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Arboricultural Consultancy

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Arboricultural Method Statement

(Proposed Rear Extension and Garden Room)

50 Compayne Gardens, London

Written By Alastair Gavin On behalf Of Tree Aware UK Ltd
On the 24th of February 2017

The purpose of this document is to aid in the protection of the trees on the site above which are being retained throughout the construction process. These trees can easily be protected during this process by clearly setting out tree protection methods, construction techniques and working practices that are appropriate to the site, this document provides this information in line with the recommendations of BS 5837: 2012 “trees in relation to design, demolition and construction - recommendations".

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1.0 Summary

1.1 The points listed below are explained in more detail in this report and it is intended that this summary is for quick reference only. I advise that the report is read fully before any actions are decided and undertaken. This is in order to avoid breach of the tree protection legislation whether by a planning condition, Area planning designation or specific tree preservation order that may apply to the trees on this site.

1.2 This document will give specific site instructions on the methods required to protect the trees and group of trees to be retained on the site during the construction of the proposed rear extension and garden room at 50 Compayne Gardens, London. The following is a list of identified tree protection measures that are appropriate to the rear extensions and garden rooms construction at the above site.

1 Pre Construction Meeting

A pre construction meeting <u>if conditioned/deemed necessary</u> by the local planning authority will be undertaken to run through the Arboricultural Method Statement (AMS) to ensure all parties are familiar with the tree protection measures and what trees are to be retained/protected on the site.

2 Execute Tree Works

Details of these trees works are contained within this document and should be undertaken before construction work starts and should be in accordance to BS 3998:2010 Tree Work - Recommendations

3 Tree and Ground Protection

Implementation of tree protection fencing and or ground protection to protect the trees retained from direct and indirect damage of the proposed construction.

4 General Principles of Tree Protection

To aid in the effective protection of the trees indentified for retention.

5 Erection/dismantling of scaffolding

Avoiding damage in the erection and dismantling of scaffolding to the retained trees.

6 Site Monitoring

Site inspections if conditioned/deemed necessary by the local planning authority will be undertaken to check and confirm the specified tree protection methods in this AMS are in place. Further site inspections i.e. site monitoring on a monthly basis carried out to confirm that the tree protection measures have not been breached during construction and that the conditions of the trees on the site have remained intact (undamaged).

7 Pile and Beam foundation Construction

Where the proposed construction encroaches into the root protection area of the retained trees a pile and beam foundation construction or similar will be used to minimise root damage.

8 Hand Dig Method of Excavation within the Root Protection Area of the Tree or Trees for Installation of Pipe Work **(if required)**

Where installation of pipe work for water, electricity, gas or drainage purposes needs to be undertaken within the root protection zone of the trees, a hand dig method of excavation will be undertaken.

9 Landscape Re-instatement within the Root Protection Area

Where re-instatement needs to be undertaken within the root protection area of the trees retained care should be undertaken to avoid damage to the trees root system. The following equipment being prohibited within the root protection area; rotavator, roller, mini diggers etc, with only hand tools allowed.

2.0 Introduction

2.1 The majority of tree roots are found in the top one meter of soil, any work to or in the near proximity to trees can result in root damage. This has the likely result that the tree or trees will suffer decline or perish in the years after construction.

2.2 The following detailed methods are in accordance with BS 5837:2012 “trees in relation to design, demolition, and construction – recommendations” and are designed to aid in the protection of the trees and groups of trees retained at this site.

2.3 An assessment to BS 5837:2012 has been undertaken to the trees and groups of trees. The trees to be retained have been given a root protection area (RPA).

2.4 The RPA has been used to allow a Construction Exclusion Zone (CEZ) to be designated; this is the area to be protected during development by the use of barriers, ground protection measures, and specialised construction techniques

or other agreed measures to ensure the protection of the trees and roots of the trees from the construction processes.

2.5 The following methods have been designated as appropriate measures for tree protection on this site in connection to the construction and are set out in a sequence to which they should be undertaken.

3.0 Sequenced Methods of Tree Protection

3.1 Phase 1 Pre Construction Meeting

An onsite meeting will be held if conditioned/deemed necessary by the local authority with all relevant parties such as the contactors, the appointed arboricultural supervisor, and a representative from the local planning authority. The purpose of this meeting is to agree and record the location of site features and site information such as

- Current tree condition
- Agree tree works (detailed in proposed tree works)
- Locations of site access
- Location of site storage (if required)
- The location of tree protection barriers/fencing and ground protection

3.2 Phase 2 Execute Agreed Tree Works

The following table lists the proposed tree works which should be agreed by the local planning authority before being undertaken.

Tree reference	Proposed works	Comments
T1	None	No work is required to facilitate the proposed extension and

		garden room.
T2, T3 and G1	Lightly clip back overhanging vegetation	To reduce the overhanging vegetation on the proposed garden room and to ease construction access.

3.3 Phase 3 Tree Protection Barriers and Ground Protection

Tree protection barriers should be erected to protect the construction exclusion zone of the retained trees.

Barriers should be fit for purpose and be appropriate to the proximity of work taking place around the retained trees and group of trees. The following specification should be used as the default specification for a tree protection barrier.

It is suggested however that braced Heras fencing would be an appropriate alternative for tree protection at this site, as it would provide the necessary temporary protection, as opposed to the default tree protection fencing detailed below.

Default Tree Protection Barrier Specification

The barrier should consist of vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3m and driven securely into the ground (where the ground surface such as concrete or tarmac prevents ground intrusion an alternative method of fixing the verticals poles should be adopted and agreed by the local planning authority).

Onto the framework, welded mesh panels should be securely fixed. Bracing poles should be used to support the framework however care should be taken to avoid contact with structural roots,

(Please see Appendix 1 Default tree protection fencing for diagram)

Once the agreed barriers are in position they should not be moved and should be considered as a permanent structure on the site until construction of the rear extension and garden room is completed.

All personnel on the site should be informed of the barriers role in protecting the trees and their importance. This should be enforced during usage of the site.

To aid in the protection of the trees and the none admittance to the tree protection area signs should be used. These signs should be clear and straight forward and fixed upon the barrier. An example of the wording is as follows

"EXCULSION ZONE – NO ACCESS"

Where an area of existing hard standing such as an area of concrete or tarmac is in place and over a proportion of or all of the root protection area of a tree or trees to be retained on the site, this hard standing area may form existing tree/ground protection and may circumvent the requirement to fully fence off the trees root protection area.

Ground Protection

Where tree protection fencing cannot be used due it restricting construction access an appropriate form of ground protection should be used.

This should be in the form of ground protection matting supplied/brought from a reputable supplier.

The ground protection matting should be installed as per manufactures instructions before construction of the proposed takes place and remain in situ throughout the construction process and construction usage of the site.

The ground protection matting should not be moved or altered unless in agreement with the local planning authority.

All personnel on the site should be informed of the ground protections role in protecting the trees root systems and their importance. This should be enforced during usage of the site.

3.4 Phase 4 General Principles of Tree Protection

Copy of this Method Statement and Tree Protection Plan should be retained on site at all times for ease of reference.

No fires should be lit next to or adjacent to the tree protection barriers. If a fire is required the position on site should be agreed by the supervising Arboriculturalist. **There are to be no fires on site during construction.**

If heavy plant is required in the construction process such as a JCB or 360 excavator care should be taken that the excavating arm does not encroach over the tree protection barriers.

A designated storage area should be created and the position agreed upon (away from the trees). All materials for construction should be stored in this compound. Care must be taken to avoid any leakages or spillages of toxic materials into the soil. The gradient of the site should be taken into consideration when agreeing the location of the storage area to stop any run off entering the tree protection area.

3.5 Phase 5 Erection and Dismantling of Scaffolding

Care should be taken when constructing and dismantling scaffolding not to breach the tree protection barriers.

The assembly of scaffolding should not be undertaken prior to the tree protection measures being installed and disassembled before the tree protection measures are removed.

3.6 Phase 6 Site Monitoring

Once the listed tree protection measures are in place, a site visit will be undertaken if conditioned and deemed necessary by the local planning authority by the appointed arboricultural supervisor to check and confirm that the tree protection measures are correct and in accordance to this AMS (This site visit maybe combined with the pre construction meeting). Confirmation of

the exact condition of the trees prior to commencement of the construction should also take place and the findings reported to the local planning authority.

Further visits if conditioned will be undertaken while the construction is taking place to check if the tree protection measures are intact and to report on any changes to the trees conditions.

After completion of the construction a further check should be undertaken to confirm that no damage has been sustained to the trees.

After each site visit by the appointed arboricultural supervisor a site inspection form should be produced detailing the findings/checks of each site visit and be submitted to the local planning authority (Please see Appendix 2 Site Inspection Form)

3.7 Phase 7 Pile and Beam Foundation Construction

As the proposed rear garden room encroaches into the root protection area (RPA) of T2, T3 and G1 a pile and beam foundation construction or similar has been recommended in accordance to BS 5837 “trees in relation to design, demolition and construction - recommendations" section 7, point 7.5 and will be used to minimise any perceived damage to the trees root system.

Details of the pile and beam foundation construction layout i.e. the location of the piles in relation to the tree roots or similar foundation construction to lessen the impact to the trees, will be submitted to the council for approval if requested.

In the event that the excavation of the piles or, chosen foundation construction encounters sizable roots the excavation area will be moved to an alternative location first with agreement from the appointed structural engineer and in discussion with the appointed arboricultural consultant and local authority tree officer.

During the construction process of the pile and beam foundation structure or alternative foundation construction care must be taken not to cause any additional damage to the RPA of the tree such as compaction, the use of tree protection measures such as ground protection matting if needed should be used throughout the construction process and under supervision by the appointed arboricultural consultant and or Local authority tree officer as detailed in section 3.3.

3.8 Phase 8 Hand Dig Method of Excavation within the Root Protection Area of the Tree for Installation of Pipe Work

Where installation of pipe work for water, electricity, gas or drainage purposes needs to be undertaken within the root protection zone of the tree or trees the following hand dig method or excavation should be undertaken.

Where possible the route and locations of such pipes/features should be kept at the furthest possible point from the location of the tree to minimise damage to the trees roots, ideally this should be out of the RPA. Where this cannot be achieved and encroachment into the RPA is allowed by the local planning authority the following sequence of steps for hand digging and installation of the pipes should be adopted.

Hand Dig Specification

Where excavations have to take place within root protection areas of trees the first operation shall be to move tree protection fencing back (if required) to a line 150mm inside the nearest edge of the proposed excavation, where it shall be immediately re-erected in full accordance with BS 5837 2012 and specification of the AMS.

Hand dig excavations inside the root protection area shall then be carried out by hand very carefully, avoid de-barking, breaking, splitting, splintering or shattering the roots. If it is proposed to sever any roots of 25mm in diameter or greater an explanation will need to be submitted to the local authority tree officer for approval with justification as to why an alternative method of installation (e.g. moling) cannot be undertaken. Where roots under 25mm in diameter are to be severed or where root severance has been agreed in

writing by the local authority tree officer they will be cut back to a point 150m beyond the nearest edge of the construction towards the tree, they must be pruned back cleanly with a sharp clean pruning saw or bypass loppers making level, smooth right angle cuts with no ragged edges. Where roots of 25mm in diameter or greater are encountered they will not be cut back or damaged unless approval has been granted by the local authority Tree Officer.

Timber shuttering shall then be erected as the excavation proceeds both to protect the cut ends of the roots and to retain the edge of the excavation. Construction of the permanent retaining (if being used) can then commence, at all times keeping substances toxic to roots away from roots and the root protection area, i.e. tars, fuels, oils, bitumen, cement, plaster etc.

At completion of the construction works the shuttering shall be removed and the 150mm void between the back edge of the construction and the face of the excavation shall be backfilled with an approved purpose-made tree planting compost mix, properly consolidated to prevent subsequent settlement and finished up to adjacent surface levels.

3.9 Phase 9 Landscape Re-instatement within the Root Protection Area

Where re-instatement of the ground, landscaping and, or planting including the applications of top soil or mulch needs to be undertaken within the root protection areas of the retained trees. Care should be taken to avoid damage to the trees root system.

Access to the area should only be undertaken once all construction work has finished.

Levelling, top dressing, and cultivation should be undertaken with manual handheld equipment only, with the use of rotavators, mini diggers, rollers and other mechanical equipment being prohibited within the root protection area of the trees.

Clearance of vegetation should be undertaken by hand held equipment such as strimmers, chainsaws, power loppers only etc with tractor mounted equipment being prohibited within the root protection area of the trees. The clearance of vegetation within 1 meter or the stem (trunk) of the trees should be undertaken by hand without the use of powered machinery.

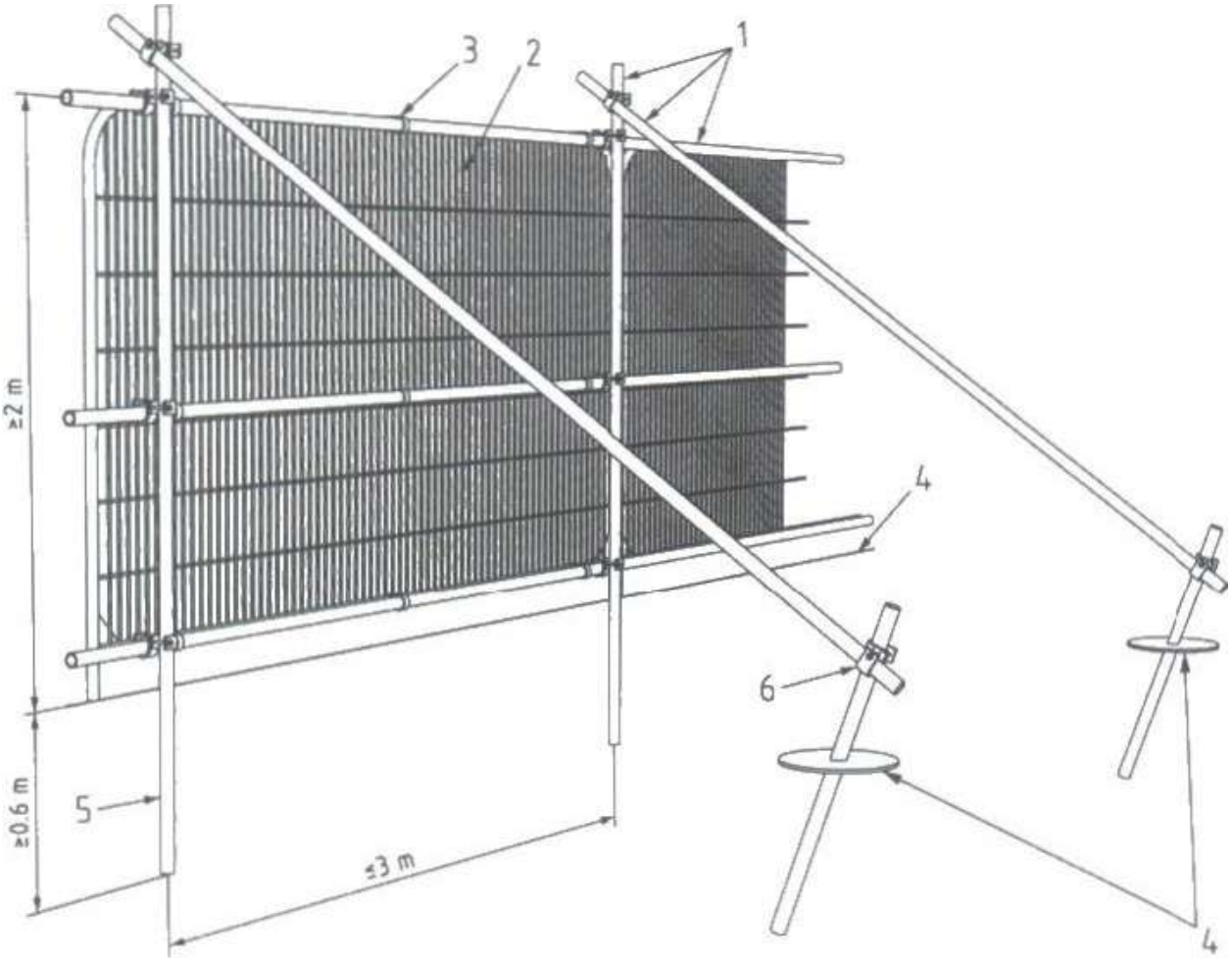
Where levelling of the site is required within the root protection area and involves the incorporation of additional top soil or mulch. The soil used should meet the standards of BS 3882: 2007 Specification for topsoil and requirements for use. There must only be a maximum of 100mm increase in soil level and no reduction to the existing soil level. Only minimal excavation to prepare the soil is permitted.

If herbicides are to be used to control weed/vegetation permission for use of the product type needs to be sought from the local planning authority and or supervising Arboriculturalist. Any membrane material used within the root protection area for the control of weeds or other use should be permeable.

Additional

In the event that the appointed contractor is uncertain of the correct course of action when undertaking construction/installation processes that may affect a tree or trees protected on site, or a situation that is unexpected arises that affects the tree or trees, the appointed arboricultural consultant should be contacted and the process discussed to find an approach with agreement from the local authority.

Appendix 1 Default Tree Protection Fencing (superseded by the use of braced Heras fencing, diagram for reference only)



Key

1 Standard scaffold poles

2 Heavy gauge 2m tall galvanised tube welded mesh infill

3 Panels secured to uprights and cross-members with wire ties

4 Ground level

5 Uprights driven into the ground until secure (minimum depth 0.6m)

6 Standard scaffold clamps

Appendix 2 Site Inspection Form (to be used for the site monitoring inspections)

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Tree Protection Site Inspection Record Sheet

Address/location of site:	
Planning Ref:	
Date of Site Inspection:	
Site Inspected by:	

Was the specified tree protection stated in the Arboriculture Method Statement in place on the date of inspection Yes / No

Please provide details:

Were there any signs of damage to the tree/trees retained on or adjacent to the site Yes / No

Please provide details:

Please rate the adequacy of the tree protection to protect the retained tree/trees on or adjacent to the site including materials used:

Inadequate Poor Adequate Satisfactory

Please list materials used to for the tree protection:

Is the site storage within the agreed area or away from influencing distance of the tree/trees on or adjacent to the site? Yes / No

Please provide details:

Date of next tree protection inspection if required:

Inspected by (Signature)		Date	

Photographs of tree protection measures for the site to be inserted below;

Appendix 3 Tree Protection Plan (please see separate document)