WILLINGHAM TERRACE
LONDON

# ARBORICULTURAL IMPACT ASSESSMENT

(INC. TREE SURVEY & METHOD STATEMENT)

Prepared by
ACD
ARBORICULTURE

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Ecology
Arboriculture
Landscape Architecture

For
POCKET LIVING

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|---|---|
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# TABLE OF CONTENTS

# 1. EXECUTIVE SUMMARY

1.1. The proposed layout is in line with recommendations of the British Standard (BS5837, 2012). Adequate protection can be provided to ensure all retained trees are protected throughout development.

1.2. All surveyed trees are off-site, growing in land adjacent to the eastern boundary. The largest tree, and that of greatest value, is a sycamore. The other trees consist of another smaller sycamore and three domestic fruit trees.

1.3. Flats are proposed to replace the existing garages. The area near the trees will become rear gardens. All surveyed trees are to be retained.

1.4. It is likely that the hard surfacing within the site will have restricted root development to some extent, although quite how much is unclear at this stage. Therefore, some site supervision will be required during the removal of the surface close to the subject trees, particularly T2 the Sycamore.

1.5. The relationship between the buildings and retained trees is sustainable and does not result in any situations that may result in unreasonable pressure to prune requests from future occupants.

1.6. The arboricultural method statement and tree protection plan include details of all tree protection measures required, including provision for site supervision where required.

1.7. The fencing should be erected after tree surgery but before any demolition or construction contractor enter the site, and before any soil stripping takes place.

1.8. There must be no changes in levels, service routing, machine activity, storage of materials or site hut positioning within areas to be protected and the protective fencing must remain in position for the duration of the construction process.

# 2. INTRODUCTION

2.1. Pocket Living instructed ACD Arboriculture in October 2013 to prepare the following impact assessment.

2.2. Following the recommendations of BS5837:2012 Trees in relation to design, demolition and construction- Recommendations, this report includes the necessary information to support a planning application. It demonstrates that the impact, both direct and indirect, of the proposed development within the site, has been assessed and where appropriate, mitigation and tree protection proposed.

2.3. The implementation of any protection methods and special construction details recommended within this report are critical for ensuring the retained trees are successfully protected through the construction process and must be implemented prior to any work on site.

2.4. This assessment is based upon the supplied layout drawing, ref: WCC-AL02-020 and site survey, ref: MSL8065-U-RevB.

2.5. This assessment considers the impact of the development on the constraints posed by the retained trees (both beneath ground: the root protection area (RPA), and above ground: the canopy).

2.6. Direct impact from development comes in six main forms: 1) Surface installation within RPAs, 2) Root loss from excavation for foundations, drainage and other utilities within RPAs, 3) Soil stripping, removal and level changes within RPAs, 4) Excessive access facilitation pruning to retained trees, 5) Soil compaction from storage and vehicle movements within RPAs, 6) Soil contamination.

2.7. Indirect impact can come from changes to the site hydrology, future pressure to prune or fell, failure of trees exposed by removal of neighbouring trees, and other environmental changes which can take several years to manifest.

2.8. The RPA for each tree represents a minimum area in m² that should be left undisturbed around each retained tree. This is initially represented by a circle but is often adjusted to account for constraints to root growth within the site (primarily highways and buildings). It is therefore important to ensure the protection of trees both above and below ground. Recommendations are provided in the British Standard as to the protection of existing trees before, during and after development. This is achieved by ensuring the tree protection plan and arboricultural method statement are implemented before any commencement on site.

# 3. SCOPE AND METHOD OF SURVEY

3.1. The survey schedule can be found at Appendix 2.

3.2. The survey has been carried out following the recommendations of The British Standard and the trees are assessed objectively and without reference to any site layout proposals. Categories are based on each tree's health and condition, together with an assessment of its life expectancy if its surroundings were to be unchanged.

3.3. No discussions took place between the surveyor and any other party.

3.4. The reference numbers of surveyed trees and groups of trees are shown on the draft tree constraints plan, which is appended to this report and based on the supplied survey drawing. The prefix G has been used to indicate a group of trees, and H for hedges. Stem locations within groups may be estimated, and indicative of canopy only.

3.5. The tree survey was carried out from ground level only, with the aid of binoculars as necessary, following the VTA tree assessment method (Mattheck & Breloer, 1998)

3.6. Where trees are located on neighbouring land an estimated appraisal has been made of their quality and dimensions. All estimated dimensions are noted in the comments.

3.7. Where stems or branches are obscured by ivy or other materials a full assessment of those parts will not be possible.

3.8. Tree heights were measured with a clinometer, or estimated in relation to those measured with the clinometer. If individual tree heights are of particular concern, for example in shading calculations, then they are measured using a clinometer.

3.9. Trunk diameters were measured or, where inaccessible, estimated. Single stemmed trees are measured at 1.5m above ground level.

3.10. Tree canopies, where markedly asymmetrical, were measured (or estimated by pacing) in four directions using a laser measure. Symmetrical canopies are measured in one direction only, with dimensions in the remaining directions assumed to be similar. For the canopies of groups of trees the maximum radius for each compass point is measured (more complicated groups will have further notes taken and an accurate representation will be shown on the plan).

# 4. TREES AND SITE OVERVIEW

4.1. The site is currently an old garage complex with hard surfacing covering almost all of the area.

4.2. The trees surveyed were all growing off-site, in neighbouring gardens.

4.3. They consist of two sycamores (T1 & T2) and three fruit trees (T3-5). Only the sycamore T2 is B category and higher value. The remaining four trees are C category.

4.4. The extensive hard surfacing within the site will have restricted root development to some extent, although quite how much is unclear at this stage. Therefore the notional circular root protection area has been shown.

4.5. The following pictures show the subject trees, and current conditions on site.

**Figure 1: T2 sycamore**

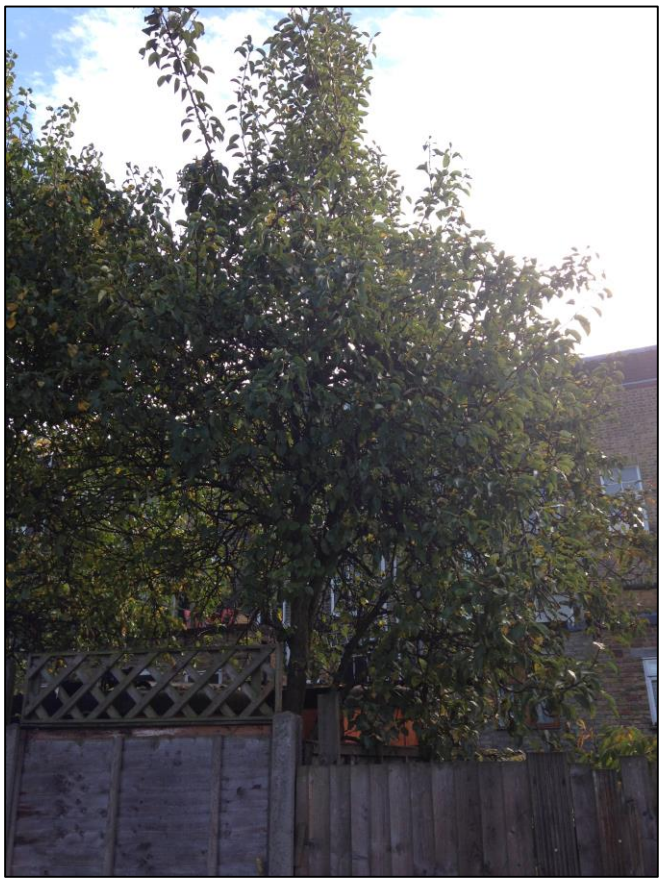

**Figure 2: T4 pear**

# 5. ARBORICULTURAL IMPACT ASSESSMENT

## 5.1. OVERVIEW OF PROPOSED DEVELOPMENT

5.1.1. The existing garages are to be replaced with a flatted development, as shown on the tree protection plan

## 5.2. PLANNING CONTEXT

### Tree preservation order/Conservation Area

5.2.1. We are not aware of any Tree Preservation Orders present on any trees on, or adjacent to the site.

5.2.2. The site is not within a Conservation Area.

### Previous Planning applications and consent

5.2.3. There was a refused outline planning application in 2004: The demolition of existing garages and the erection of 10 self-contained residential units with car parking.

## 5.3. TREES PROPOSED FOR REMOVAL & SURGERY

**5.3.1.** All trees are to be retained.

## 5.4. DEMOLITION, SITE CLEARANCE & ARCHAEOLOGY

5.4.1. To ensure damage does not occur to trees highlighted for retention, tree protection fencing must be erected before ANY plant/vehicles entering site whatsoever. This should be subject to a pre-commencement site meeting between the developer, their project arboriculturist and a representative from the Local Authority.

5.4.2. The existing surface is to be removed close to retained trees and returned to soft landscape. This work must be carried out under the supervision of the project arboriculturist, as per the appropriate section of the method statement to ensure no underlying roots are damaged. Fencing must be erected (as shown on the TPP) to protect the newly exposed ground.

## 5.5. CONSTRUCTION WITHIN RPAS

5.5.1. The construction of all buildings is proposed outside the RPAs of retained trees.

## 5.6. PROTECTION FENCING

5.6.1. Figure 2 of the British Standard recommends a standard fencing design for tree protection. This is a weld mesh panel design, mounted upon a well-braced scaffold framework. This is perfectly adequate for this site and all the retained trees can be suitably protected by its erection before any works start on site whatsoever.

## 5.7. SHADE AND FUTURE PRESSURE TO PRUNE

5.7.1. ACD have worked with the design team on this project and we feel that the resulting proposed layout is both sustainable and results in juxtapositions between trees and buildings which will not bring future requests for excessive pruning and/or tree removal.

## 5.8. **SERVICES**

5.8.1. Full details of the service and utility provisions for the site remain to be finalised. However, there is adequate space for utility trenches to access the site whilst avoiding RPAs and exclusion zones.

# 6. ARBORICULTURAL METHOD STATEMENT

## TO BE READ INCONJUNCTION WITH THE APPENDED TREE PROTECTION PLAN REF: POC18917-03A

### 6.1. PHASING OF OPERATIONS & SITE SUPERVISION

6.1.1. The development process will be subject to arboricultural supervision where construction work inside the construction exclusion zone is required, and for the installation of any special detail (eg: no-dig surface). Therefore, input and supervision from the project arboriculturist will be required at the following stages:

| Operation | Present | Time |
|---|---|---|
| Pre-start meeting | ACD<br>Site manager<br>Groundwork foreman<br>Demolition foreman<br>Council tree officer | Prior to any demolition |
| Removal of hard surface | ACD<br>Groundwork staff | T.B.C |

6.1.2. Supervision is also required should any unplanned access and/or work be required in the construction exclusion zone.

6.1.3. Supervision will require the arboriculturist to be present throughout the task, to ensure all the arboricultural objectives are met. If the task is to take a long period of time, provided the arboriculturist is satisfied, and after an initial ‘tool-box talk’, the supervision may be reduced to telephone contact between the site foreman/contractor and arboriculturist.

## 6.2. **TREE PROTECTION AREAS**

6.2.1. Based on tree survey data, tree protection areas have been determined for every retained tree. These areas are designed to protect at least a functional minimum of tree root mass in order to ensure that the trees survive the construction process.

6.2.2. It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

6.2.3. Inside the exclusion area of the fencing, the following shall apply:

- No mechanical excavation whatsoever
- No excavation by any other means without arboricultural site supervision
- No hand digging without a written method statement having first been approved by the project arboriculturist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools)
- No storage of plant or materials
- No storage or handling of any chemical including cement washings
- No vehicular access
- No fire lighting

6.2.4. In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection area of retained trees
- No fire shall be lit such that flames come within 5m of tree foliage.

## 6.3. **TREE PROTECTION FENCING**

6.3.1. The tree protection plan (see the latest revision of: POC18917-03) shows the alignment of tree protection fencing (TPF), which is to be installed prior to any of the following taking place:

- Demolition
- Plant and material delivery
- Soil stripping
- Utility installation
- Construction works
- Landscaping

6.3.2. Stages for installation of TPF:

1) Hand clearance of any vegetation to allow clear working access.

2) Setting out of fencing points

3) Fencing erected

4) Site meeting with project arboriculturist to 'sign-off' tree protection fencing.

5) Site accessible to demolition/construction traffic

6.3.3. Once erected, all TPF will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority.

6.3.4. The typical TPF construction is suitable for areas of high intensity development, and shall comprise of interlocking weld-mesh panels, well braced to resist impacts by attachment to a scaffold framework that is set firmly into the ground. A detailed specification can be found on the TPP.

6.3.5. If any alternative method of barrier construction is proposed, consultation with the project arboriculturist will be obtained to clarify the efficacy of the revised design prior to informing the local planning authority and obtaining their consent.

6.3.6. Once barriers and/or ground protection have protected the exclusion zone, construction work can commence.

6.3.7. All weather notices should be erected on the barriers (for example see figure below).


**Tree protection sign (download from www.acdarb.co.uk)**

## 6.4. SITE STORAGE, PARKING, WELFARE FACILITIES, ETC.

6.4.1. The site will require provision for; site storage, contractor parking, welfare facilities, temporary services/drainage, material drop of points, etc.

6.4.2. None of the above provisions will be sited within RPAs of retained trees without the input or the project arboriculturist and the consent of the Local Authority.

## 6.5. **TREE SURGERY AND REMOVAL**

6.5.1. All trees to be removed are indicated on the TPP.

6.5.2. If any surgery work is proposed, it will be submitted to, and approved by, the local planning authority, before being carried out.

6.5.3. All work will be carried out in accordance with BS3998 (BS3998, 2010) industry best practice and in line with any works already agreed with the Council.

6.5.4. The Tree Surgeon shall ideally be chosen from The Arboricultural Association's Approved Contractor list. All work shall be undertaken at the appropriate time and with the consent and approval of the Site Agent.

6.5.5. The statutory protection will be adhered to (Wildlife and Countryside Act, 1981) (Countryside and Rights of Way Act, 2000). If further advice is required, particularly if bats are discovered during tree work, it will be obtained from Natural England or other competent persons and recommendations adhered to.

6.5.6. The stumps of any trees removed from within the Construction Exclusion Zone or the RPAs of retained trees will be either; cut flush to ground level and left in situ or ground out using a stump grinder. They will not be winched out.

6.5.7. All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

## 6.6. **SOFT LANDSCAPING**

6.6.1. All landscaping and associated ground preparation within exclusion zones will be carried out sensitively to ensure root damage is mitigated as much as is practicable. At no time is any heavy plant to be used within any protected area. Removal of existing vegetation will be carried out by hand, turf may be removed using a mechanical turf stripper or by hand.

**Turfing**

6.6.2. Stages for turfing gardens and open spaces:

1) No plant/machinery to be used in the area for whatever reason
2) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work
3) Remove TPF to allow access to area.
4) Re-erect TPF to secondary location (if required and shown on plan)
5) Do not reduce any high spots or excavate in any way.
6) Existing poor quality turf may be removed with a turf stripper.
7) Use good quality top-soil to level any low-lying areas and hollows, and provide a fine tilth to lay turf on. This imported soil must not result in a level increase of more than 100mm in any area.
8) Import turves by hand in wheelbarrow
9) Lay turves

**Planting**

6.6.3. Should the soil be compacted or have a poor structure that may hinder the development of any new planting, soil decompaction techniques may be used upon consultation with the project arboriculturist.

6.6.4. Stages for planting within tree protection areas:

1) No plant machinery to be used in the area for whatever reason
2) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work
3) Remove TPF to allow access to area.
4) Re-erect TPF to secondary location (if required and shown on plan)
5) Remove existing vegetation by hand, turf may be removed using a mechanical turf stripper.
6) Do not reduce any high spots or excavate in any way.
7) Import good quality top-soil by hand (with wheelbarrow) into area.
8) Level to a depth of no more than 100mm with hand tools
9) Dig individual planting pits for each plant by hand (including hedging which must not be trench planted)
10) Any mulch should also be imported and spread by hand.

6.6.5. No works will be carried out within any protected areas if the soil moisture is of a level likely to allow compaction to occur.

## 6.7. **HARD SURFACE REMOVAL UNDER T2**

6.7.1. No hard surface removal within the RPA will occur without arboricultural supervision.

6.7.2. Stages for hard surface removal within tree protection areas:

1) No plant machinery to be sited on any exposed rooting area
2) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work
3) Dismantle fencing as required to access area
4) Plant machinery to run only on existing hard surfaces with consent from arboriculturist
5) Plant may be used to carefully peal up existing tarmac and concrete
6) Other surfaces are to be removed by hand (paving etc.)
7) Where any sub base is not likely to contain roots, and only on approval from project arboriculturist, it may also be carefully removed.
8) Underlying ground levels to be retained. No excavation to occur
9) Any exposed roots and surrounding newly exposed areas to be covered with up to 100mm of topsoil, from elsewhere on site, or imported top-soil to BS3882 (BSI 2007 British Standards Institute) Soil may be placed in area by plant but must be spread by hand.
10) Tree protection fencing to be re-erected in as shown on plan

6.7.3. If the area around the retained trees is to be left following the removal of the existing hard surface, before a new hard surface is laid or soft landscaping implemented, then the line of protective fencing MUST be correctly re-established immediately the hard surface removal work has been completed.

6.7.4. If, for whatever reason there is a delay before the area is left exposed prior to awaiting a new surface, then a temporary surface must be implemented or the area fenced off.

# 7. BIBLIOGRAPHY

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# APPENDIX 1: TREE CATEGORIES EXPLAINED

BS5837:2012 Table 1 -**Cascade chart for tree quality assessment**

| **Category and definition** | **Criteria (including subcategories where appropriate)** | | |
|---|---|---|---|
| **Trees unsuitable for retention** (see Note) | | | |
| **Category U**<br>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)<br>*Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline<br>*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<br><br>*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** |
| **Trees to be considered for retention** | | | |
| **Category A**<br>**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) |
| **Category B**<br>**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 |
| **Category C**<br>**Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm | 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 |

# APPENDIX 2: TREE SURVEY SCHEDULE

## TREE SURVEY SCHEDULE

| No. | Name | Ht (crown) | Dia (stems) | Canopy spread N \| E \| S \| W | Life stage | ERC | Comments & preliminary recommendations | BS Cat |
|---|---|---|---|---|---|---|---|---|
| T1 | Sycamore (Acer pseudoplatanus) | 10 (2) | 250 (1) | As shown on plan | SM | 10+ | Small off-site tree. Inaccessible at time of survey. Dimensions estimated. | B1 |
| T2 | Sycamore (Acer pseudoplatanus) | 12 (2) | 350 (1) | As shown on plan | SM | 10+ | Off-site tree. Inaccessible at time of survey. Dimensions estimated. | B1 |
| T3 | Apricot (Prunus armeniaca) | 4.5 (2) | 200 (1) | As shown on plan | SM | 10+ | Small off-site fruit tree. Inaccessible at time of survey. Dimensions estimated. | C1 |
| T4 | Pear (Pyrus communis) | 3 (2) | 200 (1) | As shown on plan | SM | 10+ | Small off-site fruit tree. Inaccessible at time of survey. Dimensions estimated. | C1 |
| T5 | Apple (Malus sp.) | 3 (2) | 200 (1) | As shown on plan | SM | 10+ | Small off-site fruit tree. Inaccessible at time of survey. Dimensions estimated. | C1 |

**Notes: Dia (stems):** trunk diameter in mm at 1.5m above ground level (number of stems) | **HT (crown):** Tree height (crown clearance) | **Life stage: Y**: Young (obviously planted within the last three years (unless as a heavy or extra-heavy standard)). **SM**: Semi mature (recently planted and yet to attain mature stature; up to 25% of attainable age.). **EM**: Early mature (almost full height, crown still developing and seed bearing; up to 50% of attainable age.). **M**: Mature (full height, crown spread, seed bearing; over 50% of attainable age.). **OM**: Over mature (full size, die-back, small leaf size, poor growth extension.).| **FSB:** First significant branch (& compass bearing) | **ERC:** Expected remaining contribution in years- <10, 10+, 20+, 40+ (assuming that there will be no physical changes to its immediate environment.| **BS Category:** Refer to appendix 1 of this report **or** BS5837:2012 Table 1 for detailed descriptions.

# APPENDIX 3: TREE PROTECTION PLAN

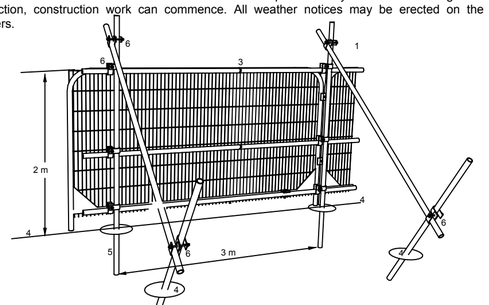
POC18917-03A

## LEGEND

**TREE PROTECTION FENCING & CONSTRUCTION EXCLUSION ZONE**

**All fencing shall be installed prior to any plant activity on site whatsoever, including: demolition, utility installation, groundworks, and soil stripping**

Once erected, all TPF will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority. The TPF is suitable for areas of high intensity development, and shall comprise of interlocking weld-mesh panels, well braced to resist impacts by attachment to a scaffold framework that is set firmly into the ground. Should any alternative method of barrier construction be proposed, consultation with the project arboriculturist will be obtained to clarify the efficacy of the revised design prior to informing the local planning authority and obtaining their consent. Once the exclusion zone has been protected by barriers and/or ground protection, construction work can commence. All weather notices may be erected on the barriers.




1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized 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

**ROOT PROTECTION AREA (RPA) FOR RETAINED TREES**

**PROPOSED SITE LAYOUT**

## RESTRICTIONS WITHIN TREE PROTECTION AREAS

Inside the exclusion area of the fencing, the following shall apply:

- No mechanical excavation whatsoever
- No excavation by any other means without arboricultural site supervision
- No hand digging without a written method statement having first been approved by the project arboriculturist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools)
- No storage of plant or materials
- No storage or handling of any chemical including cement washings
- No vehicular access
- No fire lighting

In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection areas of retained trees
- No fire shall be lit such that flames come within 5m of tree foliage.

## HARD SURFACE REMOVAL UNDER T2

No hard surface removal within the RPA will occur without arboricultural supervision.

Stages for hard surface removal within tree protection areas:

1) No plant machinery to be sited on any exposed rooting area
2) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work
3) Dismantle fencing as required to access area
4) Plant machinery to run only on existing hard surfaces with consent from arboriculturist
5) Plant may be used to carefully peal up existing tarmac and concrete
6) Other surfaces are to be removed by hand (paving etc.)
7) Where any sub base is not likely to contain roots, and only on approval from project arboriculturist, it may also be carefully removed.
8) Underlying ground levels to be retained. No excavation to occur
9) Any exposed roots and surrounding newly exposed areas to be covered with up to 100mm of topsoil, from elsewhere on site, or imported top-soil to BS3882 (BSI 2007 British Standards Institute) Soil may be placed in area by plant but must be spread by hand.
10) Tree protection fencing to be re-erected in as shown on plan

If the area around the retained trees is to be left following the removal of the existing hard surface, before a new hard surface is laid or soft landscaping implemented, then the line of protective fencing MUST be correctly re-established immediately the hard surface removal work has been completed.

If, for whatever reason there is a delay before the area is left exposed prior to awaiting a new surface, then a temporary surface must be implemented or the area fenced off.

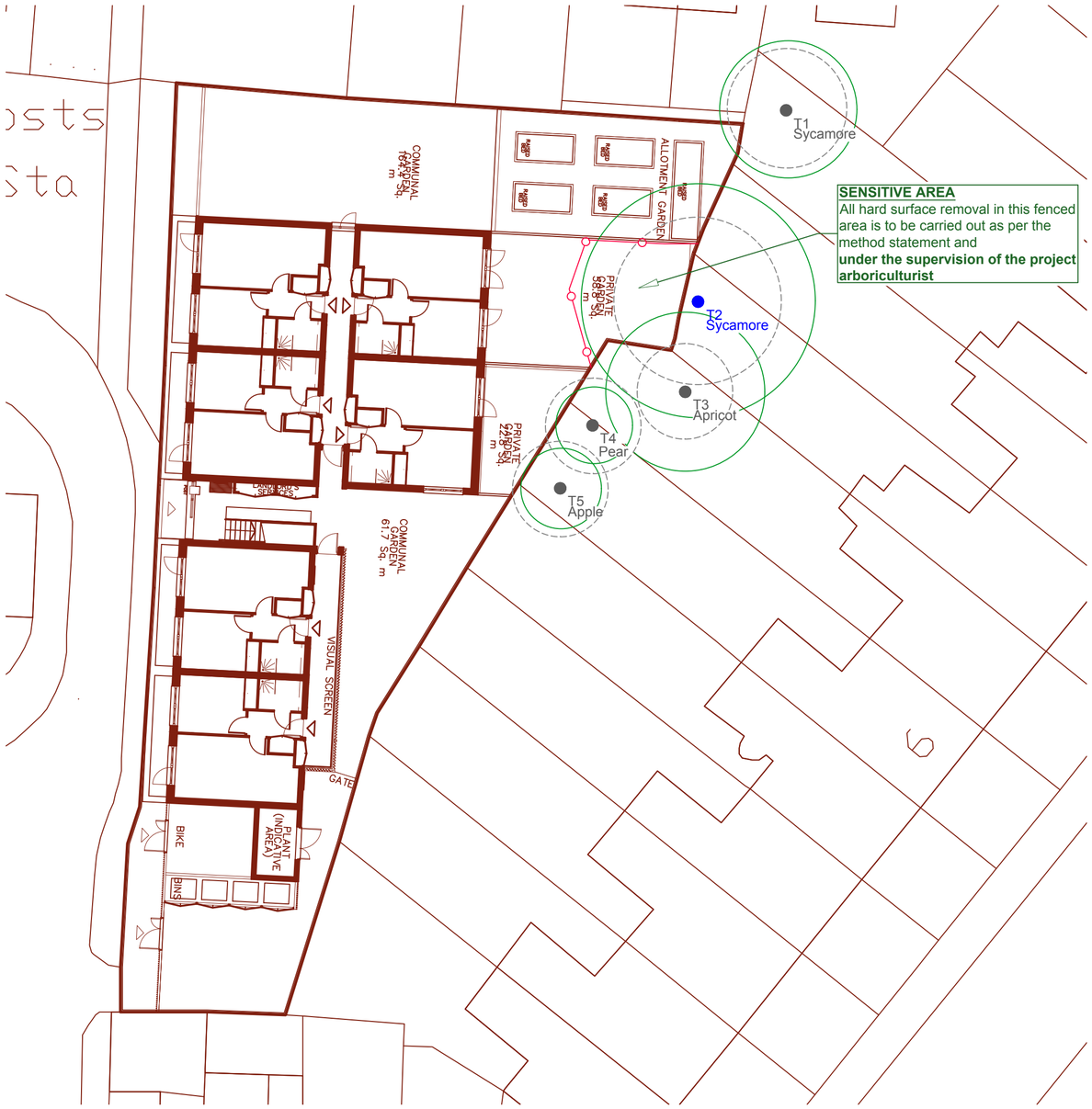
## PHASING & SUPERVISION OF DEVELOPMENT

**Before any work starts on site, the tree protection measures shown on this plan are to be installed and a pre-start site meeting with the project arboriculturist, groundwork contractors, site manager and LPA arboricultural officer/landscape officer held.**

Additional site supervision and input from the project arboriculturist is to occur:

-During the removal of hard surface under T2

Supervision is also required should any unplanned access and/or work be required in the construction exclusion zone




## WHY TREE PROTECTION IS NEEDED

1) **Soil compaction kills roots-** caused by plant movement and storage of materials within protected areas.
2) **Trenching severs roots-** many small roots grow within the top 600mm of soil. Even the removal of the top 200mm can cause damage.
3) **Soil pollution kills roots-** Dripping fuel storage or cement washings can contaminate the soil resulting in root death.
4) **Raising & lowering levels kills roots-** the soil used to increase levels can compact the underlying soil (see point 1). Lowering levels will remove roots causing damage to the tree.
5) **Bark and branch damage-** bark removal and branch damage can allow disease and fungi into the tree.

**The impact of any of the above can take years to show-** trees can have huge reserves of food and water.

## Tree categories

**A category tree-** high quality

**B category tree-** moderate quality

**C category tree-**low quality

**U category tree-** less than 10 years useful life

The original of this drawing was produced in colour- a monochrome copy should not be relied upon.

0 1 2 3 4 5 10m

| Rev | Date | Details | Drawn |
|---|---|---|---|
| A | 30/09/15 | Tree protection fencing visually improved | CDF |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scheme: Willingham Terrace London
client: Pocket Living
drawing: Tree Protection Plan
date: Nov 2013
scale: 1:200@A2
dwg no: POC18917-03A
drawn: MW checked: TRG

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