SJ Stephens Associates

ARBORICULTURAL, LANDSCAPE & MANAGEMENT CONSULTANTS

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Arboricultural Impact Assessment

- Tree Survey
- Tree Protection Plan
- Arboricultural Method Statement

At:-

64 St Augustine's Road
London
NW1 9RP

On behalf of:-

Ben Frazer
Whitehall Park
76 Haverstock Hill
London
NW3 2BE

Prepared by:

Simon Stephens MA Oxon, Dip Arb(RFS), MArborA, C Env. MICFor
Email: simon@sjstephens.co.uk

Survey Date: 14th April 2021
Report Date: 21st April 2021
Project no: 1710

CONTENTS

1 BACKGROUND

1.1 This Arboricultural Impact Assessment has been instructed by Ben Frazer to specify tree protection measures and assess the arboricultural impact of the proposed extension to 64 Augustine's Road and the construction of a garden room.

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:

- SJ Stephens Associates, Tree Constraints Plan
- Mutiny Architecture, Proposed Site Plan: drawing no 212-PRP-500-02

2 SURVEY DETAILS AND SCOPE

2.1 The site survey included trees and shrubs, within and immediately adjacent to the red line boundary, 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. In places, dense undergrowth restricted visibility of tree stems.

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^2, 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 The Camden website was viewed on 21-04-2021, showing that the site falls within a Conservation Area. The presence of Planning Conditions currently attached to the site, was not checked.

4.2 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.

4.3 Once planning permission has been granted, provided the application clearly shows any trees to be removed or pruned, this overrides protection provided by Tree Preservation Orders or Conservation Areas, provided the work is necessary to implement the approved development. If not essential, a separate tree work application will need to be submitted for trees protected by a Tree Preservation Order.

5 ARBORICULTURAL METHOD STATEMENT

5.1 Site Overview

5.1.1 The proposal is for a rear extension to the house and the construction of a garden room. The proposed site plan is included as Appendix F and is also shown, along with tree details, on the Tree Protection Plan attached as Appendix A.

5.1.2 The garden is very overgrown with over-mature lilac, privet and roses, which will need to be cleared to allow re-landscaping. There is an early mature lime tree (T5) growing in the corner of the rear garden and a good quality London plane in the street, both shown in the photos in Appendix E, which must be protected.

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 Five mature shrubs/small trees and two shrub groups are proposed for removal, as detailed in section 6.1 below.

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.

5.4 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 protection of the Root Protection Area of T5 where within the site, other than for:

- The area hatched in blue on the Tree Protection Plan, where No-Dig Construction must be used, as described in section 5.5 below, to protect underlying roots.

- The area shaded cyan on the Tree Protection Plan, indicating Ground Protection Areas, where roots must be protected, as described in section 5.6 below.

5.4.2 Tree works can be completed before Tree Protection Fencing is erected, however no contractors plant or vehicles must be allowed to track 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. Alternatively, weldmesh panels can be supported on blocks, providing the blocks are pinned to the ground with road pins, or similar, and the panels are braced, as per Figure 3 of BS5837:2012, which is also reproduced in Appendix D.

5.4.4 To protect the stem of T14 during main construction works, heavy-duty plywood must be used to construct a solid 2m tall box, around the stem of the tree. No part of the box must be in contact with the tree, however polystyrene blocks can be wedged between the box and the tree stem to absorb any impact and to help keep the box in place.

5.4.5 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.

5.4.6 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.

5.4.7 Notices must be fixed to the Tree Protection Fencing stating:- "Tree Protection Fencing – No construction activity to take place within this area".

5.5 No-Dig Construction Area

5.5.1 The No-Dig area, shown hatched blue on the Tree Protection Plan included as Appendix A, must be constructed without excavation apart from the removal of turf/organic matter, which must be carried out by hand. Excavators, dumpers and other site traffic must not be allowed to track on the No-Dig area until roots are protected by the No-Dig surfacing or ground protection is laid.

5.5.2 The proposed garden room, which falls within the Root Protection Area of T5, will be a light weight timber/glass building which must be built on a concrete slab, constructed on top of existing levels without excavation. Engineering details must include a cellular confinement system filled with clean stone, which will prevent soil compaction and allow gaseous diffusion to and from underlying roots. A typical section is shown on the Tree Protection Plan. As well as being fit for purpose, the design and methodology must protect tree roots, by following the following construction methodology:-

- topsoil/turf can be removed carefully by hand to a maximum of 75mm, but less if roots are found nearer the surface.
- following leveling with soil or sand, a permeable, non-woven geotextile membrane, must be laid.

- pressure treated timber edging boards, supported by driven stakes must be used.
- a suitable cellular confinement system must then be laid to manufacturers instructions. Products that might be considered include Geoweb, supplied by Greenfix (www.greenfix.co.uk) or Cellweb, supplied by Geosynthetics Ltd (www.geosyn.co.uk).
- the cellular confinement system must be filled with clean (no fines), washed angular, 20/40mm, stone to provide load support, while allowing air and moisture to permeate to the root zone. The depth of the cellular confinement system must be confirmed with the suppliers as being adequate to protect the ground during pile driving operations.
- a further non-permeable, geotextile membrane, or heavy-duty polythene must then be laid before the reinforced concrete base is laid, which will be supported by the piles.
- removed turf/topsoil can be used to grade surrounding ground levels.

5.5.3 No-Dig construction will result in an increase in levels. This has been fully taken account of in all other aspects of the design.

5.5.4 Rainwater from the building must be allowed to run off the back of the building and allowed to soak into the ground.

5.6 Ground Protection Area

5.6.1 Adjacent to the new garden room, where pedestrian movement will take place within the Root Protection Area of T5, a Ground Protection Area is shown on the plan. The ground between the Tree Protection Fencing and the building must be protected by either 25mm plywood or side butting scaffold boards, on top of a compressible layer of sand or woodchips, laid onto a geotextile.

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 No mixing or storage of cement, concrete, oil, fuel, bitumen or other chemicals must be permitted within 10m of the trunk of any retained trees, nor in any position where the slope of the ground could lead to contamination of the Root Protection Area.

5.7.3 Fires must not be lit in a position where their flames could extend to within 10m of foliage, branches or trunk.

5.7.4 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.

5.7.5 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.

5.7.6 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. 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 1st March to 31st 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.

5.10 Arboricultural Supervision

5.10.1 A qualified Arboricultural Consultant must be retained during the period of construction to carry out the following:

- to meet with/ liaise with the contractor, prior to construction or demolition starting on site, to ensure this Arboricultural Method Statement is fully understood and can be complied with in full. If any revisions are required, a revised Arboricultural Method Statement must be approved by the Local Planning Authority, prior to construction or demolition starting on site.

- as necessary, to advise on any issues at the request of the local planning authority, the developer, architect or contractor.

The details of each site visit must be recorded using a site visit proforma, with copies circulated to the contractor, developer and the local authority Tree Officer within 3 working days of the visit.

6 ARBORICULTURAL IMPACT ASSESSMENT

6.1 The following trees / shrubs, categorized as per BS 5837 (see Appendix C for details), are proposed for removal:

- Category U
  - T11 – a dying Holly
- Category C – low quality:
  - T1 – a 3m privet
  - T2 – a 3.5m elder
  - T3 – an overmature lilac
  - T6 – a mature dogwood
  - T7 – a large rose
  - G9 and G10 – low quality shrubs

6.2 No trees or shrubs of any significance are proposed for removal.

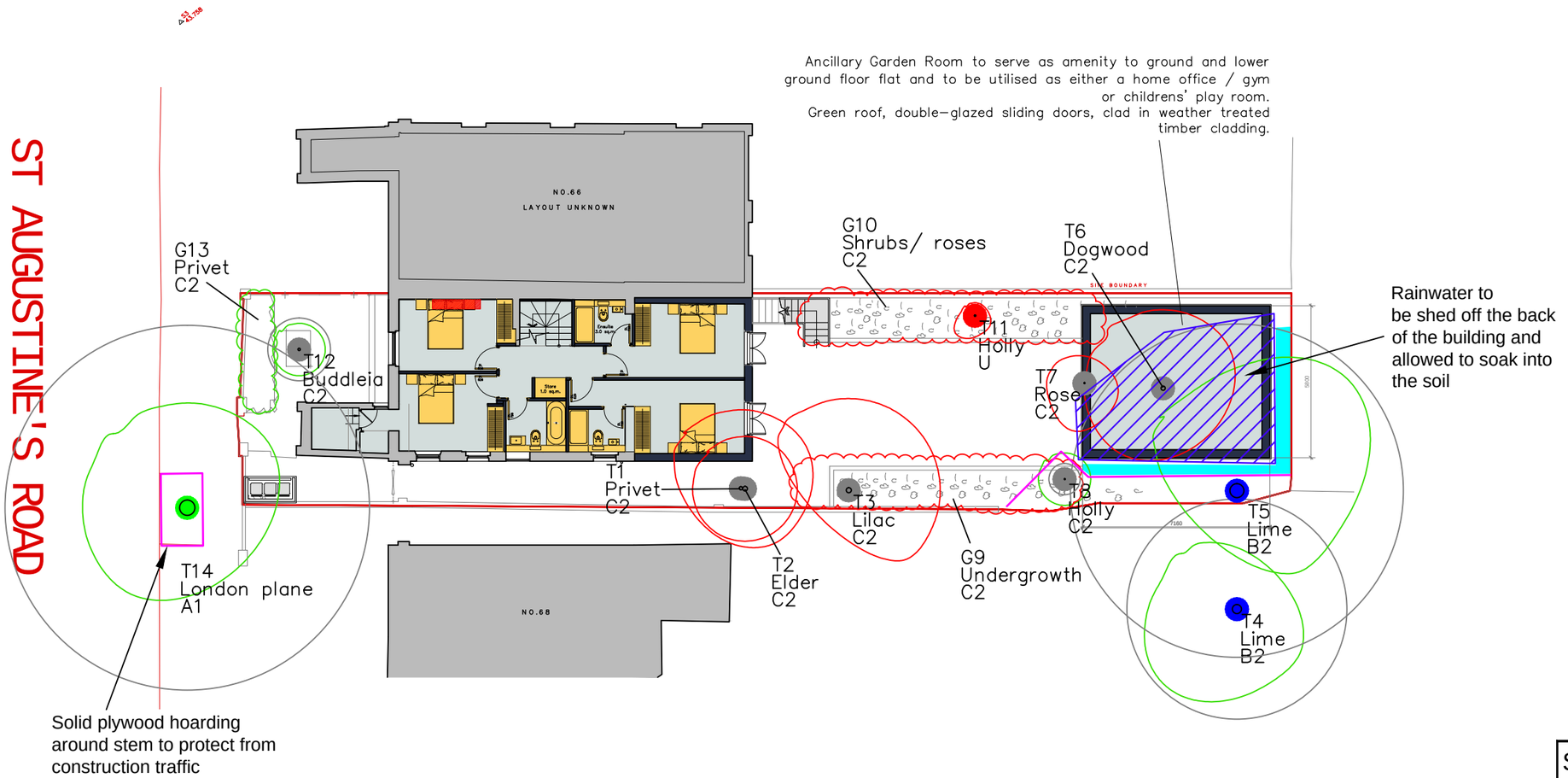
6.3 No Dig construction has been specified to protect the Root Protection Area of T5. The new garden room will cover 30m2, or 23% of the Root Protection Area. This is slightly in excess of the 20% maximum recommended in BS5837, however since rainwater from the building will be allowed to soak into the soil there is unlikely to be a significant adverse impact to the tree.

6.4 Provided the recommendations in this report are followed, the arboricultural impact of these proposals on existing tree cover is considered acceptable.

7 REFERENCES

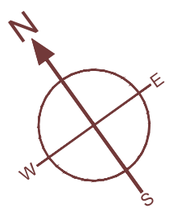
- *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.*
- *BS3998:2010 Tree Work. Recommendations.*
- *Common sense risk management of trees (FCMS024). Published by the National Tree Safety Group (www.ntsgroup.org.uk)*
- *The use of Cellular Confinement systems near Trees: a guide to good practice Arboricultural Association Guidance Note 12.*

APPENDIX A



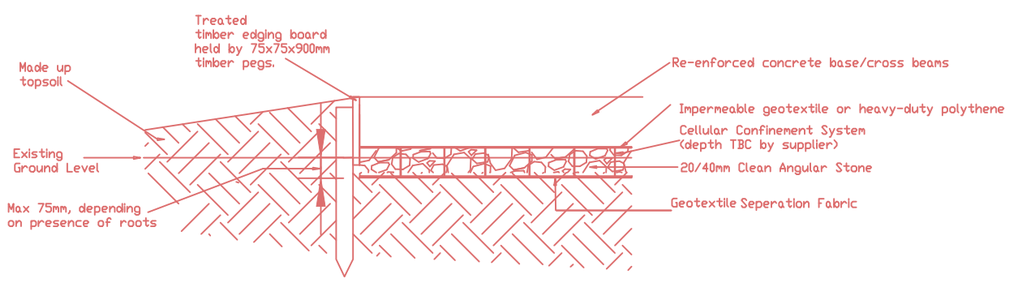
Key

- Category U
- Category A
- Category B
- Category C
- Crown spread: retained trees
- Trees For Removal
- Root Protection Area
- Tree Protection Fence
- No-Dig Construction
- Ground Protection Area



Scale

0 5m 10m



CONSTRUCTION DETAIL FOR CONCRETE BASE

BS 5837: TREE CATEGORY GUIDE

Category U: Unsuitable for retention, trees with less than 10 years life expectancy.

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.

Category B: moderate quality trees, able to make a significant contribution for at least 20 years, normally retained.

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 significantly constrain the layout.

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.

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JOB TITLE
64 ST AUGUSTINE'S ROAD

DRAWING TITLE
TREE PROTECTION PLAN

DRAWING NUMBER	REV
1710-01	

REVISIONS

SCALE	DATE	DRAWN BY
1:200 at A3	APR 21	sjss

Tree/ Group No.	Species	Height (m)	Stem Diam. at 1.5m (mm)	Branch Spread (m)				Canopy Cleara -nce (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	Privet	3.2	120	3	2.5	3	2	1.1	Mature	Four stems from base- average 60mm. Growing around a mature elder.	Remove to facilitate development.	10-20	C2	1.4	7
T2	Elder	3.5	180	2	2	2	2	1.8	Mature	Twin stems from 0.7m- 110,140mm.	Remove to facilitate development.	5-15	C2	2.2	15
T3	Lilac	3.5	200	3.5	3.5	3.5	1.5	1.2	Over mature	Approximately 4 stems from base- average 100mm. Engulfed in ivy and gradually breaking apart.	Remove, or cut back hard and remove ivy, to open up garden.	5-15	C2	2.4	18
T4	Lime	11	est 350	3	3	2	4	3	Early mature	Growing in adjacent site- base not inspected. Previously heavily reduced. Extensive basal growth.		15-30	B2	4.2	55
T5	Lime	13.5	530	4	4	6	2	3.5	Early mature	Dense basal growth prevents detailed inspection. Ivy to 7m. Crown reduced approx. 3 years ago.	Remove all basal growth. Remove section of ivy from base to allow inspection.	20-40	B2	6.4	127
T6	Dogwood	4.5	160	3	2.5	3	3	0.7	Mature	Twin stem from base- both 110mm.	Remove to construct garden shed.	5-15	C2	1.9	12
T7	Rose	2	50	1	1	0.5	0.3	0	Over mature		Remove to construct garden shed.	5-15	C2	0.6	1
T8	Holly	3.5	50	1	1	1	1	0.3	Semi-mature	Potential to develop if opened up and ivy removed.		20-40	C2	0.6	1
G9	Undergrowth	2-3.5	25-75					0.1	Mature	A mixture of low quality shrubs, all engulfed in ivy.	Cut back or remove to relandscape garden.	5-15	C2	0.9	3
G10	Shrubs/ roses	3-4	25-50					0.1	Mature		Cut back or remove to relandscape garden.	5-15	C2	0.6	1
T11	Holly	3.5	60	0.5	0.7	0.5	1	1	Early mature	Engulfed in undergrowth- little live foliage remaining.	Remove.	>10	U	0.7	2
T12	Buddleia	3	100	1	1	1	1	0.3	Mature	Has been cut back hard.		5-15	C2	1.2	5
G13	Privet	1.8	25-75					0	Mature	Mature hedge approximately 1m wide.		5-15	C2	0.9	3
T14	London plane	11.5	580	4	3	4	4	4	Mature	Regularly pollarded.		>40	A1	7.0	152

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

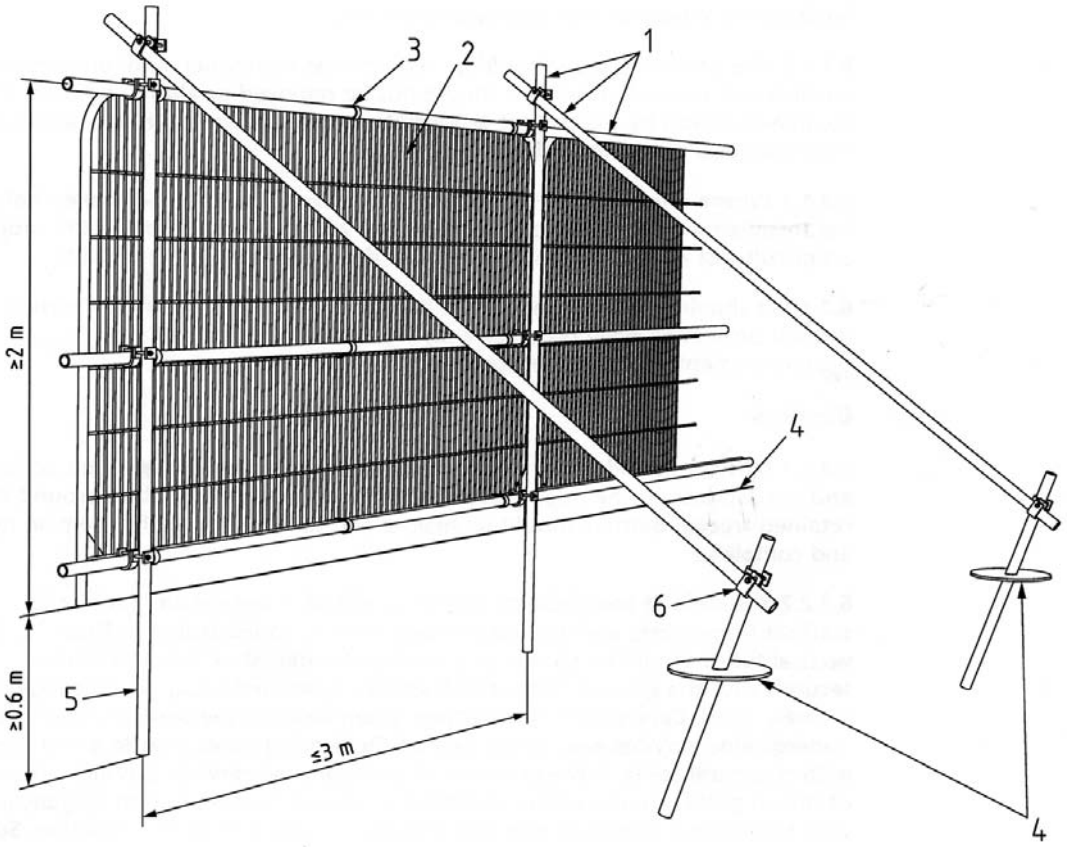
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• 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) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • 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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			Canopy coloured red
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** 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
Category B **Trees of moderate quality** 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
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 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

Default specification for protective barrier

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

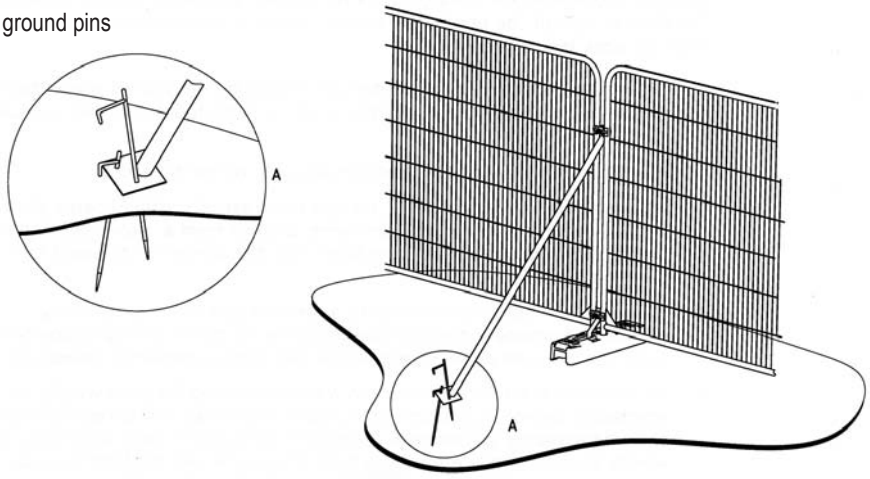
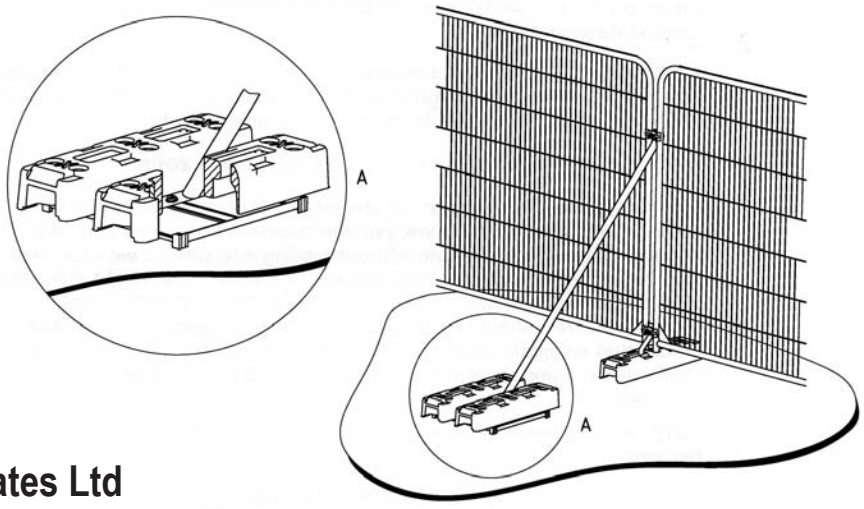
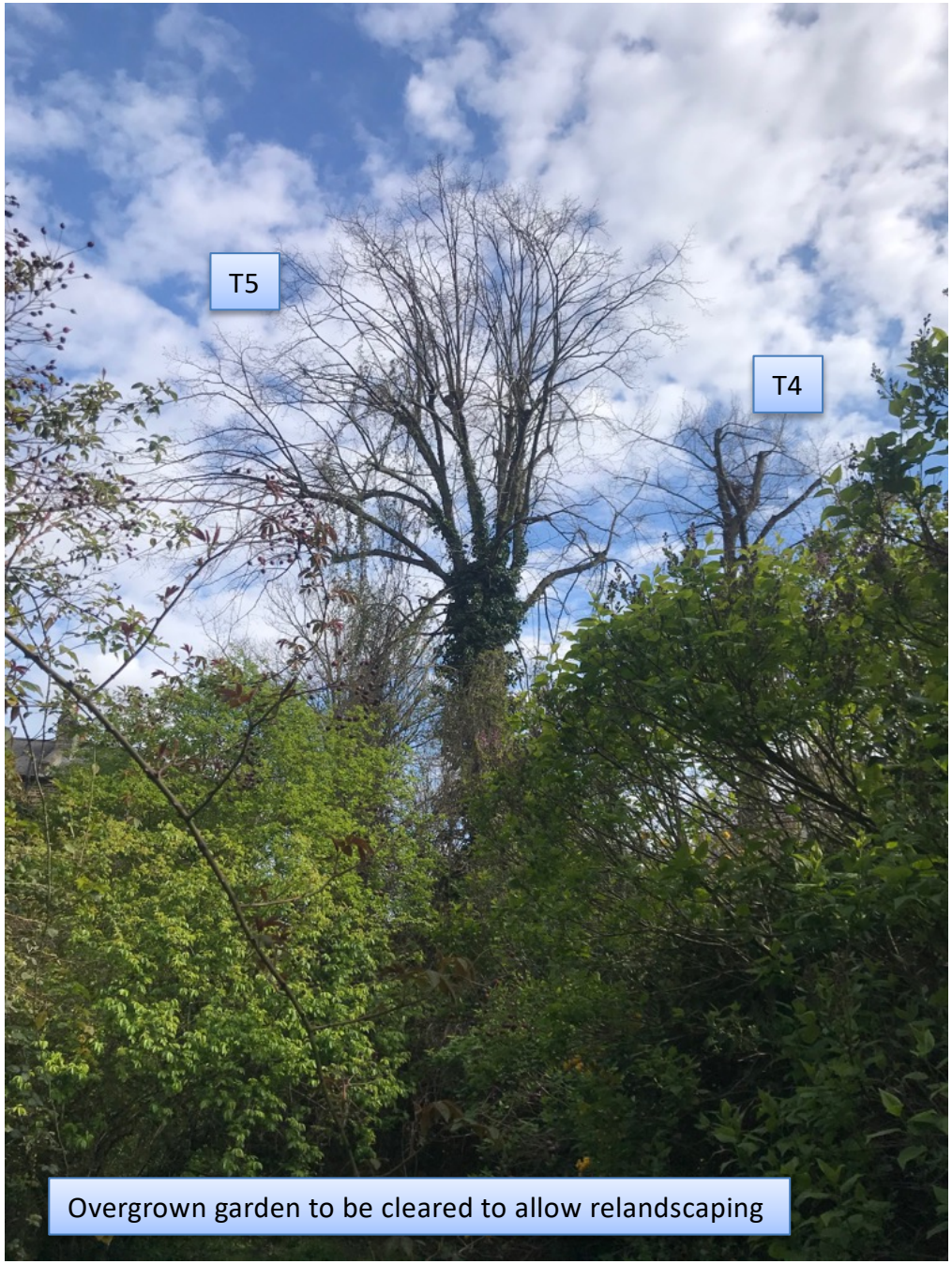


Figure 3b

Stabiliser strut mounted on block tray




T5
T4
Overgrown garden to be cleared to allow relandscaping


T14 – plywood protection
to stem during main construction
works

NO.66

LAYOUT UNKNOWN

Ancillary Garden Room to serve as amenity to ground and lower ground floor flat and to be utilised as either a home office/ gym or childrens play room.
Green roof, double-glazed sliding doors, cladin weathertreated timber cladding.

Small existing tree to be removed to allow for new garden room

SITE BOUNDARY

Ensuite
3.0 sq.m.

Store
1.0 sq.m.

Garden Room
Gross Internal Area
34.1 sq.m./367.0 sq.ft

5800

1000

7160

NO.68

Existing trees to be removed due to proximity of proposed extension

212-PRP-500 01.

212-PRP-500 02.

FOR PLANNING

Do not scale. Use figured dimensions only
All dimensions to be checked on site
All drawings to be read in conjunction with the Structural Engineer's drawings

0 .05 .10 .20 .30 .40 .50

64 ST. AUGUSTINE'S ROAD

PROPOSED GARDEN ROOM

PROJECT: 64 St. Augustine's Road
ADDRESS: 64 St. Augustine's Road, London, NW1 9RP
CLIENT: Bubble Investments Ltd

AUTHOR: Jeremy
DATE: 18.11.20 SCALE: 1:50 @ A1
DRAWING: 212-PRP-500-02

ARCHITECTURE DESIGN MUTINY
(T.F) 07951 248 528
muntiny-architecture.com

DESCRIPTION	BY	DATE	REV
Addendum to Garden Room Dimensions	Hannah	21.04.21	02
Note added in regards to proposed removal of trees and further detail to garden room	Jeremy	22.03.21	01