

# SJ Stephens Associates

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## **Arboricultural Impact Assessment**

- Tree Survey
- Tree Protection Plan
- Arboricultural Method Statement

### **At:-**

14 Wedderburn Road  
London  
NW3 5QG

### **On behalf of:-**

Craig Haslam and Jenna Shenker  
c/o Type Studio Ltd  
Sutton House  
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### **Prepared by:**

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Survey Date: 6<sup>th</sup> March 2020  
Report Date: 12<sup>th</sup> March 2020  
Project no: 1505

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- A Tree Protection Plan: drawing no: 1505-01**
- B Tree Schedule**
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## **1 BACKGROUND**

- 1.1** This Arboricultural Impact Assessment has been instructed by Type Studio Ltd, on behalf of the owners to assess the arboricultural impact of the constructing an extension to the rear of 14 Wedderburn Road.
- 1.2** Trees were surveyed, with findings shown in the Tree Schedule in Appendix B and plotted on the Tree Protection Plan in Appendix A. This also shows tree protection measures, which are specified in the Arboricultural Method Statement in section 5 below. The arboricultural impact is assessed in section 6, which assumes that these measures are followed.
- 1.3** The tree survey was undertaken, and this report has been prepared, by Simon Stephens MA Oxon, Dip Arb (RFS), MArborA, C Env, MICFor a Registered Consultant with the Arboricultural Association, with over 20 years relevant experience.
- 1.4** This survey and report have been prepared in accordance with the recommendations of BS 5837:2012, Trees in relation to design, demolition and construction - Recommendations.
- 1.5** Documentation supplied:
  - Type Studio, Proposed Ground Floor Plan: 070.100

## 2 SURVEY DETAILS AND SCOPE

- 2.1 The site survey included trees and shrubs, within influencing distance of the proposed extension, with a stem diameter over 75mm at 1.5m height, as shown located on the Tree Protection Plan, included as Appendix A.
- 2.2 Tree inspection took place from ground level with the use of binoculars, sounding hammer and metal probe using the Visual Tree Assessment method (Mattheck & Breloer 1994). The presence and condition of bark and stem wounds, cavities, decay, fungal fruiting bodies and any structural defects that could increase the risk of structural failure were noted.
- 2.3 Tree diameters were measured using a girthing tape and tree heights were measured using a hypsometer. Where use of a tape was restricted by site factors, diameters were estimated, with the diameter recorded in the tree schedule as eg “est 300”.
- 2.4 At the time of the survey, the weather was fine with no restrictions to visibility. Broadleaf trees were not in leaf. There were no limitations to access around the trees.
- 2.5 Tree details are shown on the Tree Protection Plan included as Appendix A. Tree locations have been taken from the topographical survey provided. Where not included on the topographical survey, they have been determined by measuring distances from features shown on the plan, using a laser measuring device. The following information was recorded for each tree, and is shown in the Tree Schedule included as Appendix B:
  - **Number:** an identity number for each tree, prefixed with a “T”, which cross references locations shown on the plan with the schedule in Appendix B. Where a number of trees are located close together and are similar in character and management requirements, they have been treated as a Group under a single number, prefixed with a “G”.
  - **Species:** common name.
  - **Tree height:** approximate height in metres.
  - **Stem diameter:** diameter in millimetres, taken at 1.5m above ground. Where there are a number of stems, stem diameters are recorded in the condition column.
  - **Branch spread:** approximate spread in metres to N,S,E and W of the trunk. The approximate branch spread is drawn on the plan.
  - **Canopy clearance:** approximate height of the canopy above ground. Where a significant, low lateral branch is present, its height and direction of growth is included in the Condition column.
  - **Age class:** Young, Semi-mature, Early mature, Mature, Over-mature, Veteran.
  - **Condition:** features that affect the safe useful life expectancy and amenity of the tree, including the presence of decay or any physical defect.
  - **Management Recommendations:** recommendations to ensure the health and safety of the tree, within the future development.
  - **Estimated Remaining Contribution:** <10 years, 5-15 years, 10-20 years, 15-30 years, 20-40 years, >40 years.

- **Category grading:** tree classification taken from BS 5837:2012, Trees in relation to design, demolition and construction (see Appendix C for details), as follows:
  - Category U: Unsuitable for retention, trees with less than 10 years life expectancy, normally recommended for removal (Red)
  - Category A: high quality trees, able to make a substantial contribution for at least 40 years, normally retained unless there is an over-riding reason for removal and appropriate mitigation. (Green)
  - Category B: moderate quality trees, able to make a significant contribution for at least 20 years, normally retained. (Blue)
  - Category B/C: an intermediate category between categories B and C (not specifically described in BS5837). Trees, which should be retained wherever possible, providing retention does not unreasonably constrain the layout. (Blue)
  - Category C: low quality, in adequate condition to remain for at least 10 years, or young trees <150mm stem diameter. Trees which can be removed to allow the desired layout or new planting. (Grey)

For category A, B and C trees, a subcategory has been allocated, providing information on the reasons for selection of a specific category, as follows:

- Subcategory 1: mainly arboricultural values.
  - Subcategory 2: mainly landscape values.
  - Subcategory 3: mainly cultural values, including conservation.
- Trees have been classified irrespective of the possible proximity to future construction. The BS 5837 category is colour coded, as indicated above, on the plan included as Appendix A.
- **Protection Distance:** the protection distance in metres required to provide the Root Protection Area recommended in BS 5837, assuming a circular area centred on the tree.
- **Root Protection Area (RPA):** the area in m<sup>2</sup>, as recommended in BS 5837, to provide sufficient rooting area to ensure tree survival and which, in most situations, should be fenced off to prevent root damage from construction activities.

### 3 SURVEY LIMITATIONS

- 3.1 No internal decay devices, or other invasive tools to assess tree condition, were used.
- 3.2 No soil excavation or root inspection was carried out.
- 3.3 This survey has not considered the effect that trees or vegetation may have on the structural integrity of future building through subsidence or heave.

- 3.4 The tree survey has been undertaken for planning purposes. Although any obvious structural defects have been noted, a Tree Hazard Assessment has not been carried out. Mature trees close to highly populated areas or public highways should normally be checked for safety annually, by a suitably qualified person.

## **4 LEGAL PROTECTION OF TREES**

- 4.1.1 The Camden Council website was viewed on 12-03-2020, showing that the site falls within a Conservation Area.
- 4.1.2 Since the site is covered by a Conservation Area, six weeks notification must be given to the Local Planning Authority of any intended tree surgery works, to allow them the option of placing a Tree Preservation Order.
- 4.1.3 Once planning permission has been granted, provided the application clearly shows any tree works proposed, this overrides protection provided by Tree Preservation Orders or Conservation Areas.

## **5 ARBORICULTURAL METHOD STATEMENT**

### **5.1 Site Overview**

- 5.1.1 The proposal is for the construction of an extension to the rear of 14 Wedderburn Road. The proposed site plan is included, along with tree details, on the Tree Protection Plan attached as Appendix A.
- 5.1.2 There are two trees in the rear garden, both shown in the photos included in Appendix E.
- 5.1.3 T2 is a Japanese maple which, through repeated removal of low branches in the past, now has a high canopy untypical of the species. The main stem weaves, has a cavity and bifurcates but still has an attractive high canopy that will provide dappled shade and good autumn colour.
- 5.1.4 T3 is a weeping ash, which has a convoluted crown structure which is typical of the species. It has a large cavity in the main stem, which limits its life expectancy, but is showing good extension growth at present.

## **5.2 Tree Work**

- 5.2.1 Details of proposed tree works are included in the Tree Schedule included as Appendix B.
- 5.2.2 Only a mature shrub (T1) is proposed for removal, however some minor crown reduction to the weeping ash is recommended to reduce the risk of failure.
- 5.2.3 All tree work must be undertaken to the standards set out in BS 3998:2010 Tree work – Recommendations.

## **5.3 Root Protection Areas**

- 5.3.1 Root Protection Areas are shown for all trees in the tree schedule included as Appendix B. They are also shown for all retained trees, as circular areas centred on the trunk, on the Tree Protection Plan included as Appendix A. Where there are physical obstructions to root growth the Root Protection Area should be shown as an equivalent area that is more likely to reflect actual root growth. The Root Protection Area shows the area around a tree in which all construction activity must normally be excluded, unless appropriate protection measures are implemented.
- 5.3.2 For tree number T2, where the retaining wall to the south within the Root Protection Area will have inhibited root growth, the Root Protection Area has been offset by 25% away from the wall, to more closely reflect the likely actual root spread. There is a favourable rooting area in the adjacent garden to the south of the tree.

## **5.4 Tree Protection Fencing**

- 5.4.1 Tree Protection Fencing must be erected where shown on the Tree Protection Plan, included as Appendix A. This will provide full protection of the Root Protection Areas of all retained trees within the site, other than for:
  - the area shaded cyan on the Tree Protection Plan, indicating a Ground Protection Area, where roots must be protected, as described in section 5.5 below.
  - the areas cross hatched red on the Tree Protection Plan, where there will be excavation at the edge of the Root Protection Area of T2, but where hand excavation must be used, as described in section 5.6, to minimise any potential root damage.
- 5.4.2 Tree works can be completed before Tree Protection Fencing is erected, however no contractors plant must be allowed within the Root Protection Areas unless ground protection panels are laid.

- 5.4.3 Tree Protection Fencing must be from weldmesh panels, at least 2m high, securely fixed, with wire or scaffold clamps, to a rigid framework. This framework must be constructed from scaffold tubes with vertical tubes, at a maximum interval of 3m and driven into the ground at least 0.6m. The structure must be well braced to resist impacts, constructed as per Figure 2 of BS5837:2012, which is reproduced in Appendix D.
- 5.4.4 After erection of Tree Protection Fencing and installation of ground protection, 2 days notice must be given to the Local Planning Authority before demolition or construction, including any ground work, starts on site.
- 5.4.5 Tree Protection Fencing must be maintained and retained for the duration of the works, or until such time as agreed in writing with the Local Planning Authority.
- 5.4.6 Weatherproof notices must be fixed to the Tree Protection Fencing, and maintained, stating:-

**TREE PROTECTION AREA  
KEEP OUT**

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS  
AND CONSERVATION AREA STATUS  
CONTRAVENTION MAY LEAD TO CRIMINAL PROSECUTION  
THE FOLLOWING MUST BE OBSERVED BY ALL PERSONS:

- The Protection Fence must not be moved
- No person or machine must enter the area
- No materials or spoil must be deposited
- No excavation must be permitted

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN  
PERMISSION OF THE LOCAL PLANNING AUTHORITY

## **5.5 Ground Protection Area**

- 5.5.1 The Ground Protection Area, which is shaded cyan on the Tree Protection Plan, contains a combination of timber decking, stone steps and crazy paving. Although the decking can be removed, together with the paving if required, no excavation must be permitted in the underlying soil.
- 5.5.2 After removing the decking, the ground within the Ground Protection Area must be protected by Trakmats, as supplied by either the Marwood Group, ([www.marwoodgroup.co.uk](http://www.marwoodgroup.co.uk)) or Ground-Guards, ([www.ground-guards.co.uk](http://www.ground-guards.co.uk)) or a similar approved product, or by side butting scaffold boards. Whichever product is chosen, it must be laid on top of a compressible layer of sand or woodchips, laid onto a geotextile.
- 5.5.3 Materials can be stored in the Ground Protection Area providing there is no risk of leachate from them. No mixing or storage of cement, concrete, oil, fuel, bitumen or other chemicals must be permitted within the Ground Protection Area.

## **5.6 Hand Dig Areas**

- 5.6.1 The Hand Dig area, shown cross-hatched red on the Tree Protection Plan, must be dug to formation level /a depth of 1m by hand, neatly severing any roots found, using secateurs or a hand saw. Any further excavation required to a greater depth can be carried out with an excavator, since it is unlikely that significant live roots will be found.
- 5.6.2 Heavy-duty polythene must be used to line the side of the trench adjacent to the trees, before concrete is poured, to avoid the toxic affects of cement on tree roots.
- 5.6.3 On no account must use of an excavator be used in the top 1m of the Hand Dig area, which would rip roots and cause unnecessary damage.

## **5.7 General measures**

- 5.7.1 No construction activity whatsoever, including routing of underground services, storage of materials or on-site parking, must be allowed within Root Protection Areas, other than that specifically described above.
- 5.7.2 Fires must not be lit.
- 5.7.3 Landscape works carried out within Root Protection Areas must be undertaken with great care so as not to damage shallow roots. Rotovators or other heavy mechanical cultivation must not be used within the Root Protection Areas.
- 5.7.4 If any tree shown for retention is removed, uprooted or destroyed, another tree must be planted in the same location, at a size and species to be agreed in writing with the Local Planning Authority.
- 5.7.5 A copy of this report and the Tree Protection Plan must be kept on site and must be fully understood by the Site Agent.

## **5.8 Bat roosts**

- 5.8.1 The current legislation makes it a criminal offence to disturb, damage or destroy any bat roost or hibernation area. However, none of the trees recommended for felling are considered suitable for bats to use either for hibernation or temporary roost sites. The lack of cavities, cracks, loose bark or slab ivy makes it unlikely that bats will use the trees, except possibly for foraging for food. Contractors must be reminded of their responsibilities and should contact the relevant authorities if any signs of bats are found.



## **5.9 Birds**

- 5.9.1 The current legislation makes it a criminal offence to disturb nesting birds. The nesting season is generally assumed to be from 1<sup>st</sup> March to 31<sup>st</sup> July, however this can vary depending on species and location. During these months a careful inspection must be made before work commences and works must be postponed if active nests are found.

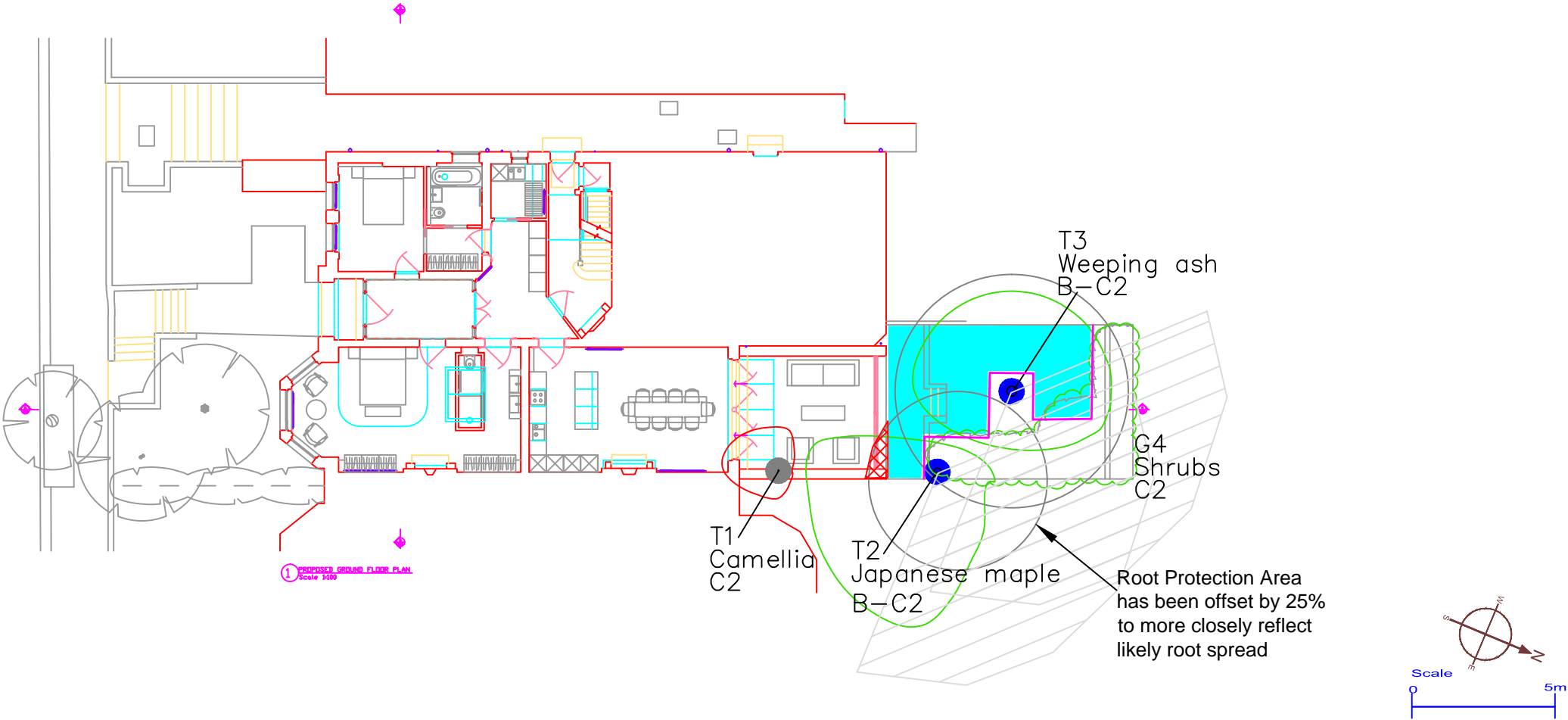
## **6 ARBORICULTURAL IMPACT ASSESSMENT**

- 6.1 Only a single mature shrub is proposed for removal.
- 6.2 Protection measures have been specified to protect the Root Protection Area of both retained trees, other than for T2, where there will be excavation with approximately 0.9m<sup>2</sup>, or approximately 3% of the Root Protection Area. It is likely that roots from the tree will not be found in this area due to foundations of the retaining wall acting as a root barrier, however hand digging has been specified as a precautionary measure.
- 6.3 Although preservation of Root Protection Areas is deemed to protect tree roots, in some cases buildings may need to be set further back to ensure the future sustainability of trees. If buildings are too close to trees, future occupiers may be likely to seek the reduction, or removal of trees, if they are cutting out excessive sunlight or providing a claustrophobic or threatening environment.
- 6.4 Section 5.2.2 of BS 5837:2012 states that “an indication of potential direct obstruction of sunlight can be illustrated by plotting a segment with a radius from the centre of the stem equal to the height of the tree, drawn from due North West to due East, indicating the shadow pattern through the main part of the day.” The shading patterns for both trees have been shown on the plan. This shows that new extension will be outside potential shading areas.
- 6.5 Although a small part of the canopy of T2 will oversail the new extension, this tree can be satisfactorily maintained at around its present height and is unlikely to become a threat to the building or residents. The proposal will not therefore adversely affect the sustainability of the tree.
- 6.6 Provided the recommendations in this report are followed, the arboricultural impact of this development on existing trees is considered acceptable.

## 7 REFERENCES

- *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.*
- *BS3998:2010 Tree Work. Recommendations.*
- *Common sense risk management of trees (FCMS024). Published by the National Tree Safety Group ([www.ntsgroup.org.uk](http://www.ntsgroup.org.uk))*
- *Mattheck & Breloer (1994). HMSO London. Research for Amenity Trees No4: The Body Language of Trees.*

APPENDIX A



**SJ Stephens Associates**  
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JOB TITLE  
14 WEDDERBURN ROAD

DRAWING TITLE  
TREE PROTECTION PLAN

DRAWING NUMBER  
1505-01

REVISIONS

SCALE  
1:200 at A3

DATE  
MAR 20

DRAWN BY  
sjss

Tree/ Group No.	Species	Height (m)	Stem Diam. at 1.5m (mm)	Branch Spread (m)				Canopy Clearance (m)	Age Class	Observations	Management Recommendations	Estimated Remaining Contribution (years)	BS 5837 Category Grading	Protect ion Distance (m)	Root Protect. Area (m2)
				N	S	E	W								
T1	Camellia	2.2	30	0.5	2	1	1.5	0.6	Mature	Large, healthy shrub.	Remove to construct extension.	15-30	C2	0.4	0
T2	Japanese maple	7.5	260	2	4.5	5.5	1	4	Early mature	Slight lean to south. Bifurcates at 2.2m. Small cavity at 1m to south east. Branches removed to south east. Attractive high canopy. Corner of extension will be approximately 1.1m from the edge of the stem.		15-30	B-C2	3.1	31
T3	Weeping ash	7.5	340	3.5	3.5	2	3.5	1.6	Mature	Main stem hollow, with cavity open to west from 1.6-2.1m. Convoluted branch structure from 3-5m, typical of the variety. Good extension growth. High chance of tree dying through ash dieback disease in the next 5-10 years.	Crown reduction/thinning to reduce risk of failure. Reduce over extended branches to smooth canopy shape, reducing height by approx 1.2m and crown spread to south by approx 1.5m. Remove any dead branches or branches with little live growth, from canopy.	10-20	B-C2	4.1	52
G4	Shrub	1.2-1.7	25-75	0	0	0	0	0.3	Mature	Mostly choisya		10-20	C2	0.9	3

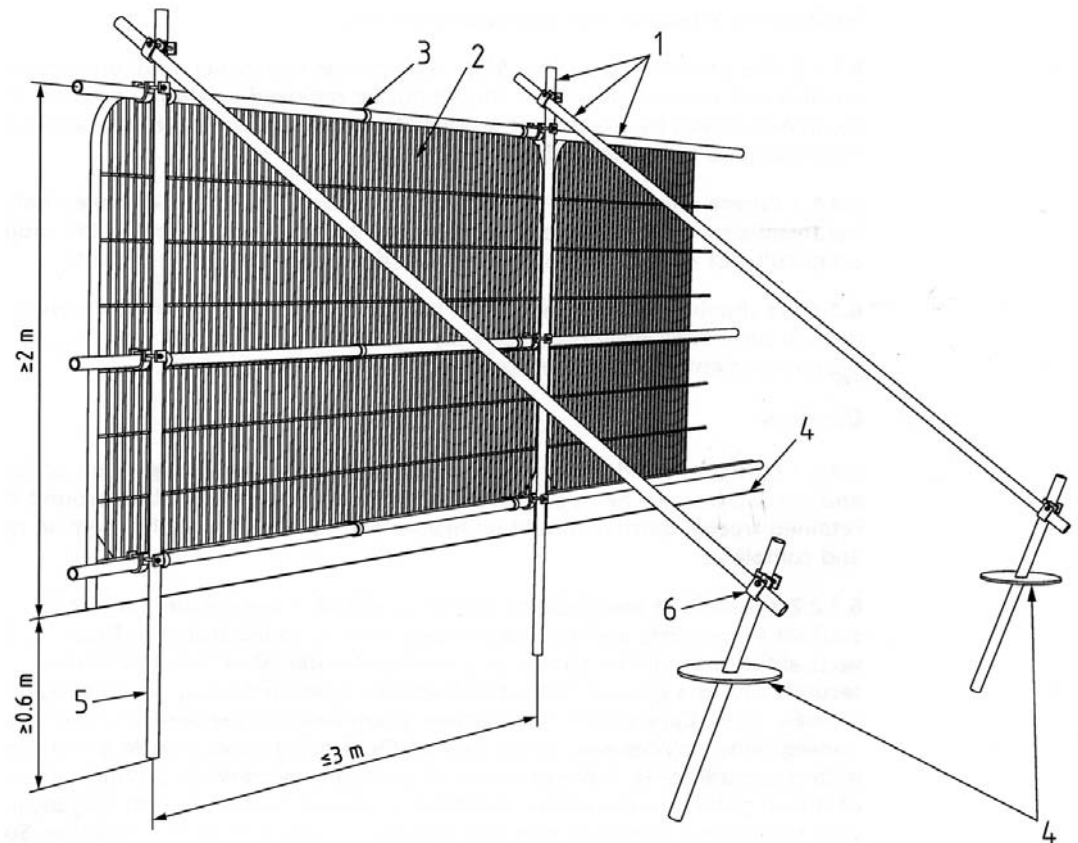
BS 5837:2012, Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
<b>Category U</b> 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 category U trees (e.g. 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, or very low quality trees suppressing adjacent trees of better quality</li></ul> <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			Canopy coloured red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
<b>Category A</b> <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 those that are essential components of groups or 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-pasture)	Canopy coloured green
<b>Category B</b> <b>Trees 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 locality	Trees with material conservation or other cultural value	Canopy coloured blue
<b>Category C</b> <b>Trees of low quality</b> with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Canopy coloured grey

Figure 2

**Key**

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



**Examples of above-ground stabilising systems**

Figure 3a

Stabiliser strut with base plate secured with ground pins

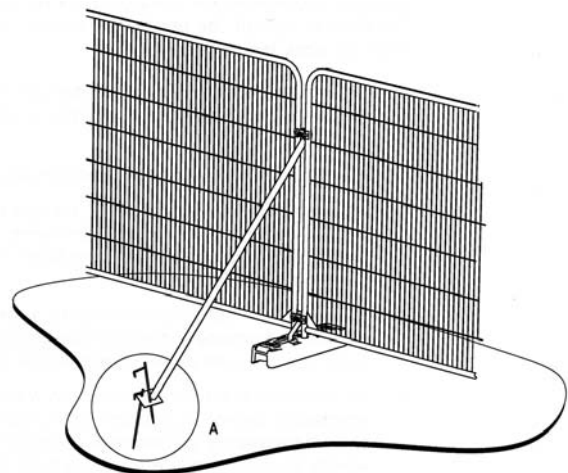
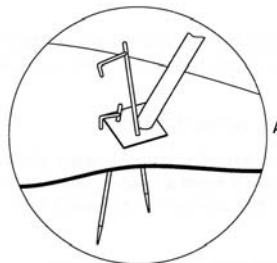
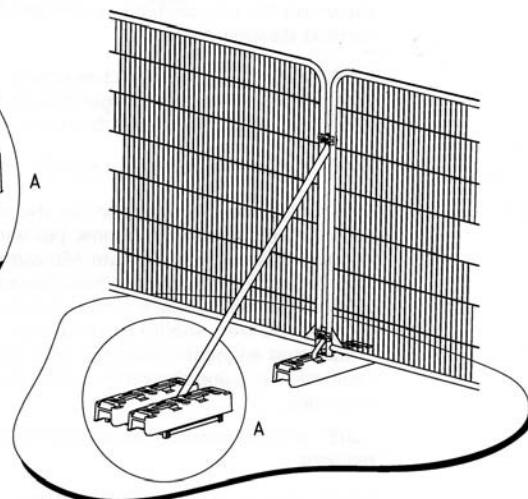
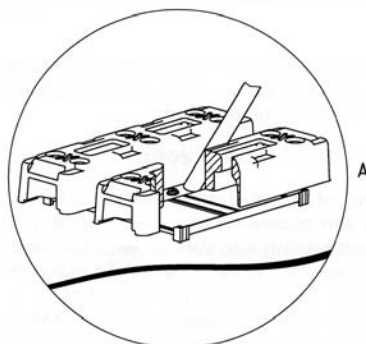


Figure 3b

Stabiliser strut mounted on block tray





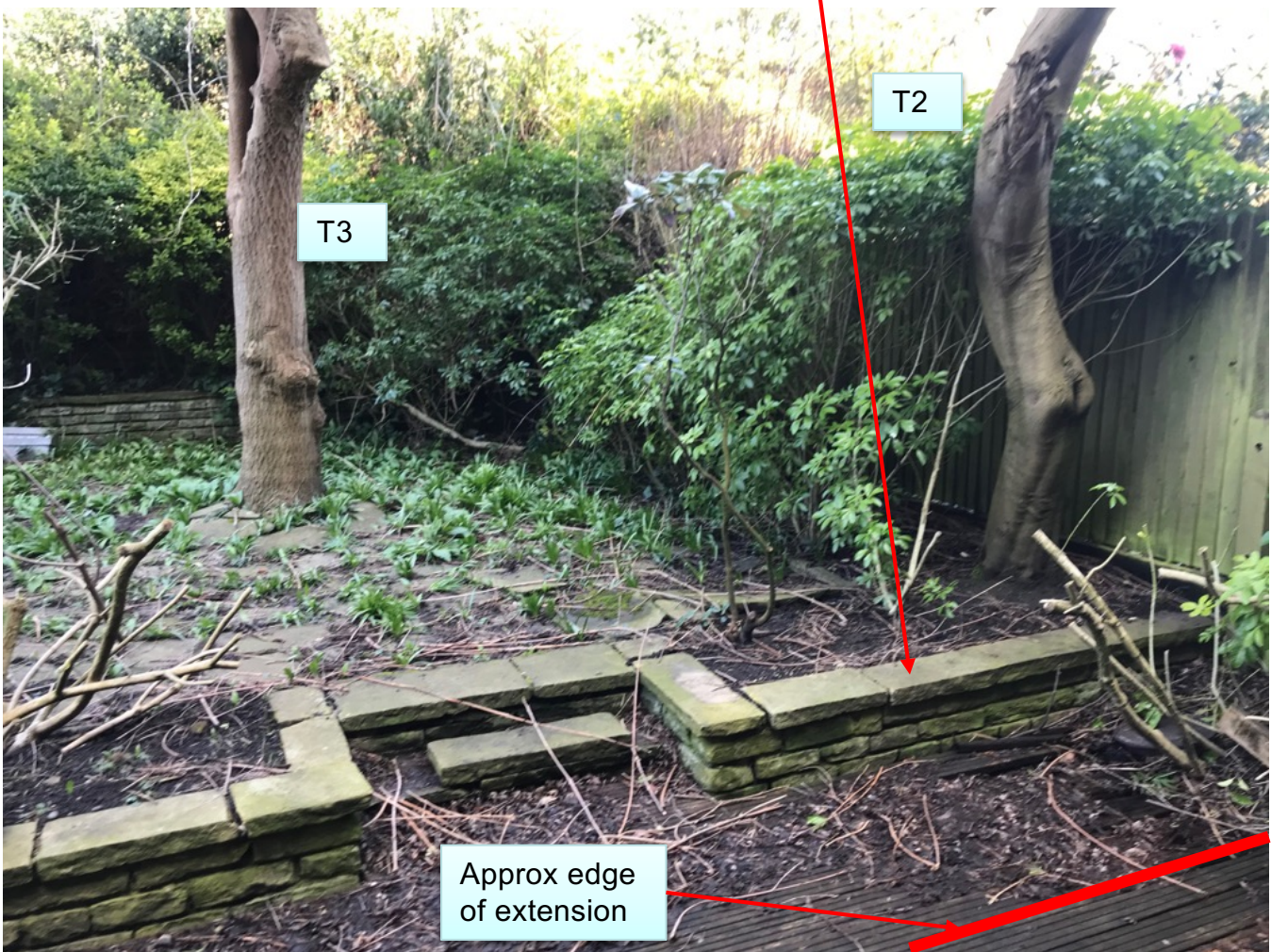






Cavity in main stem of T3

Retaining wall  
Which will have  
impeded root growth  
towards extension



T3

T2

Approx edge  
of extension