

# BS 5837:2012

## Arboricultural Impact Assessment

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**29<sup>th</sup> May 2025**

**Report No.** 2389\_AIA.01

**Project:** Little Cedars Montessori Nursery

**Authored by:** Matthew Lally



## ARBORICULTURAL IMPACT ASSESSMENT

### PROJECT

Little Cedars Montessori Nursery  
42 Cedar Rd  
Whiston  
Prescot  
L35 2XA

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## EXECUTIVE SUMMARY

The proposed development site is located within a residential suburb of Whiston in the Metropolitan Borough of Knowsley. The site currently consists of a detached building used as a nursery with a small car parking area to the front and a hardstanding playground to the rear.

Trees present that could be potentially affected by the development are as follows:

| Category A | Category B         | Category C | Category U |
|------------|--------------------|------------|------------|
| 0          | 2 Trees<br>1 Group | 1 Tree     | 0          |

It is proposed to construct an extension to the rear of the existing building as well as additional parking to the front. To facilitate this development, trees requiring removal or other works are as follows:

|                | Tree Category. Trees Requiring Works |            |            |            |
|----------------|--------------------------------------|------------|------------|------------|
| Tree Work Type | Category A                           | Category B | Category C | Category U |
| Tree Removal   | 0                                    | 0          | 0          | 0          |
| Pruning Works  | 0                                    | 0          | 0          | 0          |

The Arboricultural Impact Assessment indicates that the proposed development at the Little Cedars Montessori Nursery site would have no impact to the existing trees. The trees will be adequately protected during the development phase if all protection measures outlined in the accompanying Arboricultural Method Statement (Ref: 2389\_AMS.01) are followed.

## **1. INTRODUCTION**

### **1.1. Author Information**

1.1.1. My name is Matthew Lally and I have been working with trees since 2005. I have experience in both practical elements of arboriculture and in consulting. I so far hold the following Arboricultural qualifications and technical memberships:

- FdSc Arboriculture
- LANTRA Professional Tree Inspection Certificate
- VALID – Validator
- QTRA Registered User
- Professional member of the Arboricultural Association
- Associate Member of the Institute of Chartered Foresters

1.1.2. I am the author of this report and as a Professional Member of the Arboricultural Association, the Consulting Arborist Society and an Associate Member of the Institute of Chartered Foresters, I am required to uphold ethical standards laid out by these institutions and therefore I have written this report in good faith and as objectively as possible.

### **1.2. Scope and Purpose of the Reports**

1.2.1. An Arboricultural Impact Assessment is used to detail reasonably foreseeable conflicts that a development may have with regards to trees on a given site and is intended to assist the Local Planning Authority (LPA), in this case Knowsley Metropolitan Borough Council, in their assessment of the proposed development. I therefore recommend that this report along with the associated Method Statement is supplied to LPA in support of the planning application to which it pertains.

1.2.2. I have aspired in this report to provide an analysis of the impacts that the proposed development is projected to have on trees located within the site based on the information that I have available to me at the time of writing. Where practicable I have included trees on land immediately adjacent to the site that may also be impacted. I also offer guidance on suitable retained tree management and mitigation recommendations for losses or other foreseen issues.

### 1.3. Instructions & Brief

- 1.3.1. I was commissioned to write this Arboricultural Impact Assessment in relation to the proposed development at Little Cedars Montessori Nursery, 42 Cedar Rd, Whiston, Prescot, L35 2XA.
- 1.3.2. Table 1 provides a summary of documents which have been made available for use in this report.

**Table 1 Documents made available by client.**

| Document Type                    | Reference No.                            | Author | Date |
|----------------------------------|------------------------------------------|--------|------|
| Existing and Proposed Site Plans | Existing and Proposed Site Plans dwg 03A | -      | -    |

- 1.3.3. I attach below an outline overhead photograph of the area that I assessed on the 22/05/25. (This is not necessarily the site boundary but includes trees that I deem could be impacted by the development regardless of ownership)



**Figure 1.** Assessment boundary plan.

## **2. SITE VISIT & SURVEY METHODOLOGY**

### **2.1. Survey Details**

- 2.1.1. I visited the site and surveyed the trees in accordance with Chapter 4 of BS5837:2012. I have recorded all the recommended tree metrics in the tree schedule which can be found in appendix I.
- 2.1.2. British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' includes guidance for considering the relationship between existing trees and how to integrate their needs into a successful development. A harmonious and sustainable relationship between any retained trees and new structure and/or hard surfaces is at the heart of the guidance.
- 2.1.3. When recording the trees as individual trees, groups of trees, woodlands or hedge groups I have included a prefix on the tree number. Explained as follows: Individual trees (T), groups of trees (G), hedgerows (H) or woodland groups (W).
- 2.1.4. I have used the term 'group' where trees form cohesive arboricultural features either aerodynamically, visually or culturally.
- 2.1.5. I have used the term 'hedgerow' for lines of trees or shrubs less than 5m wide at the base and which are managed or have been managed under an obvious regular pruning regime.
- 2.1.6. I have used the term 'woodland' where there are at least 10 trees and the individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy and trees are the dominant plant form in this area.
- 2.1.7. I carried out the survey on Thursday 22<sup>nd</sup> May 2025 by means of inspection from ground level. If the inspection was restricted for any reason such as lack of access or dense climbing plants etc, then I have noted this in the site notes in appendix I. I have included pictures of the significant trees in appendix V.
- 2.1.8. The weather conditions during the survey were dry and still and therefore did not adversely affect the quality of the inspection.

- 2.1.9. In some cases, I may decide to group trees that share very similar characteristics. This method is in line with point 4.2.4 of BS 5837:2012 and I quote 'Trees forming groups should be identified and considered as groups where the arboriculturist determines that this is appropriate. It may be appropriate to assess the quality and value of trees as a whole, rather than individuals.'
- 2.1.10. I assessed all the trees using: a grading A to C (A being of high quality and C being of the lowest quality) and U (trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years). I attach in appendix III the British Standard 5837:2012 cascade chart for further details.
- 2.1.11. I have where appropriate recorded the canopy spread for each tree at four cardinal points in order to reproduce an accurate representation of the crown shape of the tree, this was generally not possible for tree groups, woodlands and hedges and therefore these were averaged and are represented by simplified representations on the plans. These representations can be seen in the plans that I have attached in appendix IV.
- 2.1.12. Assessing the potential influence of trees upon load bearing soils and the potential impact to existing and proposed structures was not included in the contract brief and I have therefore not considered this in the report. I cannot be held responsible for damage arising from such action. I recommend that you consult the relevant professional with regards to soil and structures before planning any development.
- 2.1.13. During the site visits I have inspected the trees in line with the British Standard recommendations for potentially hazardous trees and I have made appropriate recommendations where required. I note, however, that this report is not a substitute for a full tree risk assessment or management plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

## **2.2. Creation of the Tree Constraints Plan**

- 2.2.1. British Standard 5837:2012 recommends the assessment of trees is made as objectively as possible, but I note that although I do my utmost to be as objective as possible, the findings and recommendations in this report will always be my opinion. The tree categorisation method identified in the British Standard is a tool I use on every Preliminary and Arboricultural Impact

Assessment as this guidance helps to make an objective judgment of the tree quality and value of the existing tree stock and keep the judgment as consistent and fair as possible.

- 2.2.2. The Tree Constraints Plan was created using computer aided design software and the provided Existing and Proposed Site Plans dwg 03A. The plan shows the tree crowns, tree stems and the root protection areas in relation to the surrounding buildings and other site features.
- 2.2.3. I note that the supplied existing site plans did not include tree positions. I have plotted the trees on the plans using overhead photography and marked any tree plotted like this with the suffix “#”. I note that the positions plotted on the plan by myself are estimated and therefore any dimensions should be checked on site. I do not accept any liability for inaccurately plotted trees.
- 2.2.4. The Root Protection Area is the minimum amount of root and soil around the tree that we need to retain unmolested if we want to retain these trees successfully. The Root Protection Area or RPA is calculated by a function of the size of the main stem (12x the stem diameter at 1.5m from ground level gives the radius of the RPA’s circle).
- 2.2.5. I have shown the Root Protection Area (RPA) on the plans in appendix IV for each individual tree as a circle centred on the base of the stem which is based on the recommendation of the British Standard. In some cases, I will have noted onsite that there will be a root barrier likely to exist, such as roads/hard surfaces, building structures, and retaining walls that will have clearly impacted the tree roots actual morphology and disposition. In these circumstances I have amended the shape of the RPA to reflect this, without a reduction in its area.

### **3. PLANNING POLICY**

#### **3.1. National Planning Policy Framework (NPPF)**

3.1.1. It is my understanding that when determining planning applications, Local Planning Authority's (LPA) should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternate site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.
- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists.
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity. (paragraph 193)

3.1.2. Consideration should also be taken of paragraph 136 of the NPPF which states:

Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined<sup>50</sup>, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users. (Paragraph 136)

#### **3.2. Local Planning Policy**

3.2.1. The NPPF sets out Government planning policies for England and how they should be applied. The Local Planning Authorities each use this information to guide Local Planning Policies which are used as the basis for determining planning applications. The local authority in this case, Knowsley Metropolitan

Borough Council, refers to many different policies and guidance when considering the trees and development including:

3.2.2. Knowsley Local Plan: Core Strategy Adopted January 2016

*Chapter 9 Promoting Quality of Place - Policy CS21 Greenspaces and Trees (pg.159)*

Enhancement of Natural and Semi-Natural Greenspace and Tree Protection

10) The Council will encourage proposals for new development to incorporate:

a) Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of visual amenity, recreation value or biodiversity/wildlife interest;

b) Appropriate planting of trees, other soft landscaping and installation of habitat features for the benefit of biodiversity; and

**c) Adequate replacement provision where tree loss is unavoidable, comprising two additional trees for every tree lost and taking account of species and size.**

3.2.3. Knowsley Replacement Unitary Development Plan - Adopted June 2006

*Policy DQ4 TREES AND DEVELOPMENT (pg. 131)*

All new development

1. Proposals for new development should include appropriate planting of trees or other soft landscaping, the location and details of which should be determined as an integral part of the development, and which shall have regard to the character of the surrounding area.

Developments affecting existing trees

2. Development proposals affecting existing trees, woodlands and other vegetation, which make a positive contribution to amenity, should make provision for their retention.

3. Applicants for planning permission will be required to provide a detailed survey of all existing trees on the site and the likely effects on them of the proposed development, as outlined in the Council's technical advice note "Trees and Development".

4. Where the Council accepts that tree loss will be unavoidable the applicant will be required to make adequate provision for their replacement, normally including two new trees for each tree lost.

Replacement planting will take into account the number; size and species of trees lost and should contribute to the extension of tree and woodland cover across the Borough.

## **4. LEGISLATION**

### **4.1. Statutory Considerations**

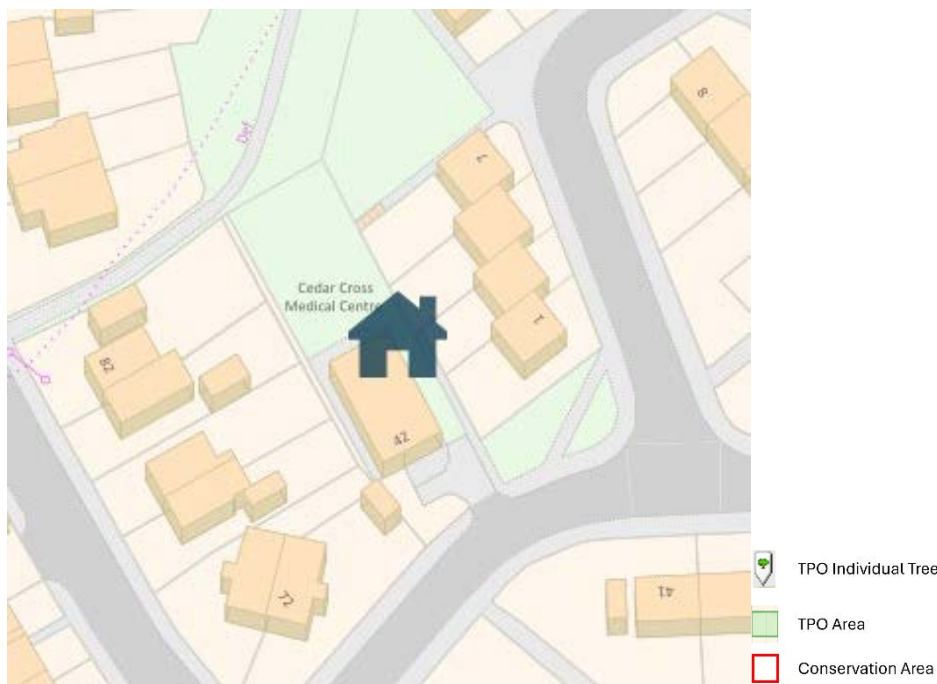
4.1.1. The Town and Country Planning Act (1990) (the Act) and associated Regulations empower Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees with a diameter at breast height over 75 mm diameter that stand within the curtilage of a Conservation Area. An application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a Conservation Area that are not protected by a TPO.

4.1.2. A Tree Preservation Order (TPO) is an order made by a local planning authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the:

- cutting down
- topping
- lopping
- uprooting
- wilful damage
- wilful destruction

of trees without the LPA's written consent. If consent is given, it can be subject to conditions which have to be followed. In the Secretary of State's view, cutting roots is also a prohibited activity and requires the authority's consent. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.

4.1.3. I have not directly contacted the Local Planning Authority, however, I have used the online search facility on the website for the Local Planning Authority, Knowsley Metropolitan Borough Council. This online service indicated that there are no Tree Preservation Orders and Conservation Areas that would apply to any trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees. I recommend that before any tree works are undertaken confirmation of the online information should be sought from the Local Authority.



**Figure 2.** A screenshot of the Knowsley Metropolitan Borough Council interactive map showing the location of any TPO's or Conservation Areas in relation to the site. (Accessed 29.05.25, <https://secured.knowsley.gov.uk/myneighbourhood#>)

## 4.2. Felling Licence

- 4.2.1. Tree felling is also restricted under the Forestry Act 1967. Felling licences are Under this act, there is an exemption from the need for a felling licence for “Felling trees immediately required for the purpose of carrying out development authorised by planning permission (granted under the Town and Country Planning Act 1990) ...”
- 4.2.2. If full planning permission is granted, then any trees which require felling to implement the approved plans are exempt from this statutory protection. Outline planning permission does not provide an exemption to the regulations that control tree felling in the Forestry Act 1967.

## 4.3. Protected Species

- 4.3.1. Nesting birds are afforded statutory protection under the Wildlife & Countryside Act (1981) (as amended) and their potential presence should therefore be considered when clipping hedges, removing climbing plants and pruning and removing trees. The breeding period for woodlands runs from March to August inclusive. Hedges provide valuable nesting sites for many birds and clipping should therefore be avoided during March to July. Trees, hedges and ivy should be inspected for nests prior to pruning or

removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged.

- 4.3.2. All bat species and their roosts are protected under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and under Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended). In this respect it should be noted that it is possible that unidentified bat habitat features may be located high up in tree crowns and all personnel carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present in trees with such features. If any bat roosts are subsequently identified, then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigates and advises on appropriate action prior to works continuing.
- 4.3.3. In turn, any subsequent works carried out in relation to any protected species must be carried out under guidance from a suitably qualified and experienced ecologist and in strict accordance with the guidance provided in BS42020:2013 - Biodiversity – Code of Practice for Planning and Development and, with regard to bats, in strict accordance with BS8596:2015 - Surveying for Bats in Trees and Woodlands.

## **5. THE SITE, ITS SURROUNDINGS & THE TREE POPULATION**

### **5.1. Site & Surroundings**

- 5.1.1. The site under consideration is located within a residential suburb of Prescott in the Metropolitan Borough of Knowsley. The site currently consists of a detached building used as a nursery with a small car parking area to the front and a hardstanding playground to the rear.
- 5.1.2. It is bordered to the east and west by residential properties and gardens, the north by a public footpath, and the south by Cedar Road.

### **5.2. Tree Population**

- 5.2.1. As noted previously, a total of three individual trees and one group of trees were surveyed for the purpose of this appraisal. They are semi-mature in age, with heights up to approximately 10 metres, maximum diametrical crown spreads up to approximately 8.5 metres, and stem diameters up to approximately 400 millimetres. Detailed tree dimensions and other pertinent information, such as structural defects and physiological deficiencies, are included in the Tree Schedule in Appendix I.
- 5.2.2. In respect of the survey, it should be noted that tree quality is categorised within the existing context without taking any site development proposals into account.
- 5.2.3. Under the UK's planning system trees are a material consideration in the planning and development process. Nonetheless, only trees of a suitable quality and value should be considered a material constraint to development. In this respect the Tree Schedule includes a column ('Cat. Grade') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (appendix III). 'A' category trees are those considered to be of 'high quality' and, accordingly, the most suitable for retention, whilst 'B' category trees are those considered to be of 'moderate quality', and 'C' category trees are those considered to be of 'low quality' with a correlated low retention value. In turn, 'U' category trees are those that are considered to be 'unsuitable for retention'.
- 5.2.4. As detailed in the Tree Schedule in appendix I, two trees and one group were categorised as moderate quality (i.e. 'B' category), and one tree was categorised as low quality (i.e. 'C' category).

## 6. ARBORICULTURAL IMPACT ASSESSMENT

### 6.1. Proposed Development

It is proposed to construct an extension to the northwest of the existing building as well as an addition car parking space to the south. These proposals are encapsulated in the Existing & Proposed Site Plans, reference: Existing and Proposed Site Plans dwg 03A.

### 6.2. Impacts

- 6.2.1. I have overlayed the proposed site plan onto the existing site plan using computer aided design software and found no locations in which there are conflicts with existing trees. I have made this plan available in appendix IV titled Arboricultural Implications Plan.
- 6.2.2. In order to fully assess the impact of the proposals, I have created an Impact Table below (Table 2) in which I detail each tree, indicate which tree/s can be retained and which need to be removed, outline any mitigation needed and give a justification for any actions outlined.
- 6.2.3. I used the aforementioned Impact Table and Arboricultural Implications Plan in my analysis to determine whether the development will have an impact on the health of each tree. Where I have determined there is an impact, I have then decided upon any mitigation measures that could be implemented to reduce the impact the proposals will have on the treescape.

**Table 2. Impact Table**

| Tree No. | Retention Category | Can the Tree/s be Successfully Retained | Explanatory Notes & Justification |
|----------|--------------------|-----------------------------------------|-----------------------------------|
| T1#      | B2                 | Yes                                     | -                                 |
| T2#      | C1                 | Yes                                     | -                                 |
| T3#      | B2                 | Yes                                     | -                                 |
| G4#      | B2                 | Yes                                     | -                                 |

- 6.2.4. I have created an Assessment Table (Table 3) to help visualise the number of trees that will or will not be impacted by the proposed development. To assess the implications of the Impact Table each tree can be categorised in the following way: -

**Table 3. Assessment Table**

|                   | Trees to be Retained |                            | Trees to be Removed |                    |
|-------------------|----------------------|----------------------------|---------------------|--------------------|
|                   | With No Impact       | With detailed construction | Due to Condition    | Due to Development |
| <b>Category A</b> | -                    | -                          | -                   | -                  |
| <b>Category B</b> | T1#, T3#, G4#,       | -                          | -                   | -                  |
| <b>Category C</b> | T2#                  | -                          | -                   | -                  |
| <b>Category U</b> | -                    | -                          | -                   | -                  |
| <b>TOTAL</b>      | <b>4</b>             | <b>0</b>                   | <b>0</b>            | <b>0</b>           |

6.2.5. As can be seen in table 3, no trees require removal to facilitate this development, and no trees are impacted by the proposal.

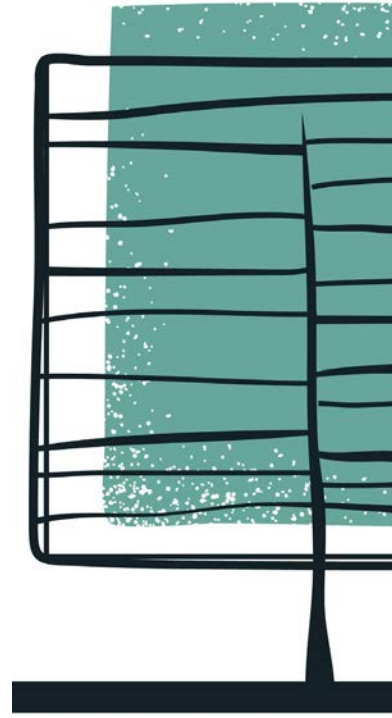
## 7. ARBORICULTURAL METHOD STATEMENT REQUIREMENT

### 7.1. Method Statement

7.1.1. To help ensure that the trees are protected onsite during the construction phase a separate Arboricultural Method Statement (ref: 2389\_AMS.01) has been produced to accompany this document.

## **8. CAVEATS AND LIMITATIONS**

- 8.1.1. The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by myself (Matthew Lally).
- 8.1.2. This is an arboricultural report and as such no reliance should be given to comments relating to buildings, engineering, soils ecological or archaeological data. If either is commented upon within the report further professional advice should be sought.
- 8.1.3. This is not a Tree Risk Assessment. As such this report should not be taken to mean or imply that any of the inspected trees should be considered safe. A Tree Risk Assessment can be provided but would be subject to additional survey requirement and further fees.
- 8.1.4. Trees are growing dynamic structures. Whilst all reasonable effort has been made to identify defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. No tree is ever absolutely safe due to the unpredictable laws and forces of nature. As a result of this, natural failure of intact trees will occur; extreme climatic conditions can cause damage to even apparently healthy trees.
- 8.1.5. For the purposes of this survey all dimensions of trees and their associated parts are based on estimation unless otherwise stated.
- 8.1.6. Trees are living organisms whose health, condition and structure can change quickly and without warning. Therefore, the contents of this report are valid for a period of one year from the date of this survey.



# Appendix I

## Tree Survey Data & Site Notes

\*The recommendations in this section are based on the site survey only and are **NOT** recommendations to facilitate the development plans. See the Arboricultural METHOD STATEMENT for tree works required to facilitate the development.

# BS5837:2012 TREE SCHEDULE

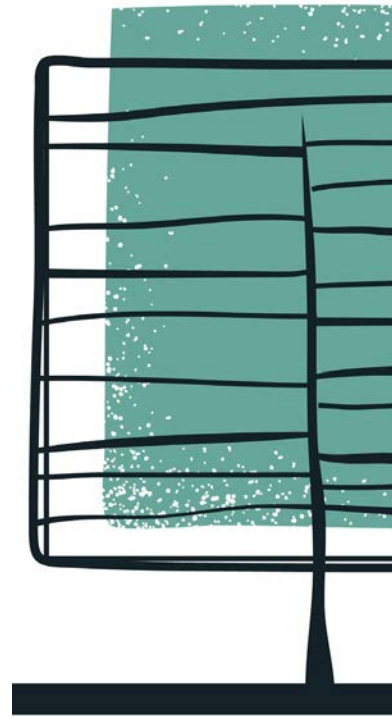


DATE OF SURVEY: 22/05/2025

JOB REFERENCE: 2389\_AIA.01

SITE ADDRESS: Little Cedars Montessori Nursery, 42 Cedar Rd, Whiston, Prescott L35 2XA

| Tree No. | Species      | Stem Dia (mm) | RPA (m <sup>2</sup> ) | RPA Radius (m) | Height (m) | Age Class | Crown Spread (m) |     |     |     | Crown Clearance (m) | Condition | Comments                                                                                                                                      | Recommendations | Remaining Contribution | BS5837 Retention Category |
|----------|--------------|---------------|-----------------------|----------------|------------|-----------|------------------|-----|-----|-----|---------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|---------------------------|
|          |              |               |                       |                |            |           | N                | E   | S   | W   |                     |           |                                                                                                                                               |                 |                        |                           |
| T1#      | Birch        | 300           | 41                    | 3.6            | 8          | SM        | 4                | 4.5 | 4   | 4   | 3E                  | A         | Third party owned. No access to inspect. Vitality is within normal range. Estimated measurements.                                             | No action       | 40+                    | B2                        |
| T2#      | Cypress      | 150           | 10                    | 1.8            | 4          | SM        | 1.5              | 1.5 | 1.5 | 1.5 | 1N                  | A         | Third party owned. No access to inspect. Estimated measurements. Vitality appears normal.                                                     | No action       | 40+                    | C1                        |
| T3#      | Norway maple | 400           | 72                    | 4.8            | 10         | SM        | 3                | 4   | 4   | 4   | 4E                  | A         | A multi-stemmed tree on site boundary. No access to inspect. Estimated measurements. Roots likely deflected away from site by retaining wall. | No action       | 40+                    | B2                        |
| G4#      | Cypress      | 200           | 18                    | 2.4            | 7          | SM        | 2                | 2   | 2   | 2   | 2N                  | A         | Third party owned group. No access to inspect. Estimated measurements.                                                                        | No action       | 40+                    | B2                        |



# Appendix II

Glossary of Terms

The following terms are concurrent with best Arboricultural practice and within the guidelines set by the International Society of Arboriculture (ISA), the Arboricultural Association (AA) and the British Standards Institute (BSI).

### **Age Range:**

Age is site specific and categorised:

- Young (Y)** Out-planted trees that have not yet established.
- Semi-Mature (SM)** Established trees up to 1/3 of expected height and crown.
- Early Mature (EM)** Between 1/3 and 2/3 of expected height and crown.
- Mature (M)** Between 2/3 and full expected height and crown.
- Fully Mature (FM)** Full expected height and crown.
- Over Mature (OM)** Crown beginning to break-up and decrease in size.
- Senescent (S)** Crown in advanced stage of break-up.

**Height:** Height is estimated and recorded in metres.

**DBH:** Diameter of the main stem at 1.5m from ground level and recorded in millimeters. For single stem trees, the RPA should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter. For trees with more than one stem, one of the two calculation methods below should be used:

For trees with two to five stems, the combined stem diameter should be calculated as follows:

Square Root (stem diameter 1)<sup>2</sup> + (stem diameter 2)<sup>2</sup> ... + (stem diameter 5)<sup>2</sup>

For trees with more than five stems the combined stem diameter should be calculated as follows:

Square root (mean stem diameter)<sup>2</sup> × number of stems

**Condition:** Assessment of current physiological condition and structural morphology incorporating vigour and vitality and categorised:

- A -** Tree needing little, if any attention
- B -** Tree with minor, but rectifiable defects, or in the early stages of physiological stress
- C -** Tree with significant structural and physiological flaws and/or extremely stressed
- D -** Tree that is dead, biologically/physically moribund or dangerous.

**Desirability to Retain** – As Outlined in Table 1 of BS 5837:2012 See Appendix III.

## **Definition of Physiological & Morphological Terms**

**Adaptive Growth** - The process whereby wood formation is influenced both in quantity and in quality by the action of gravitational force and mechanical stresses on the cambial zone.

**Bifurcation** – Forked or divided union.

**Brown Rot** - Form of decay where cellulose is degraded, while lignin is only modified.

**Cankers-** A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by wound wood development on the periphery. This may be annual or perennial.

**Cavity** - An open wound, characterised by the presence of extensive decay and resulting in a hollow.

**Chlorotic Leaf** - Lacking in chlorophyll, typically yellow in colour.

**Compartmentalisation** - The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms.

**Crack** - Longitudinal split in stem or branch, involving bark and/or underlying wood. These may be vertically and horizontally orientated.

**Decay** - Process of degradation of woody tissues by fungi and bacteria through decomposition of cellulose and lignin.

**Deadwood** - Deadwood is often present within the crown or on the stems of trees. In some instances, it may be an indication of ill health, however, it may also indicate natural growth processes. If a target is present beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc.).

**End Weight** - The concentration of foliage at the distal ends of stems and deficient in secondary branches.

**Girdling Root** - Root which circles and constricts the stem or roots causing death of phloem and/or cambial tissue.

**Hazard Beam** - An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases).

- Included Bark Union** - Pattern of development at branch junctions where bark is turned inward rather than pushed out. Potential weakness due to a lack of a woody union.
- Ivy Growth** - Ivy growth may ascend into the tree's crown, increasing wind resistance, concealing potential defects and reducing the tree's photosynthetic capacity. Ivy growth is often acceptable in woodland areas as a conservation benefit.
- Live Crown Ratio** - The relative proportion of photosynthetic mass (leaf area) to overall tree height.
- Reaction Wood** - Specialised secondary xylem, which develops in response to a lean or similar mechanical stress, attempting to restore the stem to the vertical.
- Root Plate Lift** - The physical movement of the rooting plate causing soils to shift and crack. May occur during adverse weather conditions. Trees may become unstable.
- Root Protection Area** - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. This area should be considered a no go area for development unless very careful mitigation measures are implemented and agreed with the LPA.
- Structural Defect** - Internal or external points of weakness, which reduce the stability of the tree.
- Suppressed** - Trees which are dominated by surrounding vegetation and whose crown development is restricted from above.
- Topping** - A highly disfiguring practice, likely to cause severe xylem dysfunction and decay in major structural parts of the wood.
- White Rot** - Form of decay where both cellulose and lignin are degraded.
- Wound** - Any injury, which induces a compartmentalisation response.
- Wound wood** - Wood with atypical anatomical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound as opposed to the ambiguous term "callus."

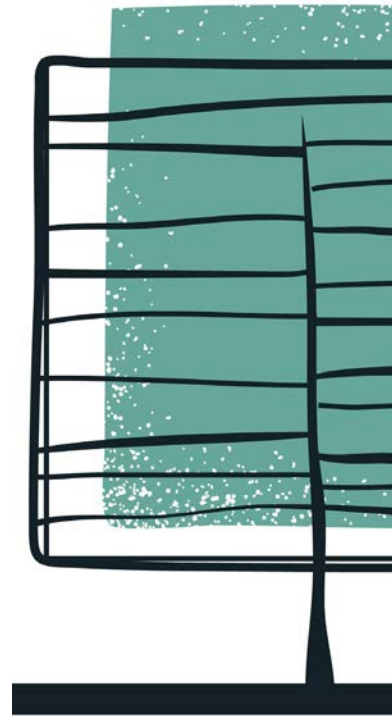
Note: The definitions described above, may not necessarily be included within the Arboricultural Survey Data.



# Appendix III

Cascade Chart for Tree  
Quality Assessment

|                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                               |                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Trees for removal                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                               |                                                                                                                                       |
| Category and definition                                                                                                                                                   | Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                               |                                                                                                                                       |
| <b>Category U</b><br>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years | <ul style="list-style-type: none"><li>○ 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)</li><li>○ Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.</li><li>○ Trees infected with pathogens of significance to the health and/or safety of other trees nearby) e.g. Dutch elm disease), or very low-quality trees suppressing adjacent trees of better quality.</li></ul> <p>NOTE: <i>Category U trees can have existing or potential conservation value which might be desirable to preserve; see section 4.7.5</i></p> |                                                                                                                                                                                                                                                               |                                                                                                                                       |
| Trees to be considered for retention                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                               |                                                                                                                                       |
| Category and definition                                                                                                                                                   | Criteria and sub-categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                               |                                                                                                                                       |
|                                                                                                                                                                           | 1) Mainly arboricultural values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2) Mainly landscape values                                                                                                                                                                                                                                    | 3) Mainly cultural values<br>(including conservation)                                                                                 |
| <b>Category A</b><br><b>Trees of high quality:</b> with an estimated remaining life expectancy of at least 40 years                                                       | Trees that are particularly good examples 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 within an avenue)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Trees, groups or woodlands of particular visual importance as arboricultural and or landscape features                                                                                                                                                        | Trees, groups or woodlands of significant conservation, historical commemorative or other value (e.g. veteran trees or wood-pastures) |
| <b>Category B</b><br><b>Those of moderate quality:</b> with an estimated remaining life expectancy of at least 20 years                                                   | Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider area | Trees with clearly identifiable conservation or other cultural benefits                                                               |
| <b>Category C</b><br><b>Those of low quality</b> 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 the 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 screening benefit.                                                                               | Trees with no material conservation or other cultural value                                                                           |

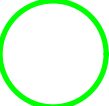


# Appendix IV

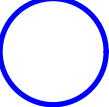
Tree Constraints Plan &  
Arboricultural Implications  
Plan

Do not scale this drawing (printed or electronic version).  
Contractors must check all dimensions from site  
This drawing is for use on this site only and should be used in conjunction with all relevant consultants drawings..

# LEGEND



Category A



Category B



Category C



Category U



Root Protection Area (RPA)

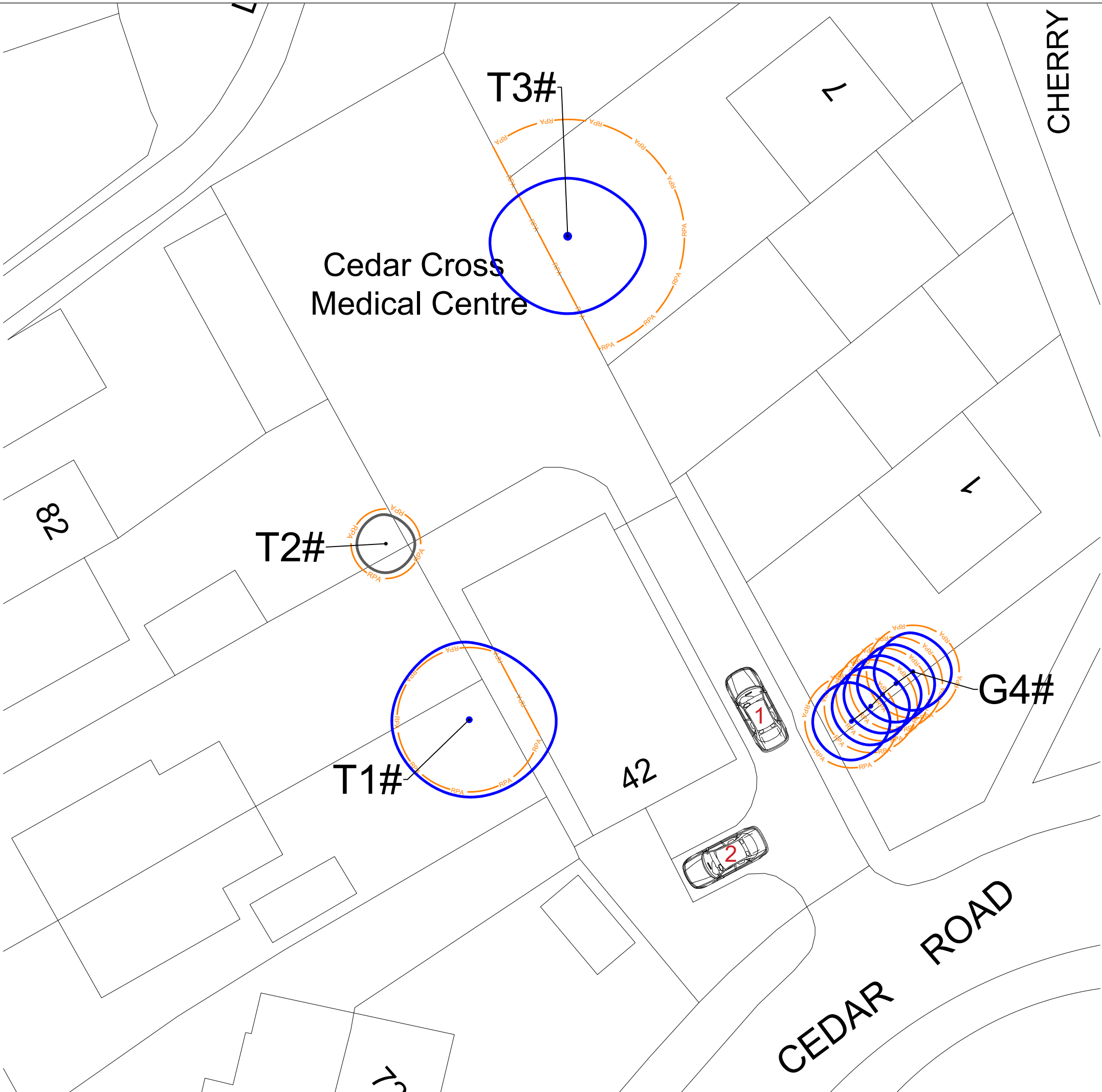


Position estimated on site



|                 |                                                               |       |            |
|-----------------|---------------------------------------------------------------|-------|------------|
| Scale:          | 1:200 @ A3                                                    | Date: | 27/05/2025 |
| Job:            | 2389_AIA.01                                                   |       |            |
| Address         | Little Cedars Montessori Ltd<br>42 Cedar Rd, Prescot, L35 2XA |       |            |
| Client:         | Little Cedars<br>Montessori Ltd                               |       |            |
| Drawing Number: | 2389_TCP.01                                                   |       |            |
| Drawn by:       | Matthew Lally                                                 |       |            |

TREE CONSTRAINTS PLAN



Do not scale this drawing (printed or electronic version).  
Contractors must check all dimensions from site  
This drawing is for use on this site only and should be used in conjunction with all relevant consultants drawings..

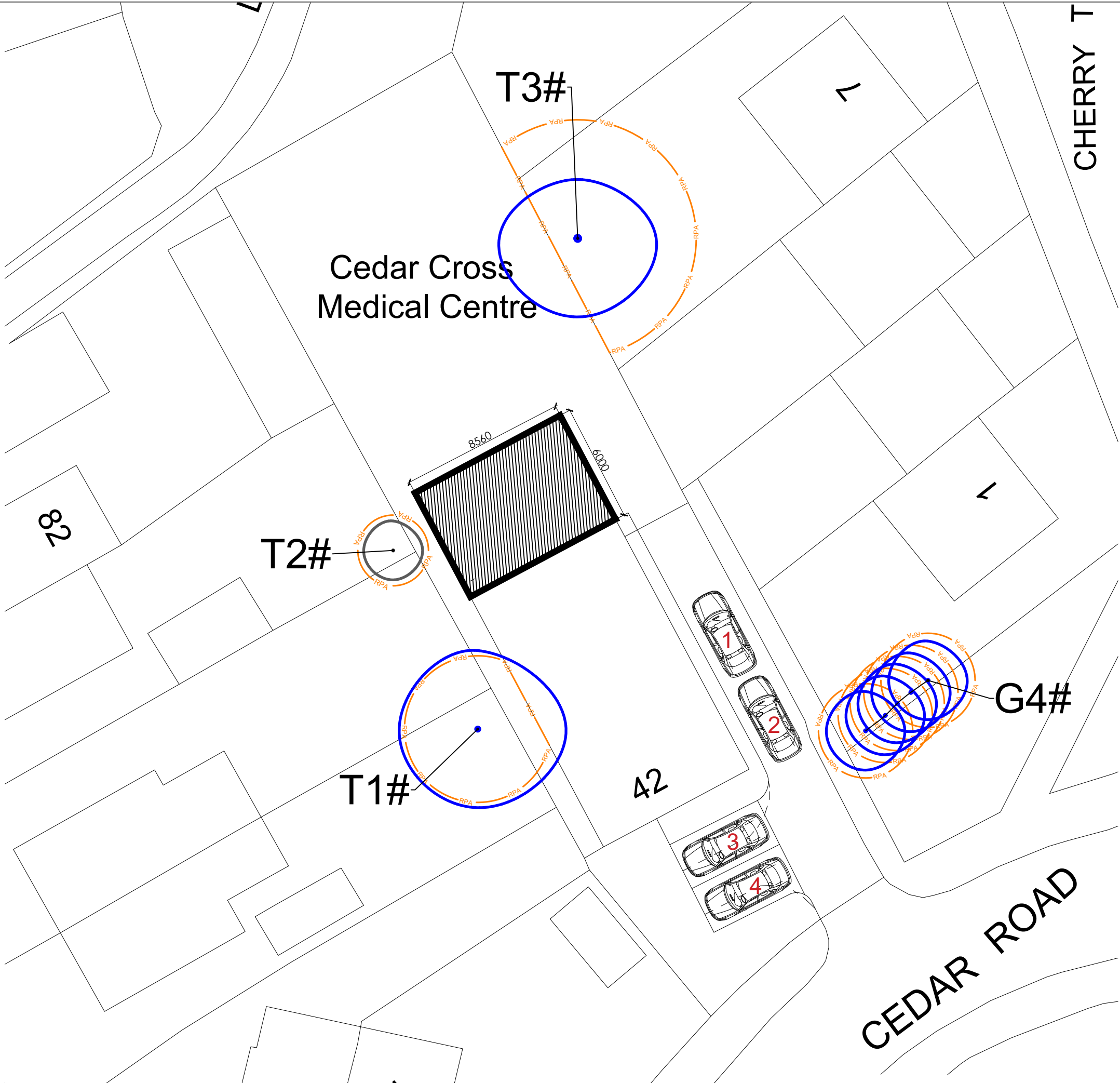
LEGEND

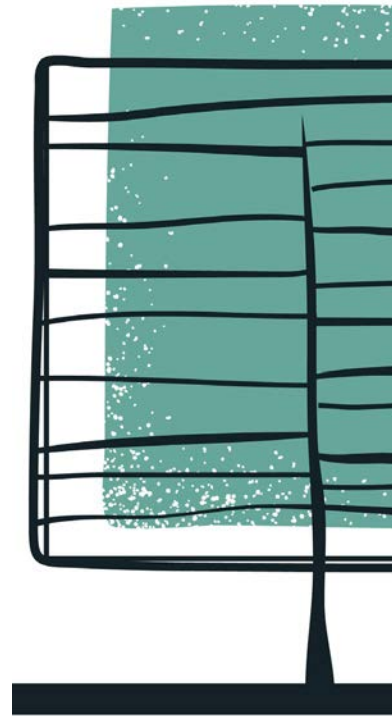


- Category A
- Category B
- Category C
- Category U
- Root Protection Area (RPA)
- # Position estimated on site



|                                     |                                                               |       |            |
|-------------------------------------|---------------------------------------------------------------|-------|------------|
| Scale:                              | 1:200 @ A3                                                    | Date: | 27/05/2025 |
| Job:                                | 2389_AIA.01                                                   |       |            |
| Address                             | Little Cedars Montessori Ltd<br>42 Cedar Rd, Prescot, L35 2XA |       |            |
| Client:                             | Little Cedars<br>Montessori Ltd                               |       |            |
| Drawing<br>Number:                  | 2389_AIP.01                                                   |       |            |
| Drawn by:                           | Matthew Lally                                                 |       |            |
| ARBORICULTURAL<br>IMPLICATIONS PLAN |                                                               |       |            |





# Appendix v

Pictorial Evidence



**Picture 1. T1#**



**Picture 2. T2#**



**Picture 3. T3#**



**Picture 4. G4#**