	B1/B2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

The survey information in this schedule has been gathered following a BS5837 survey for planning purposes. Where hazardous trees have been noted recommendations for works may have been made but this survey cannot be relied upon as a full health and safety assessment of the trees.

Generated By MyTREES tree management software

Table 1 of BS5837 (2012) **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see note)				
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	* Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) * Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline * Trees infected with pathogens of significance to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7			**RED**
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Tree that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricutural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	**GREEN**
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	**BLUE**
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	**GREY**

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