

**ST CLARE'S PRE-SCHOOL, STROUDEN COURT,
WARREN PARK, HAVANT, PO9 4JX**

**TREE SURVEY, ARBORICULTURAL IMPACT ASSESSMENT AND
ARBORICULTURAL METHOD STATEMENT
FOR
PROPOSED CLASSROOM DEVELOPMENT**

**On behalf of
PACKER DESIGN PARTNERSHIP**

April 2017

REF: 17.555

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APPOINTMENT

WHLandscape Consultancy Ltd has been appointed by Packer Design Partnership to undertake a Tree Survey and Arboricultural Impact Assessment in respect of proposed development at St Clare's Pre-Scholl, Havant.

WHLandscape Consultancy Ltd has an established track record of carrying out tree surveys for development proposals using BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*.

This report has been compiled by:

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1. INTRODUCTION

1.1. This tree survey has been commissioned by Packer Design Partnership to assess the condition of both the onsite and offsite trees, and to address tree protection matters, including an Arboricultural Impact Assessment, in order to support the proposed development at St Clare's Pre-School, Havant.

1.2 The site comprises a small managed grassed area, which is bordered by St Clare's Pre-School to the west, Warren Park Primary School to the east with residential housing to the north and south.

1.3 The trees comprise a mix of native and non-native species located within, and bordering, the site, some of which are of significant amenity and screening value.

1.4 An unaccompanied site visit was undertaken on 10th April 2017 by Simon Turner.

2. TREE SURVEY SCOPE AND DETAILS

2.1 The tree survey was undertaken in accordance with the BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. The purpose of the survey was to assess existing trees in relation to potential development in order to:

- Record their principle attributes (species, height, stem diameter, crown spread, etc).
- Determine their quality and value.
- Identify their retention value.
- Determine their Root Protection Areas (RPA) as detailed within BS 5837:2012.

2.2 The findings of the survey highlight which trees are of particular merit and should be marked as a material constraint in the planning process.

2.3 The suitability of trees for inclusion in the proposed development was considered. Particular regard was given to their safe, useful life expectancy, and suitability in the site after development is completed.

2.4 DESIGNATIONS

2.4.1 The trees identified in this report are neither the subject of a Tree Preservation Order (TPO), nor located within a designated Conservation Area (CA).

2.5 SURVEY LIMITATIONS

2.5.1 The report was produced following a ground level survey only. No soil samples were taken and this report does not consider the potential influence that the trees may have on adjacent structures. Internal investigations to determine the extent of potential decay are limited to basic sounding with a hammer and probing with a metal rod. No invasive diagnostic tools were employed.

2.5.2 All dimensions are measured as far as reasonably practicable. The survey methodology follows that prescribed in the British Standard BS 5837:2012.

2.5.3 This report is primarily concerned with the overall condition of the trees, any corrective works necessary, and the RPAs required to ensure the trees' health and longevity should planning permission be granted.

2.5.4 The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available during the inspection process. The author of this report will not be held responsible for any recommendations made where essential data has not been made available or is inaccurate.

2.5.5 The report is valid for a period of one year from the date of inspection, but will become invalid if any works on, or close to, the trees, including the changing of soil levels, is undertaken.

2.5.6 Under the terms of the Wildlife and Countryside Act 1981 (as amended), the Countryside Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, it is an offence to disturb any protected species, including their habitat or resting place. It may, therefore, be necessary to obtain expert advice in this area prior to the commencement of any works. This is particularly relevant to nesting birds, bats and their roosts. Contractors must be reminded of their responsibilities and should contact the relevant authorities if any signs of bats are found. The nesting season for most birds runs from 1st March to 31st July. However, this can vary depending on the species and location. During these months, careful inspection must be made before any work commences and works must be postponed if active nests are found.

2.6 ROOT PROTECTION AREA CONSTRAINTS

2.6.1 Retained trees will result in a potential constraint on the land. The rooting system/rooting zone of a tree is essential to a tree's health and vitality, with an area of the rooting zone sufficient to sustain its long-term health, referred to as the Root Protection Area (RPA). RPAs are plotted for all trees potentially affected by the development.

2.6.2 The RPAs are calculated as per Section 4.6 of BS 5837:2012 and, where applicable, are recorded as an area of a nominal circle or a radius of that circle. The British Standard states the following:

- For single stem trees, the RPA is 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 two calculation methods is to be used:

For trees with two to five stems:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

For trees with more than five stems:

$$\sqrt{(mean\ stem\ diameter\ 1)^2 \times number\ of\ stems}$$

2.6.3 In all cases, the stem diameters are measured in accordance with Annex C, and the RPA is determined from Annex D of BS 5837:2012. The RPA is capped at 707 metres squares (m²), or a 15.0m radius.

2.6.4 The location of tree protection fencing will be determined when the final site layout is agreed. This will provide the minimum protection of the trees' RPAs. Any new, permanent, hard surfacing anticipated within the RPA should not exceed 20% of any existing unsurfaced ground. Any surfacing within the RPA, be it temporary or permanent, must be of a no-dig design in accordance with the principles of Arboricultural Practice Note (APN) 12.

2.6.5 Edge supports and kerbing must also be of a no-dig design such as boards or sleepers with pegs or pins.

2.6.6 Tree protection fencing must be constructed from weldmesh panels of at least a 2.0m height and securely fixed with wire or scaffold clamps fixed to a ridged framework. This framework must be constructed from horizontal and vertical scaffold tubes. Examples of such designs are shown in Figs 1 and 2.

2.6.7 After the erection of the tree protection fencing, a minimum of 2 days' notice must be given to the Local Planning Authority (LPA) before any construction, including any ground work, starts on site. The tree protection fencing must be maintained and retained for the duration of the works or until such time as agreed in writing with the LPA.

2.6.8 Notices must be fixed to the tree protection fencing stating that no construction activity, or storage of any materials, may take place within the area.

2.7 CONSTRAINTS

2.7.1 The above-ground area occupied by the crown of a tree, allowances for working space during development, the area of potential shade and debris cast by the tree and, if applicable, allowances for future growth of the trees, all pose potential constraints on the site. The extent of these constraints is determined by considering the suitability of the species and its characteristics, and the existing and

future crown spread of the tree. A further consideration is that the crown could be modified by appropriate tree surgery, which should be undertaken in accordance with the BS 3998:2010 British Standard Tree Work – Recommendations. Site planning and development design should therefore give consideration to these issues in order to prevent future problems arising.

2.8 SERVICES

2.8.1 All services should be directed outside the retained trees' RPAs. However, where it is agreed that services can be located within an RPA, they must be hand-dug in accordance with the principles contained with National Joint Utilities Group guidelines (NJUG) Vol 4 in a position no closer than 4 times the stem circumference of the tree down to the required level. Small diameter roots should be neatly cut with clean secateurs, whilst roots over 25mm in diameter and/or large root masses should be retained undamaged.

2.9 GENERAL MEASURES

2.9.1 No construction activity whatsoever must be allowed within the RPAs. This includes no storage of materials, unplanned routing of underground services or on-site parking.

2.9.2 No mixing of cement, concrete or the storage of fuels must take place within 10m of the retained trees, nor in any location where a slope in the ground could lead to contamination of the RPA.

2.9.3 Fires must not be lit in a position where flames could extend within 10.0m of the foliage, branch framework or trunk.

2.9.4 Landscape works undertaken within the RPAs must be done so with great care so as not to damage shallow roots. Heavy mechanical cultivation of the soil must not be undertaken within the RPAs.

2.9.5 Changes in soil level should not be undertaken within the RPAs in order to ensure that soil is not compacted with the delicate rooting system, including the non-woody roots.

2.9.6 All soil storage must be outside the RPAs of all retained trees to ensure that any run-off of water or residue does not seep into the RPAs.

2.9.7 The site compound is to be sited outside the RPAs, including the routing of any temporary services routes.

3. ARBORICULTURAL SUPERVISION

3.1 A suitably qualified arboriculturist must be retained during the development period to carry out the following:

- To inspect tree protection fencing once erected prior to construction or ground works starting on site.
- To advise of any issues at the request of the LPA, the developer or contractor as necessary.

3.2 The details of each visit is to be recorded in a site visit pro-forma, with copies circulated to the contractor, developer and the LPA Tree Officer.

4. SHADE/LIGHT, DEBRIS, POST DEVELOPMENT PRESSURE

4.1 Section 2.2.2 of BS 5837:2012 acknowledges that trees can significantly affect potential land use or living conditions, including quantity of sunlight, and that the site design should avoid unreasonable obstruction to light. In some cases, it may therefore be necessary for buildings to be set further from the trees, beyond the RPAs, in order to ensure their future sustainability and avoid potentially large trees being too close to buildings.

5. TREE SURVEY CRITERIA

5.1 The tree survey was undertaken in accordance with Section 4 of the BS 5837:2012, which grades trees into the following categories:

- A – Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- C – Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 millimetres (mm).
- U – Trees in such a condition that they cannot be realistically retained. Irreparable structural defects, diseased, dead or severely suppressed trees.

5.2 Further subcategories are given as follows:

- Mainly arboricultural qualities (1).
- Mainly landscape qualities (2).
- Mainly cultural values, including conservation (3).

6. TREE SURVEY FINDINGS

6.1 Tree T1, T2 and T3 are three closely planted mature London planes (*Platanus x hispanica*) standing 16.4 to 19.0m in height. The trees are competing for light and space with each other and have developed co-joined crowns as a result. They are considered to significant sylvan features within the immediate area and have been awarded an A1,2 category. It is recommended that the trees be crown lifted to a height of 4.0, removing whole, or part branches back to suitable growth points where necessary.

6.2 Tree T4 is a mature common ash (*Fraxinus excelsior*) located within the playground of St Clare's Pre-School immediately east of the min building. Access to this tree was not possible, but it is a visible specimen within the immediate area standing around 6.7m tall. The crown is one sided and heavily weighted to the west, possibly as a result, of being suppressed by an adjacent tree which has been removed in recent years. The tree is a mediocre specimen, which has been awarded a C1 category. No works are recommended.

6.3 Tree T5. is a young ash tree (*Fraxinus excelsior*) standing 7.2m tall and growing at the base of the northern boundary fence, with the stem distorting at 1.0 in height due to contact with the fence. The tree is a poorly sited specimen, which has been awarded a C1 category. It is recommended that this tree be removed.

6.4 Trees T6 to T14 comprise a row of 3 x common ash (*Fraxinus excelsior*), 5 x field maple (*Acer campestre*) and 1 x common hawthorn (*Crataegus monogyna*) located within the adjacent school boundary forming a verdant screen along the eastern boundary. The trees range in height from 4.5m to 14.5m tall and overhang the site by 5.0 to 7.0m. The trees are largely of mediocre quality with the exception of the larger ash (*Fraxinus excelsior*) T11, with the majority showing uneven crowns due to competition for light and space. Trees T6 and T12 have historic partly occluded bark wounds on their stems and branches, with T12 also showing resin spots on the on the northern stem. Tree T14 is a poor-quality specimen, which has been topped in the past and is heavily suppressed with significant

dead wood throughout its crown. Trees T6 to T9, T12, T13 and T14 have been awarded a C1,3 category, with T11 awarded a B1,3 category. It is recommended that the western crowns on all trees be crown lifted to a height to 4.0m, removing whole, or part branches back to suitable growth points, keeping all pruning wounds as small as possible. It is proposed that T14 be felled to ground level.

7. TREE SURVEY CONCLUSION

7.1 The trees on site are of mixed quality with trees T1, T2, T3 and T11 being the most prominent and highest grade trees, and can successfully be integrated in the proposed development, subject to suitable tree surgery works. Trees T6 to T13 are of mediocre quality, but afford important boundary screening. These trees can also be successfully retained as part of the proposed scheme, subject to appropriate tree surgery works. Trees T5 and T14 are both poorly sited and of poor-quality, and could be felled to ground level with no adverse effects on the sylvan character of the immediate area.

8. ARBORICULTURAL IMPACT ASSESSMENT

8.1 The proposed scheme seeks to retain the majority of trees on site, subject to appropriate tree surgery works, thereby retaining the important sylvan character of the immediate area along with the mature screening bordering the site to the east.

8.2 Minimal encroachment will occur within the RPAs of trees T6 to T13, due to the prefabricated nature of the proposed building, and careful design of the widely spaced supporting piers, which will result in minimal excavations. These excavations must be undertaken in accordance with the Arboricultural Method Statement (AMS).

8.2 Where heavy lifting equipment is to be employed to enable the delivery/erection of the pre-fab structure, suitable temporary ground protection will be needed where any vehicular or pedestrian access is needed over the trees RPAs.

8.3 The layout of the site also allows for suitable storage including site compound, office, etc., all of which can be sited outside the RPAs of all retained trees, thereby avoiding any unnecessary compaction of the trees rooting systems.

8.3 The location of the proposed building also ensures that service routes and the majority of the permanent security fencing is located outside of the retained trees RPA's. Where any works occur within the RPAs of retained trees excavations must be undertaken by hand in accordance with the AMS.

8.4 The Tree Shadow Plan demonstrates that the shading cast by retained trees will have a limited effect on the proposed classroom and any shade cast over the building and playground is likely to be beneficial for the children in the hotter summer months.

8.6 Protection measures have been specified to protect all retained trees, with arboricultural supervision included to help ensure compliance.

8.6 The retained trees should be protected by suitable fencing, located as detailed in the Tree Protection Plan. Once erected, this protective fencing should remain intact with no incursion during the development process.

8.7 All tree surgery should be undertaken by a suitably qualified arborist in accordance with the BS 3998:2010 *British Standard Tree Work – Recommendations*, and should be undertaken prior to the commencement of works on site.

8.8 Provided the recommendations in this report are followed, the arboricultural impact of the development of this site is considered to be acceptable.

9. ARBORICULTURAL METHOD STATEMENT

9.1 INTRODUCTION

9.1.1 The purpose of this section is to aid the preservation and conservation of retained trees as indicated in the Tree Survey. This document provides information on how trees can be retained and effectively protected during the development process by following tree protection methodology, construction techniques and good working practices. Any deviations from this documentation should be discussed with WHLandscape Consultancy Ltd prior to any works being undertaken, in order to prevent a potential breach of planning control. This document must be made available to all contractors and operatives on the site during the construction process so that they fully understand the importance of the measures set out for tree protection.

9.1.2 This Arboricultural Method Statement (AMS) gives site-specific instructions on the methodology required to protect the retained tree stock. These methodologies are set out in a logical sequence of operations and include:

- An optional pre-construction meeting to run through the AMS and ensure that all relevant parties are familiar with its contents, the trees concerned, and the protection required.
- Undertake tree works to BS3998: 2010 *Tree Work – Recommendations*. These works are contained in the tree schedule and comprise crown raising, the removal of dead wood and tree removal.
- BS5837 (2012) *Trees in Relation to Design, Demolition and Construction – Recommendations*, details the appropriate barriers to exclude construction works from Root Protection Areas RPAs. The RPA for each tree is provided in the Tree Survey Schedule and on the accompanying Tree Root Protection and Tree fencing plan attached as Appendix 5. The tree protection barriers are inviolable and no construction activities shall take place within them. The fencing shall be erected in position prior to any demolition or construction, and be maintained in position for the duration of the development process. Where it has been agreed that vehicular or pedestrian access for construction operations can be located within the RPA, a combination of barriers and ground protection should be adopted. Where the construction of permanent hard surface is considered acceptable within the RPA, a no-dig design solution should be used to avoid root loss caused by excavation. All details for these measures are set out in this document. The Tree Protection and Fencing Plan attached indicates retained trees, trees to be removed and the precise location of tree protection fencing

9.2 TREES AND TREE PROTECTION

9.2.1 As the majority of tree roots are found in the upper metre of soil, development works including shallow excavation, soil compaction and soil contamination, can be harmful to trees. Trees differ in their tolerance of root loss or disturbance according to their age, species and condition. All protection works within this document will be in accordance with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*. An assessment of trees directly affected by the proposed development has been undertaken and those trees to be retained are shown on the Tree Protection Plan (Appendix 3). A calculation has been made of the area of soil required to ensure the survival of these trees and this is represented by the RPAs, indicated by the coloured circles around the retained tree on the plan. Best practice relating to driveways and trees has been taken from Arboricultural Practice Note APN12 – *Through the Trees to Development* (2007).

9.2.2 RPAs are to be protected during development by the use of barriers and, as necessary, ground protection and specialised construction techniques outlined below.

9.3 METHODOLOGY

9.3.1 **Phase 1** – An on-site meeting will be held with all relevant parties (if required). The purpose of this meeting is to record site features including tree condition, agreed tree works (as specified within the Tree Survey), location of permanent and temporary access, location of site storage and location of tree protection barriers.

9.3.2 **Phase 2** – Execute agreed tree works. All tree work is to conform to BS 3998:2010 *Tree Work Recommendations* and to arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover.

9.3.3 **Phase 3** – The retained trees are vulnerable to damage during construction. They will be fenced during the demolition/construction period in accordance with the requirements of BS5837 (2012) *Trees in Relation to Design, Demolition and Construction – Recommendations*. The locations will be agreed with the LPA in advance of construction commencing.

9.3.4 **Phase 4** – Reasonable notice will be given to the LPA as to the date of commencement of any demolition works adjacent close to retained trees, including surface removal. Proposed works must be supported by an approved method statement.

9.3.5 **Phase 5** – All landscaping will be carried out once the barriers have been removed. It must avoid soil re-grading and disturbance within the RPAs, and no soil levels are to be altered after the protection barriers have been removed.

9.3.6 The use of Heras type braced weld mesh fencing is recommended where demolition and construction operations may affect retained trees. The protective fencing shall be constructed as detailed above and as shown in Figs. 1 and 2.

9.3.7 Where it has been agreed that vehicular or pedestrian access for construction operations can be located within an RPA in areas which are not already hard surfaced, temporary ground protection is

required. It should be constructed to support the load required and be in accordance with the requirements of paragraph 6.2.3.3 of BS5837 (2012). The requirements are as follows:

- For temporary pedestrian access, the installation of single thickness scaffold boards over a compressible layer such as 100mm woodchip laid on to a geotextile membrane, or supported by a scaffold frame, will be sufficient.
- For pedestrian machine operated plant up to a gross weight of up to 2 tonnes, proprietary inter-linked ground protection boards placed on top of a of a compression-resistant layer such as 150mm woodchip laid on to a geotextile membrane, or supported by a scaffold frame, will be sufficient.
- For wheeled or tracked construction traffic exceeding a gross weight of 2 tonnes, an alternative proprietary systems or pre-cast reinforced concrete slabs to an engineering specification to accommodate the loading, in conjunction with arboricultural advice is required.

9.3.8 The following shall apply within all fenced RPAs or under the canopies of retained trees:

- No mechanical excavation.
- No excavation by other means without arboricultural supervision.
- No hand digging without an approved written method statement.
- No lowering or raising of levels for any purpose.
- No storage of plant or materials.
- No storage or handling of chemicals or cement within or adjacent to the fenced RPAs.
- No vehicular access/parking.
- No fire lighting within five metres of the outer edge of the tree canopies.

9.3.9 Clear notices are to be fixed to the outside of the tree protection fencing with words such as 'PROTECTED AREA – NO ACCESS AND NO STORAGE OR WORKING WITHIN THIS AREA'.

9.3.10 All site operatives are to be informed of the role of the tree protection fencing and their importance.

9.3.11 The recommended location of the tree protection fencing is indicated on the Tree Protection Plan. The position of the fencing is to be marked out with biodegradable marker paint on site and agreed with the LPA. The barriers will be erected prior to any works in the vicinity of retained trees on site, including the delivery of machinery, materials, plant or equipment to the site or any adjacent

land. The fencing will remain *in situ* until final completion. Plant and materials storage areas will be kept well away from retained trees.

9.3.12 Pruning, as detailed in **Phase 2**, will be required to allow the erection of scaffolding to enable reasonable working space for the construction of buildings.

9.3.13 A copy of this Arboricultural Method Statement and the Tree Survey and Root Protection Plan is to be retained on site at all times and all personnel associated with the construction process will be made familiar with the principles contained within.

9.4 DEMOLITION OF EXISTING STRUCTURES AND BUILDINGS

9.4.1 No notifications to the LPA at **Phase 4** are required in this case as no structures/including surface are to be removed.

9.5 GROUND WORKS, DRIVES, FOUNDATIONS, DRAINAGE AND SERVICES

9.5.1 Spoil, including soil and rubble, will be removed from the site and not stored against any tree protection barriers or over any ground protection. Only predetermined access routes with appropriate ground protection will be used during this process.

9.5.2 Where excavation works falls within the RPAs of T16 to T14, the following methodology must be used:

Ground Preparation pre-fab construction:

- The area of the pre-fabricated building piers will be marked out prior to commencement of works. Minimal hand excavations will be carried out to accommodate the supporting piers, with severed or damaged roots neatly trimmed back with clean secateurs. Spoil will be wheelbarrowed out of any tree protection areas and stored in a suitable location. Machinery (even low ground pressure tracked vehicles) will not be used within the RPAs as there is a danger of soil compaction. Any small depressions will be filled in with sharp sand.

Erection of permanent site fencing

- Where the fence posts are located within the RPAs, all holes will be kept as small as possible and spaced as far apart as possible avoiding main structural roots. Damaged roots will be neatly trimmed back with clean secateurs. Clean soil mixed with 25% sharp sand will be infilled around the posts where necessary.

9.5.3 Drainage and underground service routes should be located beyond the RPAs of all retained trees, unless agreed in advance of construction. However, where services within an RPA are agreed, they must be accompanied by an approved written method statement. This will detail hand-digging operations in a position no closer than four times the stem circumference of the tree down to the required depth, in accordance with the principles contained within National Joint Utilities Group guidelines NJUG Vol 4. All small diameter severed/damaged roots should be neatly cut with clean secateurs, whilst roots over 25mm in diameter, or large root masses should be retained undamaged.

9.5.4 Monthly maintenance inspections are recommended of all areas of hard landscape for litter, leaf and debris removal, weeding, and snow/ice clearance in winter months using non-salt based products such as Calcium Magnesium Acetate (CMA) to avoid toxicity of the retained tree's root system.

9.6 DISMANTLING BARRIERS AND LANDSCAPING

9.6.1 **Phase 5** – All landscaping will be carried out once the barriers have been removed. It must avoid soil re-grading and disturbance within the RPAs and no soil levels are to be altered after the protection barriers have been removed. There will be no heavy mechanical cultivation of the soil.

9.6.2 New tree planting will be undertaken in the first planting season following the completion of the project.

ILLUSTRATIVE MATERIAL

FIG 1 - BS5837 (2012) DEFAULT SPECIFICATION FOR PROTECTIVE BARRIER

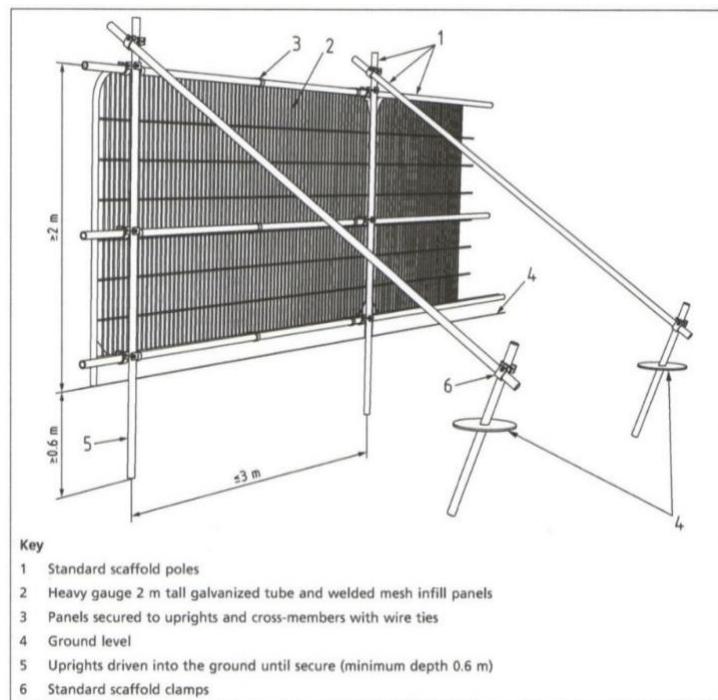
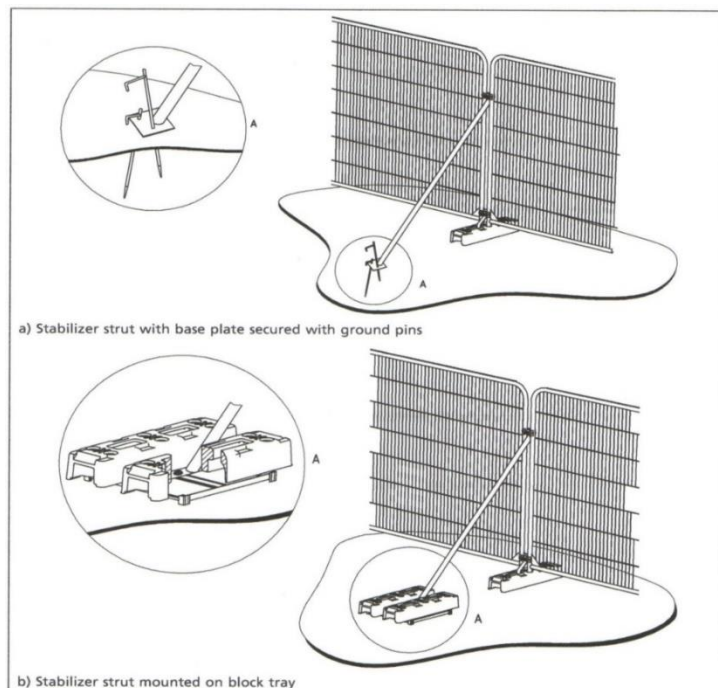


FIG 2 - BS5837 (2012) ABOVE GROUND STABILISING SYSTEMS



APPENDICES

APPENDIX 1: TREE SURVEY KEY

Tree Survey Key

Tree No. - each tree has been allocated a number which refers to the plan.

Species - referred to by Common and Latin name.

Height - height is measured in metres using a clinometer unless denoted otherwise by*.

Number of stems - identified as S for single or MS for multi-stemmed.

Stem diameter - measurement of stem diameter measured at 1.5 metres above ground level, unless denoted otherwise by *.

Age Class -
Y - a young tree up to 1/3 of its usual lifespan.
EM - a tree up to 66% of its usual lifespan.
M - a tree up to 100% of its usual lifespan.
OM - a tree passed its usual lifespan.

Crown Spread - measured in metres using a standard tape, unless denoted otherwise by *

Vigour - a measure of the trees vigour expressed as: N = Normal, or L = Low.

Physiological condition - an assessment of the trees physiological condition defined as:

Good – (G) fully functioning biological system showing average vitality;

Fair – (F) fully functioning biological condition showing below average vitality;

Poor – (P) a biological system with limited functionality showing significant below average vitality;

Dead – (D) a non-functioning tree.

Structural condition - an assessment of the trees structural condition is defined as:

Good – (G) no significant structural defects.

Fair – (F) structural defects which could be alleviated through remedial tree surgery or management practices;

Poor – (P) structural defects which cannot be alleviated through tree surgery management or practices;

Dead – (D) a non-functioning tree.

Comments and management recommendations - observations and recommendations which may address problems raised in the assessment of the tree's structural condition.

BS 5837:2012 Retention Category:

A - Trees of high quality with an estimated life expectancy of a least 40 years.

B - Trees of moderate quality with an estimated life expectancy of at least 20 years.

C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with stems of less than 150mm in diameter.

U - Trees in such as condition that they cannot be realistically retained. Irreparable structural defects, diseased, dead or severely suppressed.

Further sub-categories are given as follows:

(1) - mainly arboricultural qualities

(2) - mainly landscape qualities

(3) - mainly cultural values, including conservation

Remaining contribution - based on retention category

Root Protection Area - measured as a nominal circle and in a radius of the circle as per BS5837:2012.

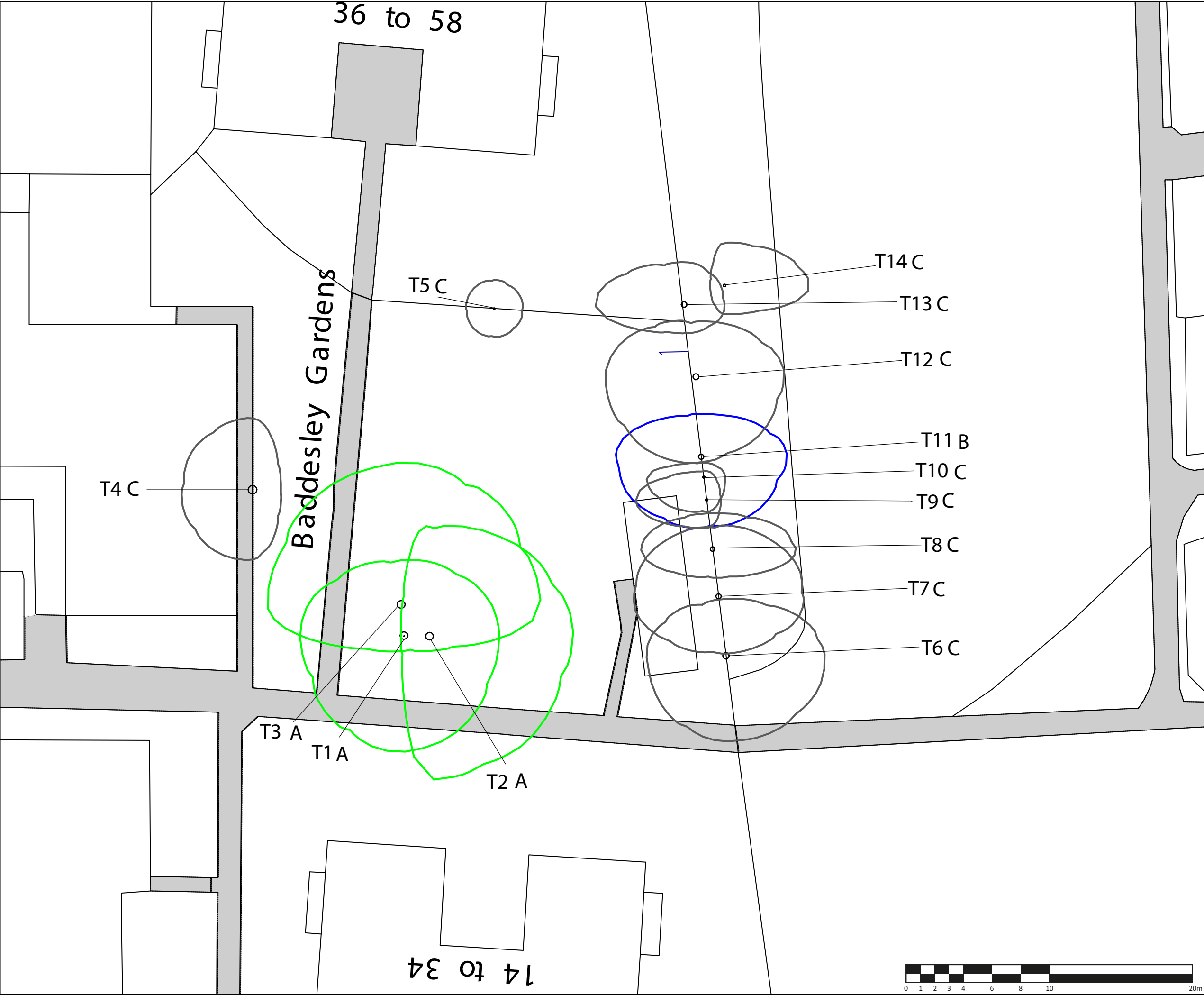
APPENDIX 2: TREE SURVEY RESULTS TABLES

Tree/Group No	Tag Number	Species Common and Latin name	Height (m)	Stem Diam. at 1.5m	Branch Spread				Canopy Clearance (m)	Age Class	Physiological condition	Observations	Management Recommendations	Estimated Remaining Contribution(years)	BS5837 Category Grading	Protection Distance (m)	Tree Protection (m2)
					N	E	S	W									
T1	344	London plane <i>Platanus x hispanica</i>	16.4	500	5.4	6.7	8	7.3	3	Mature	Good	One of three with lean to north-east.	Crown lift whole or part branches to 4.0m, where necessary	20 to 40	A	6	113
T2	345	London plane <i>Platanus x hispanica</i>	16.4	540	8	10	10	2	2	Mature	Good	One of three. Leans to north.	Crown lift whole or part branches to 4.0m, where necessary	20 to 40	A	6.5	132
T3	346	London plane <i>Platanus x hispanica</i>	19.9	570	9.8	9.8	3.3	9.4	3	Mature	Good	One sided crown. Full inspection not possible due to restricted access.	Crown lift whole or part branches to 4.0m, where necessary.	20 to 40	A	6.8	147
T4	No tag	Common ash <i>Fraxinus excelsior</i>	12	600	5	2	5	5	3	Mature	Good	Distorted stem by fence at 1.0 m.	No action.	10 to 20	C	7.2	163
T5	349	Common ash <i>Fraxinus excelsior</i>	6.7	100	2	2	2	2	1.8	Young	Good	Forks at 1.50 and again at 2.0. Moderate dead	Fell to ground level.	10 to 20	C	1.2	4.5

												wood throughout crown.					
T6	347	Common ash <i>Fraxinus excelsior</i>	11.4	440	4	7	6	5.5	3	Mature	Good	Multi-stemmed from 600mm and 900mm. Minor bark wounds.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	10 to 20	C	5.3	88
T7	348	Field maple <i>Acer campestre</i>	11.2	210 110 210 180 120	5	6	4	6	2	Mature	Good	Significant stem removal south side up to 1.0 m.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	10 to 20	C	3.8	46
T8	350	Common ash <i>Fraxinus excelsior</i>	14	230 230	2.5	6	2	5	3	Mature	Fair	Suppressed leans to west.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	10 to 20	C	3.3	33
T9	351	Common Hawthorn <i>Crataegus monogyna</i>	4.5	110 70 90	2	1	2	5	2	Mature	Good	Suppressed by adjacent larger ash.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	20 to 40	C	1.6	8
T10	352	Field maple <i>Acer campestre</i>	9.2	140	1	1.5	2.5	4	2	Semi-mature	Good	Dominant tree with low crown to west.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part	10 to 20	C	1.7	9

													branches to west to 4.5m in height.				
T11	353	Common ash <i>Fraxinus excelsior</i>	12	360	3	6	5	7	2	Mature	Good	Multi-stemmed at 600mm. Spreading crown.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	20 to 40	B	4.3	59
T12	354	Field maple <i>Acer campestre</i>	14.5	170 110 260 210 160	4	6.5	6	6	1	Mature	Good	Multi stemmed at 300mm. Minor bark damage east and south with partly occluded wounds. Resin spots on north stem at 1.0m approximately.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	10 to 20	C	4.2	56
T13	355	Field maple <i>Acer campestre</i>	10.2	190 230 160 200 100	3	3	2	6	3.5	Mature	Fair	Significantly suppressed with large amounts of crown dead east side.	Shorten limbs back to clear proposed building by 1.0 metres and crown lift whole or part branches to west to 4.5m in height.	10 to 20	C	4.1	52
T14	356	Field maple <i>Acer campestre</i>	9	90 130 70 70	3	6	2	1	3	Mature	Poor	Suppressed. Previously topped.	Fell to ground level.	10 to 20	C	1.9	11

APPENDIX 3: TREE SURVEY PLAN



Key:

Tree Retention Categories

- 'A' Category
- 'B' Category
- 'C' Category
- 'U' Category

Other Plan Features

- Shading Arc
- Root Protection Area
- Tree Protection Fencing
- Ground Protection
- No-dig Construction Area

Notes:

The symbols shown in the key are for reference and may not always be present on the plan.

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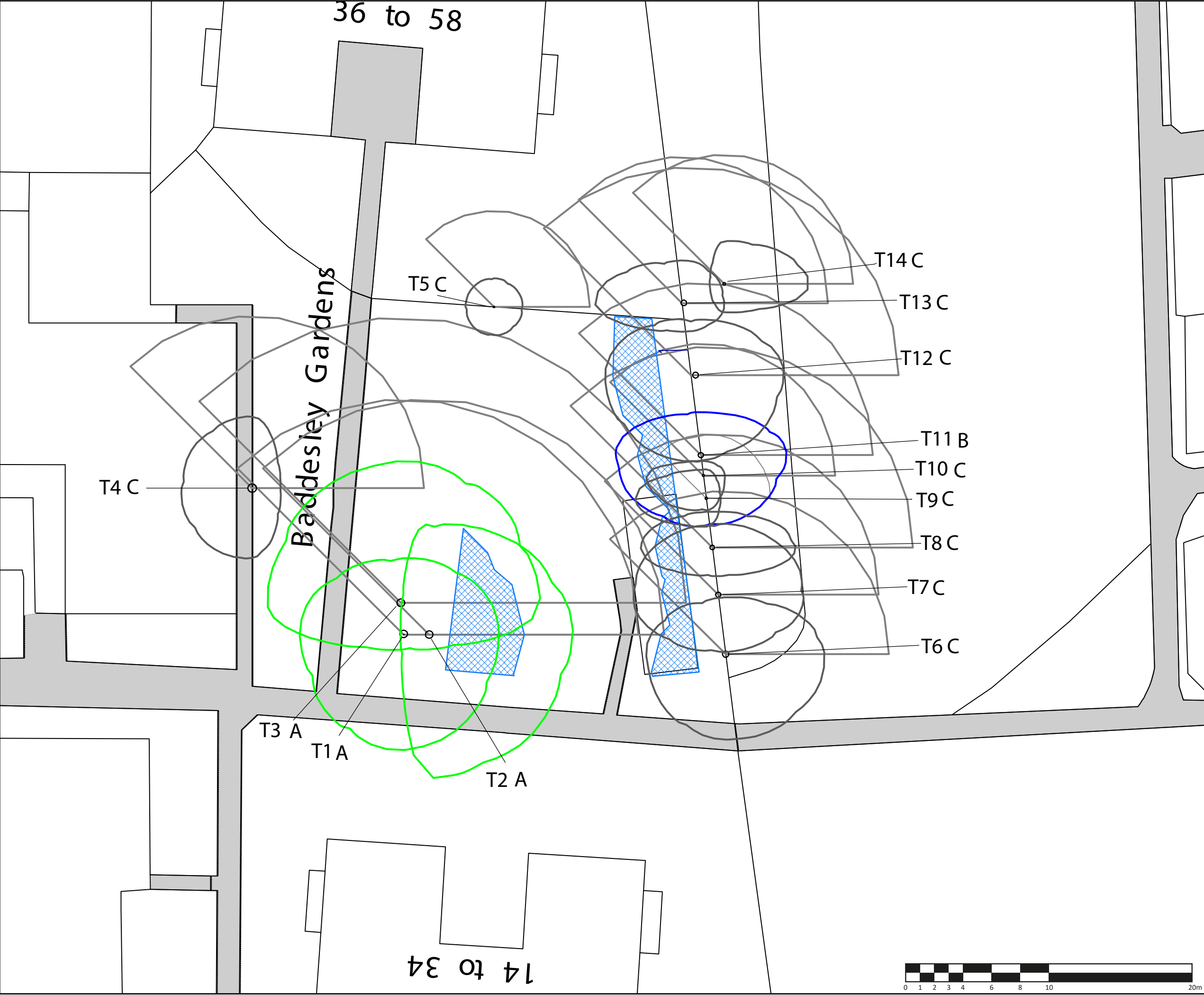
Client:
Packer Design Partnership

Project:
St Clare's Pre-School, Land Adjacent to 10 Strouden Court

Figure title:
Tree Survey Plan

Appendix number: App. 3	Scale: 1:250 @ A3
DB: TA	CB: WH
Date: Apr 17	Rev:

APPENDIX 4: TREE SHADOW PLAN



Key:

Tree Retention Categories

- 'A' Category
- 'B' Category
- 'C' Category
- 'U' Category

Other Plan Features

- Shading Arc
- Root Protection Area
- Tree Protection Fencing
- Ground Protection
- No-dig Construction Area

Notes:

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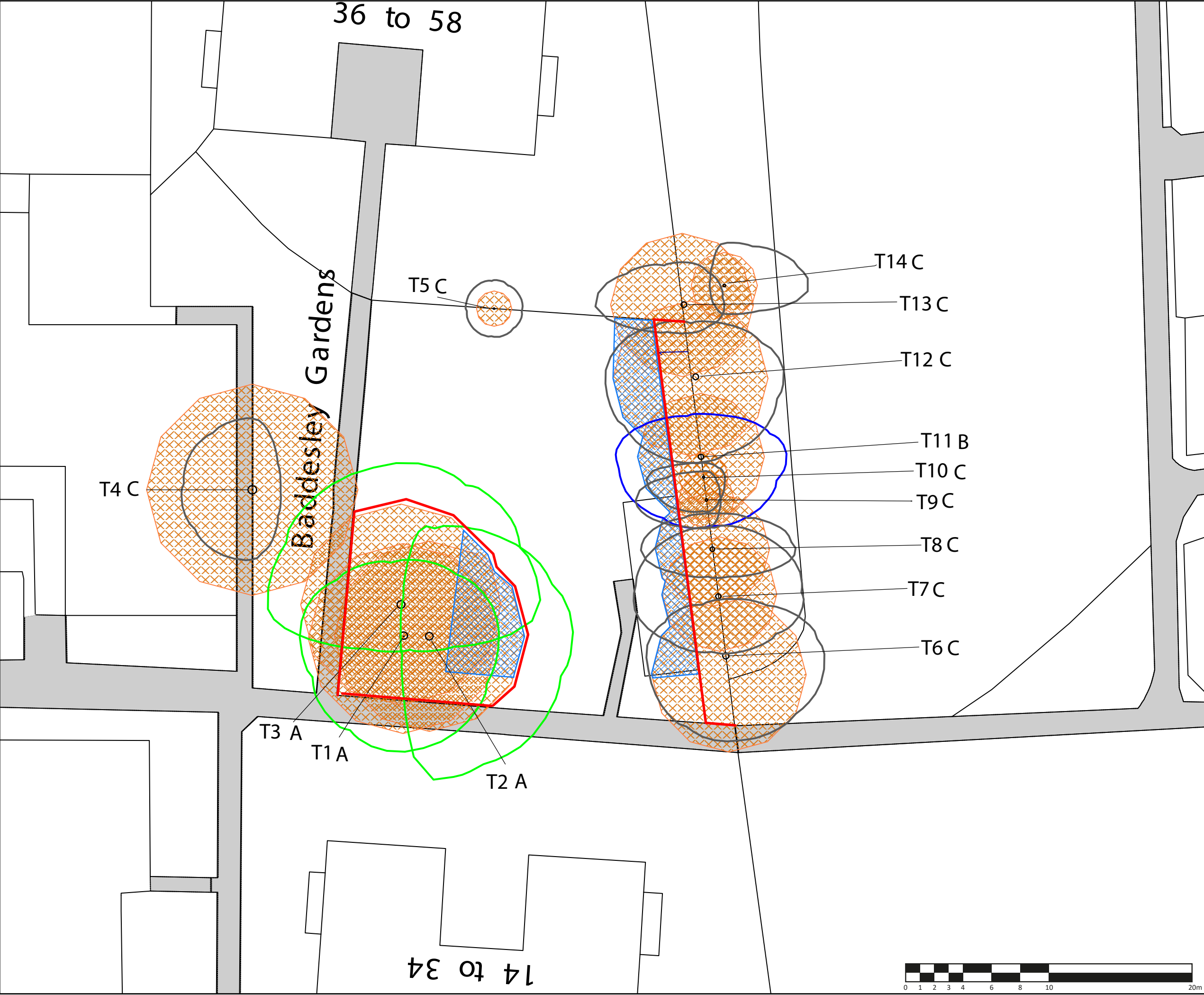
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Tree Shadow Plan

Appendix number:
App. 4

Scale:
1:250 @ A3

DB: TA CB: WH Date: Apr 17 Rev:

APPENDIX 5: ROOT PROTECTION AREAS AND TREE PROTECTION FENCING PLAN



Key:

Tree Retention Categories

- 'A' Category
- 'B' Category
- 'C' Category
- 'U' Category

Other Plan Features

- Shading Arc
- Root Protection Area
- Tree Protection Fencing
- Ground Protection
- No-dig Construction Area

Notes:

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Figure title: Root Protection Areas and Tree Protection Fencing			
Appendix number: App. 5		Scale: 1:250 @ A3	
DB: TA	CB: WH	Date: Apr 17	Rev: