BS 5837 Arboricultural Report

& Impact Assessment

at
133 King Henry's Road
Primrose Hill
London
NW3 3RD

Dated
13th February 2023

CROWN
Tree Consultancy
Branching out through England and Wales

Contents

1. Introduction

1.1. Instruction

1.1.1. We are instructed by Joe Ibbotson to:

- Undertake a Tree Survey to BS 5837 at 133 King Henry's Road and assess all trees potentially within influencing distance of proposed development within the site.
- Plot the trees on a Tree Constraints Plan and record the data in a Tree Data Schedule.
- Provide an overview of the site and any management recommendations.
- Determine if any trees are growing within a conservation area or are protected by a tree preservation order.
- Assess the potential impact of the development proposals and provide guidance as to appropriate mitigation measures.
- Produce an Arboricultural Impact Assessment for submission to the local authority.

1.2. Purpose of this Report

1.2.1. This report is produced according to the guidance and recommendations within *BS 5837: 2012 - Trees in Relation to Design, Demolition, and Construction.* It is tailored to accompany a planning application. It assesses the impact of all proposed construction works on the tree population. Tree removal, canopy pruning, and the impact upon roots from various groundworks are all considered in detail. Best practice mitigation is specified wherever appropriate.

1.2.2. This document should not be used to inform management decisions relating to liability or risk management. Such decisions should be based on a more detailed inspection of the trees than was carried out for this report.

1.3. References

1.3.1. We have liaised with the project architect and our client to attain an adequate understanding of the project to enable us to carry out an accurate assessment of the proposals.

1.4. Survey Details

1.4.1. A visual ground-level assessment of all trees was undertaken on the 28th of May 2021 by Emma Hoyle. No climbed inspections or specialist decay detection were undertaken. Details of how the survey was undertaken can be found in Appendix 1.

1.4.2. The tree locations shown on the accompanying drawings are based on a measured drawing of the site supplied to Crown Tree Consultancy. This drawing had the tree positions already plotted. Where applicable, additional trees have been plotted by us according to measurements taken on-site.

1.5. Author

1.5.1. This report was compiled by Emma Hoyle FDSc (Arboriculture), ED (Forestry & Arboriculture), M. Arbor. A. Details of the author's experience that qualify her to produce such a report are detailed in Appendix 4.

2. Site Overview

2.1. Brief Site Description

2.1.1. Number 133 King Henry's Road is a detached, residential property with a landscaped garden at the rear and a paved area at the front.

2.1.2. The front garden is occupied by paving with a small mixed hedge along the front boundary and a Retention Category B Sycamore tree (T1) growing within a small planter. The front of the property has steps leading to the upper ground floor entrance and steps leading down to a lower ground floor entrance.

2.1.3. The rear garden is generally flat and occupied by a patio at the rear of the dwelling and a rectangular lawn. Planting beds run parallel to the eastern and western boundaries within trees and shrubs growing within. Trees within the rear garden of the property include six Retention Category C trees (T3, T4, T5, T7 and G9) and a Retention Category B Yew tree (T12).

2.1.4. In the adjacent rear gardens is a Retention Category A tree (T10), two Retention Category B trees (T8 and T11), a Retention Category C tree (T6) and a Retention Category U tree (T13). A Retention Category B Horse Chestnut tree (T2) also grows in the neighbouring property at the front. The roots of these trees may extend into the site.

2.1.5. The Tree Constraints Plan and Tree Data Schedule (see Appendix 6) should be referred to for descriptions and locations of all trees.

2.2. Coordinates

2.2.1. The site coordinates are 51°32'30.37"N 0°10'3.18"W, and the altitude is approximately 49m above sea level[1].

2.3. Survey Extent

2.3.1. The area indicated below[2] shows the extent of our survey.

[1] To access satellite imagery and street views of the site these co-ordinates may be entered into: http://maps.google.co.uk/

[2] Image taken from Google Earth and may not be current.

3. Vegetation Overview (independent of proposals)

This section summarises all the recommendations within the Tree Data Schedule regardless of whether trees are to be retained, felled or pruned to facilitate the proposed development. It does not specify works that may be required to facilitate the development proposals.

3.1. Preliminary Management Recommendations

3.1.1. The following recommendations are made in order to maintain the trees in an acceptable condition:

3.1.2. T11 is a mature Oak located in the neighbouring garden to the east. This tree was observed to have small scattered dead branches throughout its canopy and one significant dead branch which overhangs the garden of the subject property (133 King Henrys Road). We recommend the deadwood is removed from the trees canopy to prevent it from falling in windy weather conditions.

3.1.3. T13 is a small dead tree also located within the adjacent neighbouring garden. We recommend this dead tree is removed.

3.1.4. All other trees were deemed to be in satisfactory condition.

3.2. Work Priority and Future Inspections

3.2.1. The table below suggests a schedule for completing the works recommended in the Tree Data Schedule based on the perceived risk:

Work Priority	Definition	Tree Number
Urgent	As soon as possible	None
Very High	Within 1 Month	None
High	Within 3 Months	None
Moderate	Within 1 year	T11 and T13
Low	Within 3 years	None

3.2.2. The table below suggests a schedule of future inspections based on the condition and location of each tree:

Inspection Frequency (years)	Tree Number
0.5	None
1	None
1.5	T4 and T11
3	T1, T2, T3, T5, T6, T7, T8, G9, T10 and T12

3.2.3. The trees should be inspected sooner if there is a noticeable decline in their condition or following extreme weather events.

3.3. Species Present – Additional Information

3.3.1. The table below contains general information about the tree *species* (rather than the actual tree *specimens*) included in the survey. Its purpose is to assist readers who are unfamiliar with the characteristics of the various species.

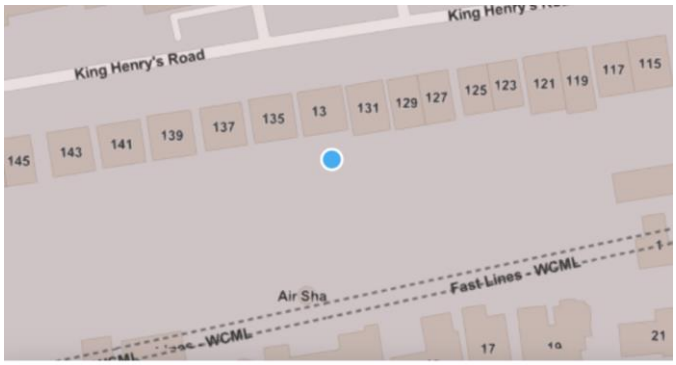
Species	Typical Height at Maturity (m)	Typical Canopy Spread at Maturity (m)	General Notes
Copper Beech	27	20	Purple variety of the common beech. A majestic tree with grey bark and purple leaves. The best forms are grafted though this species does occasionally appear in the wild. Visit http://en.wikipedia.org/wiki/Fagus_sylvatica for more info.
Hawthorn	6	6	Arguably Britain's most common tree due to its abundance in field and roadside hedges. Deciduous, prickly and one of our most hardy trees, it will tolerate almost all conditions including drought, pollution and coastal winds. Also known as Mayflower because of its abundance of white flowers in May. Red 'haws' ripen from September to November and have only one pip (unlike Midland hawthorn which contains 2 pips). Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Crataegus+monogyna for more info.
Horse Chestnut	25	18	Deciduous tree native to Albania and N Greece. Naturalised throughout the UK. Iconic landscape tree. Susceptible to attack by Bleeding Canker, as well as Leaf Miner and Leaf Blotch. Should be inspected regularly if located close to high public use areas. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Aesculus+hippocastanum for more info.
Oak	22	18	Deciduous, long lived tree native and common throughout Europe with very durable timber. Excellent habitat tree - provides food and shelter for thousands of native species. Can be very attractive as a mature open grown specimen though not particularly ornamental, having no autumn colour or showy flowers. Responds well to pruning. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Quercus+robur for more info.
Pear	8	8	Deciduous tree native across Europe and W Asia. Hundreds of cultivars available due to its popular fruit. White flowers in spring along with bright green foliage. More upright growth habit than most apples.
Plum	6	8	Small fruit tree. Many varieties available. Usually white flowering. Fruits may be green, yellow, red or dark purple. Often quite an untidy looking tree.
Sycamore	25	16	Deciduous tree native to S. Europe, widely naturalised in the UK. Often regarded as a weed species due to its invasive nature and ability to tolerate most conditions. Responds well to pruning. Not a good tree to park beneath in summer due to the sticky sap secreted by aphids. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Acer+pseudoplatanus for more info
Yew	14	12	Evergreen species native throughout Europe. Commonly planted in churchyards. Once revered by ancient Britons and though to be the inspiration for our Christmas tree. Capable of remarkable regeneration and extreme longevity. Poisonous foliage and seeds. Slow growing. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Taxus+baccata for more info.

The figures quoted regarding typical height and canopy spread should be treated as approximate. Actual heights and spreads vary according to several environmental factors such as soil conditions, climate, and the presence of competing vegetation. The figures quoted are not the maximum dimensions that the species may attain.

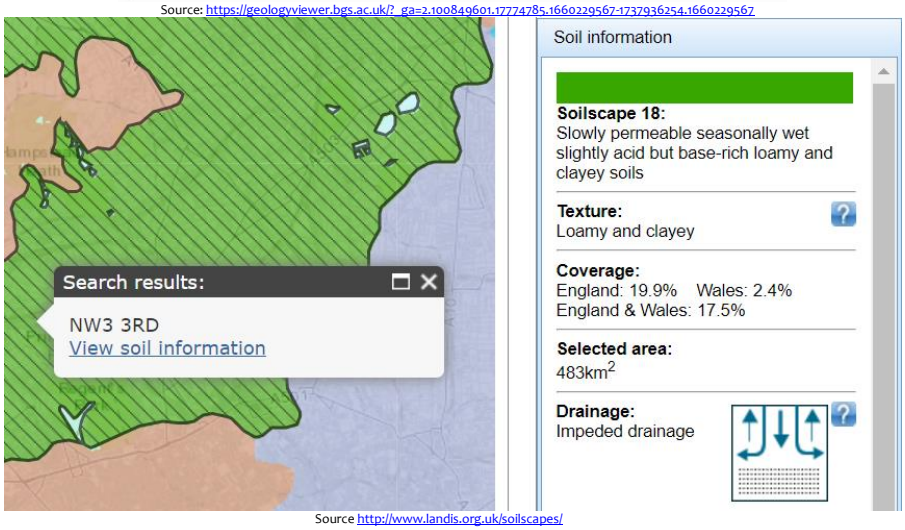
4. Local Geology and Soils

4.1. Desktop Research

4.1.1. Desktop research into local geology based on the postcode **NW3 3RD** obtained the following results:



Source: https://geologyviewer.bgs.ac.uk/?_ga=2.100849601.17774785.1660229567-1737936254.1660229567



Source http://www.landis.org.uk/soilscapes/

4.2. Site Investigations

4.2.1. We are unaware of any specific investigations into soil properties at the site.

4.3. Conclusion and Relevance

4.3.1. Based on the information reproduced in Section 3.1, local soils are assumed to have a loamy & clayey texture.

4.3.2. Loamy soils contain a mixture of clay and sand. Soil compaction may occur due to vehicular activity on building sites, so ground protection is recommended wherever vehicles operate. Most tree species will grow well in loamy soils.

4.3.3. Clay soils may be especially prone to compaction and slurrying caused by general construction activity. Both of which significantly impair root function. This must be guarded against using boards to protect any soils where roots are growing. When planting new trees, species should be selected that can tolerate heavy soils.

4.3.4. Trees of most species are less likely to root deeply in clay soils. Any new surfacing over tree roots should avoid deep excavation and have good load-spreading properties.

5. Statutory Protection – TPOs and Conservation Area Status

Before undertaking most works on trees protected by a tree preservation order[3], consent needs to be formally obtained from the local authority. Where trees are in a conservation area (but not protected by a TPO), works are generally not permitted without first giving the local authority six weeks' notice of intention[4]. Unauthorised works to protected trees, or trees in a conservation area, may result in criminal prosecution and a fine. Where works are required to implement a fully approved development, no such consent or notice is required.

5.1. Desktop Research

5.1.1. We were informed by Rav Curry of London Borough of Camden via email on the 13th of May 2021, that:

- The site lies within **Elsworthy Conservation Area**.
- There is a tree preservation order affecting a Sycamore tree at the front of the site. We believe this tree to be T1 (according to our numbering system).
- There are tree preservation orders affecting trees immediately adjacent to the site at the rear of 131 Kings Henry's Road. We believe T10 (according to our numbering system) is protected by a TPO.

5.2. Felling Licences

5.2.1. Felling licences issued by the Forestry Commission are sometimes required before removing trees. However, these licenses are aimed toward woodland and forestry management. Felling licences are NOT required for any of the following:

- Lopping, topping or pollarding.
- Removal of small trees (stem diameter less than 8cm) or fruit trees.
- Works to any trees growing within domestic gardens, orchards, or the Inner London boroughs.
- Operations involving less than five cubic meters of timber in any quarter year.
- Thinning and understorey clearing operations.
- Dangerous trees, nuisance trees, some diseased trees.
- Where removal is required to enable a fully approved development.

5.2.2. More detailed guidance can be found at https://www.gov.uk/government/publications/tree-felling-getting-permission

5.2.3. Hence a felling licence is **not** required relating to the trees surveyed.

[3] https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas

[4] During this time, the local authority may elect to create a tree preservation order or to inform the applicant that they have no objection to the proposed works. If the local authority does not respond within six weeks, then the intended work may be undertaken. Note: the local authority cannot refuse consent for works to trees within a conservation area; they may only create a tree preservation order if they wish to have further control over what works are undertaken.

6. Arboricultural Impact Assessment

6.1. Overview

6.1.1. It is proposed to construct a new ancillary building in the rear garden, as indicated on the drawings in Appendix 6. The existing layout is shown in black & the footprint of the proposed layout is indicated in pink.

6.1.2. The table below summarises the potential impact on trees due to various activities.

Activity	Trees Potentially Affected
Tree Removal	None
Tree Pruning	T7 and T11
RPA: Ancillary Building Foundations	T8, T10 and T11
RPA: Other Foundations	None
RPA: New Hard Surface	None
RPA: Replace Existing Hard Surface	None
RPA: Underground Services	Unknown – To be confirmed
RPA: Change of Ground Levels	None
RPA: Soil Compaction	Trees adjacent the construction area (Preventable by installing tree protection measures)

6.1.1. Other potentially damaging activities often associated with construction sites include demolition or the careless use of plant machinery, hazardous materials, or fires. All of the above potential impacts are considered in detail throughout this Section.

6.2. Tree Removal

6.2.1. All trees within the site are to be retained.

6.3. Mitigation Planting

6.3.1. The site offers opportunity to plant new trees as part of a post-development landscaping scheme.

6.3.2. Three new trees are proposed along the eastern boundary of the rear garden to increase privacy and green screening between the adjacent property.

6.4. Impact on Tree Canopies

6.4.1. It is proposed to crown lift T7 (a Retention Category C Plum tree) to a height of 3.5m. Such pruning shall ensure adequate clearance for construction activity and installation of tree protection fencing. Such pruning shall have little impact on the tree's health or amenity value.

6.4.2. It is also proposed to prune the canopy of T11 back towards the boundary (or close to it). This shall generally require the removal of one significant branch which grows across a significant portion of the rear garden (please see the annotated photograph in the accompanying Impact Assessment Plan). Oak trees are tolerant of pruning and such works shall not have a significant impact on the tree's health or amenity value.

6.4.3. So long as the pruning works are undertaken sympathetically (working to BS 3998: 2010 guidelines) the trees shall not be significantly harmed or disfigured.

6.5. Impact on Tree Roots

6.5.1. A trial excavation was undertaken in January 2023 along the rear boundary wall adjacent to T8. The excavated pit measured circa 1m x 0.4m. The excavation revealed the top of the wall foundation at 1m below the existing ground level and we understand that only a few small roots were encountered. Photographs of the trial excavation were provided to us and are reproduced in Section 7. It is considered that the wall foundation is deep enough to influence the root proliferation from the neighbouring trees such that significant tree roots are unlikely to be in abundance within the subject garden. Furthermore, the underground air-raid shelter shall also influence rooting activity within the garden adjacent to T8.

Outbuilding Foundations:

6.5.2. The foundation for the new outbuilding is to be installed over the theoretical Root Protection Area of T8, and small portions of the RPAs of T10 and T11. In order to minimise the potential impact on tree root systems, a shallow raft or beam foundation is proposed to ensure the retention of any roots in excess of 50mm. The following restrictions are proposed:

- Excavation shall be limited to a depth of 200mm to facilitate the installation of a raft or beam foundation.
- The raft/beam may be supported on narrow diameter piles (maximum diameter 250mm). Before installing such piles, their location shall be determined by trial pits excavated to a depth of 600mm using hand tools and overseen by the appointed arborist. Trial pit dimensions should not exceed 300mm x 300mm. If any roots in excess of 50mm diameter are encountered, the pile shall be relocated.
- If roots in excess of 25mm diameter are encountered close to the edge of the excavation, they shall be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots that do need to be severed, shall be neatly pruned by the arborist, using clean sharp secateurs.
- Only hand tools shall be used during the excavation.

6.5.3. By adopting this sympathetic method of installation, it will be possible to retain all significant roots and ensure that the root system will be able to supply the canopy with the required water and nutrients. Hence, it is considered that the proposal shall not result in any long-term detrimental impact on tree health.

New Surfaces:

6.5.4. No new surfaces are proposed within the Root Protection Areas of any trees.

Underground Services:

6.5.5. Underground service locations are yet to be finalised. Wherever possible, these should be located outside of RPAs. Where this is not possible, the project arborist should be consulted prior to any excavation. Trenching for underground services is one of the most damaging activities on construction sites, and NJUG guidelines[5] should be followed (http://streetworks.org.uk/wp-content/uploads/2016/09/V4-Trees-Issue-2-Operatives-Handout.pdf) in accordance with a site-specific Arboricultural Method Statement.

Changes in Ground Levels:

6.5.6. No changes to ground levels are proposed over Root Protection Areas.

Soil Compaction:

6.5.7. The majority of tree roots lie within the upper soil horizons. This is because the availability of oxygen decreases with depth, and roots need to breathe to stay alive. In addition, nutrients are more readily available in the form of organic matter close to the soil surface.

6.5.8. Healthy soils contain about 25% air space between solid particles. Increased loading of the soil caused by construction activity causes air to be squeezed out as the soil becomes compacted, preventing roots from breathing. Even an increase in pedestrian activity may cause some soil compaction.

[5] NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

6.5.9. It is important therefore that ground compaction and soil disturbance over Root Protection Areas should be avoided during the construction phase. This may be done by installing protective fencing and ground protection measures.

6.6. Demolition Activities

6.6.1. Tree protection measures should be installed prior to the commencement of all construction activities (including soil stripping) to prevent any detrimental impact on tree health.

6.7. Waste and Materials Storage

6.7.1. All hazardous materials (including cement and petrochemical products) will need to be controlled according to COSHH regulations in order to ensure there is no detrimental impact on tree health. Provision shall need to be made to ensure that cement spillage avoids all Root Protection Areas.

6.7.2. Areas designated for the storage of building materials and waste products will need to be approved by the local authority. Root Protection Areas should be avoided. Where this is not possible, suitable ground protection measures will need to be installed.

6.8. Cabins and Site Facilities

6.8.1. Consideration should be given to the location of any site welfare facilities in terms of potential impact on trees. Where it is proposed to install cabins or site facilities in Root Protection Areas, the project arborist should be consulted, and approval obtained from the local authority.

6.8.2. There is limited room for the siting of cabins and storage of materials / spoil during the construction phase so the logistics of the development shall need to be well organised to ensure that there is adequate space outside of the Tree Protection Zones for construction activity.

6.9. Boundary Treatments

6.9.1. No changes are proposed to the existing boundary features that might impact upon trees.

6.10. Impact of Retained Trees on the Development

6.10.1. The ancillary building is not considered to be a living space, so the shade cast by the trees is not considered to be relevant from a planning perspective.

6.10.2. The gutters will need occasional maintenance to avoid blockage, however, this will be relatively easy to manage as the proposal is a single storey structure.

6.10.3. The foundations and any new surfaces should be designed to accommodate all potential impacts due to future tree rooting activity. These include potential vegetation related subsidence, vegetation related heave, and lifting of surfaces / light structures due to direct root pressure.

6.11. Summary

6.11.1. No trees are to be removed to facilitate the proposal.

6.11.2. Three new trees are to be planted to increase screening between the adjacent property.

6.11.3. Pruning works are proposed to two trees to increase clearance over the garden and for construction activity.

6.11.4. Foundations are proposed within the Root Protection Area of three trees. However, the sympathetic foundation design shall ensure no detrimental impact on trees.

6.11.5. So long as suitable protection measures are implemented during demolition and construction stages, and some mitigation planting is implemented I see no Arboricultural reasons why the proposal should not proceed.

7. Photographs

Refer also to the Tree Constraints Plan for photo locations.

Photo 1.

Photo 2.

Photo 3.

Photo 4.

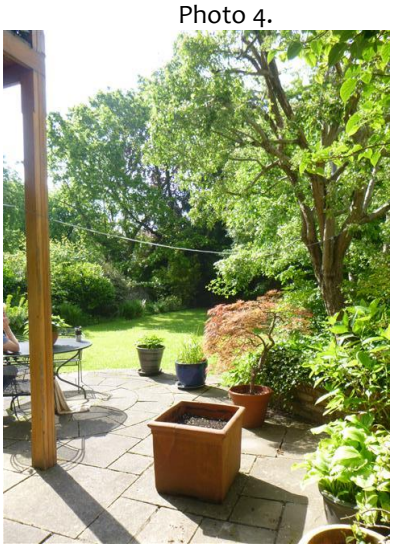


Photo 5.

Photo 6.

Photo 7.

Photo 8.

Photograph provided showing depth of top of wall foundation.

Ditto

Photograph showing width of excavated trial pit.

Photograph showing small roots encountered within the trial pit.

Appendix 1: BS 5837: 2012 – Guidance Notes

This Standard prescribes the principles to be applied to achieve a satisfactory juxtaposition of trees and structures. It sets out to assist those concerned with trees in relation to design, demolition and construction to form balanced judgements.

It acknowledges the positive contribution trees may offer to a site, as well as the negative aspects of retaining inappropriate trees. It addresses the negative impacts that construction activity may have upon trees and offers mitigation strategies to minimise these impacts.

The Standard suggests a three-stage approach to ensure best practice is followed when developing close to trees:

A1.1 Stage 1: Survey Details and Notes

A ground level visual survey was undertaken. No climbed inspections or specialist decay detection were undertaken. Only trees with a stem diameter over 75mm, which lie within the site boundary or relatively close to it, were included.

Where applicable, trees with significant defects have been highlighted and appropriate remedial works have been recommended. However, this report should not be seen as a substitute for a full *Safety Survey* or *Management Plan* which are specifically designed to minimise risk and liability associated with responsibility for trees.

Wherever practicable dimensions were obtained using diameter tapes, logger's tapes, distometers and clinometers. Where obstacles prevent accurate measurement, dimensions are estimated. Trees on privately owned third party are surveyed from the best available vantage point and observations relating to the condition of these trees should be treated accordingly. All height measurements should be regarded as approximate.

Data is recorded for each tree and is presented in a Tree Data Schedule. Each tree is allocated a ***Retention Category*** according to its size, amenity value, condition and safe useful life expectancy. The categories are allocated independently of development proposals. Our interpretation of the Retention Categories is explained below:

A1.1.1 Retention Categories

A Category: Trees of high quality and amenity value. Usually, mature trees with a significant life expectancy which would enhance any development. Retention of these trees is strongly encouraged.

B Category: Trees of moderate quality and amenity value. Usually these are maturing trees or younger trees with exceptional form. Retention of these trees is desirable though the removal of occasional specimens may be acceptable.

C Category: Trees of low quality or small specimens with a relatively low amenity value. These trees are not considered to be a material planning constraint and their removal will generally be seen as acceptable in order to facilitate development.

U Category: Trees of such low quality that their removal is recommended regardless of development proposals.

Occasionally trees are borderline and do not fall neatly into one of the categories A, B or C. In such cases we apply a superscript (**+/-**) such that:

C^{+} Indicates borderline C/B, though Category C is deemed to be most appropriate.

B^{-} Indicates borderline C/B, though Category B is deemed to be most appropriate.

The British Standard suggests that each of the A, B and C categories may be further subdivided (A1, A2, A3, B1, B2, B3 etc) such that subcategory 1 denotes mainly arboricultural values, subcategory 2 denotes mainly landscape values and subcategory 3 denotes mainly cultural values (including conservation). Multiple subcategories may be used.

Our experience suggests that these subdivisions lack clarity and can be confusing. Within this report subcategories are **not** denoted. Where appropriate, the use of phrases such as '*Part of a formal group'*, or '*Has a high ecological value'*, or '*Offers good screening to the site'* are incorporated into the observation section of the Tree Data Schedule. We believe this conveys all relevant landscape and cultural information without any confusion.

Tree Constraints Plan (TCP). This indicates the position, crown spread, Retention Category and Root Protection Area of each tree. It is used to inform where development may proceed without causing damage to trees.

Root Protection Area (RPA). This is the area around each tree likely to contain the majority of roots. It should ideally remain undisturbed to avoid a detrimental impact on tree health. For single stemmed trees It is calculated according to the formula "radius of RPA" = "12 x stem diameter". Where a tree has more than one stem, the equivalent-single-stem diameter is usually recorded. This is calculated by adding the squares of the stems and then finding the square root of this total. The radius of the Root Protection Area is then calculated by multiplying the equivalent-stem-diameter by 12.

Shade Constraints. The previous Standard (BS 5837 2005) suggested that shade constraints should be indicated on the TCP. This are denoted as a circle-segment drawn northwest to due east with a radius equal to the height of the tree. These do not represent the actual shade pattern which varies through the seasons. Rather, they indicate the area most shaded by the tree throughout the course of the year. Ideally habitable room windows should be located outside of these shade constraints. Where we consider it appropriate, we will include shade constraints information on our Impact Assessment Plan or Proposed Layout Plan.

A1.2 Stage 2: Arboricultural Impact Assessment

After the initial survey and the production of the Tree Constraints Plan, arborists and designers are encouraged to work together to establish a design proposal with minimal impact on the high quality trees. An assessment should be made of all possible impacts including the impact that the trees may have upon the proposal. The arborist may recommend mitigation strategies to minimise these impacts and help achieve a more harmonious juxtaposition between buildings and trees.

A1.3 Stage 3: Arboricultural Method Statement

This type of report specifies the measures necessary to protect trees against damage from construction activity. The Method Statement should be written in a manner that it may be conditioned and enforced by the local authority upon granting of planning permission. The site manager should be familiar with all aspects of the Method Statement and should ensure that all persons working on the site are aware of those aspects which appertain to their work. This includes service installation engineers and operators of plant machinery.

Appendix 2: Survey Methodology

Ground level visual surveys are carried out using the *Visual Tree Assessment* technique described by Mattheck and Broeler (1994) and endorsed by the Arboricultural Association (LANTRA Professional Tree Inspection course, 2007).

Structural condition is assessed by inspecting the stem and scaffold branches from all angles looking for weak branch junctions or symptoms of decay. Particular attention is paid to the stem-base. Cavities are explored using a metal probe in order to assess the extent of any decay. If this is not possible further inspection is recommended in the form of a climbed inspection or using specialist decay detection equipment.

The physiological condition is assessed by inspecting the stem, branches and foliage for symptoms of disease. The overall vigour of the tree is also taken into account.

Where significant defects are observed, recommendations are made according to a scale of priority in order to reduce the likelihood of structural failure. The position of the tree and its potential targets are taken into account.

Measurements are obtained using a diameter tape, clinometer, distometer and loggers tape. Where this is not practical measurements are estimated.

Some trees are surveyed as groups, though this is usually avoided close to areas likely to be developed.

Finally, a *Retention Category* is allocated as described in Appendix 1.1.1.

Appendix 3: Glossary of Tree Data

This section explains the terms used in the **Tree Data Schedule** (see Section 3 and Appendix 6).

A2.1 General Observations

Numbering System: Each item of vegetation has its own unique number prefixed by a letter such that T1=Tree 1, G2=Group 2, H3=Hedge 3 and W4=Woodland 4, S5=Shrub 5.

Age Categories:

Young	Usually less than 10 years old.
Semi-Mature	Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy).
Early-Mature	Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy).
Mature	Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy).
Veteran	A level of maturity whereby significant management may be required in order to keep the tree in a safe condition.
Over Mature	As for veteran except management is not considered worthwhile.

Species: Common names and Latin names are given.

Height: Measured from ground level to the top of the crown.

Stem Diameter: Taken at 1.5m above ground level where possible. On multi-stemmed trees this measurement may be taken at ground level, though usually an indication of the number of stems and average diameter is given, e.g. 3 x 30cm.

Crown Height: Measured from ground level to the height at which the main crown begins. Where the crown is unbalanced it is measured on the side deemed to be most relevant. This is usually the side facing the area of anticipated development.

Tree Diagram: This scaled drawing is computer generated based on measurements taken for stem diameter, crown height and spread, and overall height. It is designed to help the reader rapidly assess the data. It is not an accurate representation of the form of the tree.

Crown Spread: Measured N, E, S & W, taken from the centre of the stem and usually rounded up to the nearest metre.

Observations: If a tree's position is considered to be relevant it will be commented upon (e.g. overhanging a children's play area). Tree form and pruning history are also recorded along with an account of any significant defects. Defects and descriptive terms are dealt with in more detail at the end of this section.

Recommendations: Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition.

Priority Scale: Depending upon the threat posed by the tree, and the likelihood of failure, recommendations should be carried out according to the following priority scale:

Urgent	To be carried out as soon as possible.
Very High	To be carried out within 1 month.
High	To be carried out within 3 months.
Moderate	To be carried out within 1 year.
Low	To be carried out within 3 years.

Inspection Frequency: An interval of 6 months, 1 year, 1.5 years or 3 years is allocated before the next inspection is due. Wherever practical, consideration should be given to seasonal changes so that deciduous trees are not always surveyed in winter when they have no leaves, or in summer when leaves may obscure branches within the upper crown.

Vigour: An indication of growth rate and the tree's ability to cope with stresses:

High	Having above average vigour.
Moderate	Having average vigour.
Low	Having below average vigour.
Very Low	Tree is struggling to survive and may be dying.

Physiological Condition:

Good	Healthy and with no symptoms of significant disease.
Fair	Disease present or vigour is impaired.
Poor	Significant disease present or vigour is extremely low.
Very Poor	Tree is dying.

Structural Condition:

Good	Having no significant structural defects.
Fair	Some defects observed though no high priority works are required.
Poor	Significant defects found. Tree requires monitoring or remedial works.
Very Poor	Major defects which will usually require significant remedial works or tree removal.

Amenity Value:

Very High	Exceptional specimen, observable by a large number of people.
High	Attractive specimen, observable by a significant number of people.
Moderate	One of the above factors is not applicable.
Low	Unattractive specimen or largely hidden from view.

Life Expectancy: The estimated number of years before the tree may require removal. Classified as (<10), (10 – 20), (20 – 40), or (40+).

Retention Category: These are explained in detail in Appendix 1.

A2.2 Evaluation of Defects

Cavities, wounds, deadwood etc are all evaluated as follows:

Major	Such that structural integrity is, or will become, compromised and the tree is, or will inevitably become, hazardous.
Significant	A defect that may over time become a major defect, though not necessarily so. This will depend on the vigour of the tree and its ability to deal with decay etc.
Minor	A defect thatis unlikely to develop into a major defect.

Appendix 4: Author's Qualifications

Qualifications & Experience of Ivan Button N.C.H. (Arb), FDSc (Arb), BSc (Hons), P.G.C.E., M. Arbor. A.

Early Career

Before and whilst attending college and university (1983 – 1990) Ivan worked as a gardener and also within the building industry where he received training in a broad range of building skills. In 1989 Ivan obtained a BSc (Hons) in psychology at Leeds University followed by a P.G.C.E at The University of Wales in 1990. After one year of teaching he returned to the construction activity and worked on new builds, refurbishments and groundworks until 1995.

Arboriculture

In 1996 Ivan obtained a NCH (Arboriculture) at the University of Lincoln and became a member of the Arboricultural Association. He then received further arboricultural consultancy training with Peter Wynn Associates for one year before establishing a tree surgery and landscaping business in 1998.

In 2005 Ivan commenced full time employment with JCA Ltd, an Arboricultural Association registered consultancy where he soon adopted a senior role responsible for five consultants. During this time he obtained a FDSc (Arboriculture) at the University of Lancashire, which he passed with distinction.

Since 2013, Ivan has been the Director and Principal Consultant of Crown Consultants Ltd which provides Arboricultural Reports for the purposes of Development, Safety, Management, Mortgage, Subsidence, Mitigation and Litigation. In 2015, he acted as tree officer for Barnsley Council and has since provided consultancy services to other local authorities.

He has obtained the LANTRA *Professional Tree Inspector* Qualification promoted by the Arboricultural Association and recognised as appropriate for all levels of tree inspection.

He is a long-standing member of the Consulting Arborist Society and has obtained CAS accreditations for Tree Inspection, Planning, Mortgage Reports (Subsidence Risk Assessment) and for his expert witness work.

At the time of writing, he has written approximately thirty CPR compliant reports (civil and criminal) covering a range of subjects including Subsidence Damage, Personal Injury, Direct Root Damage, Professional Negligence, TPO Breaches.

He has given written and oral evidence.

Ivan is a long-standing professional member of the Arboricultural Association and the International Society of Arboriculture.

He is a licensed Quantified Tree Risk Assessment user.

Ivan has undertaken Bond Solon expert witness training and has obtained the University of Cardiff Expert Witness certificate.

Between 2008 and 2017 he was registered as a Sweet and Maxwell Checked Expert Witness.

Qualifications & Experience of Emma Hoyle FDSc (Arboriculture), ED (Forestry & Arboriculture), M. Arbor. A.

Emma is a qualified Arboricultural Consultant educated to Level 5 in Arboriculture at Askham Bryan College, is a professional member of the Arboricultural Association and is a LANTRA accredited *Professional Tree Inspector*. She has worked for Crown Consultants since 2015 and has since written numerous reports relating to all aspects of arboriculture including; planning and development, vegetation related subsidence, tree preservation orders and tree risk assessment. Emma regularly attends seminars and events in order to keep abreast with current knowledge and best practise in Arboriculture.

Prior to becoming an arboricultural consultant, Emma worked for two reputable tree surgery firms from 2008 and became an NPTC Qualified tree surgeon after completing a Level 3 Extended Diploma in Forestry and Arboriculture at Askham Bryan College. Emma also has experience in other areas of arboriculture such as forest clearance, tree planting, tree maintenance and landscaping.

Qualifications & Experience of Joe Taylor - MArborA, FdSc (Arboriculture)

Joe began his career in Arboriculture as a tree surgeon/climber. During his time as a tree surgeon, Joe has achieved City & Guilds NPTC qualifications in Chainsaw Maintenance and Cross Cutting, Tree Climbing and Rescue, Safe Use of Manually Fed Wood-chipper and Supporting Colleagues Undertaking Tree Related Operations.

Joe obtained a Foundation Degree in Arboriculture at Askham Bryan College in 2015 which he passed with merit. Joe is a professional member of the Arboricultural Association, the International Society of Arboriculture and the Royal Forestry Society and regularly attends industry related seminars in order to keep abreast of industry best practice.

Studying at Askham Bryan College reinforced Joe's passion for trees and drove his enthusiasm to learn more. Learning how trees interact with their surrounding environment and their importance within our urban and rural landscapes highlighted an interest in pursuing a career in consultancy.

Since working for Crown Consultants Joe has undertaken numerous surveys and produced numerous reports for the purpose of planning (BS 5837), tree condition surveys, subsidence risk assessments, root surveys and decay detection investigations.

Appendix 5: Further Information

Building Near Trees – General

National Joint Utilities Group publication # 10 (1995), *Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees. Downloadable at www.njug.demon.co.uk/pdf/NJUG%20Publication10.pdf*

NHBC Standards Chapter 4.2., *Trees and Buildings.*

Horticulture LINK project 212. (*University of Cambridge,* 2004), *Controlling Water Use of Trees to Alleviate Subsidence Risk.*

Tree Planting and aftercare

See www.trees.org.uk/leaflets.php# for downloadable leaflets on selecting a garden tree, planting, aftercare and veteran tree management.

British Standards

BS 5837: 2012. Trees in Relation to Design, Demolition and Construction – Recommendations.
Bs 3998: 2010. Recommendations for Tree Work.
BS 3936: 1992. Nursery Stock. Part 1: Specification for Trees and Shrubs.
BS 3936: 1992. Nursery Stock. Part 10: Specification for Groundcover Plants.
BS 4043: 1989. Transplanting Root-balled Trees.
BS 8004: 1986. Foundations.
BS 8103: 1995. Structural design of Low-Rise Buildings.
BS 8206: 1992. Lighting for Buildings.
BS 8545:2014. Trees: From nursery to independence in the landscape – Recommendations
BS 3882: 2015. Topsoil.
BS 4428: 1989. General Landscaping Operations (excluding hard surfaces).

Permission to do Works to Protected Trees / Tree Law

Forestry Commission (Edinburgh, 2003), *Tree Felling – Getting Permission*. Country Services Division - Forestry Commission. Downloadable at www.forestry.gov.uk/website/pdf.nsf/pdf/wgsfell.pdf/$FILE/wgsfell.pdf

Transport and the Regions (Department of the Environment, 2000), *Tree Preservation Orders, A Guide to the Law and Good Practice*. Downloadable at www.communities.gov.uk/publications/planningandbuilding/tposguide

C. Mynors, *The Law of Trees, Forests and Hedgerows* (Sweet and Maxwell, London, 2002)

Communities and Local Government website with numerous downloadable documents, from:
http://www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/

Lighting Levels

P.J. Littlefair, *B.R.E. 209: Site layout planning for daylight and sunlight A guide to good practice.* B.R.E. Bookshop, London.

British Standards Institution. Code of practice for day lighting. *British Standard* BS 8206: Part 2 (1992).

Chartered Institution of Building Services Engineers. *Applications manual: Window Design* (London, 1987).

NBA Tectonics. A study of passive solar housing estate layout. *ETSU Report* S-1126. Harwell, Energy Technology Support Unit (1988).

I.P. Duncan; D. Hawkes, Passive solar design in non-domestic buildings. *ETSU Report* S-1110. Harwell, Energy Technology.

P. J. Littlefair, Measuring Daylight, *BRE Information Paper 23/93 f3.50.* (Advises on measuring daylight under the real sky or an artificial sky, allowing for the changing nature of sky light).

High Hedges

Communities and Local Government website with numerous downloadable documents, from:
http://www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/

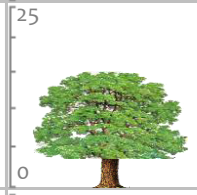
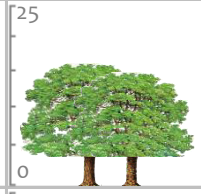
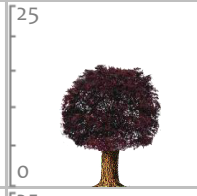
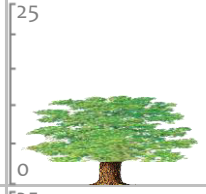
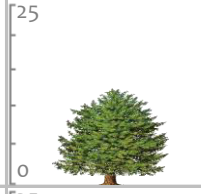
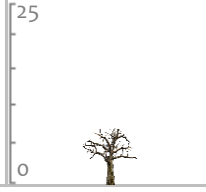
Tree Specific Websites

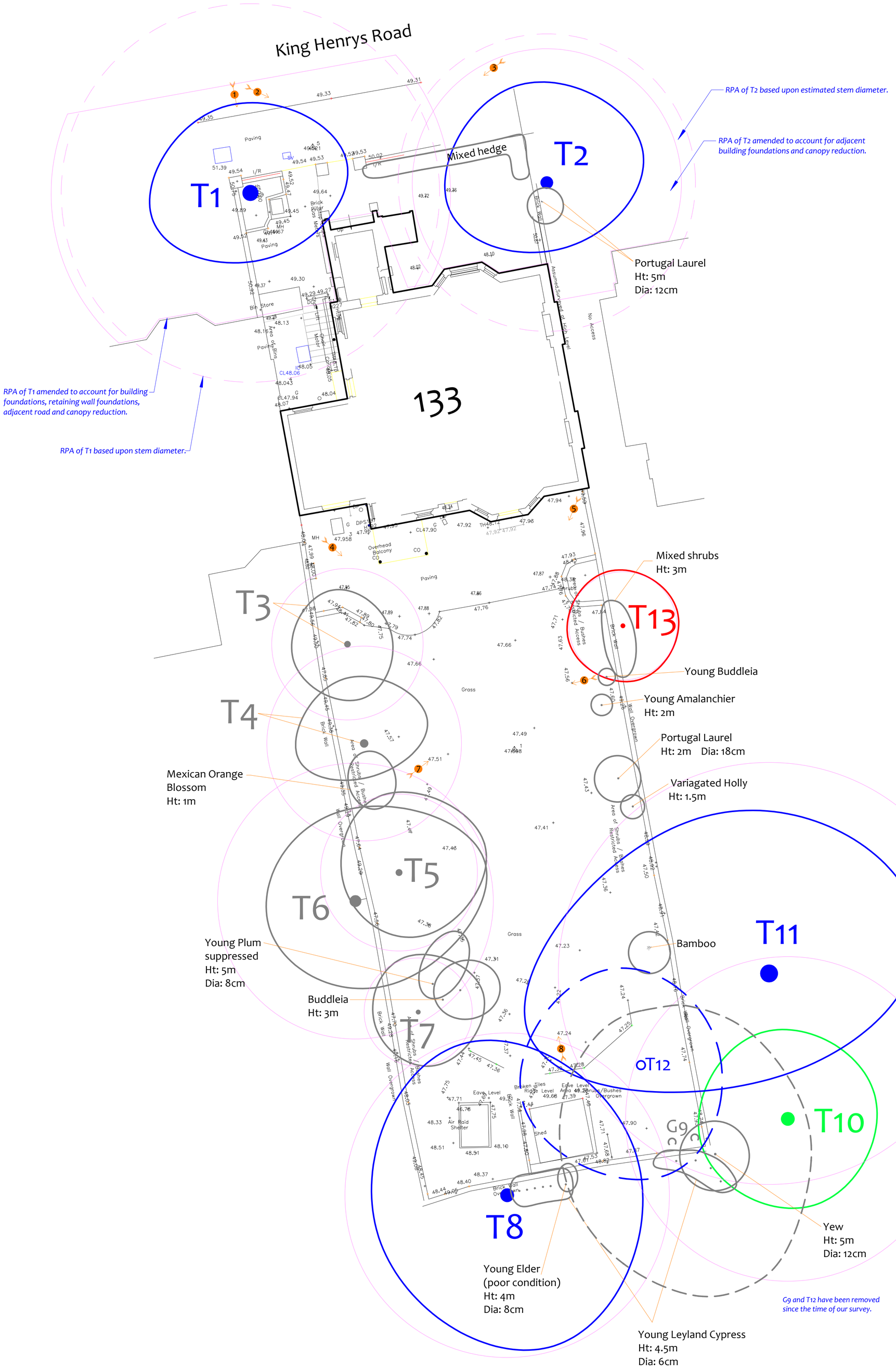
www.crowntrees.co.uk	Crown Consultants site containing useful information
www.trees.org.uk	Arboricultural Association
www.rfs.co.uk	Royal Forestry Society of England, Wales and N. Ireland
www.treehelp.Info	The Tree Advice Trust
www.woodland-trust.org.uk	The Woodland Trust
www.treecouncil.org.uk	The Tree Council

Appendix 6: Tree Data Schedule and Drawings

The Tree Data Schedule and any drawings accompanying this report follow this page. They are also provided as separate documents for ease of printing and screen viewing.

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N / W / E / S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals) Priority	Inspect Freq (yrs)	Vigour / Physiological Condition / Structural Condition	Amenity Value / Life Expectancy (yrs) / Retention Category
T1	Early-Mature **Sycamore** Acer pseudoplatanus.	11	4	70	N 4 / W 4.5 / E 4.5 / S 3		Position: Situated within the front garden in a small raised planter. Form: Twin-stemmed at 1m with a compact crown. History: Previously crown reduced. **Defects: No significant defects observed.** Other: Recorded stem diameter is equivalent for 2 stems (48cm & 51cm).	No action required.	n/a / 3	Moderate / Good / Good	High / 40+ / **B**
T2	Early-Mature **Horse Chestnut** Aesculus hippocastanum.	12	4.5	55	N 4.5 / W 4.5 / E 4.5 / S 3		Position: Situated on third party land. Form: Twin-stemmed at 3m with a slightly unbalanced crown. History: Previously crown reduced. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required.	n/a / 3	Moderate / Good / Fair	High / 20-40 / **B**
T3	Early-Mature **Hawthorn** Crataegus monogyna.	5.5	1.5	28	N 2.5 / W 2.5 / E 2 / S 2.5		Position: Situated within the rear garden. Form: Multi-stemmed at 2m with a balanced crown. History: Previously crown reduced. **Defects: No significant defects observed.**	No action required.	n/a / 3	Moderate / Good / Good	Low / 20-40 / C
T4	Early-Mature **Pear** Pyrus sp.	5.5	2	36	N 3 / W 3 / E 3 / S 1.5		Position: Situated within the rear garden. Form: Triple-stemmed at 0.5m with a slightly unbalanced crown. History: Occasional pruning wounds due to crown lifting and previously crown reduced. **Defects: Dead branch to upper crown, significant cavity developing to north east stem at 1m above ground level (acceptable condition at present).** Other: Recorded stem diameter is equivalent for 3 stems (19cm, 20cm, 23cm).	No action required.	n/a / 1.5	Moderate / Fair / Good	Low / 10-20 / C
T5	Semi-Mature **Hawthorn** Crataegus monogyna.	7.5	2	29	N 3.5 / W 2.5 / E 4 / S 3		Position: Situated within the rear garden. Form: Single stemmed and vertical with an unbalanced crown with a co-dominant stem at 0.3m. History: Occasional pruning wounds due to crown reduction. **Defects: No significant defects observed.** Other: Recorded stem diameter is equivalent for 2 stems (11cm and 27cm).	No action required.	n/a / 3	Moderate / Good / Good	Low / 20-40 / C
T6	Early-Mature **Plum** Prunus sp.	7	3.5	51	N 4 / W 4 / E 6 / S 4		Position: Situated on third party land. Form: Triple-stemmed specimen. History: Occasional pruning wounds due to crown reduction. **Defects: No significant defects observed.** Other: Recorded stem diameter is equivalent for 3 stems at 28cm, 30cm, 30cm. Limited inspection, dimensions estimated.	No action required.	n/a / 3	Moderate / Good / Fair	Low / 20-40 / C
T7	Semi-Mature **Plum** Prunus sp.	8	1.5	20	N 2.5 / W 2 / E 3 / S 2.5		Position: Situated within the rear garden. Form: Single stemmed with a slight lean and a slightly unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required.	n/a / 3	Moderate / Good / Good	Low / 20-40 / C

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N / W / E / S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals)		Vigour / Physiological Condition / Structural Condition	Amenity Value / Life Expectancy (yrs) / Retention Category
								Priority	Inspect Freq (yrs)		
T8	Mature **Sycamore** Acer pseudoplatanus.	15	4.5	60	N 7, W 6, E 6, S 7		Position: Situated on third party land, adjacent rear boundary. Form: Multi-stemmed at 4m with a slightly unbalanced crown. History: Occasional pruning wounds due to crown lifting. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated, ivy growing up stem.	No action required.	n/a / 3	Moderate Good Fair	Moderate 20-40 **B**
G9	Semi-Mature **Sycamore** Acer pseudoplatanus.	av 16	av 4	av 33	N av 6, W 5, E 5, S 7 each		Position: Situated within the rear garden adjacent rear boundary. Form: Two close growing specimens both single stemmed and vertical with slightly unbalanced crowns. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Significant damage to low boundary wall adjacent.	No action required.	n/a / 3	Moderate Good Good	Moderate 20-40 **C**
T10	Early-Mature **Copper Beech** Fagus sylvatica 'purpurea'.	16	5	60	N 4, W 4, E 4, S 4		Position: Situated on third party land. Form: Twin-stemmed at 3m with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required.	n/a / 3	Moderate Good Fair	Moderate 40+ **A -**
T11	Mature **Oak** Quercus robur.	11	3	78	N 7.5, W 11, E 7, S 4.5		Position: Situated on third party land. Form: Twin-stemmed at ground level with an unbalanced crown. History: Multiple pruning wounds due to crown lifting and crown reduction. **Defects: Cavities developing at old pruning wounds, small scattered deadwood throughout, significant dead branch overhanging garden of number 133.** Other: Two stems estimated, one at 50cm, and the other at 60cm. Limited inspection, dimensions estimated.	Remove deadwood.	Moderate / 1.5	Moderate Good Fair	Moderate 20-40 **B -**
T12	Semi-Mature **Yew** Taxus baccata.	12	0.5	38	N 4.5, W 5.5, E 3.5, S 5		Position: Situated within the rear garden. Form: Twin-stemmed at 4m with a slight lean. History: No evidence of significant pruning. **Defects: Minor dead branches to lower crown.**	No action required.	n/a / 3	Moderate Good Good	Moderate 40+ **B**
T13	**Dead** **Dead Tree** Dead tree.	6	3	20	N 2.5, W 2.5, E 2.5, S 2.5		Position: Situated on third party land. Form: Dead. **Defects: Dead.**	Remove.	Moderate / N/A	Dead **Dead** **Dead**	Dead Dead **U**



N

MN

Tree Constraints Plan

Photo 1

Photo 2

Photo 3

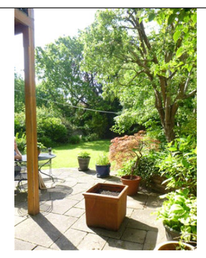


Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

See the accompanying report for more photographs

Tree Ref.	Species	Height (m)	Root Protection Area		
			Radius (m)	m²	Square (m)
T1	Sycamore	11	8.4	222	14.9
T2	Horse Chestnut	12	6.6	137	11.7
T3	Hawthorn	5.5	3.4	35	6.0
T4	Pear	5.5	4.3	59	7.7
T5	Hawthorn	7.5	3.5	38	6.2
T6	Plum	7	6.1	118	10.8
T7	Plum	8	2.4	18	4.3
T8	Sycamore	15	7.2	163	12.8
G9	Sycamore	16	4.0	49	7.0
T10	Copper Beech	16	7.2	163	12.8
T11	Oak	11	9.4	275	16.6
T12	Yew	12	4.6	65	8.1
T13	Dead Tree	6	2.4	18	4.3

Drawing No: CCL 10812 / TCP Rev: 2

Title: Tree Constraints Plan (Existing Layout)

Site: 133 King Henrys Road, London, NW3 3RD

Scale: 1:100 Paper Size: A1

CROWN
Arboricultural Consultants
01422 316660

Tree Retention Categories
Stems & canopies shown

- Category A tree — Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
- Category B tree — Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
- Category C tree — Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
- Category U tree — Trees unsuitable for retention due to their very poor condition.

Tree Constraints Plan

Existing Layout

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.

Root Protection Area having been amended to account for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

1 Photo 1

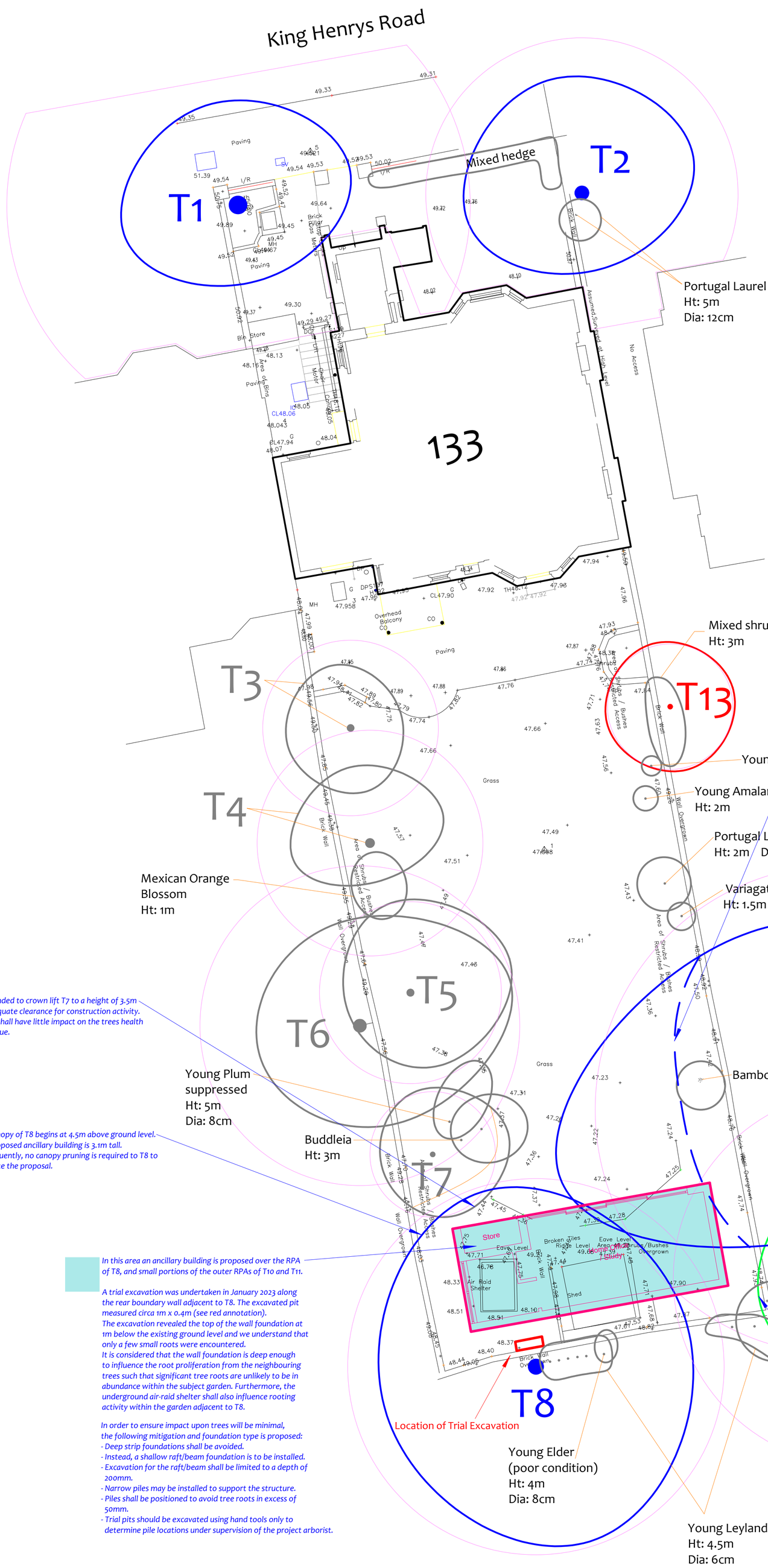
MN = Measured North:

Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Impact Assessment Plan

(Existing Layout with Proposals Overlaid)

Proposed Layout (Pink)



The canopy of T11 which significantly overhangs the rear garden is to be pruned back towards the boundary to ensure no accidental damage to branches during construction and provide clearance from the proposal. Oak trees are tolerant of pruning and such works shall have little impact upon its health or amenity value. Furthermore the overhanging canopy is generally confined to one significant branch so the amount of pruning required is fairly minimal.

It is recommended to crown lift T7 to a height of 3.5m to ensure adequate clearance for construction activity. Such pruning shall have little impact on the trees health or amenity value.

The canopy of T8 begins at 4.5m above ground level. The proposed ancillary building is 3.1m tall. Consequently, no canopy pruning is required to T8 to facilitate the proposal.

In this area an ancillary building is proposed over the RPA of T8, and small portions of the outer RPAs of T10 and T11.

A trial excavation was undertaken in January 2023 along the rear boundary wall adjacent to T8. The excavated pit measured circa 1m x 0.4m (see red annotation).
The excavation revealed the top of the wall foundation at 1m below the existing ground level and we understand that only a few small roots were encountered.
It is considered that the wall foundation is deep enough to influence the root proliferation from the neighbouring trees such that significant tree roots are unlikely to be in abundance within the subject garden. Furthermore, the underground air-raid shelter shall also influence rooting activity within the garden adjacent to T8.

In order to ensure impact upon trees will be minimal, the following mitigation and foundation type is proposed:
- Deep strip foundations shall be avoided.
- Instead, a shallow raft/beam foundation is to be installed.
- Excavation for the raft/beam shall be limited to a depth of 200mm.
- Narrow piles may be installed to support the structure.
- Piles shall be positioned to avoid tree roots in excess of 50mm.
- Trial pits should be excavated using hand tools only to determine pile locations under supervision of the project arborist.

Tree Ref.	Species	Height (m)	Root Protection Area		
			Radius (m)	m²	Square (m)
T1	Sycamore	11	8.4	222	14.9
T2	Horse Chestnut	12	6.6	137	11.7
T3	Hawthorn	5.5	3.4	35	6.0
T4	Pear	5.5	4.3	59	7.7
T5	Hawthorn	7.5	3.5	38	6.2
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T7	Plum	8	2.4	18	4.3
T8	Sycamore	15	7.2	163	12.8
G9	Sycamore	16	4.0	49	7.0
T10	Copper Beech	16	7.2	163	12.8
T11	Oak	11	9.4	275	16.6
T12	Yew	12	4.6	65	8.1
T13	Dead Tree	6	2.4	18	4.3

Drawing No: CCL 10812 / IAP Rev: 1
Title: Impact Assessment Plan (Existing Layout with Proposals Overlaid)
Site: 133 King Henrys Road, London, NW3 3RD
Scale: 1:100 Paper Size: A1

CROWN
Arboricultural Consultants
01422 316660

Tree Retention Categories
Stems & canopies shown

- Category A tree — Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
- Category B tree — Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
- Category C tree — Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
- Category U tree — Trees unsuitable for retention due to their very poor condition.

BS 5837 Root Protection Area (radius = 12xstem diameter)
Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.
Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

X — Tree to be removed to facilitate the proposal
X — Tree to be removed due to its low quality
Proposed pruning

MN = Measured North:

Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.