November 2020

Cedarwood
TREE CONSULTANTS

BS5837: 2012 TREE REPORT

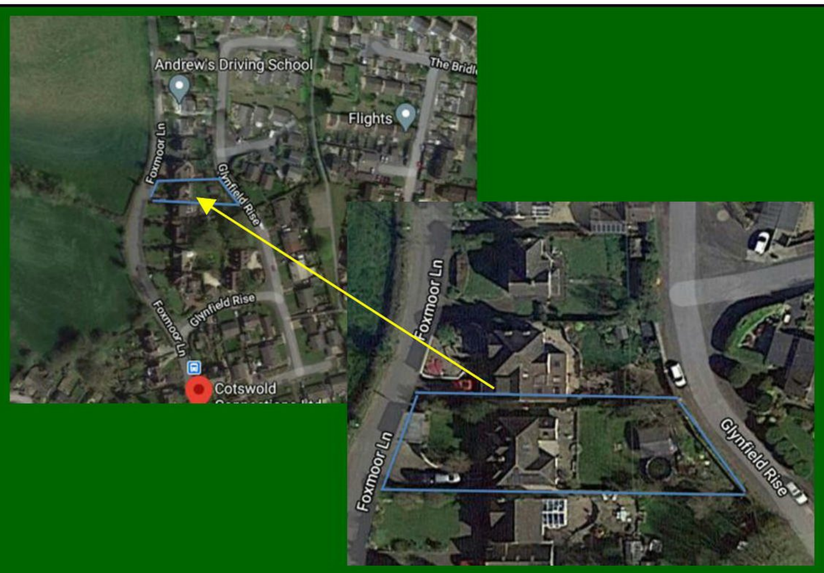
for Westlands, Foxmoor Lane, Stroud

AUTHOR: [redacted]

EXECUTIVE SUMMARY

The property has an enclosed rear garden with landscaping to the rear on raised ground. This includes an oak tree and a summer house. The oak is showing signs of decline, with dieback in the crown and a cavity to one side with decayed heart wood. Branches from the tree extend over the roof of the summer house, and extensive pruning is needed to remove dead wood. There are signs of dieback in the branch tips, which indicates a tree in decline. This is not a long-term tree. Removal and replacement are advised.

DASHBOARD | All Trees

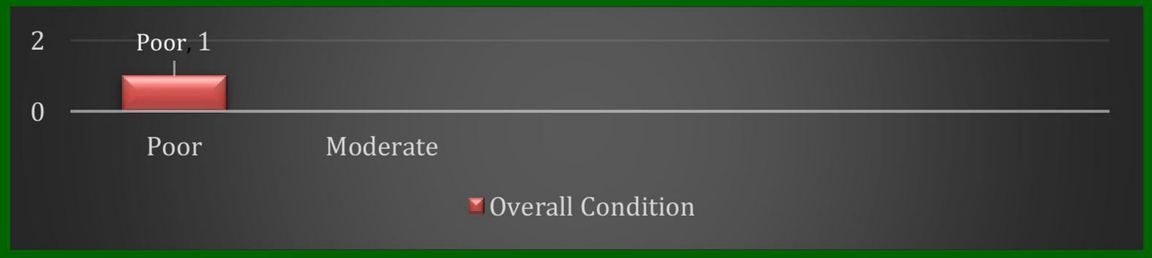


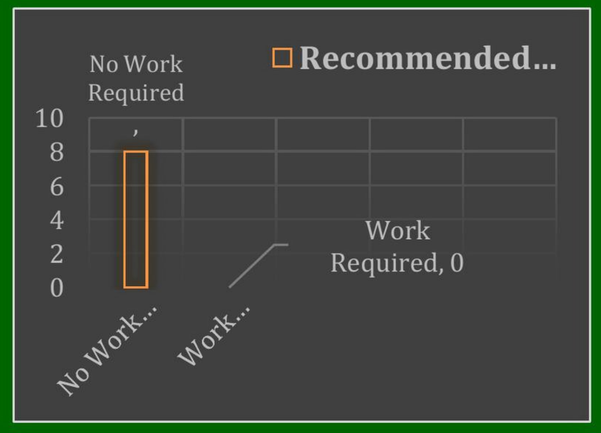
SITE LOCATION

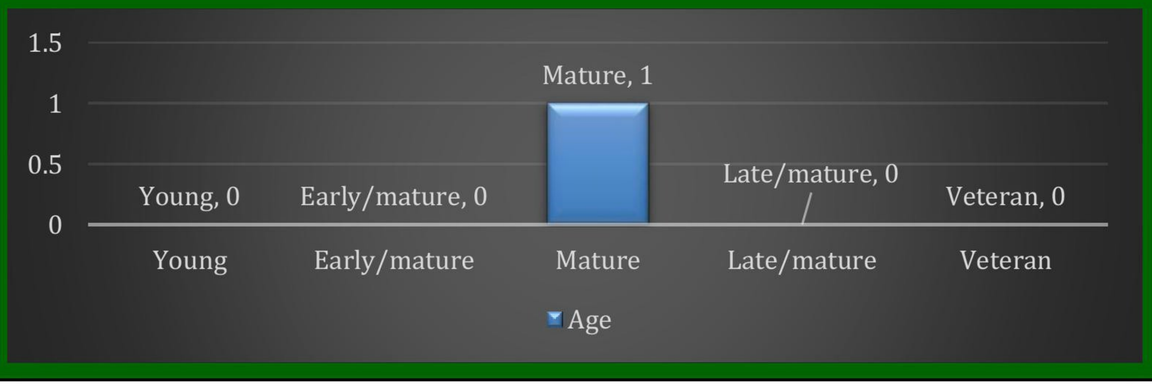
TREE PROTECTION STATUS

We understand that the site is NOT within a Conservation Area.

However, we understand that the tree is subject to a Tree Preservation Order.







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3 Howton Grove Barns, Wormbridge, Herefordshire HR2 9DY
T: 01981 570426 or 07888 838360
E: enquiries@cedarwoodtreecare.co.uk **W:** cedarwoodtreerultants.co.uk

1. REPORT SUMMARY

1.1 Instruction: This report has been commissioned by Church Architectural on behalf of the applicant.

1.2 Scope and Purpose of the Report: This report has been written to inform the planning process.

1.3 Drawings

1.3.1 The tree location is indicated in the plans supplied by the architects. The Tree Constraints Plan is in **Appendix IV**. This plan shows the existing layout.

1.3.2 The Arboricultural Impact Assessment Plan (IAP) indicates the tree constraints with reference to site constrains.

1.3.3 The Landscaping Scheme shows measures to mitigate.

2.0 SITE OVERVIEW

2.1 Location:

2.1.1 The setting

2.1.2 The property is a detached dwelling in a residential area. The properties in the area are mainly detached dwellings.

2.2 Aspect and Topography

2.2.1 The site is east facing.

The site is on several levels, with lower ground immediately to the front of the house, the main garden area being on the middle level and the tree and the summer house being on the higher level, nearest the road.

3.0 SCOPE OF TREE SURVEY

3.1 Survey Details

3.1.1 This report provides the results of a tree survey undertaken on Friday 30th October 2020.

3.1.2 The report has been based upon Visual Tree Assessment (VTA) methodology, as devised by Mattheck (1993) and addition to Hazard Evaluation by Matheny & Clark (1993). Guidance is also taken from Lonsdale (1999) *Principles of Tree Hazard Assessment and Management*.

3.1.3 The assessment has been to level one of the TRAQ (Tree Risk Assessment Qualification) assessment criteria.

3.1.4 Level One is a walk-by. This is used to assess a population of trees from the ground, to assess individual trees requiring further attention, or for trees on third party land where access is limited.

3.1.5 Level Two is a more detailed inspection of the individual tree, from the ground, usually involving a 360* walk around and use of the tapping hammer to detect poor bark and/or cavities. Level Two is used wherever possible.

3.1.6 Level Three is a detailed inspection of the individual tree where concerns have been raised at Level Two. It can involve a climbing inspection to assess the condition of branches within the crown and possible areas of decay. It can also involve the use of decay-detecting equipment.

3.1.7 This report has been to level two.

4.0 FINDINGS OF TREE SURVEY

4.1 Details of the survey: Details are in Appendix IV. Note that we only surveyed the oak tree. We did observe several Silver Birch trees in the neighbouring garden. These have been subject to injudicious pruning which has compromised their quality and reduced their future potential. There may be scope to plant a replacement tree in the vicinity.

4.2 In summary: There is a single tree in the garden. It is an oak with signs of decline, both with a loss of extension growth and a cavity on the main trunk.

4.3 Tree Work Priorities

4.3.1 We recommend that consideration be given to felling the tree and replacing it. Extensive pruning is needed, and the condition of the tree is such that it may not respond with good vigour.

4.4 Tree Protection: General Notes

4.4.1 Before undertaking works to trees protected by a Tree Preservation Order, consent needs to be obtained from the local planning authority which will provide application forms and advice to potential applicants. The removal of dead wood is exempt.

4.4.2 Where the works are proposed for reasons of safety or ill health, a report from a suitably qualified arborist will usually be required. Trees that are dead, dangerous or dying are technically exempt from protection, though it would be prudent to give the local authority 5 days' Notice of Intention and take photographs before undertaking works without prior notice being given. Fines of up to £20,000 per tree exist for unauthorised works to protected trees.

4.4.3 Where planning permission is granted and tree works have been approved as part of the planning consent, no further application is required in respect of protected trees.

4.4.4 Where work is proposed to trees within a conservation area with a trunk diameter of 75mm or greater, measured at 1.5m on the trunk, 42 days' Notice of Intent to undertake the work must be given to the local authority. If there is no response to this, the work may proceed. A fine of up to £20,000 per tree exists if work is undertaken without the Notice being served on the local authority and the notice period honoured.

4.5 Tree Protection Status: Site Specific

We understand that the site is We understand that the site is NOT within a Conservation Area.
However, we understand that the tree is subject to a Tree Preservation Order.

5.0 Limitations of Use and Copyright

5.1 Copyright

5.1.1 All rights in this report are reserved. It may only be used by the addresses for the purposes described in point 1.1 above. No part may be reproduced or transmitted in any form, or by any means, electronic, mechanical, by photocopying, recording or otherwise, or stored in any retrieval system of any nature, without our written permission. Until all fees rendered by the consultant to the client have been paid in full, the copyright of any documents, forms, statements, maps, plans and other such material will remain vested in Cedarwood Tree Consultants. No unauthorised use of such material may be made by the client, or any person purporting to be acting on their behalf. It may not be sold, lent, hired out or divulged to any third party not directly involved with this site without the written consent of Cedarwood Tree Consultants.

5.2 Report Limitations

5.2.1 The trees have only been inspected from ground level, and from the applicant side and the public highway; all conclusions and observations are based on this. No decay detection equipment has been used to assess the trees on site. Where further, more detailed inspections are deemed necessary, this will be specified in the survey.

5.2.2 Trees are dynamic organisms, which are in a constant state of development and change. The comments and recommendations of this report will remain valid for a period of twelve months from its completion. Unless otherwise described, all trees affected by the proposed work, on land owned by the client, have been inspected. Trees affected but on neighbouring land will not have been inspected or measured, although observations from within the site will be detailed.

5.2.3 It is perfectly normal for trees to occasionally break without anyone or anything being to blame. The breakage is the natural price the tree must pay for achieving an energy-saving, lightweight structure.

5.2.4 The parameters assessed for each tree, the methods used, and their limitations are described in Appendix 1 to this report.

5.3 The Full British Standard Methodology

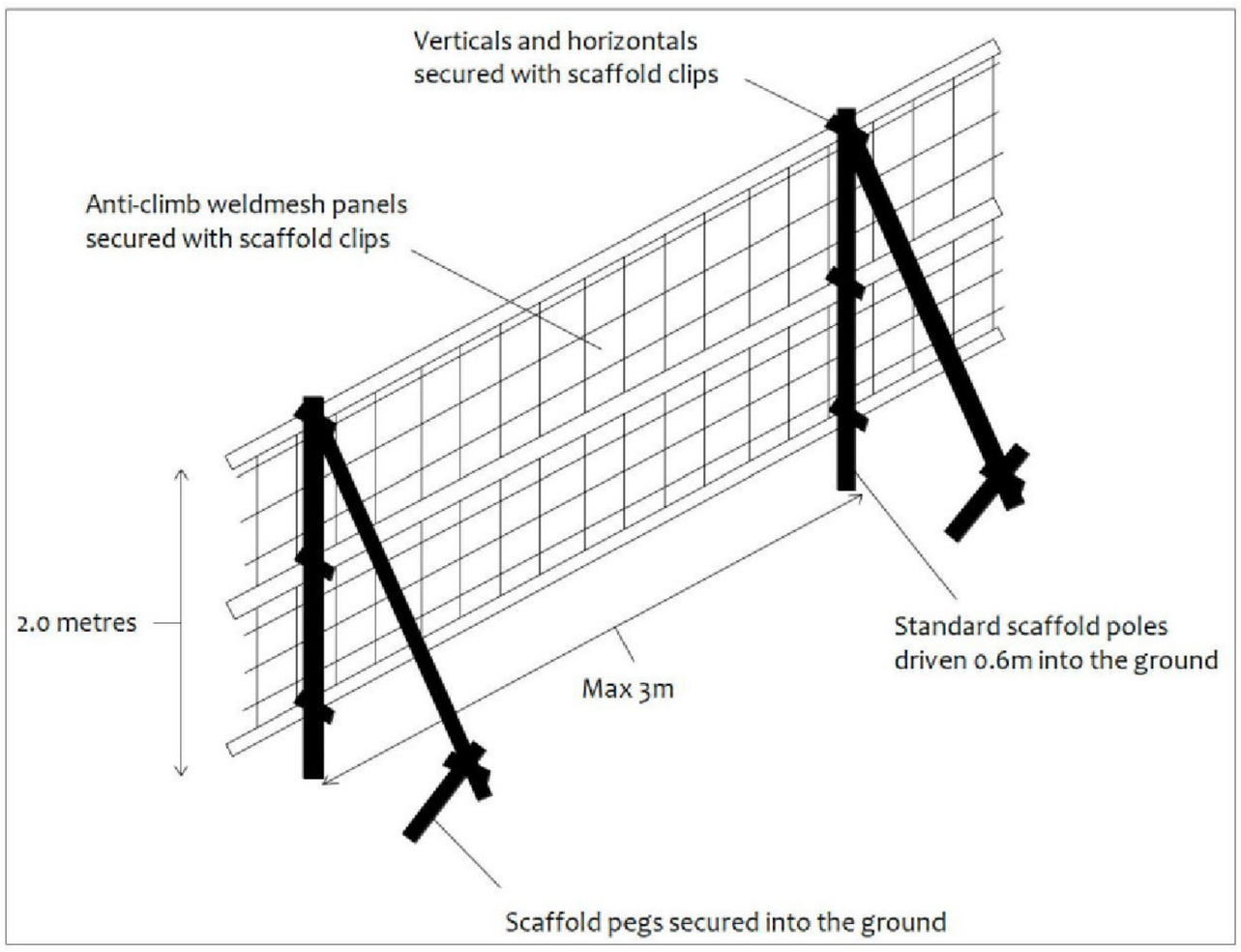
5.3.1 This consists of several steps:

5.3.2 **A tree survey records** the location of each tree along with basic size estimates and quality assessments. In particular the life expectancy of each tree is assessed so that those trees that can realistically be expected to provide long lasting benefits are identified.

5.3.3 **A Tree Constraints Plan (TCP)** plots the constraints, in terms of ground area, that the current tree might require if it were to be retained. Both above (i.e. branches) and below ground (roots) constraints are considered. Since the branches are visibly obvious the below ground constraints are assessed by defining a root protection area for each tree.

5.3.4 **An Arboricultural Implications Assessment (AIA)** assesses the particular impact of any particular design based on the footprint of the proposed building and building requirements such as building material storage, machinery access, service runs and scaffolding requirements.

5.3.5 **A Tree Protection Plan (TPP)** shows the location of proposed protective fences around retained trees and other measures such as ground protection.



6.0 ARBORICULTURAL IMPACT ASSESSMENT

6.1.1 Overview of the Development: The proposal is to erect a single-storey dwelling in the area of the upper level. There is an existing summer house and hard standing around it. The proposals would replace the summer house, making use of the surrounding hard standing to optimise the print of the new dwelling.

6.2 Impact of Tree Removal: The proposals require the removal of the oak tree.

6.3 Mitigation Works: Sensitive replacement planting of the tree is proposed.

6.4 Mitigation Planting: The proposal is to replace the tree as part of site landscaping. The proposal is to plant a Silver Birch on the upper level and a Hornbeam by the new boundary between the new dwelling and the existing dwelling. These would be standard trees, 12-14cm girth. These proposals are subject to approval of the Local Planning Authority.

6.5 Impact of General Construction Activity

6.5.1 Tree protection measures are specified in the Method Statement in Section 7. These shall ensure that the impact of general construction traffic shall be minimal. It is imperative that all site personnel, including temporary contractors, are made aware of the Arboricultural Method Statement and the restrictions which apply.

6.5.2 The site should have sufficient space for siting cabins and storing materials and spoil during the construction phased, if these are required. However, the logistics of the development need to be well organised to ensure that there is adequate space outside of the root protection zones for construction activity.

6.6 Impact of Underground Services and Drainage

6.6.1 The site contains sufficient space to enable service and drainage infrastructure to be installed without the need to pass through any Root Protection Areas. There is existing water, electricity and sewage supply to the site. The positions of services should be agreed with the local authority and installation engineers should be made aware of the need to keep trenches outside of RPAs.

6.7 Hazardous Materials:

6.7.1 We do not expect there to be an issue with the use or storage of hazardous materials.

7.0 Arboricultural Method Statement

7.1 Use of the Method Statement

7.1.1 Tree protection measures specified within this report shall be agreed with the local authority so that they may be conditioned upon planning consent. If the agreed protection measures differ from this Method Statement, it should be updated.

7.1.2 The site manager must be familiar with all aspects of the Method Statement and shall liaise with the appointed arborist to clarify any issues within, or regarding any unforeseen issues where trees may be impacted upon.

7.1.3 A copy of this Method Statement shall be available on-site at all times. All personnel working on the site shall be aware of any sections relating to their work. This includes short term contractors and persons responsible for deliveries and installations of services.

7.2 Timing of Operations

7.2.1 Stage one: Fell the Oak tree.

7.2.2 Stage two: Undertake construction works

7.2.3 Stage three: Complete construction works

7.2.4 Stage four: Inspect trees for replacement planting to ensure they have been grown to BS8545:2014 Young Trees, From Nursery to Independence in the Landscape.

7.2.5 Stage five: Plant the new trees.

7.2.6 Stage six: Ensure post-planting maintenance for a period of five years following planting.

7.4 Use of Heavy Plants

7.5.1 All machinery operatives are to be made aware of the Construction Exclusion Zones. The operatives are to respect these zones and ensure that no damage occurs to trees due to the careless use of machinery.

7.5 Siting of Cabins and Storage of Materials

Cabins and building materials should be stored outside of the Construction Exclusion Zones. Any proposal to install cabins or store materials within the Construction Exclusion Zones should be agreed with the appointed arborist and the local authority prior to installation.

7.6 Hazardous Materials

The mixing of cement-based materials should only take place outside of the Construction Exclusion Zones. The mixing area needs to be contained in such a way as to ensure that no water run-off enters the Root Protection Area of any tree. Mixers and barrows are to be cleaned within this mixing area.

7.7 Tree Works

7.7.1 We do not anticipate any remedial works being required post-construction if the Arboricultural Method Statement is implemented because the tree will be well protected. However, the tree should be inspected after completion of major works in case any unforeseen damage has occurred and remedial works are required. In addition, the vigour of the trees should be appraised on completion to ensure it has not been affected. Measures to mitigate any damage can be proposed at that stage should they be needed.

7.8 **Landscaping:** Two trees are to be planted on the site. One is to be on the southerly boundary and the other on the northern point of the new boundary with 'Westlands'.

7.9 The Project Arborist

7.9.1 The author of this report has been appointed as the Project Arborist.

Appendix I: Notes on the Tree Survey and its Limitations

Data collected on each recorded tree reflects the recommendations provided in paragraphs 4.2.6 and 4.3/Table 1 of British Standard 5837:2005 Trees in Relation to design, demolition and construction — Recommendations.

Tree Number

T (individual tree), G (group of stems, possibly of coppice origin (i.e. originating from a single tree) or several trees planted together or self-seeded) or S (stump of tree, normally cut at or nearby ground level). Shrubs (Sh) may also be recorded where they are considered to provide amenity or privacy that it may be desirable to retain post development.

Species

Commonly known name; Scientific name is recorded separately.

Stem Diameter

Larger stems which are likely to define the edge of root protection areas are normally measured at 1.5m above ground level with a diameter tape to the nearest millimetre. Those trees that are less likely to define the edge of the root protection area, or which were difficult to access may have been assessed visually by use of reference instruments such as tape measures or other objects of known size (e.g. a sheet of A4 paper – 21 x 30 cm). Where ivy and other vegetation such as holly, or slope or other considerations prevent accurate measurement the diameter estimate is marked with a * to show it is approximate. Estimates are stated in centimetres.

Where more than one shoot grows at 1.5m above ground level, the diameter has not been measured at 1.5 m but above the root flare, normally where diameter is smallest between 0.2 and 0.5m above the ground. Such estimates will be recorded as “RF”.

Branch spread

This parameter records the radial distances between the tree trunk and the end of the furthermost branches in the direction of the four cardinal compass points. Where light conditions allow these have been measured on the largest trees using a laser device to the nearest 0.1m. In most cases however, unless the crowns look visibly uneven due to branch loss or neighbouring competing vegetation, circular crowns are assumed, and only one figure is reported.

Crown Clearance

This parameter estimates the lowest point of the crown from the ground. Minor and dead branches are ignored.

Structural Condition

Comments on structural condition are restricted to what was seen of each tree; a complete health and safety audit was NOT conducted, but where defects were observed that need further investigation a recommendation for more detailed examination may be provided. Alternatively, an annual inspection may be recommended (e.g. of a roadside tree). If the tree is of little further value, removal of the tree may be recommended without further investigation suggested.

Observations on structural stability of a tree and resulting recommendations may change with time. Trees are living organisms and climatic events (e.g. strong wind, drought, floods), human actions (e.g. vehicles, machinery, vandalism, application of chemicals) and other vectors (e.g. pests, diseases, lightning) may alter the health and/or structural stability of trees over relatively short periods of time.

Annual reassessments are recommended for most trees that occur nearby property, areas of frequent use and other areas where a duty of care might be considered to apply. Thus, our assessment of structural condition is valid on the day of inspection and for the vast majority of trees should be adequate for twelve months from the date of the survey. In a small proportion of cases however trees may appear healthy and structurally sound on the day of inspection, provide little or no sign of having stability or structural problems but rapidly deteriorate at a later date or over a period of time. Vigilance is therefore recommended and if signs of significant structural or health change are seen, further professional advice should be sought.

Where we have seen what we consider to be a “dangerous” tree we will attempt to inform a responsible person on site verbally and for both occupied and non-occupied sites the nature of the danger provided by the tree will be recorded in the data sheet.

Additionally, some tree structural defects may be difficult to see through other vegetation such as brambles or tall herbaceous plants, ivy and other climbers growing on stems or factors such as poor access to the base of the tree. Cutting the main stems of climbers around the base of each tree is recommended in many cases. Such cutting should lead to their death and allow a more thorough visual inspection at a later date. Species such as ivy may provide habitats for a variety of wildlife species, some of which, like bats, may be legally protected. In some cases, further advice on wildlife legislation may be advisable.

Preliminary Management Recommendations

Where action is recommended a preliminary suggestion is made. Further discussion is likely to be needed to assess the need and its priority. Removal of ivy may be useful; crown pruning to remove dead wood may be recommended if new buildings are to be erected nearby a tree or if access to the tree is likely to increase; sometimes complete tree removal may be suggested. The action recommended is the minimum required and may not include other factors such as the desire to keep the tree in an attractive shape or stump removal.

Estimated Remaining Life Contribution

No standardised method is recognised for making estimates of remaining life span of a tree. The estimates given are based on a rapid assessment of health and structural condition AND the location of the tree in relation to any targets. Thus, a roadside tree with a particular defect may be given a lesser life expectancy than a similar tree located within in a woodland which attracts few visitors.

Category Grading

British Standard 5837 (BS) suggests the use of four categories for tree quality - three for tree retention (A, B and C) and one for Unclassified (U). It should be noted that trees within the ‘U’ category would normally be recommended for removal. However, there may be trees with ecological or social values whose retention, even temporary, is recommended. For retained trees, three subcategories are

suggested by the British Standard: arboricultural (1), landscape (2) and cultural/conservation (3). Grade "A" trees are of high quality and value making a substantial contribution with a life expectancy over 40 years. Grade "B" trees are of moderate quality and value making a significant contribution with a life expectancy over 20 years; Grade "C" trees are of low quality and value with a life expectancy over 10 years or young trees with a stem diameter less than 150mm.

Category "U" trees include those recommended for removal due to serious, irremediable structural defects or health conditions.

Appendix II contains further details of the BS categories.

Bat Roost Potential

Bats are protected species by law. Trees by their very nature have structures that may allow bats to shelter or roost in them. These include cracks in bark, ivy growth and crevices and cracks that may develop over the lifetime of a mature tree. Reasonable care must be taken whilst undertaking any tree work to identify the presence of bats and/or bat roosts. Work must stop if any are found and advice sought from an appropriately licensed person. This column is marked "Y" where an observed feature of a tree has the potential to harbour bats and thus extra care should be taken before and whilst undertaking tree works to the tree. This might involve a survey of the tree at dawn and/or dusk, possibly including a climbing inspection, by a competent licensed bat worker.

Appendix II: BS 5837 Categorisation for Tree Quality

Explanatory Notes for Tree Schedule

Species: Trees are detailed according to their common name. Where it is not possible to accurately identify by common name, the species name may be given, e.g. *Prunus* sp.

Age: This is recorded according to the age class for the species and refers to the expected life span.

N - Newly-planted: A recently planted tree, which may still be staked. Post-planting maintenance may be required.

S – Sapling: A young tree which is recently established. Considerable furthergrowth in height and spread can be expected. Formative pruning may be needed.

E/M - Early Mature: A tree within the first third of its expected life span. Further growth in height and spread is possible and some formative pruning may be needed.

M – Mature: A tree in the middle third of its' expected life span. Growth will be limited to trunk girth increase. The tree is likely to make its' maximum contribution.

L/M - Late-Mature: A tree in the final third of its' expected life span. There may be evidence of a decline in vigour with the presence of dead wood. A tree at this stage of its' life may be unsuitable for retention on a development site, depending on the species.

V – Veteran: A tree that has lived beyond its expected life span. The tree may have historical, ecological or social importance. Additional care is likely to ensure sustainable retention.

Height: Estimated to the nearest metre.

Crown Spread: Measured from the drip line north to south, and east to west.

Vigour: An observation of the biological activity of the tree, measured by the growth rate in the current season. A tree may be in decline but retain good vigour.

G: Good A tree of high vigour

F: Fair A tree of normal vigour

P: Poor A tree of low vigour

D: Dead A tree that is dead

Future Life: An estimation of the trees' expected remaining life, assuming it is protected from significant changes in the local setting. Measured in years.

Diameter: A measurement of the trunk at 1.5m above ground level. Recorded in mm. The pre-fix M/S indicates the tree has multiple stems.

Tree Retention Categories

Trees are allocated to one of four main categories for suitability to retain. There are three subcategories:

1. Mainly arboricultural values
2. Mainly landscape values
3. Mainly cultural values, e.g. conservation, historical

Category A (Green)

A tree of high quality and value. It is in such a condition that it is likely to make a significant contribution for at least forty years.

1. Trees that are particularly good example of their species, possibly rare or unusual, or essential to their setting within a group, e.g. the prominent specimen within an avenue.
2. Trees, groups or woodlands providing screening or contributing to views or visually important.
3. Trees, groups or woodlands of significance to conservation, or of historical, commemorative or other values, e.g. veteran trees.

Category B (Blue)

A tree of value and quality but less that category A. A tree in such a condition that it is likely to make a significant contribution for at least twenty years.

1. Trees that may have been classified higher but are downgraded because of their condition, such as structural weakness, past storm damage or unsympathetic management.
2. Trees in a group or woodland setting that forms a distinct landscape feature which is important to the setting, but are not individually important. They may be set within a site and thereby providing little visual impact on the wider setting.
3. Trees with clearly identifiable conservation or other cultural benefits.

Category C (grey)

A tree of less quality and value than category B, or one which, although likely to contribute to the setting for more than ten tears is unlikely to remain for more than twenty years. It may be appropriate to retain such a tree until new planting is established (a minimum of ten years is likely), or a young tree with a stem diameter below 150mm.

1. Trees not worth inclusion in the higher categories
2. Trees in groups or woods where this does not convey greater landscape value, or the contribution is low or temporary.
3. Trees with very limited conservation or cultural benefits.

Usually, category C trees will not be retained where this would impose a significant constraint on the development. However, good specimens that are young trees with a stem diameter under 150mm may be considered for relocation.

Category U (red)

This category includes trees that are unlikely to retain any existing value beyond ten years and which should, in the current context, be removed for reasons of sound arboricultural management.

1. Trees that are dead or in irreversible decline.
2. Trees that have serious structural defects sufficient to render them unsafe, or would become unviable follow the removal of other trees in the vicinity.
3. Trees affected by pathogens that could affect the health of other trees, such as Bleeding Canker in Horse Chestnut.
4. Very low quality trees suppressing neighbouring trees of better quality.
5. It can also include trees which are in decline or likely to have a short life but offer ecological value.

Condition: General comments referring to tree health, structure and condition. Begins with a one word summary.

Recommendations: Details of remedial work required for safety or to improve the management of the tree. Any additional investigations considered necessary such as a climbing inspection.

Priority: Guidance for the timescale within which works should be completed, from the date of the report.

Root Protection Area: This is the minimum distance in metres for the positioning of protective fencing in line with table 2 of BS 5837: 2012.
In order to protect the rooting zone of retained trees, an area equivalent to a circle of radius 12 times stem diameter for single stem trees and 10 times basal diameter for multi-stemmed specimens, is required.

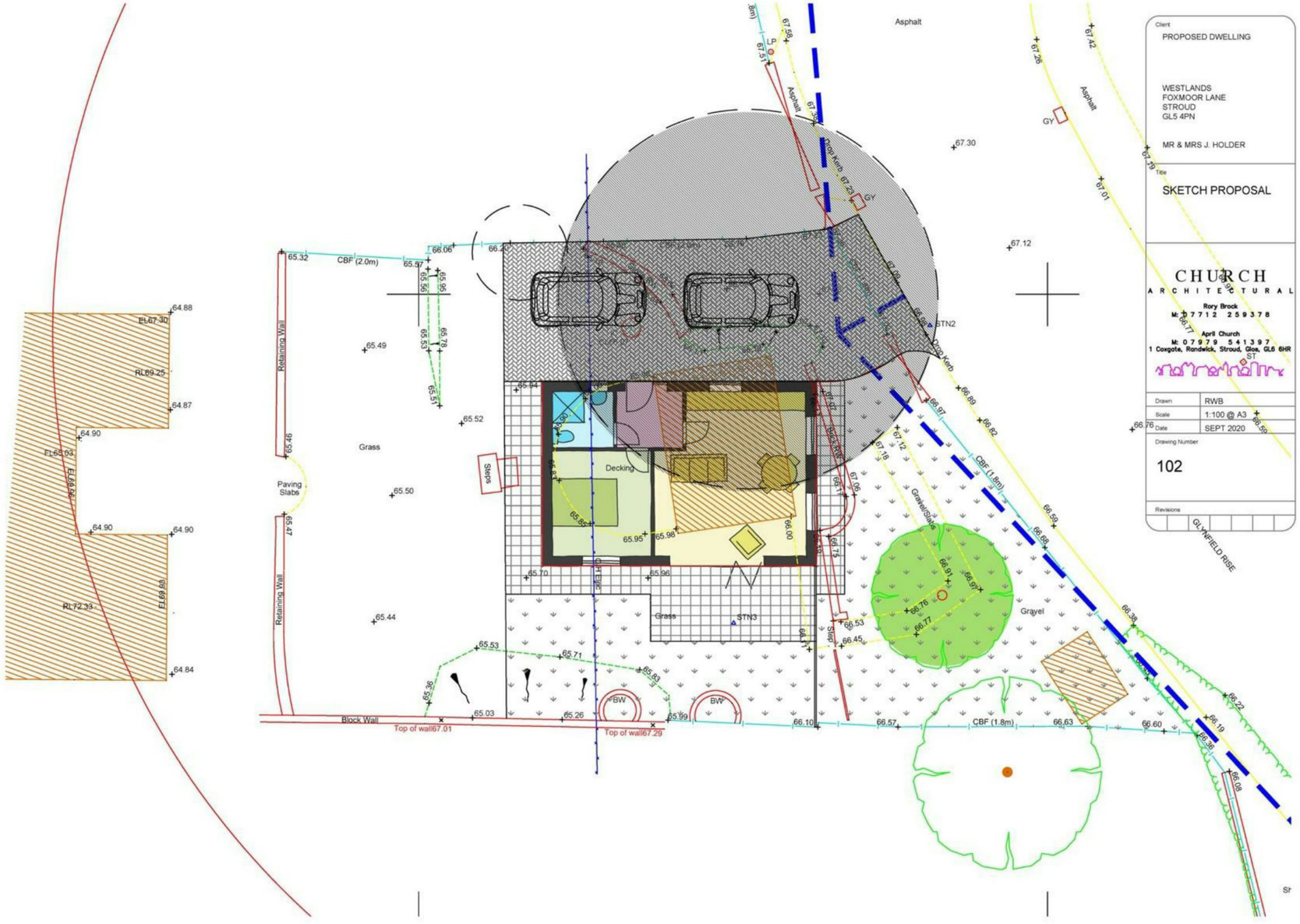
RPA (Radius) (M): Root Protection Area given in metres from the centre of the stem.

RPA (Area) (M2): Root Protection Area. The ideal total area for the RPA given in metres squared.

Appendix III: Tree Data (All measurements are in metres unless otherwise specified)

Tag	Species	Age	Height (m)	Canopy Height (m)	N	S	E	W	Vigour	Life Expectancy (years)	Retention	Diameter (mm)	Condition	Work Required	Recommendations	RPA (radius) (m)	RPA (area) (m2)
T1	Oak	M	8	2	4	4	4	4	M	10-20	C3	425	Poor. This is a poor specimen with extensive dieback. It has a cavity at 1m on the house side.	Extensive pruning would be needed if this tree is retained.	This is not a long-term tree. Felling and replacing is recommended.	5	

Appendix IV: Tree Constraints Plan



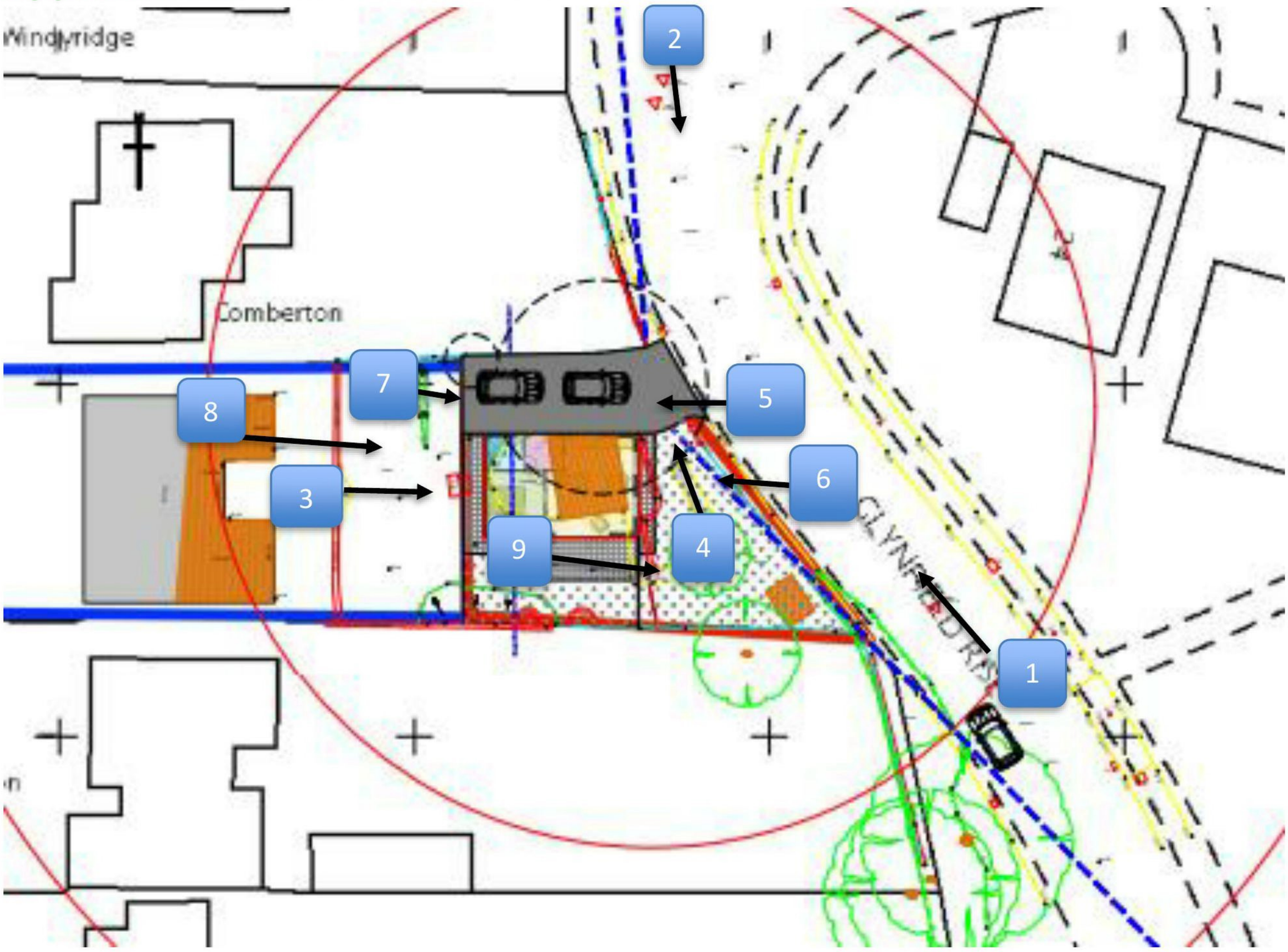
Appendix V: Arboricultural Impact Assessment Plan

✓ RETAIN

✗ REMOVE

Appendix VI: Landscape Plan

Appendix VII: Photo Location Plan



Appendix VIII: Reference Photographs

Image 1:

Image 2:

Image 3:

Image 4:

Image 5:

Image 6:

3 Howton Grove Barns, Wormbridge, Herefordshire HR2 9DY
T: 01981 570426 or 07888 838360
E: enquiries@cedarwoodtreecare.co.uk **W:** cedarwoodtreerultants.co.uk

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Image 7:

Image 8:

Image 9:

Image 10:

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END OF REPORT