# Visitor entrance building extension

## Arboricultural Impact Assessment and Method Statement

## Report for Leonardslee Park and Gardens

| | | | |
|---|---|---|---|
| **Job Number** | **10526** | | |
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| **Version** | **Checked by** | **Approved by** | **Date** |
| V1.0 | Jacqueline Waring (Principal) | Jacqueline Waring (Principal) | 25/06/2025 |

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# Contents

# Executive Summary

Temple Ltd was commissioned by Leonardslee Park and Gardens to undertake a ground level survey of trees that could be affected by the construction of a single storey extension to the former glasshouse, Leonardslee Park and Gardens, Lower Beeding, Horsham RH13 6PR, and to produce an Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) for the construction works. An initial report was issued in 2024, and a design change in June 2025 promoted an update to be carried out. A qualitative assessment of each tree was carried out according to British Standard BS 5837:2012, Trees in Relation to Design, Demolition and Construction – Recommendations, focusing on arboricultural values (categories A1, B1, C1)[1], landscape values (categories A2, B2, C2) and cultural values (A3, B3, C3)[2].

Since the trees assessed in and adjacent to the proposed extension were originally part of a much larger study area, the tree numbers do not appear in sequential order.

The main findings of the survey and associated impact assessment are as follows:

- There were eight individual trees and two groups in and adjacent to the proposed development site, each described in Appendix 1 of this report.
- Of the trees surveyed, one individual was attributed category A status, three individuals, and one group were attributed category B status and four individuals, and one group were category C status.
- A tree constraints check was carried out with Horsham District Council, and it was confirmed that there were no Tree Preservation Orders (TPOs), or Conservation Area restrictions were associated with the site.
- Under the proposals, a single category B tree and four category C trees will be required to facilitate development.
- A robust tree protection strategy based on the erection of tree protection barriers at the extents of the majority of retained trees prior to commencement of any works on site will ensure their effective protection.

[1] Categorisation grading in accordance with BS 5837 2012. Trees suitable for retention: - Category A. Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B. Trees of moderate quality with an estimated life expectancy of at least 20 years.
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 150mm.
Category U. Trees of very low quality normally with a life expectancy of less than 10 years or requiring immediate removal due to health and safety concerns.

[2] British Standard BS 5837 2012 recommends that these categories may be further broken down into sub categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively.

# 1 Introduction

## BACKGROUND

1.1 Temple Ltd was commissioned by Leonardslee Park and Gardens to carry out an arboricultural survey of trees at Leonardslee Park and Gardens, Lower Beeding, Horsham RH13 6PR and provide a report to inform future design proposals for five different sites within the Gardens and generate tree protection plans. The tree survey was required to assess the condition of trees that could be affected by future development of the site and provide sufficient information for the development of site layouts and construction exclusion zones to protect existing trees.

## SCOPE OF REPORT

1.2 This report has been produced in accordance with British Standard BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (hereafter referred to as BS 5837:2012). It provides information on the current condition of trees at the site, their suitability for retention, and the above and below ground constraints to development. It also evaluates the overall likely impact on the existing tree presence at the site.

1.3 Any clear structural flaws or hazards have been identified in the Schedule of Trees provided in Appendix 1. Preliminary recommendations for the management of retained trees are provided, but a full hazard risk assessment comprising a more comprehensive analysis of tree condition and potential risk to target areas is beyond the scope of this report. Any recommendations relating to the management of potentially hazardous trees should be carried out as soon as possible[3].

## SITE CONTEXT AND STATUS

1.4 The site is situated within Leonardslee Gardens, in the borough of Horsham Council. It is located adjacent to the junction of Leonardslee Hill Road and Brighton Road. The visitor entrance building extension site lies to the entrance car park of Leonardslee Park

[3] All tree works should be undertaken by a suitably qualified Arboricultural Contractor. No arboricultural works to trees subject to planning constraints shall be carried out without the written consent of the relevant Local Planning Authority (LPA). Any proposed tree works should be undertaken in accordance with British Standard BS 3998:2010 Treework - Recommendations. Works to trees that are the subject of a Tree Preservation Order or within a Conservation Area which are deemed to be dangerous under Regulation 14 of the Town and Country Planning (England) (Regulations) 2012 may under certain circumstances be undertaken without needing to seek the prior written consent of the LPA.

and Gardens and a section of soft landscaping containing amenity boundary trees. The Ordnance Survey National Grid reference for the centre of the site is TQ 22109 26115.

## DESCRIPTION OF THE PROPOSALS

1.5 The proposal comprises a single storey extension to the former glasshouse and will include a small grab and go café and a new ticket sales area and garden entrance.

# 2 Methodology

## TREE SURVEY

2.1 The tree survey was conducted in accordance with BS 5837:2012. Results are presented in the Schedule of Trees (Appendix 1) and include a sequential numbering of each tree, species listed by common name, tree dimensions including overall height, canopy spreads measured against the cardinal compass points, crown height, age class, physiological condition, structural condition, life expectancy, root protection areas and preliminary management advice.

2.2 Each tree has been assigned a category grade in accordance with BS 5837:2012 categories A, B, C and U ranging from high to low quality. Definitions of tree quality are provided in Table 1 Appendix 1.

2.3 For the purposes of this report, arboricultural as well as landscape sub-categories have been used in the Schedule of Trees. BS 5837:2012 points out that each sub-category should be given equal weighting when grading trees against these criteria.

2.4 A tree constraints plan, based on the original tree survey data and productions, is presented in Appendix 2 showing the RPAs (root protection areas) for all surveyed trees. Each grading category has been highlighted using the colour key system as described in BS 5837:2012.

2.5 The site was visited on 13th and 14th February 2024. Weather conditions were overcast with rain.

2.6 All trees likely to be affected by works inside the red line boundary of the site were visually assessed using the Visual Tree Assessment Method (VTA) (Mattheck and Breloer, 1994).

2.7 Stem diameters were measured using diameter tape. Canopy spreads were estimated by pacing and where possible, verified using a laser range finder. Height measurements were taken using a laser clinometer.

2.8 Formal assessments of topography, drainage, service conduits and soil conditions including specific laboratory investigations of soil properties (i.e. plasticity index, moisture content, suction pressure) were not undertaken and are beyond the scope of this report.

### DESK STUDY

2.9 A tree constraints check was undertaken with Horsham District Councils online mapping service to search for Tree Preservation Order and Conservation Area restrictions to tree works in and adjacent to the site.

### SUPPORTING DOCUMENTS

2.10 Drawing Reference: *Proposed drawings* (Purcell, 2025) was provided for the purposes of compiling this report. It included the layout of existing site features and the proposed general arrangements for the site.

### PERSONNEL

2.11 This report was produced by Henry Bates Dip Arb L4 (ABC) MArborA, who holds the Professional Tree Inspector (LANTRA) qualification and is a Quantified Tree Risk Assessment (QTRA) registered user. Henry is an Arboricultural Consultant with 16 years' experience within various sectors of arboriculture, working as a lead climbing contractor, project manager, surveyor and consultant.

### LIMITATIONS

2.12 Only preliminary recommendations for tree management are provided. A full hazard risk assessment comprising a more comprehensive analysis of the condition and potential risk to target areas is beyond the scope of this report.

2.13 The trees were inspected at ground level and no decay detection equipment was used. There is therefore a risk that any internal decay that may be present has gone undetected.

2.14 Where trees were situated in areas where access to the main stem was not possible; assumptions have been made relating to dimensions of the main stem, and the overall condition is based upon the visible parts of the tree only. Details are provided at Appendix 1.

2.15 Trees are living organisms and their health and condition change with time. Therefore, this assessment remains valid for 12 months from the date of inspection, or until a severe storm is experienced, after which time a new inspection is required. For the purposes of this report, a severe storm is defined as a period of violent weather, involving rain, hail, wind, snow, lightning or any combination of these, likely to cause damage to trees.

# 3 Results

## TREE SURVEY

3.1 The applicable results of the tree survey are provided in the Schedule of Trees in Appendix 1. A Tree Constraints Plan illustrating the BS 5837:2012 categories of each tree, their crown spread, and RPA is presented in Appendix 2.

3.2 Regarding the visitor entrance building extension, this report includes nine individual trees, and four groups which could potentially be affected by its development.

3.3 Physiological and structural condition[4] of the majority of surveyed trees was consistent with category C status (four individuals and one group), with three individuals and one group assigned category B status, and one individual assigned category A status.

3.4 A summary of the number of trees surveyed corresponding to BS 5837:2012 tree quality assessment definitions is provided in Table 1.

**Table 1:** Grade Classifications

| BS 5837:2012 Grades A to U | Trees attributed to each grade | Frequency | |
|---|---|---|---|
| | | T | G |
| A | T50 | 1 | - |
| B | T45, T55, T57, G4 | 3 | 1 |
| C | T46, T47, T48, T49, G6 | 4 | 1 |

## DESK STUDY

3.5 It was confirmed that no trees on site were subject to Tree Preservation Orders or Conservation Area Restrictions.

## ARBORICULTURAL IMPACT ASSESSMENT

3.6 Based on Drawing Reference: *Proposed drawings* (Purcell, 2025), the impact of the construction on the existing trees has been assessed and all trees that will potentially be

[4] Physiological and structural condition are terms used to differentiate between a trees physiological condition i.e. annual growth, vigour, presence of disease etc. as opposed to structural condition relating to branch formation, mechanical strength and integrity.

affected by the works are listed in Table 3. Tree numbers in the table correspond to the Schedule of Trees in Appendix 1 and Tree Constraints Plan described in Appendix 2.

3.7 It has been assumed that the height of all construction traffic or goods vehicles accessing the site will be within the standard minimum carriageway clearance of 5m (HSE, 2017).

3.8 **Table 2:** Summary of trees possibly affected by the development

| Impact | Reason | BS Cat B | BS Cat C |
|---|---|---|---|
| **Trees to be removed** | To facilitate construction | T45 | T46, T47, T48, T49 |
| **Trees which could sustain damage to RPA** | Soil compaction through construction traffic access | T55, T57, G4 | G6 |
| **Trees which could sustain damage to stem or canopy** | Impact by construction traffic. | T45, T55, T57, G4 | G6 |

### TREE REMOVAL AND PRUNING

3.9 Removal of one category B tree (T45) and four category C trees (T46, T47, T48, T49) will be required to facilitate development as proposed.

### TREES WHICH COULD POTENTIALLY SUSTAIN DAMAGE

3.10 The construction process has the potential to indirectly impact the stem, canopy or RPAs of two trees and two groups scheduled for retention as displayed in Table 2.

3.11 To ensure that these trees are successfully retained during the proposed works an Arboricultural Method Statement has been prepared in line with BS 5837:2012 recommendations in section 5 of this report.

### UNDERGROUND SERVICES

3.12 There can be no routing of underground services through the RPAs of retained trees.

## IMPACT ON VISUAL AMENITY AND LOCAL CHARACTER

3.13 Tree T45 was attributed category B status and therefore considered to be of moderate visual amenity value.

3.14 Trees T46, T47, T48 and T49 were all attributed category C status and therefore considered to be of low visual amenity value.

3.15 The trees are all located within actively managed gardens, open to the public and considered to be of very high cultural and arboricultural value. There is therefore a settled intention to restore and replace where any negative tree impacts are incurred. Compensatory replanting can reasonably be expected to be delivered to a high standard and maintained appropriately with the aim of enhancing the gardens.

# 4 Summary of Arboricultural Impact

### TREE RETENTION AND PROTECTION

4.1 All Category A and B trees as described in Table 2 have been given priority consideration for retention during the design process. The Tree Protection Plan (TPP), based on the erection of robust tree protection fencing prior to commencement of any works on site (including enabling works, soil stripping or other site preparation operations) will ensure the roots of retained trees are protected from damage.

### REPLANTING

4.2 It is understood that a full replanting and landscaping scheme forms part of this development proposal.

### CONCLUSION

4.3 While the removal of one category B tree and four category C trees would normally be considered a moderate impact, given the context of the site and the ample and varied canopy cover it already provides; assessment has concluded that tree removals associated with the design proposals are low. The small number of unavoidable tree removals will be adequately compensated for by replanting and landscaping proposals (provided by others).

4.4 The implementation of a robust tree protection strategy; based on the placement of fixed, braced tree protection fencing, will ensure safe retention of the high quality, high value trees on the site.

# 5 Arboricultural Method Statement

5.1 This Arboricultural Method Statement details how trees to be retained should be protected during the construction phase of site development. The advice is specific to this site and should be read in conjunction with the Tree Protection Plan in Appendix 3.

### SITE MONITORING AND SUPERVISION

5.2 An arboricultural consultant must be appointed to advise on tree protection implementation for the site.

### SUGGESTED SEQUENCING OF ARBORICULTURAL INPUT

5.3 It is recommended that the following arboricultural input regarding on site management of retained trees is required. Table 3 below will form the basis of an auditable schedule of inspection and reporting.

**Table 3**: Sequencing of arboricultural input.

| Activity | Level of arboricultural input |
|---|---|
| Pre-commencement site meeting with site manager and representatives from project management (if the latter is required). | Induction site meeting including review of tree protection measures.<br>Agree any improvements to tree protection measures (if required). |
| Tree works including removals. | Discuss and review works schedule with contractor. |
| Erection of protective barriers and ground protection measures. | Signing off of tree protection fencing location and fitness for purpose.<br>On-going discussion and advice during installation until fencing is fixed and braced. |
| Removal of protective fencing and ground protection measures after completion of construction works. | Pre-commencement on site briefing with contractor and ongoing site supervision at agreed intervals until completion. |
| Carrying out of mitigation tree planting and soft and hard landscaping. | Pre-commencement on site briefing with landscape contractor check and agree planting specification.<br>Site meeting with contractor following completion of works to check compliance with agreed specifications, maintenance and aftercare. |

### GENERAL PRECAUTIONS TO BE TAKEN ON SITE

5.4 The following precautions will be maintained at all times:

- All retained trees must be protected by the erection of protective barriers and or ground protection prior to the commencement of any works and such barriers will remain in place during the entire course of the development.
- No fires can be lit within 10m of the canopies of trees to be retained.
- Designated Construction Exclusion Zones (CEZ) must be suitably identified and maintained to ensure that trees remain protected. Storage or stockpiling areas, temporary road access, accommodation and other facilities are to be located outside of RPAs, inside designated sites away from retained trees and all care must be taken to prevent the leakage or spilling of harmful materials into the soil.
- No excavations or soil stripping or general disturbance and compaction of the existing soil strata is permitted within the RPA of any tree to be retained unless methodologies to do so have been described within a consented AMS document.
- All scheduled tree works must be carried out prior to the commencement of any site works and before the erection of tree protection measures.
- A copy of the Tree Protection Plan and any accompanying Arboricultural Method Statement will be made available and retained on site at all times.

### PRE- COMMENCEMENT SITE MEETING

5.5 Prior to any site works being undertaken, a pre-commencement meeting on site between the Site Manager, Arboricultural Consultant and project management representatives (if the latter are required) will be carried out in order to understand and agree key stages for the implementation of tree protection measures and operations and to allow any aspect of the process to be discussed.

5.6 Details of discussions and agreements made in the meeting will be recorded by the arboricultural consultant and backed by photos. Written reports can be supplied to project management and/or the Local Planning Authority, should this be required.

### ERECTION OF PROTECTIVE BARRIERS

5.7 The Tree Protection Plans show the location of tree protection fencing to be erected around the RPAs prior to the commencement of works. Protective barriers must remain in place through the entire course of the construction phase of the development and can only be moved in consultation with the appointed arboricultural consultant. The barrier will be a 2m high fence robust enough to withstand impact from plant machinery supported by a system of vertical and horizontal scaffold tubes and supporting back stays as specified in Figure 2 of BS 5837:2012.

5.8 Weatherproof signage will be attached to the barrier in locations clearly visible to contractors and site operatives. Examples of warning notices are provided in Appendix 5.

5.9 Once the barriers have been placed and fixed into position, they are not to be removed or altered in any way unless consented by the arboricultural consultant to allow for supervised works to be carried out within the RPA of a tree. The barriers are to remain in place until the conclusion of all site construction works but may be realigned, under arboricultural supervision, to allow works specified below to be completed. All works within the RPAs of retained trees will be the subject of arboricultural supervision.

5.10 In areas where work will be undertaken in the RPAs of retained trees a combination of protective barriers and temporary ground protection will be employed.

5.11 All operations relating to installation of cellular confinement 'no-dig' surfacing must be supervised and recorded by the project's arboricultural consultant.

### UNDERGROUND SERVICES

5.12 There can be no routing of underground services through the RPAs of retained trees.

### FINAL REMOVAL OF PROTECTIVE FENCING AND GROUND PROTECTION MEASURES

5.13 Prior to the final removal of any protective fencing or ground protection, the arboricultural consultant to the project must be consulted. This ensures that tree protection is not removed prematurely, at a time when there may still be risk to trees and tree roots from construction or other activities.

### CARRYING OUT OF MITIGATION TREE PLANTING AND SOFT AND HARD LANDSCAPING

5.14 All tree planting undertaken will be in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape – Recommendations.

5.15 General; all workmanship to appropriate BS and best practice. Tools and plant used must be suitable for intended use. The Contractor must cultivate and ensure all areas of new planting (including grass) is appropriately watered during the 5-year establishment maintenance period. Plants will be supplied in good condition, planted and maintained to the minimum specifications here outlined, with planting carried out under the supervision of an appointed clerk of works. All plant failures occurring within the 5-year

maintenance period will be replaced. Replanting requirements will be line with the specification here outlined.

5.16 Weather Conditions; all works will be carried out during suitable weather/soil conditions. All tree and shrub planting will be carried out during the first available planting season following completion of the construction works (Oct to Mar).

5.17 Site Clearance; where cultivation is required - all debris, accumulated rubbish, dead vegetation and stones larger than 50mm will be removed prior to cultivation. If required, an appropriate herbicide will be applied to all areas to be planted.

5.18 Topsoil; all topsoil importation will be from an approved source, and subsequent handling/application shall be in compliance with BS3882.

5.19 Recommended Fertiliser; Vitax 4 slow-release or equivalent to be supplied and spread over all shrub and woodland edge planting areas and tree pits at 75mg/m².

5.20 Planting of Trees; in general and where possible stock should be of local provenance. Planting stock should be healthy and possess good form, have been grown in a suitable environment and hardened off. Stock supplied must be free from pests, diseases, weeds or any signs of poor condition (leaf scarcity or discoloration, root damage etc). Stock must be true to name.

5.21 Stakes and Guards; Standard and ½ Standard trees to be double staked. Heavy and Extra heavy Standard trees to be triple staked and tied using industry standard tree-ties, complete with adjustable spacers. All shrub, tree and woodland mix planting to be protected from rabbit and deer damage with an appropriate fencing solution, or by means of suitable tree guards. All losses from livestock damage (including rabbit and deer) will be replaced during the 5 year maintenance period.

5.22 Watering; all newly planted trees and shrubs will be watered to field capacity immediately after planting. A watering regime will then be established suited to the needs of the newly planted trees and shrubs. All tree and plant failures will be replaced during the 5-year establishment maintenance period.

5.23 As a general rule, planting beneath tree canopies is not recommended. Planting operations can damage/disturb tree roots and the space directly beneath trees does not provide an ideal environment for the successful establishment of plants. Overshadowing

from tree canopies also constrains access to sufficient light for successful plant/shrub development.

5.24 There can be no rotivation or other ground disturbance within the RPAs of retained trees.

5.25 Where hard and soft landscaping is proposed within a tree rich environment, the appointed landscaping contractor should provide a method statement which demonstrates an understanding that RPAs require to be fully respected. For example; where plant/machinery is required to traverse across RPAs for access to planting spaces, effective ground protection must be used.

## CONTACT DETAILS

5.26 This method statement is accompanied by a list of known contact details for all relevant parties and is included in Table 4.

**Table 4**: List of contact details for all relevant parties

| Contact | Name | Company or Local Authority name | Contact Number | Report Issued Yes/No |
|---|---|---|---|---|
| **Client** | Adam Streeter | Leonardslee Gardens | 07812589109 | Yes |
| **LPA Tree Officer** | Planning | Horsham District Council | - | No |
| **Arboricultural Consultant** | Henry Bates | Temple Ltd | 07773993466 | Yes |

# References

British Standard Institute (BSI) (2012). *BS 5837:2012 Trees in Relation to Design Demolition and Construction-Recommendations*. BSI, London.

British Standard Institute (BSI) (2010). *BS 3998:2010 Recommendation for Tree Works*. BSI, London.

British Standard Institute (BSI) (2014). *BS 8545:2014 Trees: from nursery to independence in the landscape - Recommendations*. BSI, London.

Department for Communities and Local Government (2014). *Planning Practice Guidance on Tree Preservation Orders and trees in conservation areas.*

Lonsdale, D. (1999). *Research for Amenity Trees No.7: Principles of Tree Hazard Assessment and Management*. HMSO

Purcell (2024). *Proposed drawings*

Mattheck and Breloer (1994). HMSO London. Research for Amenity Trees No 4; *The Body Language of Trees.*

Town and Country Planning Act 1990 (as amended).

Town and Country Planning (Tree Preservation) (England) Regulations 2012.

# Appendix 1: Schedule of Trees

**Table 1:** Schedule of Trees and Tree Quality Assessment*

| No | Species | Ht. | S | St. 1.5m | Canopy Spread | | | | Cr. Cl | Ls | SC | PC | Comments /Observation | Preliminary Management Advice | LE | Cat ** | RPAm $^2$ | RPA *r* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | N | S | E | W | | | | | | | | | | |
| T45 | Goat willow | 7 | 1 | 300 | 3 | 3 | 3 | 3 | 1 | EM | Good | Good | Bifurcation with tight union. | Remove to facilitate proposals. | 20+ years | B1 | 40.7 | 3.6 |
| T46 | Cotoneaster | 4 | 1 | 150 | 2 | 2 | 2 | 2 | 1 | SM | Good | Good | Cohesive group. | Remove to facilitate proposals. | 10+ years | C1 | 10.2 | 1.8 |
| T47 | Cotoneaster | 4 | 1 | 150 | 2 | 2 | 2 | 2 | 1 | SM | Good | Good | Cohesive group. | Remove to facilitate proposals. | 10+ years | C1 | 10.2 | 1.8 |
| T48 | Cotoneaster | 4 | 1 | 150 | 2 | 2 | 2 | 2 | 1 | SM | Good | Good | Cohesive group. | Remove to facilitate proposals. | 10+ years | C1 | 10.2 | 1.8 |
| T49 | Cotoneaster | 4 | 1 | 150 | 2 | 2 | 2 | 2 | 1 | SM | Good | Good | Cohesive group. | Remove to facilitate proposals. | 10+ years | C1 | 10.2 | 1.8 |
| T50 | Scots pine | 15 | 1 | #850 | 8 | 8 | 6 | 8 | 1 | M | Good | Good | Stem inaccessible. Decurrent form. | None. | 40+ years | A2 | 326.9 | 10.2 |
| T55 | European beech | 8 | 1 | 280 | 4 | 4 | 4 | 4 | 1 | SM | Good | Good | Maiden tree. | None. | 20+ years | B1 | 35.5 | 3.4 |
| T57 | Cupressus sp. | 8 | 1 | #300 | 2 | 2 | 2 | 2 | 1 | EM | Good | Good | Columnar form. Stem inaccessible. | None. | 20+ years | B1 | 40.7 | 3.6 |
| G4 | Mixed broadleaf | 8 | 1 | 380 | 3 | 3 | 3 | 3 | 1 | EM | Good | Good | Group contains viburnum, Japanese maple | None | 20+ years | B1 | 775.2 | - |

**Table 1:** Schedule of Trees and Tree Quality Assessment*

| No | Species | Ht. | S | St. 1.5m | Canopy Spread | | | | Cr. Cl | Ls | SC | PC | Comments /Observation | Preliminary Management Advice | LE | Cat ** | RPAm $^2$ | RPA *r* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | N | S | E | W | | | | | | | | | | |
| G6 | Alpen rose | 1 | 1 | 80 | 1 | 1 | 1 | 1 | 0 | EM | Good | Good | Shrub mass. | None | 10+ years | C1 | 276 | - |

## **Table 2:** BS: 5837 2012 Tree Quality Assessment Definitions

| TREES FOR REMOVAL | | |
|---|---|---|
| **Category & Definition** | **Criteria** | **Identification on Plan** |
| **Category U**<br>Those in such a condition that they cannot realistically be retained as a living tree 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 U category trees (i.e. Where for whatever reason the loss of companion shelter cannot be mitigated by pruning)<br>• Trees that are dead or are showing signs of significant immediate or irreversible overall decline.<br>• Trees infected with pathogens of significance to the health and or safety of other trees nearby by or very low quality trees suppressing adjacent trees of better quality. | RED |

| TREES TO BE CONSIDERED FOR RETENTION | | | | |
|---|---|---|---|---|
| **Category & Identification** | **1 Mainly arboricultural values** | **2 Mainly landscape values** | **3 Mainly cultural values including conservation** | **Identification on plan** |
| **Category A**<br>Trees of High Quality with an estimated remaining life expectancy of at least 40 years | Trees that are a particularly good example of their species, especially if rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features e.g. the dominant and/or principal trees in an avenue) | Tree groups or woodlands of particular visual importance as arboricultural and/or landscape features. | Tree groups or woodlands of significant conservation historical, commemorative or other value (e.g. veteran trees or wood pasture) | GREEN |
| **Category B**<br>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. | Trees that might be included in the high category but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage). | Trees present in numbers, usually 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 benefits. | BLUE |
| **Category C**<br>Trees of a low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm | 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 landscape value and/or trees offering low or only temporary/transient landscape benefits. | Trees with no material conservation or other cultural benefits. | GREY |

**Table 3:** Key Schedule of Trees

| Column Heading | Explanation |
|---|---|
| **Tree No** | Sequential number corresponding to number on plan. |
| **Species** | English names. |
| **Ht.** | Height in metres. |
| **S** | Number of main stems. |
| **St. 1.5 (Stem Diameter)** | Stem diameter when measured in accordance with Annex C of BS 5837:2012. |
| **NSEW** | Crown radius in metres to cardinal points of the compass. |
| **Cr. Cl. (Crown Clearance)** | Height in metres between the ground and underside of canopy. |
| **Ls.** | Life stage definitions. Y= Young. SM = Semi-mature. EM = Early mature. M = Mature. OM = Over mature. |
| **SC** | Brief description of structural condition. |
| **PC** | Brief description of physiological condition. |
| **Preliminary Advice** | Preliminary tree works advice and recommendations. |
| **LE** | Estimated remaining useful life contribution in years. <10, 10+, 20+ and 40+ yr. |
| **Cat. (Category)** | Categorisation grading in accordance with BS 5837 2012.<br><br>Trees suitable for retention: - Category A trees of high quality and amenity value. Category B trees of moderate quality and amenity value. Category C trees of low quality or amenity value.<br><br>British Standards BS 5837:2012 recommends that these categories may be further broken down into sub-categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively. |
| **RPA $m^2$** | Root Protection Area (RPA). Indicative area around a tree measured in $m^2$ and calculated in accordance with Annex C of BS 5837:2012 deemed to contain sufficient rooting volume to maintain the viability of a tree and where the protection of roots and soil structure is treated as a priority. |
| **RPA *r*** | Root Protection Area (RPA) radius calculation centred on the base of the tree and calculated in accordance with Annex C of BS 5837:2012 |

# Appendix 2: Tree Constraints Plan

temple
Creating sustainable futures

Job title
Visitor Entrance Building Extension
Job no. 10526

Client
Leonardslee Park and Gardens

Map title
Tree Constraints Plan

| | |
|---|---|
| Scale (at A1) | 1:100 |
| Date of survey | 13/02/2024 |
| Surveyors | Wesley Rawson and Henry Bates |

| Drawn | Approved | Date |
|---|---|---|
| WR/HB | JW | 25/06/2025 |

# Legend

- Crown spread of category A - Trees with high quality and value
- Crown spread of category B - Trees with moderate quality and value
- Crown spread of category C - Trees with low quality and value
- Crown spread of category U - Trees of poor quality
- RPA — Root Protection Area (RPA) of Category A Trees
- RPA — Root Protection Area (RPA) of Category B Trees
- RPA — Root Protection Area (RPA) of Category C Trees
- RPA — Root Protection Area (RPA) of Category U Trees
- Stem of Category A - Trees
- Stem of Category B - Trees
- Stem of Category C - Trees
- Stem of Category U - Trees
- Veteran Tree Boundary (15 x DBH)

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

GLASS HOUSE
PLANTER
MONUMENTS
MH CL 97.94
MH CL 97.93
IC CL 97.91
IC CL 98.12
IC CL 98.07
MH CL 98.17
FLAT 100.54
RIDGE 104.05
RIDGE 104.21
TRELLIS FENCE HT 2m
CONCRETE
O/HANG 100.26
SHELVES
CHICKEN WIRE FENCE HT 1.6m
PARAPET 100.60
VEGETATION HT 2m
FOOTPATH (TARMAC)
GRASS
SMALL TREES IN THIS AREA
MONUMENT
T45
T46
T47
T48
T49
T50
T55
T56
T57
T66
T67
T68
T69
G4
G6
G7

# Appendix 3: Tree Protection Plan

temple
Creating sustainable futures

| | |
|---|---|
| Job title | Visitor Entrance Building Extension<br>Leonardslee Park and Gardens<br>Job no. 10526 |
| Client | Leonardslee Park and Gardens |
| Map title | Tree Protection Plan |
| Scale (at A1) | 1:100 |
| Date of survey | 13/02/2024 |
| Surveyors | Wesley Rawson and Henry Bates |

| Drawn | Approved | Date |
|---|---|---|
| WR/HB | JW | 05/06/2025 |

# Legend

- Crown spread of category A - Trees with high quality and value
- Crown spread of category B - Trees with moderate quality and value
- Crown spread of category C - Trees with low quality and value
- Crown spread of category U - Trees of poor quality
- Root Protection Area (RPA) of Category A Trees
- Root Protection Area (RPA) of Category B Trees
- Root Protection Area (RPA) of Category C Trees
- Root Protection Area (RPA) of Category U Trees
- Stem of Category A - Trees
- Stem of Category B - Trees
- Stem of Category C - Trees
- Stem of Category U - Trees
- Veteran Tree Boundary (15 x DBH)
- Trees to be removed
- BS5837:2012 Tree Protection Fencing

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

# Appendix 4: Glossary of Terms

## Glossary of Terms

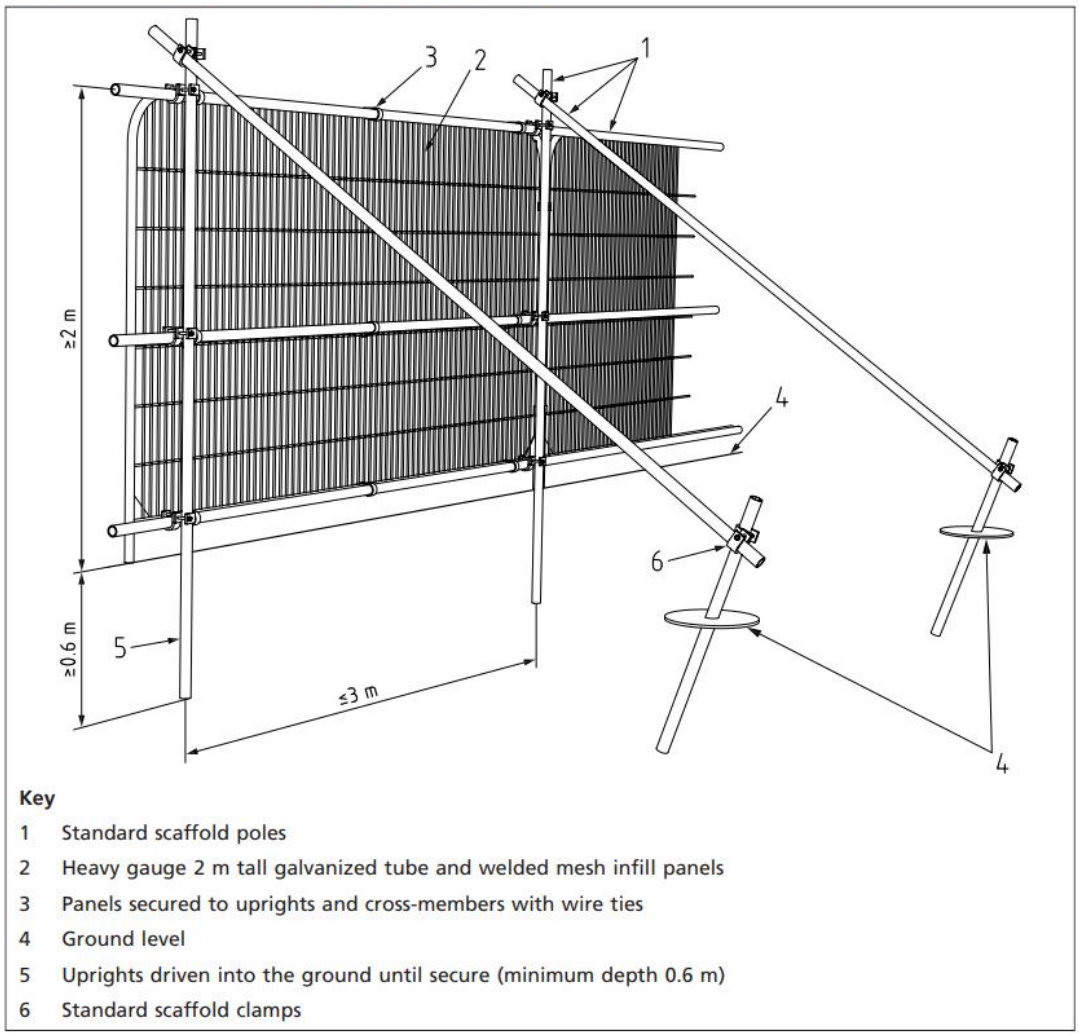
| Term | Explanation |
|---|---|
| **Arboricultural impact assessment and method statement (AIA)** | Evaluation of direct and indirect effects of a proposed design and/or construction. |
| **Arboricultural Method Statement (AMS)** | Methodology for the implementation of any aspect of development that is in the root protection area or has the potential to result in the loss of or damage to a tree to be retained. |
| **Branch structure** | Qualitative description of formation of main framework of limbs and branches. |
| **Canopy face** | Orientation of canopy relative to cardinal points of the compass |
| **Canopy radius** | A measurement taken from the centre of a tree to the furthest radial extension of tree canopy relative to the cardinal points of the compass. |
| **Competent Person** | Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached. |
| **Conservation Area** | Local Planning Authority special designation generally prohibiting tree works without 6 weeks prior written notification. |
| **Construction Exclusion Zone (CEZ)** | Area based upon the calculated root protection area prohibiting access. |
| **Cavity** | Open and exposed aperture where wood tissue has internally degraded. |
| **Constraints check** | Formal search of local authority records to determine legal and statutory constraints on tree works. |
| **Crown lifting** | Removal of lower branches to achieve a stated vertical clearance above ground level or other surface. |
| **Crown reduction** | Pruning of a trees canopy in both height and width. |
| **Decay** | Deterioration and breakdown of tree wood fibres resulting in structural and/or physiological dysfunction of a tree. |
| **Dieback** | Continual decline and death of wood tissue including twigs and branches. |
| **Epicormic growth** | Growth that emerges from dormant buds along the trunk and branches of a tree. |
| **Failure** | Description of structural failure or wood fibres including fracture of branches, limbs and main stems. |
| **Fork** | Area or point of union between one or more limbs or branches. |
| **Hazard Risk Assessment** | Qualitative and quantitative appraisal of the potential for tree failure and the possible risk of harm or damage to persons or property. |
| **Local Planning Authority** | Body responsible for the administration of Statutory duties relating to Development Management. |
| **Multi-stem** | A single tree formed from 2 or more codominant main stems |
| **Occlusion** | Wood development enclosing an extant wound or pruning cut. |

## Glossary of Terms

| Term | Explanation |
|---|---|
| **Pruning** | The targeted removal of branches or limbs using saws or other tools. |
| **Physiological Condition** | Observation relating to a trees physiology for example vigour, leaf area, growth rate, the presence of pests or disease. |
| **Root Protection Area** | Root Protection Area (RPA). Indicative area around a tree deemed to contain sufficient rooting volume to maintain the viability of a tree. |
| **Shelter belt** | A wind break normally made up of one or more trees planted in such a way to provide cover from the wind. |
| **Structural Condition** | Observation relating to a trees structural integrity and the presence of any physical defects. |
| **Suppressed** | Where a trees development has been influenced or effected by the presence of competing vegetation. |
| **Tree Constraints Plan** | A scaled plan indicating above and below ground constraints relating to the protection of trees |
| **Tree Preservation Order** | A legal order made by the local planning authority protecting specific trees in the interests of amenity. |
| **Visual Tree Assessment (VTA)** | A method of assessment based upon the research developed to recognise dynamic responses of a tree to its surroundings. |
| **'V' Shaped Branch Union** | The union point between two branches that have grown at a tight angle, forming the 'V' shape. This structure is inherently weaker than the 'U' shaped union. |
| **'U' Shaped Branch Union** | The union point between two branches that have grown at a wider angle, forming the 'U' shape. This structure is considered to be the strongest and most optimised shape that a union can form. |

# Appendix 5: Tree Protection Specification and Examples of Warning Signage

Figure 2 **Default specification for protective barrier**




**Key**

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps