Arboricultural Method Statement

45 Broadhurst Gardens
London
NW6 3QT

25th May 2016

PJC ref: 4028/16-01

This report has been prepared by

PJC Consultancy Ltd

on behalf of

Hergren Investments Ltd

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1 INTRODUCTION

1.1 This arboricultural method statement is written in conjunction with arboricultural survey ref. PJC/3836B/15-01.

1.2 **Instruction:** PJC Consultancy has been instructed by Hergren Investments Ltd to provide an arboricultural method statement for proposed construction works at 45 Broadhurst Gardens.

1.3 **Background information:** A proposal has been outlined to make improvements to the front garden of 45 Broadhurst Gardens. The scope of works include the following:

- Replacing existing stone steps with a steel staircase.
- Repairing tree related damage to the boundary brick wall.
- Replacing retaining wall adjacent to light well.
- Replacing existing hard surfacing.
- Increasing ground levels using one brick and one timber retaining wall in exposed portion of the garden.

1.4 In order to safeguard the long-term retention potential of the lime, it is necessary to implement a tree protection strategy. This report aims to show how both the tree roots and rooting medium will be protected from compaction, contamination or an unacceptable level of root severance during the works.

1.5 **Brief:** PJC Consultancy has been commissioned to provide an arboricultural method statement in accordance with guidelines set out in BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'. This document is based on the information available on the date of the report.

1.6 **Documents provided:** The following documents were provided to produce this method statement:

- Report ref. 15312/JO – Construction method statement provided by Osborne Edwards Ltd
- Drawing ref. 15-101 PL03 – Existing Site Plan
- Drawing ref. 15-101 PL04 – Existing Elevation and Sections
- Drawing ref. 15-101 PL10 – Proposed Site Plan
- Drawing ref. 15-101 PL11 – Proposed Elevation and Sections

2 ARBORICULTURAL METHOD STATEMENT

2.1 **General requirements:** The arboricultural method statement and Tree Protection Plan shall remain on site for the duration of demolition, construction and landscaping works and be available to site operatives at all times. All operatives at the site shall be briefed about tree related factors as part of their site induction.

2.2 Any variation from the methodology described in this method statement shall be discussed with the supervising arboriculturalist and agreed with the local authority arboricultural officer.

2.3 **Site set up:** The entirety of the site is located within the root protection area of the TPO lime tree, as such it will not be feasible to cordon of the tree from construction activities. It can be assumed that root growth will not extend beyond the retaining wall for the light well or beneath the hollow steps to be replaced with steel steps. To prevent compaction of the rooting medium, all works in the remainder of the garden will need to occur on ground protection.

2.4 Due to the nature of the works, there cannot be a fixed located for the ground protection. The existing paving and the replacement paving in the eastern half of the garden will provide ground protection whilst in place, however provision for temporary ground protection will be required whilst the existing surface is removed, prior to the new surface being laid.

2.5 Compacting the soil within a root protection area can significantly reduce root function so must be avoided. Soil can be compacted by regular pedestrian access (particularly in wet conditions) or by storage of construction materials on exposed ground. These outcomes shall be avoided by use of temporary ground protection. Temporary ground protection can take different forms depending on the activity being carried out. Scaffold boards pathways will be acceptable for moving wheel barrows of materials across the exposed ground however a wider, longer term ground protection for storage of materials could comprise one of the following:

- A single thickness of scaffold boards on a compressible layer (100mm of wood chip or sharp sand), spread across a geotextile membrane.
- A single thickness of scaffold boards on a driven scaffold frame.

2.6 The type of ground protection and timings of installation shall be agreed at a pre-commencement meeting between the contractors and the supervising arboriculturalist.

2.7 At no time during this project may tools or materials be stored against the stem or buttress of the lime tree. If required, skips shall be positioned on the road in front of the property (the tree already has adequate crown clearance to achieve this).

2.8 **Storage and handling of harmful chemicals:** Provision needs to be made to avoid the storage and handling of harmful chemicals within the root protection area. Harmful chemicals include fuels, oils, builder's sand (which has a high salt content) and cement. Cement mixing shall only occur where there is no potential for cement washings to leech into rooting medium in the front garden. This shall be achieved by either carrying out cement mixing on temporary impermeable bunded surface or by mixing cement in a designated location outside the site boundary.

2.9 **Replacing retaining wall in light well:** As per the method statement provided by Osborne Edwards Ltd, the existing brick retaining wall shall be carefully removed with provision for boards to prop up the soil behind until the new wall is constructed. A geotextile membrane shall be placed between the new concrete wall and the exposed soil to limited alkaline burn to retained roots.

2.10 Care must be taken not to damage exposed roots. It should be noted that bark on roots is more delicate than on the above ground parts of the tree. Roots that are exposed shall immediately be wrapped in hessian cloth to help prevent desiccation and to protect the bark during the remaining excavation operations. The cloth shall be removed when the roots are re-buried behind the new wall.

2.11 The local authority arboricultural officer and the supervising arboriculturalist shall be given reasonable notice of this work so they may attend site and carry out works to the roots where necessary. It should be noted that the entirety of the tree is protected by the TPO, including the roots so root pruning cannot occur without the prior approval of the local authority.

2.12 **Replacing boundary brick walls adjacent to buttress of lime tree:** To repair the damage to the boundary brick wall, it will be necessary to replace the entire footing along the front of the property and a section of the footing along the western boundary.

2.13 Significant root growth extends up to and through the wall (as can be seen above ground level on the western property boundary). The existing footings must be removed carefully using controlled hand tools (e.g. pneumatic drill to break up concrete and debris removed by hand). Debris shall be stockpiled on existing surfacing or on temporary ground protection. Roots that are exposed shall immediately be wrapped in hessian cloth to help prevent desiccation and to protect the bark during the remaining excavation operations.

2.14 The supervising arboriculturalist and local authority arboricultural officer shall be given reasonable notice of the works to the boundary wall so they may attend and assess the extent and location of roots to determine the best solution for replacement foundation design. Root pruning may not occur without the prior approval of the local authority arboricultural officer.

2.15 **Replacing existing surfacing:** The existing paving within the garden is to be replaced. This will occur at a slightly higher level than the existing. The existing sub-base shall be reused for the new surface, augmented to suit the slightly higher level. No soil stripping shall occur when replacing the surface.

2.16 **Raising levels in exposed section of garden:** The existing bare ground portion of the garden slopes steeply down to the light well. This gradient is to be lessened by installing two low retaining walls (one timber and one brick with trellis above) and raising the levels above the walls rather the soil stripping beneath.

2.17 Both retaining walls will cross the root protection areas at a tangent and it is highly likely that roots will be encountered during their installation. The excavation for the brick wall footings must occur carefully by hand or ideally by using an airspade. Although the brick will be low and shall therefore likely require only shallow footings, the detailed specification for the footings cannot be determined until the location and size of tree roots is known. If necessary, a concrete lintel footing will be used to bridge significant roots, or alternatively the brick wall shall be replaced with a timber retaining wall that will not require concrete strip footings.

2.18 Significant level increases affect the availability of moisture and oxygen to shallow roots, therefore affecting root function. The ground level within the exposed portion of the root protection area shall therefore not be raised by more than 100mm. No soil may be piled against the buttress or buttress roots of the lime tree.

2.19 **Soft landscaping:** New shrub planting is proposed in the western half of the garden. All planting pits shall be carefully hand excavated. Care shall be taken to avoid damaging roots with a diameter greater than 25mm.

2.20 **Arboricultural supervision:** Arboricultural supervision will be required for the following stages of development:

- A pre-commencement meeting with the contractors to clarify the tree protection methodology, to discuss the phasing of works, and to agree locations for contractor facilities (e.g. skip and deliveries of construction materials). The local authority arboricultural officer shall be given reasonable notice of the pre-commencement meeting so they may attend if it is deemed necessary.
- During replacement of the retaining wall adjacent to the light well
- During excavation of the wall footings on the site boundary as well as to provide guidance on the replacement foundation design.
- During the ground investigation for the low brick retaining wall across the centre of the exposed portion of the garden.

2.21 In addition to the above, a system and programme of onsite monitoring by the appointed arboricultural consultant should be agreed with the Local Authority Arboricultural Officer, if it is deemed necessary. The form and frequency of site monitoring shall be agreed at the pre-commencement meeting.

2.22 If significant root growth is disturbed during construction activities that are not within the scope of this report, the work shall cease until the project arboriculturalist has been consulted. Roots greater than 25mm in diameter or dense/matted fibrous roots shall be considered significant root growth. It should be remembered that whilst root protection areas are part of industry best practice, tree root growth is influenced by a number of factors and may not conform to expected ideals.

2.23 If at anytime during the construction process, damage is inadvertently caused to the tree, the project arboriculturalist shall be notified to assess the likely implications and to prescribe potential remedial measures to be implemented. Damage can be in the form of chemical or fuel spillage, mechanical damage to either the above ground parts of the tree or the roots, fire or any other unforeseen circumstance.

2.24 The supervising arboriculturalist shall be appointed by the contractor. It will be necessary for the arboriculturalist to report to the local planning authority on the outcome of the site visits as well as well as any unforeseen tree related issues. Photographic evidence of all site visits shall be provided by the arboriculturalist.

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APPENDIX 1
Supervision record sheet

Date: .....

Site: .....

Site visit undertaken by: .....

Site Manager: .....

Reason for visit: .....

Discussion: The following topics were reviewed during the site visit:

- .....
- .....
- .....

Observations: .....

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Tasks to be actioned: The following tasks shall be should be actioned in the stated time frames:

1. .....

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2. .....

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3. .....

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Timing of next visit: .....