SJ Stephens Associates

ARBORICULTURAL, LANDSCAPE & MANAGEMENT CONSULTANTS

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Arboricultural Impact Assessment

- Tree Survey
- Tree Protection Plan
- Arboricultural Method Statement

For:-

Replacing existing greenhouse with a Summer House and Swimming pool

At:-

No 4 The Grove
Highgate
London
N6 6JU

On behalf of:-

FIJ PTC Ltd
Level 8, Ilona Rose House,
Manette Street
London
W1D 4AL

Prepared by:

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

Survey Date: 20th January 2023
Report Date: 1st June 2023
Project no: 2057

CONTENTS

1 BACKGROUND

1.1 This Arboricultural Impact Assessment has been instructed by Soda Studio, on behalf of FIJ PTC Ltd. to specify tree protection measures and assess the arboricultural impact of the proposed demolition of an existing greenhouse and replacement with a summer house, above ground swimming pool and decking terrace in the garden of 4 The Grove.

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:

- Topographical Survey
- SJ Stephens Associates, Tree Constraints Plan, drawing no 2057-01
- Soda, Proposed Site Plan: drawing no A482-A-025-P01

2 SURVEY DETAILS AND SCOPE

2.1 The site survey included trees and shrubs, within influencing distance of the proposed development, 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^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 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.

4.2 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 demolition of an existing greenhouse and replacement with a summer house, above ground swimming pool and decking terrace. The proposed site plan is included as Appendix E and the footprints of proposed structures have been added to the survey drawing, along with tree details, to create the Tree Protection Plan attached as Appendix A.

5.1.2 There are some attractive trees in the garden including an old mulberry tree (T5) and a number of birch and purple plum.

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 Four trees and two hedge/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 full protection of the Root Protection Areas of all retained trees within the site, other than for areas 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.

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 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

5.4.6 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.

5.5 Ground Protection Areas

5.5.1 The Ground Protection Areas, which are shaded / hatched cyan on the Tree Protection Plan, contain soft areas where ground protection must be laid during construction to protect any underlying roots.

5.5.2 Trakmats, as supplied by either the Marwood Group, (www.marwoodgroup.co.uk) or Ground-Guards, (www.ground-guards.co.uk) or a similar approved product, must be used, laid on a compressible layer of sand or woodchips, laid onto a geotextile, with adjacent panels held together with connectors.

5.5.3 The new decking terrace and above ground pool, where within Root Protection Areas, will be supported above the ground on screw piles, so no excavation will be required. However, trial holes at the pile locations must be dug by hand to a depth of 0.75m to check for roots before piles are driven. If any roots over 25mm in diameter are found, pile locations must be moved.

5.5.4 Ground protection must be laid before any construction starts on site and must be maintained in good condition until all construction operations have been completed. Ground protection must be fit for purpose and be replaced with an alternative product if panels start to move or any sign of ground compaction is seen.

5.6 General measures

5.6.1 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.

5.6.2 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.

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

5.6.4 Landscape works carried out within Root Protection Areas must be undertaken with great care so as not to damage shallow roots. Tractor mounted rotovators or other heavy mechanical cultivation must not be used within the Root Protection Areas.

5.6.5 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.

5.6.6 A copy of this report and the Tree Protection Plan must be kept on site and must be fully understood by the Site Agent.

5.7 Bat roosts

5.7.1 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.

5.8 Birds

5.8.1 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.

5.9 Arboricultural Supervision

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

- to 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 any 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 / groups, categorized as per BS 5837 (see Appendix C for details), are proposed for removal:

- Category C – low quality:
  - T15 and T17 –olives, 3.5m in height
  - T16 – a 2.5m viburnum
  - T18 – a 3m shrub
  - G22 – a dense shrubbery including bamboo, viburnum and peony
- Category B/C – between categories B and C:
  - G7 – tightly clipped yew hedging up to 2.1m in height

6.2 No trees of any particular significance are proposed for removal and new building has been kept back from trees to provide adequate separation distances to ensure their future sustainability.

6.3 Protection measures have been specified to protect the Root Protection Areas of all retained trees, with screw piles used following trial hole excavation.

6.4 The pool base will cover 19.5m2 or 15% of the Root Protection Area of the mulberry, T5, which is well within the recommendations of BS5837.

6.5 Provided the recommendations in this report are followed, the arboricultural impact of this development on existing tree cover is considered acceptable. Arboricultural supervision has been included to assist with tree protection measures.

7 REFERENCES

- *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.*
- *BS3998:2010 Tree Work. Recommendations.*
- *The use of Cellular Confinement systems near Trees: a guide to good practice Arboricultural Association Guidance Note 12.*

APPENDIX A

BS 5837: TREE CATEGORY GUIDE

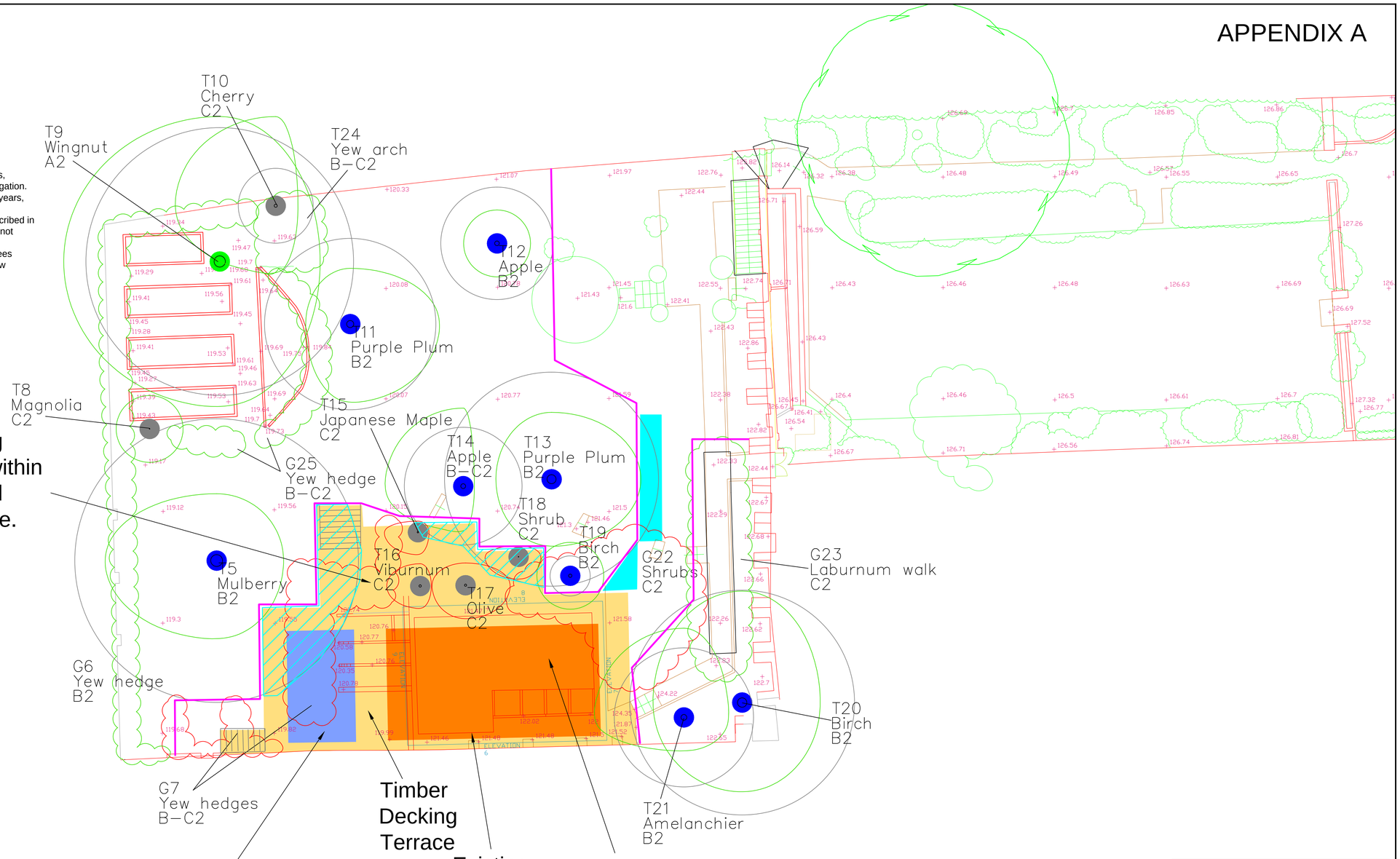
Category U: Unsuitable for retention, trees with less than 10 years life expectancy.

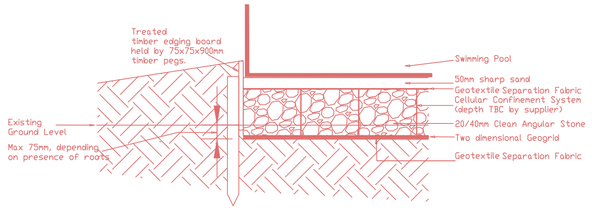
Category A: high quality trees, able to make a substantial contribution for at least 40 years, normally retained unless there is an over-riding reason for removal and appropriate mitigation.

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.





CONSTRUCTION DETAIL FOR BASE FOR ABOVE GROUND SWIMMIMG POOL

N

W E

S

Scale

0 5m 10m

Key

- Category U
- Category A
- Category B
- Category C
- Crown spread: retained trees
- Trees For Removal
- Root Protection Area
- Tree Protection Fence
- Ground Protection Area -ground panels
- Ground Protection Area -decking and pool

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JOB TITLE: 4 THE GROVE

DRAWING TITLE: TREE PROTECTION PLAN

DRAWING NUMBER: 2057–02

REV:

REVISIONS:

SCALE: 1:100atA1

DATE: JUN 23

DRAWN BY: 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 Distnce (m)	Root Protect. Area (m2)
				N	S	E	W								
T5	Mulberry	5.5	530	3	3.5	3	5	1.6	Mature	Three stems from 1.5m. Leaning to southwest. Decay to main stem. Previously reduced and cable brace installed. Good vigour, but risk of further break out.	Maintain at approximately current size. Replace ineffective prop. Remove swing.	10-20	B2	6.4	127
G6	Yew hedge	1.9	75					0	Early mature	Approx 0.8m wide. Good screening.		>40	B2	0.9	3
G7	Yew hedges	1.9-2.1	75-100					0.2	Early mature	Good vigour.	Remove to facilitate development	>40	B-C2	1.2	5
T8	Magnolia	3	30	1.5	1.5	1.5	1.5	1.5	Young	Good form and vigour.		>40	C2	0.4	0
T9	Wingnut	14	500	6.5	6.5	4.5	7	6	Early mature	Good form and vigour.		>40	A2	6.0	113
T10	Cherry	4	140	4	3	1	4.5	2.5	Semi Mature	Growing immediately adjacent to boundary wall and leaning to south. Under canopy of T9.		10-20	C2	1.7	9
T11	Purple Plum	4	320	2.5	3.5	4	2	1.6	Mature	Twin stems from 0.4m - 180mm and 270mm - tight fork with included bark. Attractive shape		15-30	B2	3.8	46
T12	Apple	3	210	1.5	1.5	1.5	1.5	2	Early mature	Tightly pruned		20-40	B2	2.5	20
T13	Purple Plum	5.5	400	3	3	4	2.5	1.8	Mature	Reduced in the past. *Phellinus* fungal brackets.		10-20	B2	4.8	72
T14	Apple	4	220	3.5	2	0.5	3.5	1.7	Mature	Recently pruned. Slight lean to west.		15-30	B-C2	2.6	22
T15	Japanese Maple	2.5	60	0.5	1	0.5	1.5	1.6	Young	Leaning to west.	Remove to facilitate development	15-30	C2	0.7	2
T16	Viburnum	2.5	110	1	1	0.5	1.5	0	Mature	Twin stems - both 80mm. Mature shrub.	Remove to facilitate development	10-20	C2	1.3	5
T17	Olive	3.5	100	1	1.5	2	1.5	0.7	Semi Mature	Growing against greenhouse	Remove to facilitate development	>40	C2	1.2	5
T18	Shrub	3	30	0.5	1	1	1.5	1	Semi Mature	Basal graft	Remove to facilitate development	15-30	C2	0.4	0
T19	Birch	12	150	1.5	1.5	1.5	1.5	2	Semi Mature	Attractive tree.		>40	B2	1.8	10
T20	Birch	16	420	5	4	3.5	4	4.5	Mature	Attractive tree.		20-40	B2	5.0	80
T21	Amelanchier	5.5	260	4	1.5	2	4	1.7	Mature	Three stems - 80mm, 90mm and 230mm. Leaning to north.		20-40	B2	3.1	31
G22	Shrubs	2-3	25-125					0	Mature	Dense shrubbery including bamboo, peony and virburnum.	Remove, as necessary, for construction.	10-20	C2	1.5	7
G23	Laburnum walk	2	30-60					1	Semi Mature	Attractive feature		15-30	C2	0.7	2

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 Distnce (m)	Root Protect. Area (m2)
				N	S	E	W								
T24	Yew arch	2.5	60-120					0.2	Early mature			>40	B-C2	1.4	7
G25	Yew hedge	1.1	25-50					0	Early mature			>40	B-C2	0.6	1

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

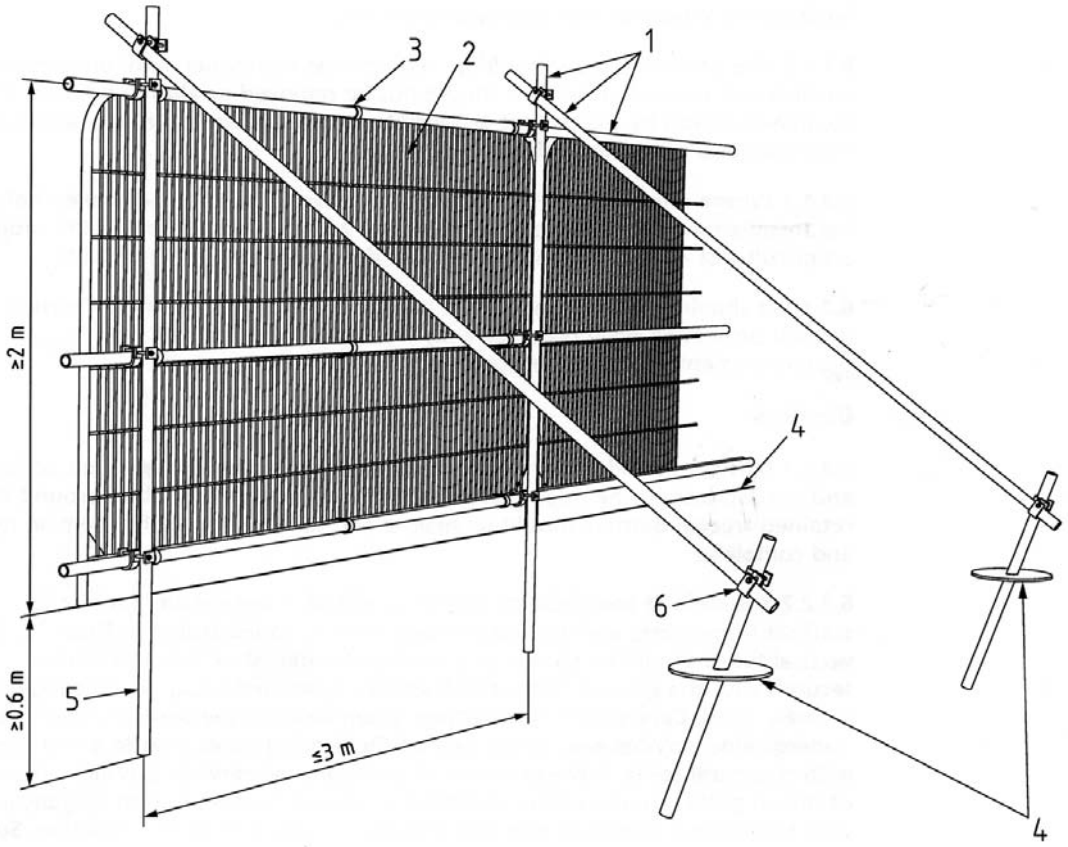
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 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**.*			See Table 2
	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)	See Table 2
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	See Table 2
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	See Table 2

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

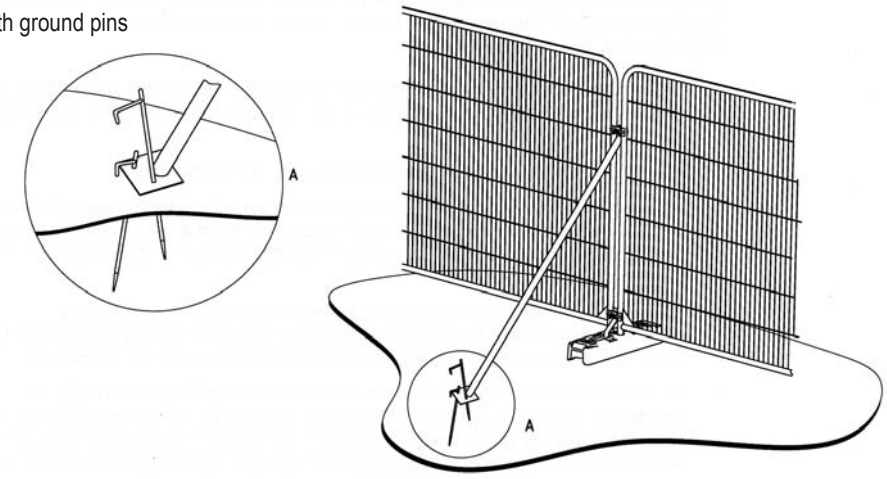
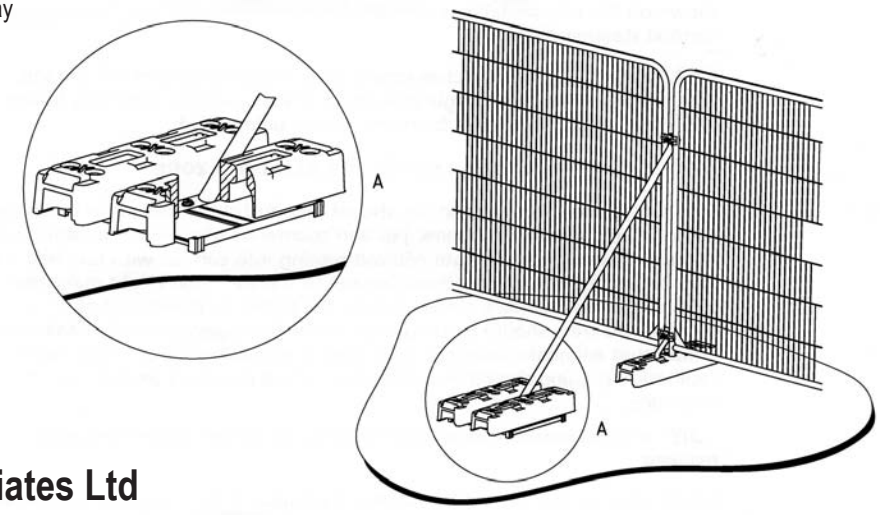
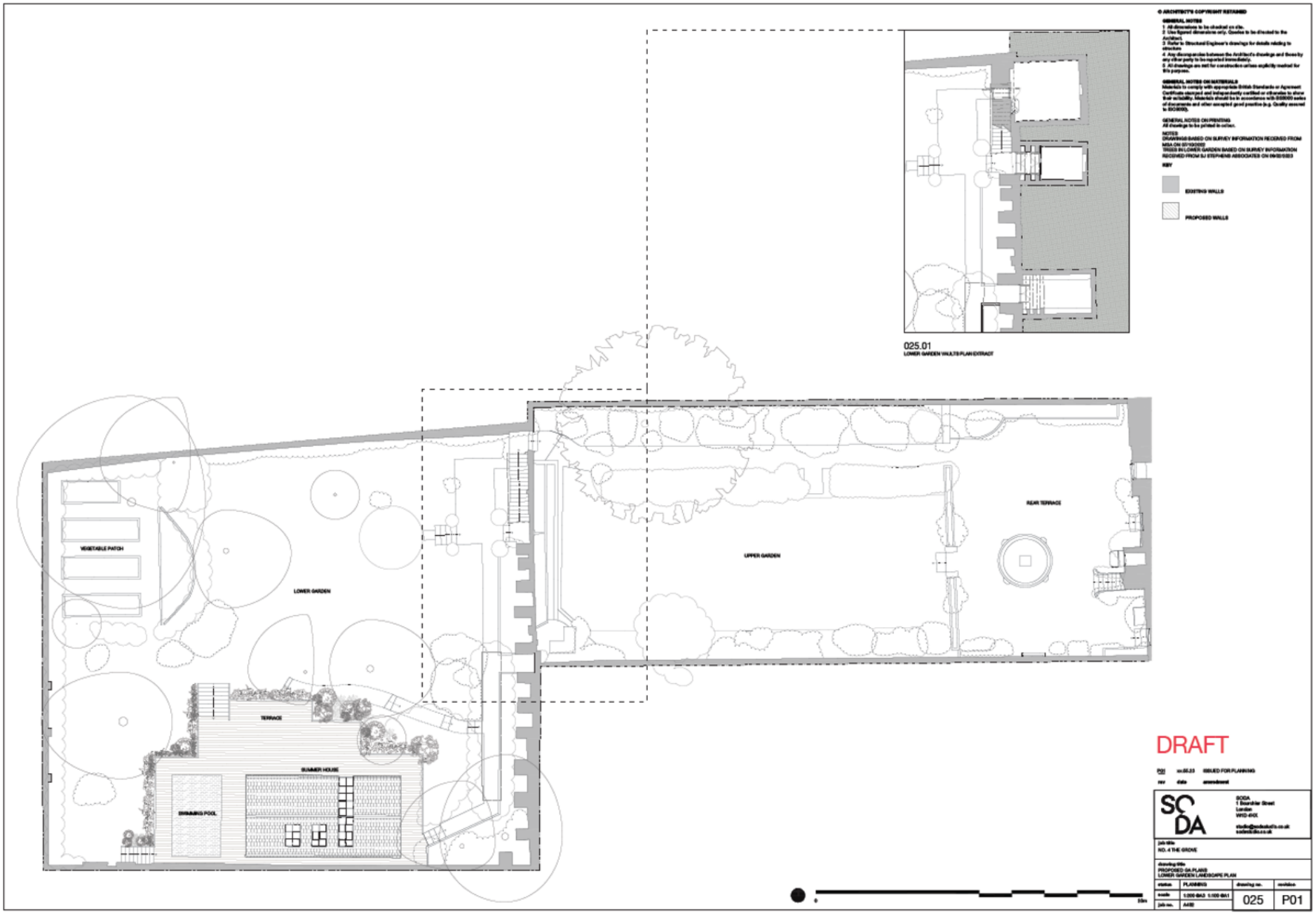


Figure 3b

Stabiliser strut mounted on block tray



Appendix E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LOWER GARDEN VAULTS PLAN EXTRACT
EXISTING WALLS
PROPOSED WALLS
VEGETABLE PATCH
LOWER GARDEN
UPPER GARDEN
REAR TERRACE
TERRACE
SUMMER HOUSE
SWIMMING POOL
DRAFT
NO. 4 THE GROVE
PROPOSED GA PLANS
LOWER GARDEN LANDSCAPE PLAN
PLANNING
025
P01