

SJ Stephens Associates

ARBORICULTURAL, LANDSCAPE & MANAGEMENT CONSULTANTS

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Arboricultural Impact Assessment

- Tree Survey
- Tree Protection Plan
- Preliminary Arboricultural Method Statement

For:-

A New Dwelling

<u>At:-</u>

Land adjacent to 37 Latham Road London TW1 1BN

On behalf of:-

3 Form Consulting Ltd 43 Coombe Lane Croydon CR0 5RF

Prepared by:

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

Survey Date: 30th January 2024 Report Date: 25th March 2024

Project no: 2228

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1 BACKGROUND

- 1.1 This Arboricultural Impact Assessment has been instructed by 3 form consulting to specify tree protection measures and assess the arboricultural impact of the proposed construction of a new dwelling on land adjacent to 37 Latham 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 Preliminary 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 Arboricultural Method Statement is only preliminary at this stage. Once planning permission has been granted, a detailed Arboricultural Method Statement will be prepared before work on site starts to include cross sections, details of drainage, services and contractors facilities.
- 1.4 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.
- 1.5 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.

- **1.6** Documentation supplied:
 - Topographical Survey
 - SJ Stephens Associates, Tree Constraints Plan, drawing no: 2228-01
 - Design Extension, Proposed New Build: drawing no P-01

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. 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 m², 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 site is not within a Conservation Area, however there is a provisional Tree Preservation Order protecting the sycamore, T4. The presence of Planning Conditions currently attached to the site, was not checked.
- **4.2** Trees adjacent to the site are on council land, so must be protected.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Site Overview

- 5.1.1 The proposal is for the construction of a new dwelling on land adjacent to 37 Latham Road. The proposed site plan is included as Appendix E and is also shown, along with tree details, on the Tree Protection Plan attached as Appendix A.
- 5.1.2 There is only an Ash tree (T3) within the site which has previously been topped. Despite being susceptible to disease, it is currently showing reasonable vigour.
- 5.1.3 There is a group of trees growing on land to the east of the site which belong to the council. These are all poor quality, apart from T4, an early mature sycamore growing at the front corner of the site, which is shown in the photos in Appendix F. Although it has some dead and broken branches, it is showing good overall vigour and is contributing to the street scene. This tree is growing at the end of a brick boundary wall and has caused structural damage to the wall.

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 A patch of overgrown garden shrubs (G9) including bamboo and laurel are proposed for removal.
- 5.2.3 In addition, minor crown lifting of the sycamore (T4) is proposed.
- 5.2.4 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 T4, where the road within the Root Protection Area will have inhibited root growth, the Root Protection Area has been offset by 20% away from the road, to more closely reflect the likely actual root spread

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 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.
 - areas shaded cyan on the Tree Protection Plan, indicating Ground Protection Areas, where roots must be protected, as described in section 5.6 below.
 - areas shaded red on the Tree Protection Plan, where there will be excavation within the Root Protection Area of T4, but where hand excavation must be used, as described in section 5.7, to minimise potential root damage.

- 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 To protect the stems of T3 And T4, heavy-duty plywood must be used to construct a solid 2m tall box, around the stems of the trees. 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 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 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 No-Dig Construction Areas

5.5.1 The No-Dig areas, 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 areas until roots are protected by the No-Dig surfacing or ground protection.

- 5.5.2 The No-Dig Construction areas cover areas within Root Protection Areas where:-
 - new hard surfacing is to be constructed shown hatched blue on the Tree Protection Plan.
 - the new house is to be constructed, shown cross-hatched blue on the Tree Protection Plan.
- 5.5.3 Engineering details for new hard surfacing must avoid localised compaction, using both a two dimensional geogrid, and a three dimensional cellular confinement system as integral components of the sub-base. A typical section is shown on the Tree Protection Plan included as Appendix A. As well as being fit for purpose, the design and methodology must protect tree roots, by ensuring the following:-
 - 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.
 - a suitable two dimensional geogrid, such the TriAx Geogrid supplied by Tensar International (www.tensar.co.uk), or the Biaxial Geogrid supplied by Geosynthetics Ltd (www.geosyn.co.uk), must be laid over the entire area and underneath the edging.
 - pressure treated timber edging boards, supported by driven stakes must be used.
 - a suitable cellular confinement system must then be laid to manufacturers instructions on top of the geogrid. 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 depth of the system must be adequate to take the maximum axle weight, as per manufacturers guidance.
 - 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.
 - a further permeable, non-woven geotextile membrane, such as TreetexT300, or an alternative approved product which has similar oil trapping qualities, must be laid over the cellular confinement system.
 - a porous, surfacing material, free from contaminants, must then be laid. Either sand bedding and block paving, gravel or permeable tarmac would be suitable.
 - removed turf/topsoil can be used to grade surrounding ground levels.
- 5.5.4 Where the new house is within the Root Protection Area of T4, it must be built on a concrete slab, supported by piles with an aeration gap under the slab. Engineering details must include a cellular confinement system filled with clean stone to provide a base for piling operations, 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 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.
- pile locations must be marked and trial holes dug, by hand, to a depth of 750mm. If roots over 25mm diameter are found, the pile positions must be shifted to avoid them.
- each pile position must be sleeved using plastic piping or a polythene coated cardboard tube to prevent concrete from the pile leaching into the root zone. Alternatively screw piles (see eg. www.abcanchors.co.uk) may be used which avoids the need for concrete in the root zone.
- plywood shuttering lined with a non-permeable membrane, or heavy-duty polythene, must be formed before concrete is poured to create the slab, which will be supported by the piles. Alternatively a suitable void former can be used.
- 5.5.5 Site traffic, including pedestrians, must not be allowed on the No-Dig areas unless roots are protected by existing hard surfacing, new No-Dig surfacing or unless suitable ground protection panels are laid. Either Trakmats (supplied by the Marwood Group, www.marwoodgroup.co.uk), Groundtrax panels (see www.groundtrax.com), Ground-Guards, as supplied by Greentek (www.greentek.org.uk), or a similar approved product, must be used, laid on top of a compressible layer of sand or woodchips, laid onto a geotextile. If access is only required for pedestrians, 25mm plywood or side butting scaffold boards can be laid, on top of a compressible layer of sand or woodchips, laid onto a geotextile.
- 5.5.6 No-Dig construction will result in an increase in levels. This has been fully taken account in all other aspects of the design, resulting in steps up to the ground floor to allow space for an aeration gap under the floor.

5.6 Ground Protection Area

- 5.6.1 The Ground Protection Area, which is shaded cyan on the Tree Protection Plan, contains soft areas where ground protection must be laid to protect any underlying roots.
- This can be used for general site use, provided ground protection is installed to protect tree roots. 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.

5.6.3 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.

5.7 Hand Dig Areas

- 5.7.1 Trial holes must be dug by hand at pile locations to a depth of 0.9m. If any roots over 25mm in diameter are found the pile location must be moved to avoid them.
- 5.7.2 A new drain pipe will be installed under the new building within the Root Protection Area of T4. Within the Root Protection Area, the trench must be hand dug, retaining all roots greater than 25mm diameter and as many smaller roots as possible. Either hand tools or an air spade can be used. The drain pipe must then be threaded between any roots, before backfilling the trench with the excavated soil. If the location of roots makes this impossible, the retained arboricultural consultant must inspect and advise. The trench must be left open for as short a time as possible, with any exposed roots covered with hessian to prevent desiccation or frosting.

5.8 General measures

- 5.8.1 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.
- 5.8.2 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.
- 5.8.3 Fires must not be lit in a position where their flames could extend to within 10m of foliage, branches or trunk.
- 5.8.4 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.
- 5.8.5 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.
- 5.8.6 A copy of this report and the Tree Protection Plan must be kept on site and must be fully understood by the Site Agent.

5.9 Bat roosts

5.9.1 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.

5.10 Birds

5.10.1 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.

5.11 Arboricultural Supervision

- 5.11.1 A qualified Arboricultural Consultant must be retained during the period of construction to carry out the following:
 - to prepare a detailed Arboricultural Method Statement, to include details of drainage, services, contractors facilities and cross sections through the No-Dig areas showing existing and proposed levels. The Arboricultural Method Statement must be approved by the Local Planning Authority, prior to construction or ground work starting on site.
 - to inspect Tree Protection Fencing and ground protection, prior to construction or ground work starting on site.
 - to visit site regularly during the main construction period to check the Arboricultural Method Statement is being fully implemented.
 - 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

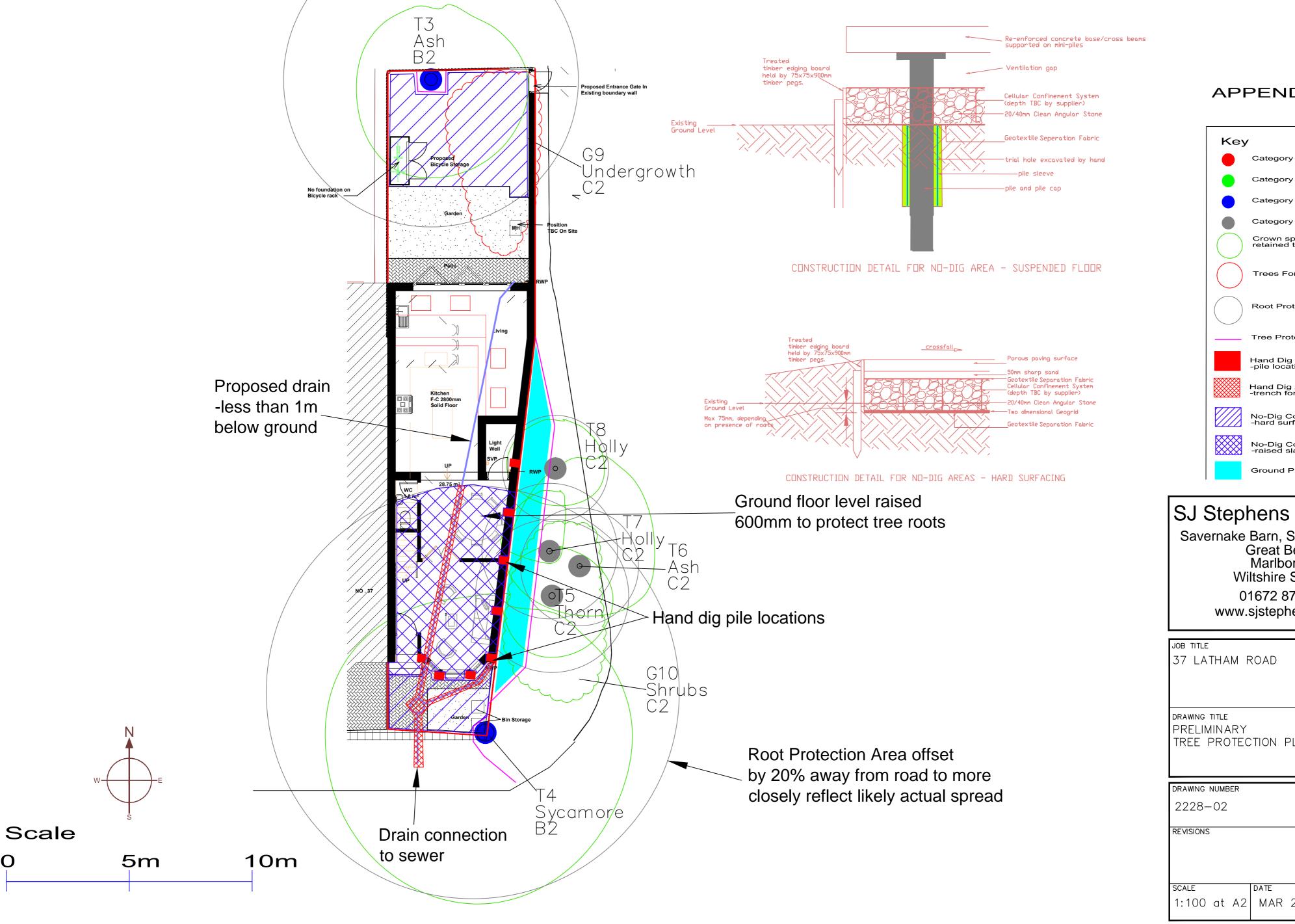
- **6.1** The following trees / tree groups, categorized as per BS 5837 (see Appendix C for details), are proposed for removal:
 - Category C low quality: G9– an area of undergrowth including laurel and bamboo.
- 6.2 In addition, minor crown lifting of the sycamore (T4) is proposed. Pruning wounds which will be no more than 75mm in diameter can be expected to callus quickly with no significant long term effect on the health of the tree
- 6.3 Protection measures have been specified to protect the Root Protection Areas of all retained trees, apart from where piles will be driven, where trial holes will be hand dug, and where a new drain will be installed. Hand digging will ensure no roots over 25mm are damaged.
- **6.4** No Dig construction has been specified for both the new dwelling and adjacent areas of hard surfacing. For:-
 - T3, approximately 26m2 of the Root Protection Area will be covered, which amounts to 23% of the existing uncovered section of the Root Protection Area.
 - T4, approximately 42m2 of the Root Protection Area will be covered, which amounts to 43% of the existing uncovered section of the Root Protection Area.

Although this is well in excess of the 20% maximum recommended in BS5837, for the sycamore, T4, since an aeration gap will be provided and if rain water is diverted under the slab using a suitable irrigation system which will be fully specified at detailed design stage, the tree is likely to adapt to changes in its environment.

- 6.5 Although the new house will be shaded by the sycamore T4, there are no windows proposed for the eastern elevation which will reduce any pressure to prune the tree in the future.
- 6.6 A detailed Arboricultural Method Statement will be provided for approval before work commences which, in particular, will provide section details through the ground floor slab and details of an irrigation system which will feed rainwater back under the slab.

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

| Key | Key | | | | | | | | | |
|-----|--|--|--|--|--|--|--|--|--|--|
| | Category U | | | | | | | | | |
| • | Category A | | | | | | | | | |
| | Category B | | | | | | | | | |
| | Category C | | | | | | | | | |
| | Crown spread: retained trees | | | | | | | | | |
| | Trees For Removal | | | | | | | | | |
| | Root Protection Area | | | | | | | | | |
| | Tree Protection Fence | | | | | | | | | |
| | Hand Dig Area -pile locations | | | | | | | | | |
| | Hand Dig Area -trench for drain | | | | | | | | | |
| | No-Dig Construction -hard surfacing | | | | | | | | | |
| | No-Dig Construction -raised slab | | | | | | | | | |
| | Ground Protection Area | | | | | | | | | |

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| JOB TITLE 37 LATHAM ROAD | |
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| DRAWING TITLE PRELIMINARY TREE PROTECTION PLAN | |

| DRAWING NUMBER REV | | | | | | | | | |
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Appendix B

| Tree/ Group No. | Species | Height (m) | Stem Diam. at 1.5m (mm) | Brar | nch S | pread | d (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 | Е | W | | | | | | | | |
| Т3 | Ash | 9m | 500 | 3 | 4 | 4 | 3 | 1.8 | | Previously topped at 5.5m, but now with up to 2.5m fresh growth. Showing reasonable vigour at present but susceptible to disease. | | 20-40 | B2 | 6.0 | 113 |
| Т4 | Sycamore | 14 | 700 | 5.5 | 7 | 6 | 65 | N3, S5, E3.5, W3 | Early mature | Growing against end of 2.3m brick boundary wall. Bifurcates at 0.9m - stems 440 and 540mm.Dense ivy to 8m obscuring basal inspection. Additional basal stem (110mm diameter) to west. Occasional dead and broken branches but good overall vigour. | Remove ivy at base up to 2m. Remove small basal stem. Remove basal growth and dead and broken branches. Prune to clear new building, removing 8no low branches up to 75mm diameter. | 20-40 | B2 | 8.4 | 222 |
| T5 | Thom | 4 | 260 | 2 | 2.5 | 2.5 | 2 | 1.8 | Mature | Five stems from 1m. Low vigour. | | 5-15 | C2 | 3.1 | 31 |
| T6 | Ash | 7.5 | 200 | 4.5 | 2 | 3 | 3 | 2.5 | Early mature | Twin stems from base - 120 and 160mm diameter. Tight fork. Stem damage from vehicles. | | 10-20 | C2 | 2.4 | 18 |
| T7 | Holly | 5.5 | 230 | 2.5 | 0.5 | 0.5 | 2 | 2 | Early mature | Twin stems from 0.5m - 150 and 170mm diameter. Tight fork. Leaning to north. | | 10-20 | C2 | 2.8 | 24 |
| Т8 | Holly | 5.5 | 180 | 2 | 1.5 | 2 | 2 | 3 | Early mature | Foliage thinning. | | 5-15 | C2 | 2.2 | 15 |
| G9 | Undergrowth | 2.5-3.5 | 50-100 | | | | | 0 | Early mature | Mixture of laurel and bamboo. | Remove to relandscape garden. | 10-20 | C2 | 1.2 | 5 |
| G10 | Shrubs | 1.5-2 | 25-75 | | | | | 0 | Mature | Mixture of ornamental shrubs. | | 10-20 | C2 | 0.9 | 3 |

British Standard BS 5837:2012, Table 1

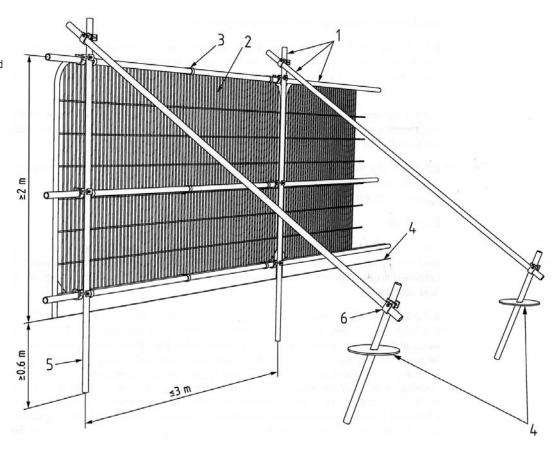
BS 5837:2012, Table 1 Cascade chart for tree quality assessment

| Category and definition | Criteria (including subcategories where appropriate) | | | | | | | | |
|--|---|---|---|-------------|--|--|--|--|--|
| Trees unsuitable for retention | (see Note) | | | | | | | | |
| Category U | 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) | | | | | | | | |
| 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 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. | | | | | | | | |
| | 1 Mainly arboricultural qualities | 2 Mainly landscape qualities | 3 Mainly cultural values, including conservation | 6 | | | | | |
| Trees to be considered for rete | ention | | | | | | | | |
| Category A | Trees that are particularly good | | Trees, groups or woodlands | See Table 2 | | | | | |
| Trees of high quality with an estimated remaining life expectancy of at least 40 years | 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) | visual importance as arboricultural and/or landscape features | of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture) | | | | | | |
| 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 | | | | | |

British Standard BS 5837:2012 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
- 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

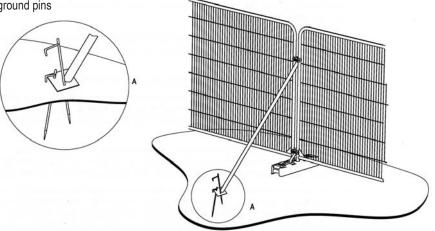
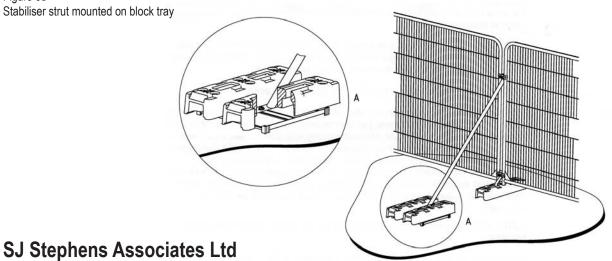
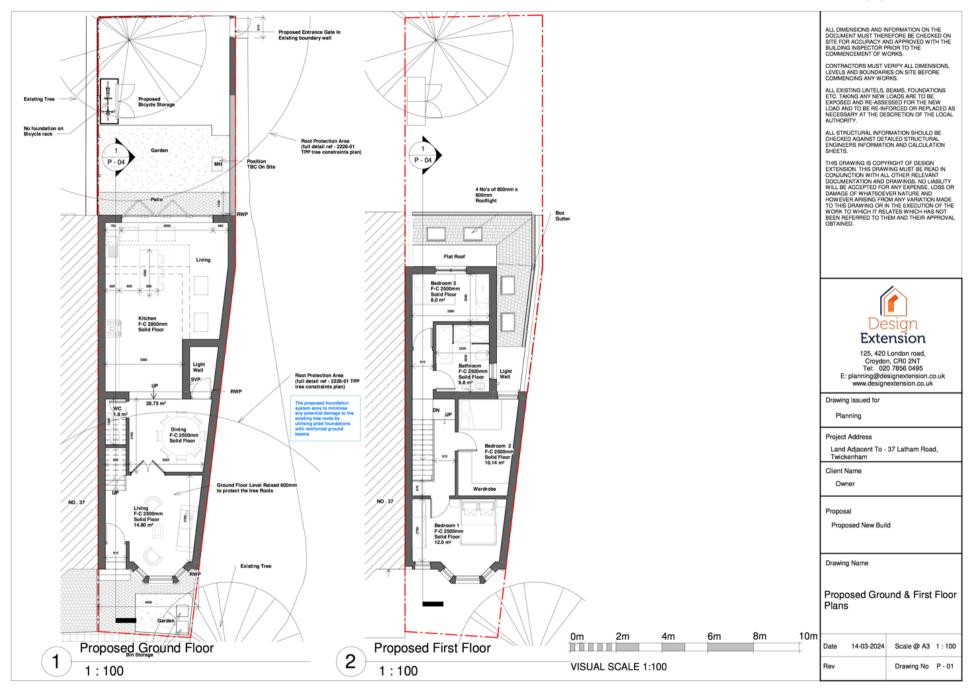


Figure 3b Stabiliser strut mounted on block tray



Appendix E



Appendix F

