Landmark Trees

ARBORICULTURAL METHOD STATEMENT

64 Avenue Road
London

NW8

REPORT PREPARED FOR:

Oakmere Property Management Limited
116 Gloucester Place
London
W1U 6HZ

REPORT PREPARED BY

Adam Hollis

MSc Arb MICFor FArbor A HND Hort

Ref: OKM/AVR/AMS/01

Date: 25th November 2009

The content and format of this Report are for the exclusive use of the Client. It may not be sold, lent, hired out or divulged to any third party not directly involved in the subject matter without Landmark Trees written consent.

Web: www.landmarktrees.co.uk
e-mail: info@landmarktrees.co.uk
Tel: 0207 851 4544

London Office: 2 Sheraton Street London W1F 8BH
Registered Office: Little Beeches All Cannings Devizes Wiltshire SN10 3NX
Landmark Trees is the trading name of Landmark trees Ltd Registered in Wales Reg No 3882076

CHECKED

CONTENTS

1. Introduction

1.1 Purpose & Use of the Method Statement

1.1.1 This outline method statement has been prepared for submission to London Borough of Camden Council for approval, to accompany a planning application / in discharge of future planning conditions at 64 Avenue Road, London NW8: Planning application no.: (Unknown)
This document will address the following issues (in so far as they can be forecast ahead of future contracts):
Method of construction
Location, extent & depth of services
Precautions to minimise damage to trees;
Tree works specification.

1.1.2 This document lays down the methodology for any proposed works that may have an effect upon the trees on and adjacent to the site. It is essential within the scope of any contracts related to the development proposals that this method statement is observed and adhered to. It is recommended that this document form part of the work schedule and specification issued to the building contractors and can be used to form part of the contract.

1.1.3 Copies of this document will be available for inspection on site. The developer will inform the local planning authority within twenty-four hours if the arboricultural consultant is replaced.

1.2 Terms of Reference

1.2.1 We (LT) are instructed by the clients, Oakmere Property Management Ltd, London, to prepare a method statement for proposed development based on the above planning application with reference to BS 5837:2005 Trees in Relation to Construction.

1.2.2 For this purpose we have been supplied with a site plan (64 AR Summer House 2009-07-20) by the client.

1.3 Development Proposals & Potential Impacts

1.3.1 The proposal is to construct a summer house with LG/basement swimming in the rear garden. There are semi-mature trees to the immediate north north west (T3 purple sycamore and T4 purple plum) that may be directly vulnerable to casual injury and other more mature specimens within 15m of the construction that could be affected more indirectly. The basement will be founded with contiguous mini-piles piles, relatively flush with the proposed footprint to avoid any further excavation impacts than the proposed 1% Root Protection Area (RPA) encroachment of mature, off-site lime, T5. Use of a 3.5m mini-piling rig and construction of the 4m+ high pitched roof within the canopy fringes of T3 & T4 with their 3m ground clearances, will require minor tree surgery (crown lifts). Erection of scaffolding within their RPA's will require ground protection to avoid soil compaction / root damage. Beyond the scaffolding all surrounding trees will be protected with securely mounted heras fencing. Services will run beneath the lawn to the south south-east, away from trees. This lawn area can be used for material storage from deliveries to the front courtyard. No site office and minimal welfare facilities will be required.

1.4 Sequence of Works

1.4.1 The sequence of works will be as follows:

- initial tree works – pruning for working clearances
- hand demolition of existing shed
- installation of Tree Protection Barrier (TPB)
- installation of ground protection
- installation of underground services
- main construction
- removal of TPB
- soft landscaping

These works and their arboricultural implications are outlined in sequence below

1.5 Site Supervision

1) Site supervision – an individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. An agent must be nominated for each phase of work, if demolition and construction contracts are to be awarded separately. The agent(s) must:

- be present on site for the majority of the time
- be aware of the arboricultural responsibilities - to this end, a site briefing / meeting between the agent and arboricultural consultant must be held before the commencement of each phase of works.
- have the authority to stop any work that is causing, or has the potential to cause harm to any tree
- be responsible for ensuring that all site operatives are aware of their responsibilities toward trees on site and the consequences of the failure to observe these responsibilities.
- Make immediate contact with the local authority and/or a retained arboriculturalist in the event of any tree related problems occurring, whether actual or potential
- Contact details for Landmark Trees are provided on the cover to this report.
- Contact details for the Local Authority Tree Officer are as follows:

Alex Hutson
Tree and Landscape Officer
Conservation and Urban Design
Urban Design and Renewal Services
London Borough of Camden
Town Hall Extension
Argyle Street
London WC1H 8ND
Tel.: 020 7974 5939
e-mail: Alex.Hutson@camden.gov.uk

1.6 Site Monitoring

1.6.1 The arboricultural consultant should be responsible for monitoring of all arboricultural works (subject to instruction) and issuing a certificate of practical completion. In addition, the arboricultural consultant will inspect and monitor any works within exclusion zones; i.e. erection of tree protection and piling. A record of site visits should be maintained for inspection on site and copies forwarded to the developer / agent and to the local planning authority. Site monitoring should include:

- Pre-Development Site Inspection (S.2.3)
- Demolition Site Agent Briefing (S.1.5)
- Further demolition of hard landscaping within RPA's (S.3.5)
- Any removal / excavation of services through RPA's (S.2.4)
- Construction Site Agent Briefing (S.1.5)
- Installation of site facilities (S.3.3)
- Any routing of services through RPA's (S.2.4)
- Site completion meeting (S.5)

1.7 Statement Adoption

1.7.1 It is recommended that, in due course, acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of observation of such recommendations have been priced in. If conflicts between any part of a tree and the building(s) arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflect poorly on the construction and design personnel involved. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

2.0 Pre- Development Site Preparation

2.1 Arboricultural Works

2.1.1 Appendix 1 lays out the primary works to be carried out. All works must be carried out by a competent arborist in accord with BS 3998: 1998 and any other prevailing good professional practice (see also Appendix 4 guidelines).

2.1.2 These works comprise the crown lifting of the semi-mature purple maple (T3) and sycamore (T4) to 5m clear the new build. T4 can only be pruned unilaterally from the client side. It may be more practical to approach the works as a 1-2m crown reduction of the lower canopy to effect the same clearance.

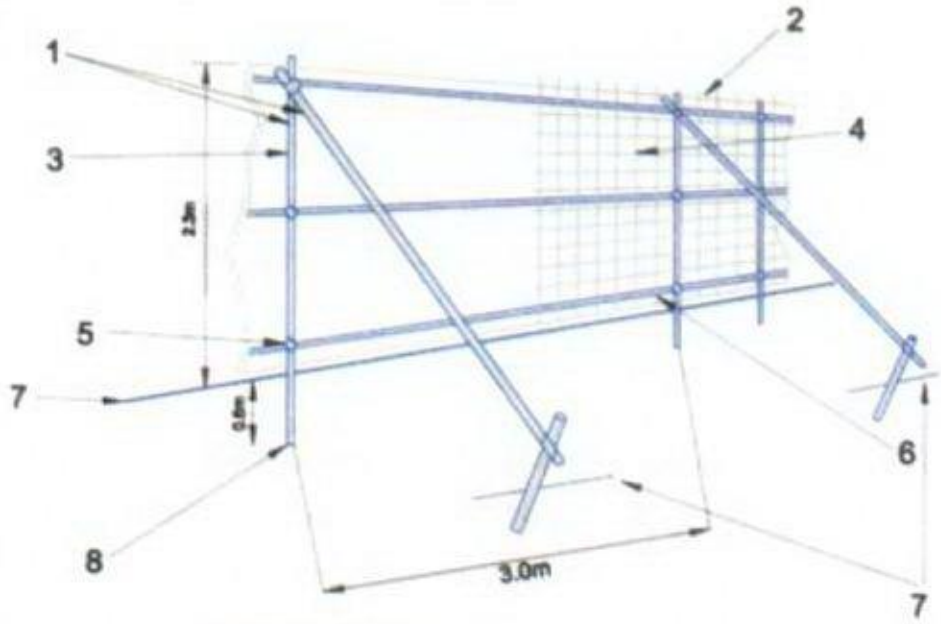
2.2 Installation of Tree Protection Barrier

2.2.1 A Tree Protection Barrier [TPB] comprising steel mesh panels of 2.2m in height ('Heras') should be erected to protect trees near buildings to be demolished on site. These panels will be mounted on a scaffolding frame as shown overleaf / in Figure 2 of BS5837: Trees in Relation to Construction (Appendix C).

2.2.2 This TPB is to be erected before any work commences on site, is to remain 'in situ' undamaged for the duration of all work or each phase, and only to be removed once all work is completed. If any work is deemed necessary prior to the erection of fencing a Landmark Trees representative should be informed to enable their presence to oversee the work being carried out.

2.2.3 The only other exception is the completion of soft landscaping but if any excavations, however minor, are to be carried out as part of soft landscaping within RPAs, an arboricultural assessment must be carried out beforehand and any arboricultural protection measures incorporated. The TPB should carry waterproof warning notices denying access within the RPA.

2.2.4 The Tree Protection Plan in Appendix 5 illustrates where the protective fencing will be located to form the boundary of the Tree Protection Zone (TPZ). The TPZ is an exclusion zone and suitable steps will be taken to prevent access by pedestrians and vehicles and the storage of any works materials and equipment will be located outside of the TPZ.



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside fence of fencing to avoid easy dismantling
7 Ground level
8 Approx 0.6m driven into the ground

Tree Protection Barrier Specification

2.3 Pre-Development Site Inspection

2.3.1 Upon completion of the tree works the LT representative will meet the relevant local authority member on site to check the standards of the work. If there are any amendments to either the tree works or additional protection measures, they will be agreed at this meeting and confirmed in writing.

3.0 Development Phase

3.1 General Precautions

3.1.1 No fires shall be made on any part of the site, or within 20m of any tree to be retained.

3.1.2 No spilling of pouring of fuels, oils, solvents, tar shall be made on any part of the site.

3.1.3 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained.

3.1.4 No spillage or discharge of wet mortar or concrete shall be made on any part of the site.

3.1.5 No storage of materials shall be made within the protective fences.

3.1.6 No breaching or moving of the protective fences without the approval of an arboriculturist.

3.1.7 Alterations in levels within the tree protection fence areas shall be avoided.

3.2 Root / Ground/ Soil Protection Areas (RPA)

3.2.1 The Root Protection Area (RPA) is a desirable zone of protection around the trees' rooting system and these have been marked on the plan in Appendix 5 As much as possible, the RPA's will lie within the TPZ and therefore, be fully fenced off. However, this degree of protection is not entirely possible on the site: it is necessary to perform some works within the RPA i.e. erection of scaffolding and pedestrian access.

3.2.2 Such areas exist around trees T3, 4 & 5. All involved parties will need to be made aware of the deficiencies. In these instances, careful and supervised working, as described in section S. 3.6 (construction) will be required. To this end it is proposed that a 1.5m run around the footprint be protected with a 100-150mm layer of mulch (with additional boarded access overlain.

3.2.3 If scaffolding does need to be installed within the RPA the provisions of Figure 3 of BS5837 with regard to ground protection must be also employed.

3.3 Site Access, Accommodation & Storage

3.3.1 Site access will be from Avenue Road, making use of the front courtyard hard standing for lorry deliveries and the centre of the site for storage.

3.3.2 Delivery lorries will make use of the existing hard standing forecourt. Materials can be unloaded onto the forecourt and stored throughout the interior of the site away from protected trees.

3.3.3 The interior site can be accessed by small plant (e.g. mini-piling rig, 3.5t digger, and tracked dumpers) utilising passages beside the house and onto the central lawn area (tacked as necessary) away from trees.

3.3.4 The foundations require the use of a small, mini-piling rig only: Abbey Pynford's 'Kitten' machine, which measures : width-700mm, length-2.0 metres, height 1.7 metres in closed position, 2.5 to 2.8 metres in its utmost vertically extended position

3.3.5 Pedestrian access will run parallel, but separate to vehicular access.

3.3.6 No site cabins are required.

3.3.7 Many site activities are potentially damaging to trees e.g. material storage, parking, soil compaction and the use of plant machinery. In this latter example particular care is required to ensure that site access is kept away from the TPZ.

3.4 Routing & Installation of Services

3.4.1 Final service routes and provision are to be determined, but will essentially run from the street / existing house to the front of the building, avoiding the TPZ to its sides and rear. If any underground service routes should enter an RPA, then the provisions of BS5837 and NJUG 10 will be employed (e.g. radial trenching and /or mole trenching) and if necessary further arboricultural advice sought. The issue can be resolved under planning conditions.

3.5 Changes in Grade

3.5.1 No changes in ground level beyond the footprint are proposed. The upper layer of topsoil contains the majority of a trees' roots and if this is disturbed by a reduction in ground level, serious damage can be caused. If such soil is to be disturbed it will be done only with hand tools and the supervising arborist will be informed if roots are exposed.

3.5.2 If the ground level requires raising, this will be achieved using coarse, granular material such as pebbles.

3.5.3 If ground levels need to be marginally altered within the RPA of any tree, prior agreement must be sought and given by either a local authority tree officer or a LT Consultant.

3.6 Demolition Measures.

3.6.1 The existing garden shed is to be demolished by hand. No plant is required for this operation. No burning of the demolished material is to take place and timber will be removed from the vicinity and not stacked within the TPZ.

3.7 Construction Measures

3.7.1 3.5t JCB type excavator to come onto site via existing entrance off Avenue Road and excavate footprint down to a level appropriate for a piling "mat" to be installed (say 400mm below existing ground level) over the whole area outside tree protection zone. JCB to spread delivered hardcore. Hardcore to be compacted to required as required to achieve suitable base for piling rig.

3.7.2 Mini piling rig (eg Abbey Pynford Kitten) to come on site via same access and install assumed contiguous 300mm piled wall to perimeter of proposed new building. The drilling of the piles does not require any disturbance of the soil beyond line of the piles. The piles are to be drilled in situ always from inside the line of construction, and are to be spaced to leave approximately 150mm between the two piles drilled in succession.

3.7.3 Construction of the concrete face of underground walls is to be constructed on the inside of the contiguous piles, thus leaving the entire rear half of the drilled piles fully uninterrupted within the soil into which the piles are drilled. The width of the piles of approximately 300mm is to be fully contained within the width of the cavity wall, which is 330mm, hence no external foundations should breach the external face of the wall.

3.7.4 Thus, confinement of piling impacts to the proposed footprint should have no impact on T5. The piles will then serve as the new limits of the RPA's.

3.7.5 Scaffolding erection will only be possible to a height of 4m (above proposed eaves) within the canopies of T3-5, but can access the roof construction from either side. Para 3.2.4 refers to scaffold erection within the RPA.

3.8 Removal of Ground Protection & Post Construction Landscaping & Treatment

3.8.1 The ground protection may be removed upon completion of the piling phase and when all drainage and service runs have been installed and any site machinery has been removed from the RPA.

3.8.2 Any landscaping works should avoid the changing of ground levels or deep digging. Mechanised cultivation such as tractor mounted rotovation must not be used.

3.9.3 Heavy machinery should not be used in the vicinity of any retained trees.

3.9.4 If herbicides are to be used they should be appropriate to their purpose and not in such a way as to damage any retained trees or vegetation.

3.9.5 Ideally, retained trees should be maintained within a shrub area as this reduces the chances of compaction and disturbance of root systems.

3.9.6 The planting schemes adopted should consider aspects of the site such as current design, layout and future use. Consideration should also be given to the soil type, climate and overall character of the landscape.

4.0 Summary of Proposed Methods

4.1 Table of Impacts and Mitigation

4.1.1 The table below summarises the main areas where trees could become damaged by the proposed development and the methods that need to be adopted in order to prevent such damage:

Impact	Mitigation	Reference	Trees Affected
General site access, material storage etc.	Ground protection to acceptable standards.	Paras 2.2.1 & 3.3.3 Tree Protection Plan in Appendix 5	T1-5
Demolition & construction within existing canopy	Tree surgery	Section 2.1	T1-5
Demolition of existing build within RPA	Pull down technique within RPA	Section 3.6	T1-2
Damage to roots caused by foundation excavation within RPA.	Minipile specification for building.	Section 3.7	T5

5.0 Completion

5.1 Completion Meeting

5.1.1 Following completion of the works listed above, a Landmark Trees consultant will meet with a local authority representative and agree upon any remedial works deemed necessary.

5.1.2 A separate LT post-development tree inspection (with specific reference to trees identified in the Appendix 1 schedules) is recommended to facilitate a constructive meeting and to monitor the health of some of the more senescent trees on site.

5.1.2 Any works agreed in the above meeting will be confirmed in writing and will be performed to BS 3998: 1989 Tree Works.

5.1.3 Landmark Trees recommend that any work proposed post development is checked to avoid penalty for performing illegal work on a protected tree.

It is recommended that, in due course, acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of observation of such recommendations have been priced in.

If conflicts between any part of a tree and the building(s) arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflect poorly on the construction and design personnel involved. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

Signed

.....

Adam Hollis MSc ARB MICFor FArbor A

24th November 2009

For and on behalf of ***Landmark Trees***

Web: www.landmarktrees.co.uk
e-mail: info@landmarktrees.co.uk
Tel: 0207 851 4544

London Office: 2 Sheraton Street, London, W1F 8BH
Registered Office: Little Beeches, All Cannings, Devizes, Wiltshire, SN10 3NX
Landmark Trees is the trading name of Landmark trees Ltd. Registered in Wales. Reg No. 3882076

Appendix 1: Arboricultural Works

Landmark Trees Ltd
Tel: 0207 851 4544

Recommended Tree Works

Site: No.64 Avenue Road

Surveyor: Adam Hollis

Date: 19th May 2009

Ref:

Tree No.	English Name	Height	Stem Diameter	Crown Spread	Recommended Works		Comments/ Reasons
1	Lime, Common	15	400	4441	CCL Thin out regrowth and sever ivy		Suppressed by dominant T2 Ivy clad. Previously crown reduced by 15-20% with prolific regrowth. Advisable for good arboricultural practice
3	Maple, Norway, Purple	10	170	4433	CL5		A tree with insignificant defects Recommended to permit development
4	Sycamore, Purple variegated	12	300 e	2553	CL5	CB1m	Remote survey only Recommended to permit development
5	Lime, Common	18	750 e	7888			Remote survey only

Notes:

CB - Cut Back to boundary/clear from structure.
CL# - Crown Lift to given height in meters.
CT#% - Crown Thinning by identified %.
CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs).
CR#% - Crown Reduce by given %.
DDD - Decay Detection Device recommended.
Fell - Fell to ground level.
Fell2 - Fell and treat stump to prevent re-growth.
Pol - Pollard or re-pollard.
YM - Carry out normal maintenance of a young/newly planted tree.
RE - Remove Epicormic Growth (specific notes may be made).

Appendix 2: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purposes other than the production of timber.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria.
Co-dominant Stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown Lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduce	The reduction of a tree's height or spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	The removal of all dead, dying and diseased branches from a tree. Also, wood which is dead.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in uncharacteristic clusters around the base or the stem of a tree, usually as a result of bad pruning or some other stress factor.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk of the tree is cut at about 4m, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

Appendix 3: General Guidelines

3.1 All work must be to BS 3998:1989 - '*Recommendations for tree work*'.

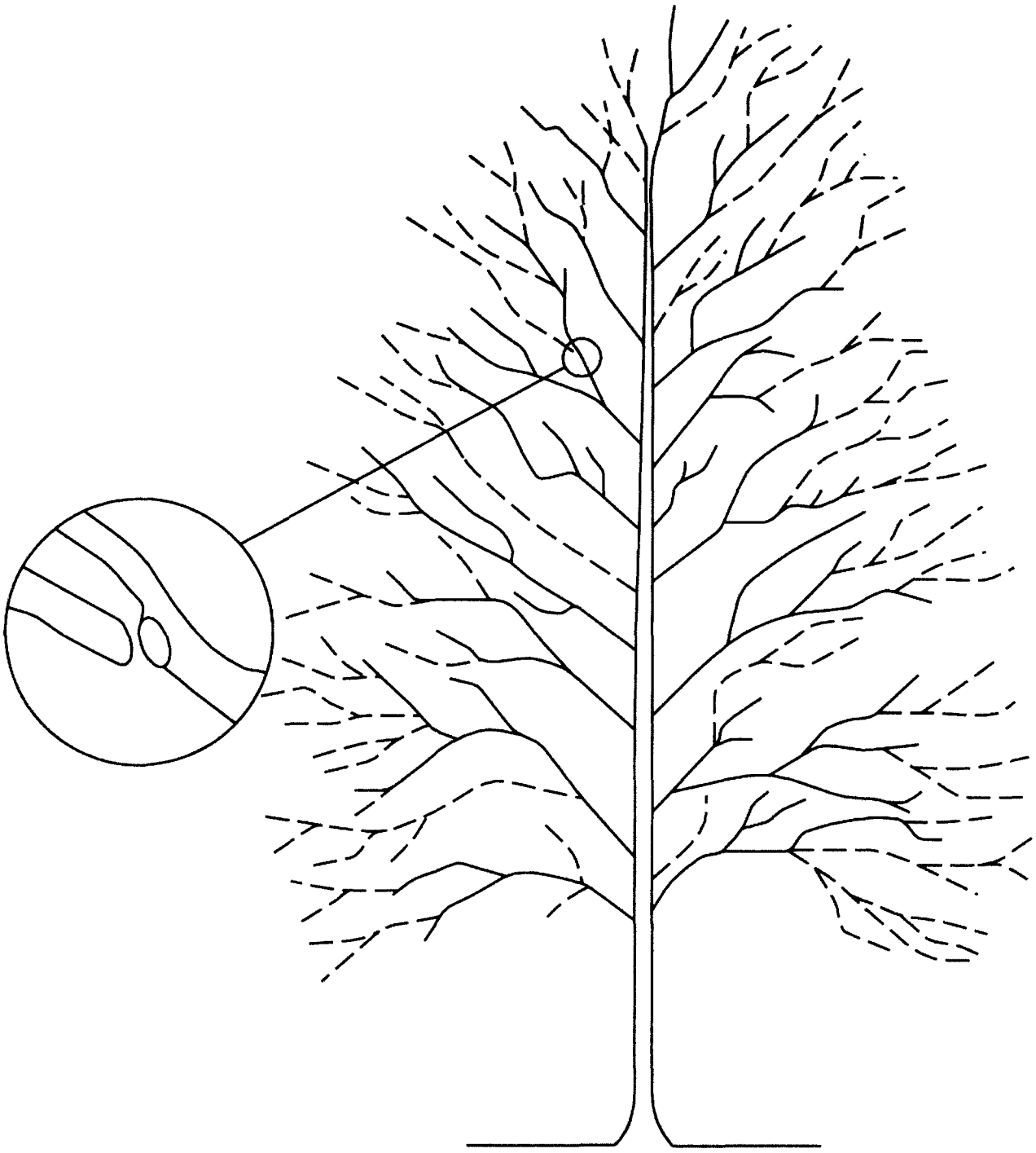
3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors, and will be covered by adequate public liability insurance.

3.3 Any defects seen by a contractor or the client that were not apparent to the consultant must be brought to the consultant's attention immediately.

3.4 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this method statement are carried out under the supervision of a Landmark Trees consultant.

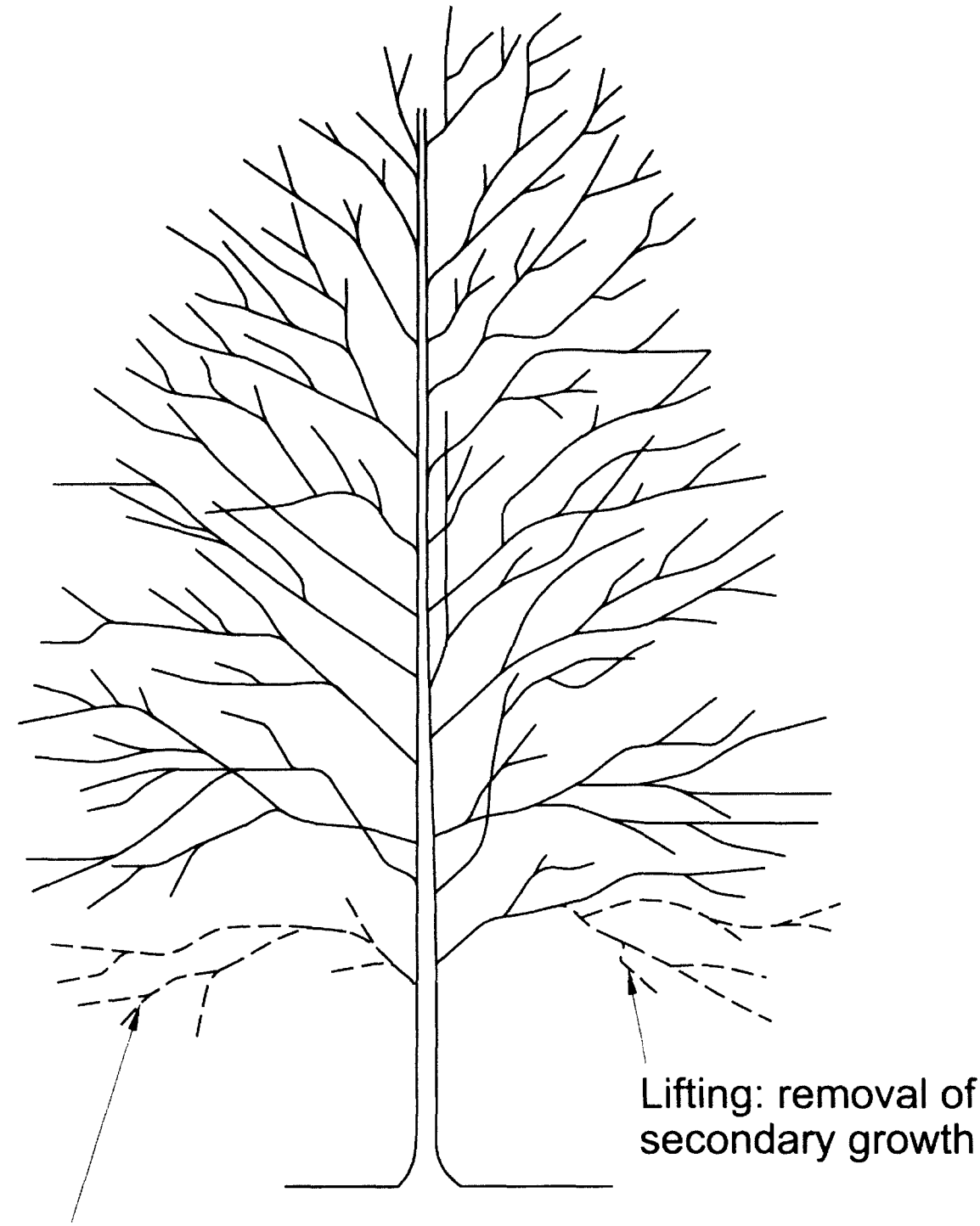
3.5 It is advisable to have trees inspected by a Landmark Trees consultant regularly. On this site it is recommended that these inspections are made every year.

Appendix 4: Indicative Pruning Guidelines



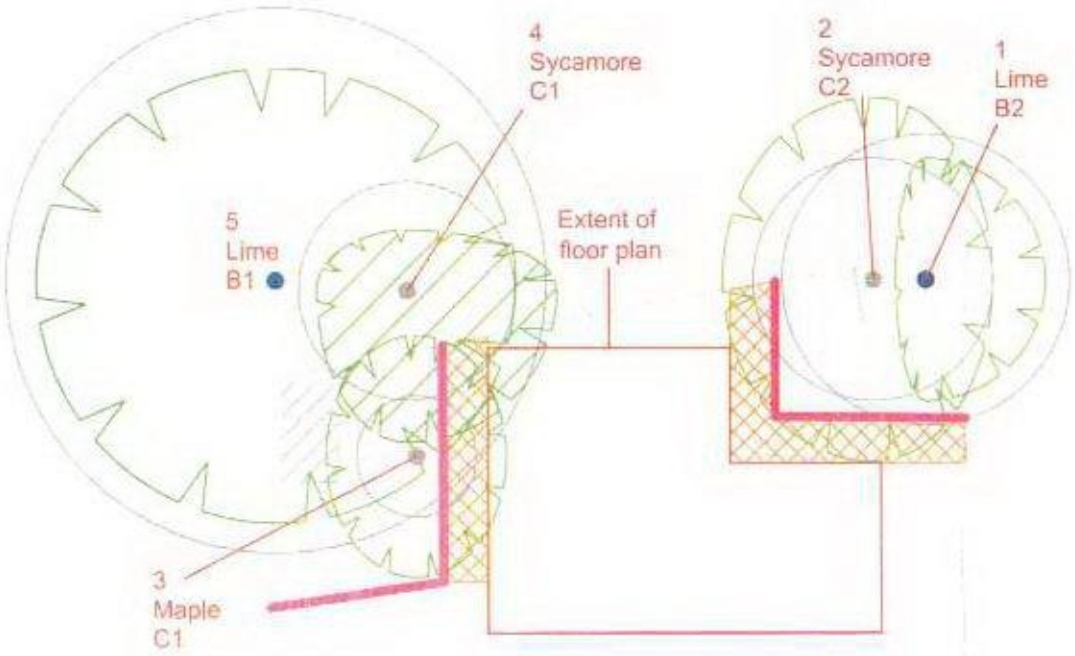
NOTE: Branches pruned back to suitable outward pointing bud or small branch.

REDUCING THE CROWN



CROWN LIFTING

Appendix 5: Tree Protection Plan



NOTE:

This survey is of a preliminary (fell
on the basis of the Visual Tree Ass
analysis. No decay detection equip
the arrangements that may be requ
underground services.

Branch spread in metres is based
representation of the crown.

Root Protection Areas (RPA) are
above adjacent ground level (take
base) or immediately above the lo

Landmark Trees

Landma

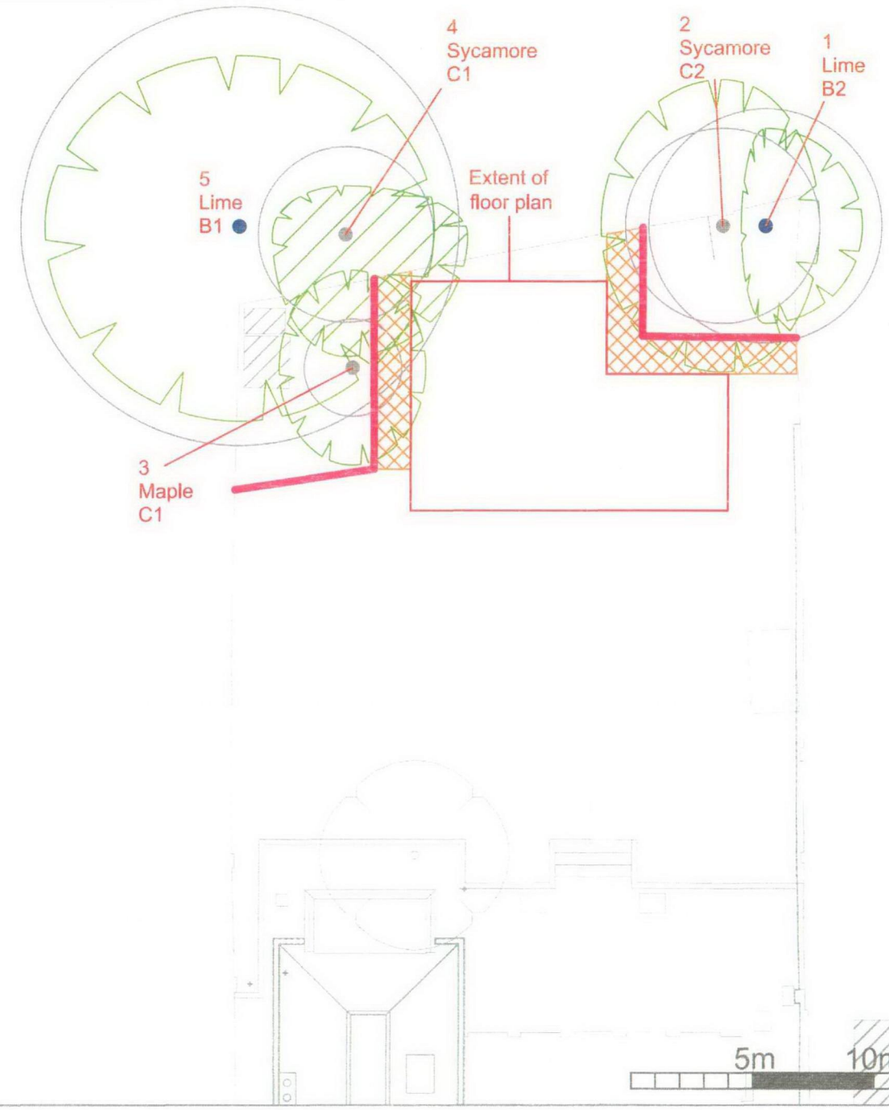
2 Clifton Gardens
Tel: 0800 055 09
e-mail: info@land

Site: 64 Avenue Road

Drawing Title: Tree Protection Plan

Key:

- Category A
  High Quality
- Category B
  Good Quality
- Category C
  Moderate Quality
- Category R
  Poor Quality



NOTE:

This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

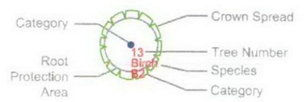
Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base) or immediately above the root flare for multi-stemmed trees.

Landmark Trees
2 Clifford Gardens, London, NW10 5JD
Tel: 0800 055 6912 Mobile: 07812 989928
e-mail: info@landmarktrees.co.uk Web: www.landmarktrees.co.uk

Site: 64 Avenue Road	1-250@A3
Drawing Title: Tree Protection Plan	Nov 2009

Key:

- Category A High Quality
- Category B Good Quality
- Category C Moderate Quality
- Category R Poor Quality



- Tree Protection Fencing
- Ground Protection
- Tree Position Approximate (not shown on original survey)