

**ST CLARE'S PRE-SCHOOL, LAND ADJACENT TO 10
STROUDEN COURT, HAVANT, PO9 4JX**

**ARBORICULTURAL METHOD STATEMENT
FOR
PROPOSED MODULAR BUILDING**

**On behalf of
PACKER DESIGN PARTNERSHIP**

August 2017

REF: 17.555a

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REF 1703/04.4

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1. INTRODUCTION

1.1. This Arboricultural Method Statement has been commissioned by Packer Design Partnership to provide additional arboricultural information to support the Tree Survey, Arboricultural Impact Assessment and Arboricultural Method Statement produced by WHLandscape Consultancy Ltd (hereafter WHLandscape) dated April 2017. This document relates to the amended scheme and addresses how works close to retained trees and vegetation will be undertaken to enable the discharge of condition 4 and 8 of planning permission App/17/00337 for proposed development at St Clare's Pre-School, Warren Park, Havant, Hampshire, PO9 4JX.

1.2 The site in question is 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 tree survey highlights the trees of particular merit and was used to determine their Root Protection Areas (RPA) as detailed within BS 5837:2012. These retained trees are identified as material constraints on the site, with the details of each tree recorded in the Tree Survey Results Tables attached as Fig 1, which has been updated to reflect the amended scheme.

2.2 DESIGNATIONS

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

2.3 SURVEY LIMITATIONS

2.3.1 The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available at the time of writing. 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.

2.3.2 This Arboricultural Method Statement is valid for a period of one year from the date of issue, but will become invalid if any works on, or close to, the trees, including the changing of soil levels, is undertaken.

2.4 ROOT PROTECTION AREA CONSTRAINTS

2.4.1 The 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 retained trees potentially affected by the development.

2.4.2 In all cases, the stem diameters are measured in accordance with Annex C, and the RPA is determined from Annex D of BS5837:2012. The RPA is capped at 707 metres squares (m²), or a 15.0m radius.

2.4.3 The location of tree protection fencing will be as detailed in Fig.2. This will provide the acceptable protection of the trees' RPAs. The new permanent artificial grass located within the RPAs must be of

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a no-dig design in accordance with the principles of Arboricultural Practice Note (APN) 12 - Through the Trees to Development.

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

2.4.5 Tree protection fencing must be constructed from weldmesh panels of at least 2.0m in 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 Appendices 2 and 3.

2.4.6 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.

2.4.7 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. Examples of these are attached at Appendix 4.

2.5 CONSTRAINTS

2.5.1 Where tree surgery is specified, it is to be undertaken in accordance with the BS3998:2010 *British Standard Tree Work – Recommendations*.

2.6 SERVICES

2.6.1 All services are to 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.



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 ARBORICULTURAL METHOD STATEMENT

4.1 INTRODUCTION

4.1.1 The purpose of this section is to aid the preservation and conservation of retained trees as detailed in the Tree Survey produced by **WHLandscape** dated April 2017. This document provides information on how these 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** 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.

4.1.2 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 standards of BS3998:2010 *Tree Work – Recommendations*. These works are contained in the tree survey results tables and comprise crown raising, tip reduction and the removal of dead wood.
- BS5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*, details the appropriate barriers to exclude construction works from RPAs. The RPA for each tree is provided in the Tree Survey Results Tables and on the accompanying Tree Protection Plan attached as Fig. 1 and Fig. 2. The tree protection barriers are inviolable and no construction activities shall take place within them. The fencing shall be erected in position prior to commencement of all building works, including on-site storage of materials and shall 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 artificial grass is to be sited within the RPAs, 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 Plan attached indicates retained trees and the precise location of tree protection fencing

4.2 TREES AND TREE PROTECTION METHODOLOGY

4.2.1 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, location of permanent and temporary access, location of site storage and location of tree protection barriers.

4.2.3 Phase 2 – Execute agreed tree works. All tree work is to conform to BS3998:2010 *Tree Work-Recommendations* and to arboricultural best practice. Tree works are to be undertaken by a professional and suitably experienced and qualified arboricultural contractor, who carries the appropriate insurance cover.

4.2.4 Phase 3 – The retained trees are will be fenced during the 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. Once erected the fencing and will be retained in position and appropriately maintained for the full duration of the works

4.2.5 Phase 4 – Reasonable notice will be given to the LPA as to the date of commencement of any works adjacent to retained trees and where necessary, they shall be accompanied by an approved method statement.

4.2.6 Phase 5 – All landscaping, including the laying of artificial grass, 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.

4.3 ON SITE REQUIREMENTS

4.3.1 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 Appendices 2 and 3, with Tree Fencing Notices secured to the fencing as detailed in Appendix 4.



4.3.2 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.

4.3.3 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.

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

4.3.5 The 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

4.5.4 Erection of permanent site fencing

Where the perimeter security fence posts are located within the RPAs of retained trees, all post holes should be widely spaced keeping the post holes small as possible to avoid damage to the main structural tree roots. Any roots inadvertently damaged will be neatly trimmed back to healthy undamaged tissue with a clean pruning saw, or clean secateurs. Clean soil mixed with 25% sharp sand will be used to infill around the posts where necessary.

4.5.5 Ground preparation and laying of artificial grass

- The no-dig area for the artificial turf will be marked out with biodegradable marker paint, with the existing turf/organic matter within the RPAs of the retained trees excavated to a depth of no more than 50mm.
- Edging boards will be fixed and secured at the edges of the artificial grassed areas using widely spaced pegs/pins, where they will not adversely damage tree roots.
- A thin layer of sharp sand will be spread over the area to a depth of no more than 35mm, which is to be levelled and firmed by treading, or tamped using a scaffold board and hammer before laying the geotextile membrane over the working area.
- Artificial grass will be rolled-out, working from the turf only, and positioned to minimise cuts, joins and waste. Sections must be laid with the pile running the same way to ensure a more natural finished appearance.
- A small amount of kiln dried sand should be spread evenly over the surface to hold it in position.
- Grass sections should be joined by butting the edges of two sections together, with each positioned along the centre of the joining tape (rough-side up). Adhesive shall be applied to the tape in a zig-zag motion using approximately one cartridge every 3.0m before pressing the grass into the adhesive. Weight should be applied along the seam to ensure a successful join.
- Kiln dried sand should be brushed over the entire surface at a rate of 6-8kg/m², brushing the sand into the pile using a stiff broom, building it up in layers to encourage the tufts to stand up. Where sand is to be wheel-barrowed in over the RPAs of retained trees, dedicated access routes will be constructed using the appropriate ground protection as detailed in section 9.3.5.
- Grass edges will be secured to the edging boards, where used, or alternatively secured using broad headed 100mm to 150mm galvanised nails driven through the turf into the ground.

4.5.6 Maintenance

- The turf should be regularly brushed to remove soil, dirt or debris avoiding, jet washing at all times.
- The top layer of sand should be loosened with a spring rake, topping up the sand up where necessary.
- Where moss forms, an application of moss treatment should be used in accordance with the manufacturers instructions.
- The use of de-icing products on the surface in the winter months should be avoided.

4.5.7 Drainage and underground services

Drainage and service routes are to be located beyond the RPA 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 with National Joint Utilities Group guidelines 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.

4.5.8 Pathways Maintenance Operations

Where the new pedestrian access route is sited within close proximity of the retained trees, it is recommended that a non-salt based product, such as Calcium Magnesium Acetate (CMA), is used to clear snow and ice, thereby avoiding toxicity of the retained trees root system

4.6 DISMANTLING BARRIERS AND LANDSCAPING

4.6.1 Phase 5 – All landscaping, including the instillation of artificial grass, will be carried out once the tree protection barriers have been removed, with the works undertaken in accordance with the methodology detailed above.

4.6.2. No soil levels or heavy mechanical cultivation of the soil will be allowed within the RPAs.



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)	BSS837 Category Grading	Protection Distance (m)	Tree Protection (m ²)
					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 trees with lean to north-east.	Crown lift whole or part branches to provide 2.5m clearance above ground level, reducing small diameter branch tips back to clear the building edge by 1.0m. All pruning wounds to be taken back to suitable pruning positions with cuts kept as small as possible, retaining a natural shape for the species.	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 trees. Leans to north.	As T1	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.	As T1	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 at 1.0 m as a result of fenceby fence	No action.		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 wood throughout crown.	Fell to ground level.	10 to 20	C	1.2	4.5
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.	Crown lift whole or part branches to west to provide 3.0m clearance above ground level, tip reducing branches back to suitable growth points to provide 2.5m clearance from classroom, keeping all pruning wounds as small as possible and retaining a natural shape for the species.	10 to 20	C	5.3	88

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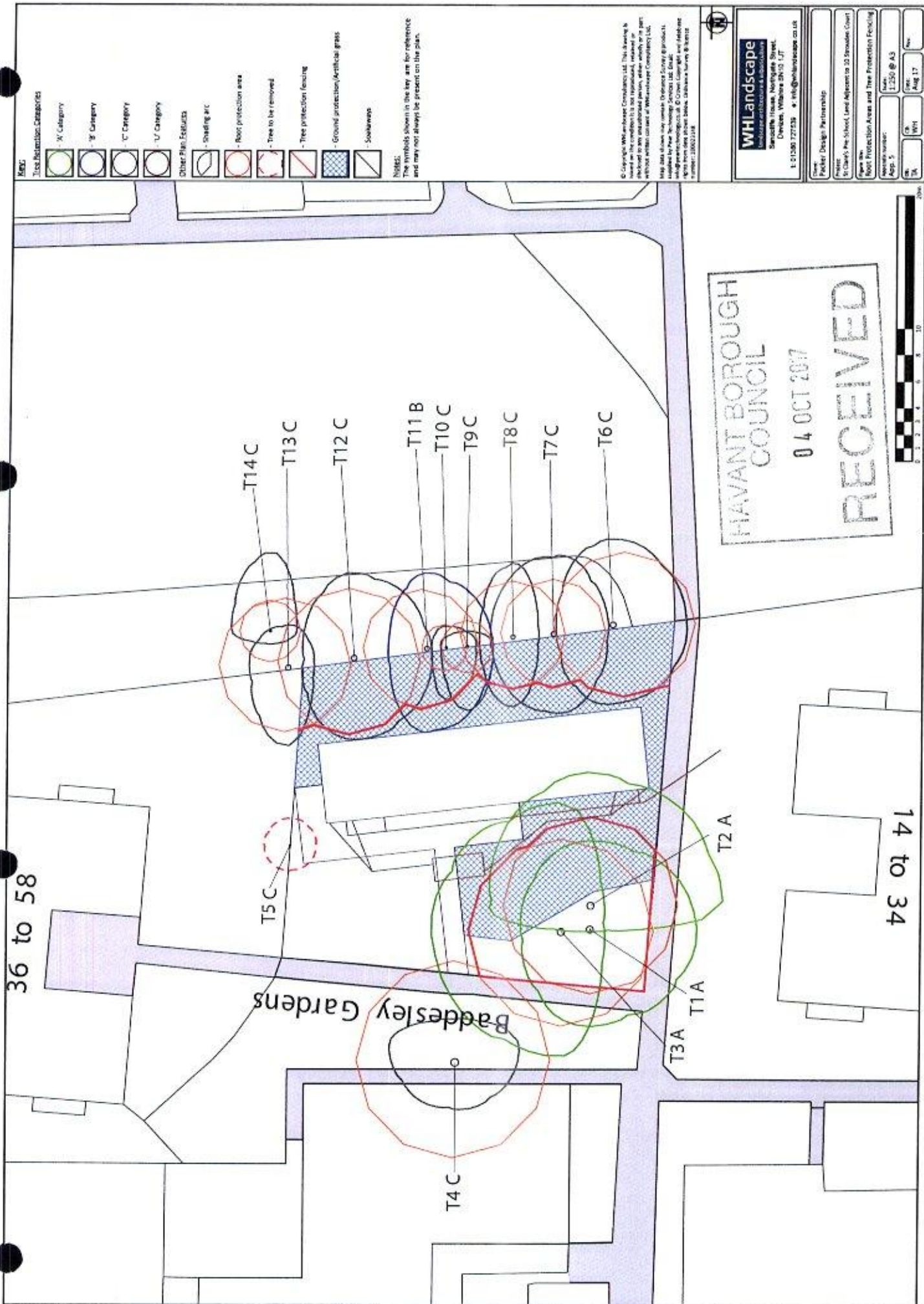
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T7	348	Field maple <i>Acer campestre</i>	11.2	210 110 210 180 120	5	6	4	6	2	Mature	Good	Significant stem removal south side up to 1.0 m.	As T6	10 to 20	C	3.8	46
T8	350	Common ash <i>Fraxinus excelsior</i>	14	230 230	2.5	6	2	5	3	Mature	Fair	Suppressed leans to west.	As T6	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.	As T6	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.	As T6	10 to 20	C	1.7	9
T11	353	Common ash <i>Fraxinus excelsior</i>	12	360	3	6	5	7	2	Mature	Good	Multi-stemmed at 600mm. Spreading crown.	As T6	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.	As T6	10 to 20	C	4.2	56

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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 dead east side of crown.	As T6	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





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 at 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 a 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

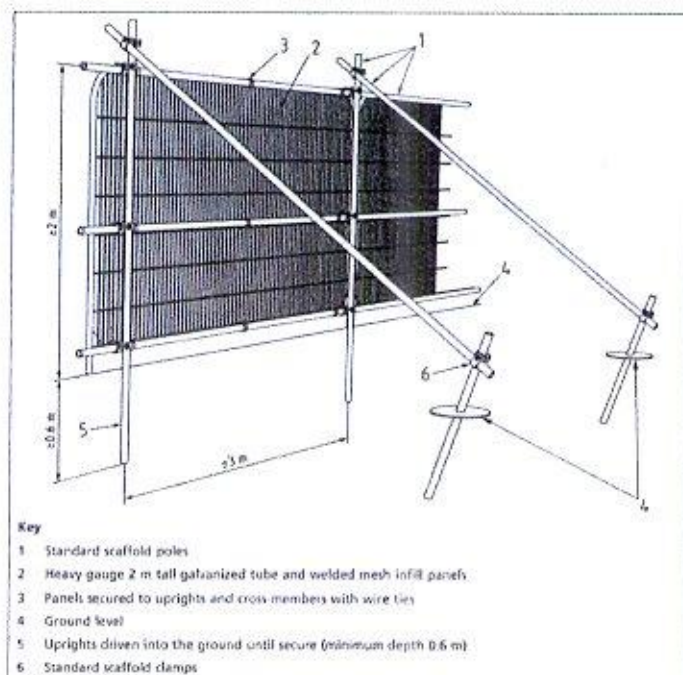
(3) - mainly cultural values, including conservation

Remaining contribution - based on retention category

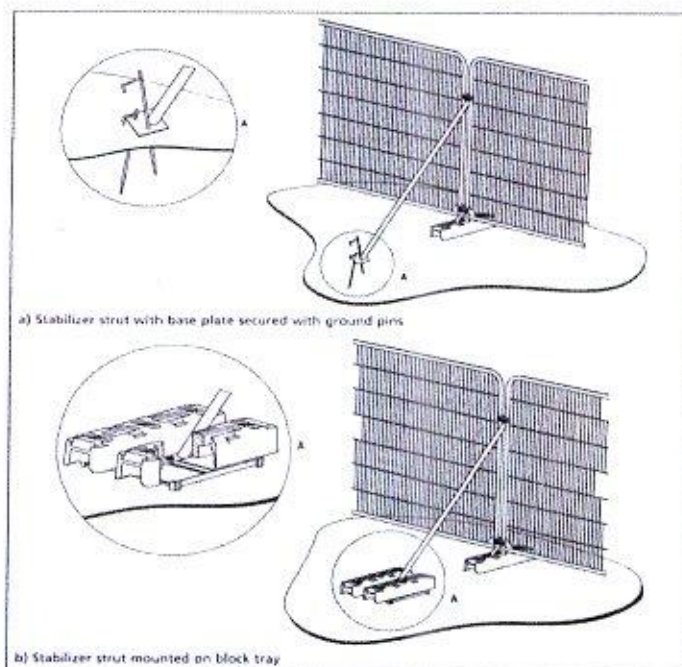
Root Protection Area - measured as a nominal circle and in a radius of the circle as per BS5837:2012.



Appendix 2 - BS5837 (2012) DEFAULT SPECIFICATION FOR PROTECTIVE BARRIER



Appendix 3 - BS5837 (2012) ABOVE GROUND STABILISING SYSTEMS



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Appendix 4

Examples of Tree Protection Notices

