Arboricultural Method Statement

254 Kilburn High Road
London
NW6 2BS

8th February 2017

PJC ref: 4307/17-01 Rev1

This report has been prepared by

PJC Consultancy Ltd

on behalf of

Kilburn HR LLP

Prepared by	**Peter Davies FdSc Arboriculture M.Arbor.A** Peter has a Foundation Degree in Arboriculture and is a professional member of the Arboricultural Association. He has ten years experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a Lantra accredited professional tree inspector.
Checked by	**Nick Betts HND For M.Arbor.A** Nick has attained an HND in forestry management and is a professional member of both the Arboricultural Association and the Consulting Arborists Society. He has worked in the arboricultural and forestry industries for 14 years. He started his career as a forestry worker before qualifying as a tree surgeon, working in both the private and commercial sectors. He has been a practising consultant since 2004. He is a Lantra accredited professional tree inspector.

T: 01323 400311
E: contact@pjcconsultancy.com
W: www.pjcconsultancy.com

PJC Consultancy
Arboricultural, Ecological & Landscape Consultancy

Chapter House, Priesthawes Farm
Hailsham Road, Polegate,
East Sussex BN26 6QU

PJC Consultancy
Arboricultural, Ecological & Landscape Consultancy

CONTENTS

1 INTRODUCTION

1.1 In order to safeguard retained trees on site during development works it is necessary to implement a tree protection strategy. The objective of the following arboricultural method statement is to provide protection methodology for retained trees throughout the proposed development, including the above ground and below ground parts of the trees as well as their rooting medium.

1.2 This method statement is written in conjunction with arboricultural impact assessment ref. PJC/3412/14.

1.3 **Instruction:** PJC Consultancy has been instructed by 254 Kilburn HR LLP to provide an arboricultural method statement for proposed construction works at 254 Kilburn High Road in the London Borough of Camden.

1.4 **Brief:** PJC Consultancy has been commissioned to provide an arboricultural method statement and Tree Protection Plan 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.

1.5 **Scope of this report:** This report is concerned with the protection of the retained trees located in Kilburn Grange Park located adjacent to the development as identified in arboricultural impact assessment ref. PJC/3412/14.

1.6 **Contents of report:** This report includes the following:

- Arboricultural Method Statement
- Tree Protection Plan.

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 **Initial tree works:** The amenity shrub beds located within the works compound shall be removed to ground level as the first stage of development in order to allow installation of ground protection and scaffolding. Where necessary to allow installation of ground protection, the stumps from the shrubs shall be removed using hand tools or carefully with a stump grinder. Plant machinery shall not be used to scrape the vegetation or access Kilburn Grange Park. All shrub beds shall be replaced upon completion of the development as existing unless otherwise agreed with the local authority.

2.4 Trees T2 to T10 shall be pruned back from the proposed building line to create 1.5m clearance. This clearance is required to allow installation of scaffolding and to avoid post development conflict with the new building. If it necessary to implement greater clearance (e.g. for demolition operations), the feasibility of tying branches back shall be explored. Any additional pruning shall only be undertaken in agreement with the local authority arboricultural officer.

2.5 All branches from tree T11 that overhang the existing building line shall be removed back to the parent stem or branch. The remainder of the crown shall be pollarded to equal height as tree T12.

2.6 All arising's from the initial tree works shall be removed from site. No bonfires shall be lit within the site boundary or works compound.

2.7 All trees shall be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.

2.8 The tree works contractors shall carry out all tree works to BS3998: 2010 '*Tree works – recommendations*' as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

2.9 It is recommended that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website contains contact details and information on engaging a suitable contractor.

2.10 **Tree protection barriers:** The root protection areas of retained trees must be left free from disturbance, and protected from contamination or compaction during the proposed works. Protection shall comprise a combination of protective fencing, stem hoarding and temporary ground protection.

2.11 Fixed site hoarding shall be installed around the outside of the works compound as shown on the Tree Protection Plan. The hoarding shall be positioned along the outside edge of the line of tree stems (T2-T12) in order to allow the dog run to remain open. The site hoarding shall be a minimum of 2m in height (or if necessary to the height of lowest overhanging branches) and shall be immovable.

2.12 Postholes for the site hoarding shall be hand excavated with care taken to avoid pruning or damaging roots with diameter greater than 25mm. The postholes should be pre-dug in case their positions need to be altered to avoid a significant root.

2.13 The postholes for the site hoarding shall be lined with impermeable sheeting before concrete is added to prevent alkaline burn to retained roots. Cement mixing shall occur on an impermeable, bunded surface to prevent cement washings leeching into the rooting medium.

2.14 Access to the works compound shall be from within the site and not through the park. The area located outside the site boundary and works compound (highlighted yellow on the Tree Protection Plan) shall be referred to as the construction exclusion zone. The following actions shall be prohibited within the construction exclusion zone:

- Vehicular access (unless otherwise agreed with the project arboriculturalist and local authority arboricultural officer with additional ground protection measures implemented as required).
- Regular pedestrian access unless on suitable ground protection.
- Storage of construction materials.
- Storage or handling of harmful chemicals.
- Any change in ground level (no level changes shall be permitted within the works compound either).
- Construction activities including hard surfacing.

2.15 All tree stems located within the works compound shall be surrounded by timber stem hoarding. The hoarding shall be installed to a height of 2m or the lowest primary branch junction, and shall be of a suitable breadth to protect all stems from the multi-stemmed trees. The hoarding shall also be self-supporting and shall not come into contact with any part of a tree. An example specification for stem hoarding is shown in Appendix 2.

2.16 The entire area between the existing building and the site hoarding (excluding the stem hoarding areas) shall be protected by temporary ground protection. The specification for ground protection shall be a single thinness of timber boards (or alternative inter-linked, non-slip ground protection boards) on a layer on compressible layer (150mm woodchip or sharp sand), spread across a geotextile membrane.

2.17 The site hoarding, stem hoarding and temporary ground protection shall all be installed following the initial tree works, prior to implementation of demolition operations. They shall remain in place for the duration of demolition and construction works, until the project arboriculturalist confirms it is safe to dismantle them.

2.18 **Storage and handling of harmful chemicals:** Provision needs to be made to prevent the storage and handling of harmful chemicals within the works compound. Harmful chemicals include fuels, oils, builder's sand (which has a high salt content) and cement. Cement mixing shall only occur outside the works compound unless provision is made to create an impermeable and suitably bunded surface (to be agreed with the project arboriculturalist) that will ensure there is no potential for cement washings to leech into a root protection area.

2.19 **Contractor facilities:** Access to the site will be via a vehicular access on Kilburn High Road, not through Kilburn Grange Park (unless otherwise agreed with the local authority and with addition tree protection measures implemented). Site cabins, contractor parking and site facilities for operatives (including chemical toilets) shall all be located outside the works compound.

2.20 **Demolition of existing building:** The demolition of the existing building shall occur inwards from within the building footprint. Plant machinery shall not access the works compound. Whenever plant with booms is operated close to the canopies of retained trees, a designated banksman shall be utilised to spot branches that may not be visible from the cabin of the machine. Debris shall be stockpiled outside the works compound.

2.21 The detailed specification for the new building footings is to the confirmed on the date of this report. The southern end of the new building footprint will be set slightly back from the trees in comparison to the existing building footprint (the two footprints will match at the north end of the site). It should be expected that tree roots will extend up to the edge of the existing building footings (the type of existing footings is unknown on the date of this report). To significantly reduce the chances of encountering or damaging tree roots, the existing footings shall be left in situ below ground level wherever possible.

2.22 Where removal of the existing building footings adjacent to the trees is deemed unavoidable, they shall be broken up using a hydraulic breaker (or suitable plant machinery operated under the supervision of the project arboriculturalist) and carefully pulled away from the trees. All debris shall be stockpiled outside the works compound. If roots are revealed during this operation, the use of the machine shall cease and the works adjacent to the root continued using controlled hand tools. The root shall also be wrapped in hessian cloth or covered in a layer of topsoil to prevent desiccation or frost damage and to protect the delicate root bark. Hessian cloth shall be removed before backfilling and the roots surrounded in an area of sharp sand free from stones or other potentially injurious materials.

2.23 **Soft landscaping within root protection areas:** New soft landscaping within the root protection areas of retained trees (to replace shrubs that are removed from within the works compound) shall occur as the final phase of development. This will require shrub planting and potentially turfing to occur within root protection areas.

2.24 Where new turf is to be laid within the root protection areas of retained trees, topsoil will likely need to be imported. The existing soil may be lightly tilled by hand but use of rotavators will be prohibited. A maximum increase of 100mm of topsoil may be introduced to avoid suffocating root growth. Care must be taken to prevent soil be piled against tree buttresses or buttress roots. When soil or other materials are transported across a root protection area, scaffold board pathways must be used to prevent compaction of the rooting medium. It should be noted that even light pedestrian use could compact the soil, particularly in wet conditions.

2.25 All planting pits within root protection areas shall be individually hand excavated (no trench planting). Care must be taken to avoid severing or damaging roots with a diameter greater than 25mm.

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

- A pre-commencement meeting with the demolition and construction contractors to clarify the tree protection methodology, to discuss the phasing of works, to mark out the locations for the tree protection barriers and to agree requirements for pre-construction access facilitation pruning beyond the scope of this report. The local authority arboricultural officer shall be given reasonable notice of the pre-commencement meeting so they may also attend.
- To sign off that the tree protection barriers have been installed in the correct locations and to the agreed specification and the initial tree works have been undertaken fully and correctly.
- To supervise removal of the existing building footings (where necessary) adjacent to the works compound.
- To confirm when the tree protection barriers can be dismantled and to check trees for any potential damage that may have occurred during construction operations.

2.27 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. The form and frequency of site monitoring shall be agreed at the pre-commencement meeting.

2.28 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.

2.29 If at anytime during the construction process, damage is inadvertently caused to a 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.

2.30 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.

PJC Consultancy
Arboricultural, Ecological & Landscape Consultancy

Contact details

PJC Consultancy Ltd
Chapter House
Priesthawes Farm
Hailsham Road
Polegate
East Sussex
BN26 6QU

Tel: 01323 400311

E-mail: pete@pjcconsultancy.com

Author: Peter Davies

Date: 8th February 2017

PJC Consultancy
Arboricultural, Ecological & Landscape Consultancy

APPENDIX 1
Tree Protection Plan

T13
10.6m
T12
11.4m
17m
T11
T10
T14
T9
3.8m
T8
4.6m
T7
4.3m
T6
4.6m
6.8m
T5
3.4m
T4
7m
T3
T15
T2
4.8m
T1

All branches from crown of T11 that overhang existing building are to be reduced to source. Remaining crown to be pollarded to match works to tree T12.

Above ground parts of timber leaf stores to be dismantled if required. Concrete hard standing bases are to be retained as ground protection.

Fixed site hoarding to be located on outside of line of tree stems. Dog run to remain open.

Canopies of trees T2-T10 are to be reduced from building to provide 1.5m clearance from proposed building line (required for installation of scaffolding and to avoid post-development conflict).

The stems of trees T2-T12 shall be protected by timber hoarding that is of a suitable breadth to protect all stems of multi-stemmed trees and is installed to a height of 2m or the lowest primary branch junction. The hoarding shall be free-standing e.g. shall not come into contact with any part of the stem or branches.

All existing shrub beds (not including any trees) are to be removed to allow installation of ground protection, and replanted following the completion of external building works that require access into the park.

Entire works compound to be protected by temporary ground protection - timber boards (or similar non-slip alternative) on 150mm of wood chip or sharp sand spread over geotextile membrane.

Access to works compound to be via building and Kilburn High Road, not through construction exclusion zone in park.

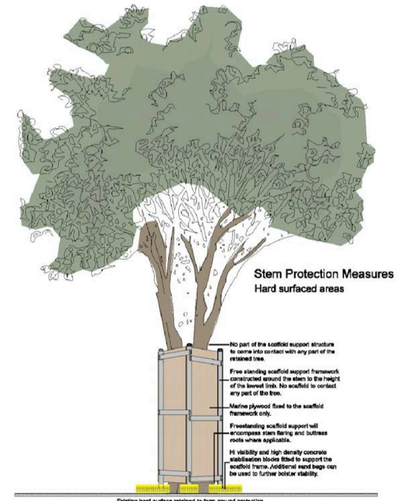
Key:

- Root protection area of tree to be retained
- Existing canopy of tree to be retained
- Approximate extent of shrub bed to be removed
- Construction site hoarding (immovable)
- Extents of works compound and area requiring temporary ground protection
- Construction exclusion zone

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/3412/14 contains information for each tree.

This drawing should be viewed in colour.

Example specification for stem hoarding:



Drawing no: PJC/4307/17/A **Rev:** - **Sheet number:** 1 of 1

Client and site:
254 Kilburn HR LLP

254 Kilburn High Road
London Borough of Camden
NW6 2BS

Drawing title: Tree Protection Plan

Date drawn: 06/02/2017

Scale: 1:200 at A2

Drawn by: PD **Checked by:** NB

PJC Consultancy
Arboricultural, Ecological & Landscape Consultancy

PJC Consultancy
Chapter House, Priesthawes Farm, Hailsham Road, Polegate, East Sussex, BN26 6QU.

t: 01323 400311
e: contact@pjcconsultancy.com
w: www.pjcconsultancy.com

PJC Consultancy
Arboricultural, Ecological & Landscape Consultancy

APPENDIX 2
Example Stem Hoarding Specification