Arboricultural Impact Assessment

59 Aberdare Gardens
London
NW6 3AL

291003-PD-02
October 2009

TIM MOYA ASSOCIATES

CONTENTS PAGE

1 INTRODUCTION

Terms of instruction

1.1 The following arboricultural impacts assessment (AIA) has been commissioned by Mr Georg Schraut in order to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed development at 59 Aberdare Gardens, London NW6 3AL.

1.2 This report includes:

- an assessment of the trees, their quality and value and constraints to development posed by these;
- the impact of the proposed development upon the tree population in and around the site;
- measures to be taken to protect trees during the proposed works.

History of project involvement

1.3 Arboricultural involvement has followed the recommendations of BS5837:2005. A layout for the proposed development had been prepared before taking arboricultural advice. Following our involvement in the design process the design has been amended to ensure that the arboricultural impacts are acceptable.

Documents provided

1.4 This report has been prepared with reference to the following supplied information:

- Existing plans by architect R Savage Associates
- proposed plans by architect R Savage Associates
- Existing rear, front and side elevations by architect R Savage Associates

Methodology

1.5 The methodology used in the preparation of this report is based on the principles of British Standard BS5837:2005 *Trees in relation to construction*. The trees and other significant vegetation on and around the site have been surveyed using the recommendations of BS5837:2005. Following the arboricultural survey the above and below ground constraints were presented to the development team to aid design.

1.6 The proposed layout has been assessed in relation to the impacts of trees on structures and vice versa with regard to the above and below ground constraints as well as the planning policy and legal constraints in relation to trees.

2 THE SITE AND ITS SETTING

General area description

2.1 The site consists of a semi-detached residential property, with a rear garden. The surrounding area is residential, with a mixture of mature trees

Boundaries of the site

2.2 To the north of the site is the rear garden which is bordered by the rear gardens of Green croft Gardens. To the south is a small front garden and then Aberdare residential road, to the east is 61 Aberdare Gardens, and to the west 57 Aberdare gardens.

Overview of trees on the site

2.3 The site itself has only one hawthorn tree in the front garden (T7), and a mix of other smaller, shrubs. There is a row of mature London Plane trees off site but immediately adjacent to the northern boundary of the site (T1, T2, and T3 are relevant). There are three trees adjacent to the eastern rear boundary of the site.

3 DATA COLLECTION

Site visit

3.1 The site was visited on 7 October 2009 when trees on and around the site were inspected from ground level. The survey methodology has followed the recommendations of British Standard BS5837:2005 *Trees in relation to construction*.

3.2 A topographical survey has not been available in the production of this report. The tree locations are therefore based on a measured survey where trees have been plotted in relation to fixed site features such as boundaries or buildings. The location of trees should be checked on site.

Methodology of survey

3.3 Each tree has been given a tree identification number for the purpose of this report. This is only a reference and the trees are not individually marked.

3.4 Despite being presented with a proposed site layout prior to the tree survey being undertaken, the trees over 75mm in diameter measured at 1.5m above ground level on the site were surveyed without reference to a proposed layout as detailed in paragraph 4.5 of BS5837:2005. Off site trees over 75mm diameter and within a distance equal to 12 times their diameter from the boundary (10 times their base diameter where multi-stemmed) or where their crowns overhang the site boundary have been included. Where access to off site trees was not available dimensions are estimates.

3.5 BS5837:2005 sets out the methodology for surveying trees on potential development sites in order to identify them within a prioritised system of retention categories summarised as:

A Category Trees of high quality and value in such a condition as to be able to make a substantial contribution for a minimum of 40 years

B Category Trees of moderate quality and value in such a condition as to make a significant contribution for a minimum 20 years

C Category Trees of low quality and value currently in adequate condition to remain until new planting could be established and expected to remain for a minimum of 10 years, or young trees with a stem diameter less than 150 mm measured at 1.5 metres above ground level.

R Category Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural or forestry management.

Summary and analysis of trees

3.6 The location of trees and groups of trees are shown on plan 291003-P-01 at Appendix A, this plan illustrates the location of trees and the extent of the spread of their crowns. Dimensions, comments and information for each tree are given in the tree schedule at Appendix B.

3.7 The tree survey covered 7 trees. Of the trees surveyed the most common tree species is London Plane.

3.8 Of the trees covered in the survey there are 4 C category trees which are of low quality and value and should not be significant constraints to development.

3.9 There are 3 off site trees that are categorised as being B category, of moderate quality and value and would need to be considered in terms of development impact.

4 PLANNING GUIDANCE AND CONSTRAINTS

Legal protection of the trees

4.1 The local planning authority, Camden Borough Council, has not been approached to establish whether there is a tree preservation order protecting trees on or adjacent the site or whether the site is within a conservation area.

4.2 The general provisions of the Forestry Act 1967 have not been considered in this report as full planning consent is an exemption to the need for a felling licence.

4.3 As an arboricultural impacts assessment this report has not considered the impact of development upon the habitats associated with the trees. During the tree survey where appropriate, significant signs of in particular bats and nesting birds were considered and have been recorded where observed. This is not an ecological report and the absence of comments about birds or bats does not necessarily mean that they are not present on the site.

National policies and guidance

4.4 Planning policy statement 1 states at paragraph 13 (KEY PRINCIPLES): (iv) Planning policies should promote high quality inclusive design in the layout of new developments and individual buildings in terms of function and impact, not just for the short term but over the lifetime of the development. Design which fails to take the opportunities available for improving the character and quality of an area should not be accepted"

4.5 The British Standards Institute published BS5837:2005 in September 2005. The document was developed through consultation with engineers, architects landscape architects, central government and developers and gives clear and current best practice recommendations and guidance on the principles to be applied to achieve a satisfactory juxtaposition of trees with structures. Where development is proposed, the standard provides guidance on how to assess the value and quality of trees and to decide which trees are appropriate for retention. The surveying of trees as part of the feasibility assessment of a site is important to ensure that the trees inform the design process.

4.6 The structured approach to survey, assessment, design, construction and aftercare of trees within BS5837:2005 includes:

- tree survey - establish what trees are present on and adjacent to the site and to measure their dimensions;

- tree categorisation - give each tree or group of trees a classification based on arboricultural, landscape and conservation values;
- tree constraints plan - a plan illustrating the physical attributes of the trees and implications that they would have over the design process. The above and below ground constraints with tree retention category are shown and these are used by the design team to develop a layout based on keeping and protecting important trees;
- involvement with the design team to establish a suitable layout;
- consider trees suitable for retention based on agreed appropriate layout in the format of an arboricultural implications assessment;
- arboricultural method statement setting out clearly how the trees will be managed through the process of development. This will include a tree protection plan;
- pre-development work includes the erection of tree protective fencing to secure trees as well as the facilitation of pruning to enable access; and
- methods for the installation of new hard surfaces in proximity to trees to ensure root protection and long term health.

Regional policies and guidance

4.7 The Mayor's London Plan (2004) discusses the principles of sustainable development and incorporation of local policies within the UDP of local authorities to support this.

Local policies and guidance

4.8 Policy N8 of the Camden Borough UDP is relevant in considering the impacts of proposed development on trees. A copy of the full text of this policy is attached at Appendix C.

4.9 Supplementary Planning Guidance (SPG) 2006 has been produced by the council to support the Unitary Development Plan (UDP) and which contains more details on the importance of trees within development, the impact of proposed development, protection and replacement planting, and is relevant.

4.10 Guidance on basement developments and extensions to existing basements has also been published in February 2009, and is relevant to the consideration of this proposal in relation to trees.

5 DEVELOPMENT PROPOSALS

Proposed development

5.1 The layout for the proposed development is shown on plan 291003-P-02 at Appendix A and is for the demolition of the existing extension and conservatory and the construction of a replacement extension consisting of a basement and ground floor with a light well. A new patio area will also be constructed as part of the extension.

The main arboricultural impacts to be considered

5.2 The main arboricultural issues in respect of the proposals are as follows:

- light and shade;
- impact upon root protection areas

Tree works

5.3 There will be no tree works required as part of this application

6 JUXTAPOSITION OF TREES AND STRUCTURES

Above ground constraints – general

6.1 Above ground constraints, due to retained trees, could include shading especially to windows, the presence of branches in proximity to structures where damage may occur, as well as possible nuisances such as falling leaves, honeydew and fruit.

6.2 BS5837:2005 requires the consideration of constraints posed to development by the above ground parts of trees and take into account such matters as future growth of the tree and obstruction of daylight and sunlight in accordance with published guidance including that from the Building Research Establishment (BRE).

Above ground constraints – light and shade

6.3 The most significant trees are T1, T2 and T3 located on the northern boundary within a neighbouring property. The amount of separation from the proposed rear extension and the three trees is significant and given their orientation availability of daylight and shading is not considered a significant issue.

Above ground constraints – construction

6.4 The trees are located at the rear of the site away from the proposal. Construction activities will be a significant distance from the trees and the crowns pose no significant constraint to construction traffic.

Below ground constraints

6.5 The below ground constraints are generally summarised as the root protection area (RPA). BS5837:2005 recommendations provides a formula for calculating the RPA which indicates an area required to be protected for existing trees that are to be retained. The shape of the RPA and its exact location will depend upon arboricultural considerations including:

- likely tolerance of the tree to root disturbance;
- morphology and disposition of the roots when known influenced by past or existing site conditions;
- soil type and structure; and
- topography and drainage.

6.6 The purpose of the RPA is to prevent physical damage to tree roots and to prevent damage to the soil structure. Damage can be made to live roots by soil compaction, changes in soil levels or soil contamination which could reduce tree health and/or stability.

6.7 Development within the RPA of trees can be acceptable provided some important principles are followed and these are primarily not excavating but building above existing ground level instead, use of pile, radial or cantilever foundations, where new surfaces are introduced they should be permeable and allow air to pass to and from the soil as well as water to ensure tree roots survive. Development within the precautionary RPA must allow for and enable the future growth of the tree root, stem and branches and where new structures are constructed.

6.8 On this site all of the proposed development is outside of root protection areas for retained trees. It is only a small corner of the patio which will be within the RPA of a small off site tree. The amount of encroachment is negligible and will not be detrimental to the trees health or stability.

7 TREE PROTECTION

The use of planning conditions to safeguard trees

7.1 Section 197 of the Town and Country Planning Act 1990 places a duty on the Local Planning Authority to ensure that planning permissions are granted making adequate provision for the preservation and planting of trees by the imposition of conditions.

7.2 The normal requirements of planning conditions have been considered at an early stage of the process and all tree impact issues can be addressed within such a planning condition.

Physical protection

7.3 Trees can be readily damaged if care is not taken during development of site from demolition through construction and also landscaping. A summary of the principles to follow and methods of common damage are given at Appendix D.

7.4 It is important that a continuous tree protective fencing is securely fixed to a static fence around trees. The use of weld mesh fencing without a fixed base will not be acceptable and is not in accordance with BS5837:2005 recommendations.

7.5 The positioning of tree protective fencing should take into account the size and condition of the individual trees to be protected and the risks to their health posed by the development during and after construction. An indicative location for tree protection fencing is at Appendix A, on plan 291003-P-03.

8 SUMMARY AND CONCLUSIONS

8.1 British Standard BS5837:2005 contains clear and current recommendations for a best practice approach to the assessment, retention and protection of trees on development sites. The proposed development has followed this guidance by:

- Seeking arboricultural advice to inform the layout and design of the proposed building;
- Respecting the constraints posed to development of the site by high or moderate quality trees; and
- Continuing to take advice on all aspects to the proposal that may impact upon trees.

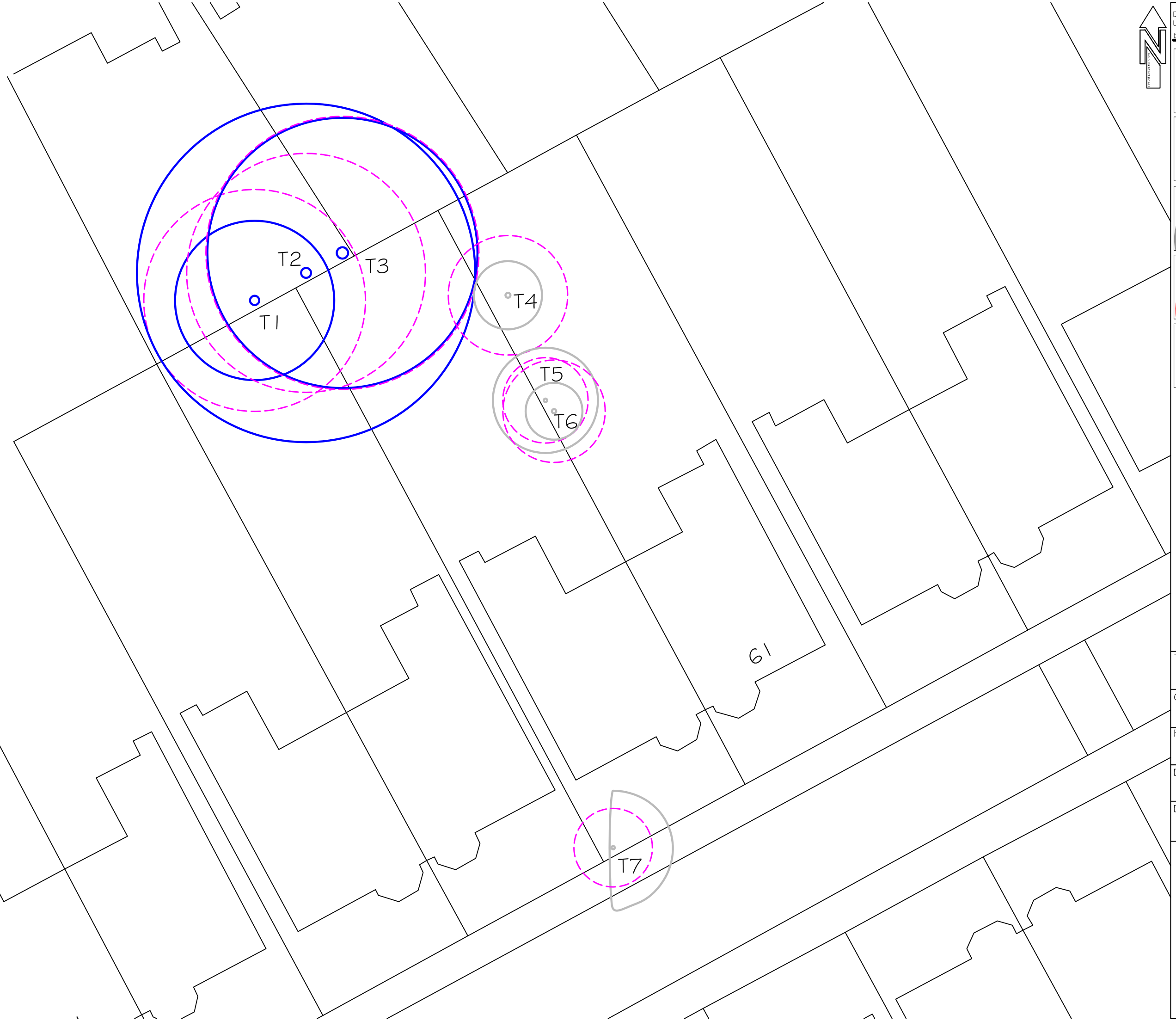
8.2 There will be no tree works required as part of this development and all of the retained trees can be protected during the development, by appropriate tree protection and the implementation of an arboricultural method statement including site supervision, by continuing to follow the recommendations in BS5837:2005 and by compliance with suitably drafted planning conditions.

APPENDIX A: PLANS

Tree survey 291003-P-01

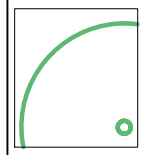
Proposed development 291003-P-02

Tree protection plan 291003-P-03

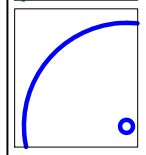


DO NOT SCALE
Use only figured dimensions

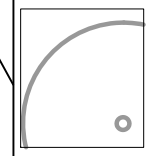
BS 5837:2005 TREE RETENTION CATEGORIES



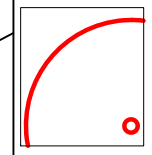
Category A
Trees of high quality and value: in such a condition as to be able to make substantial contribution (a minimum of 40 years is suggested)



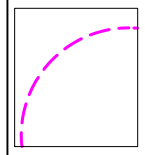
Category B
Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20years is suggested)



Category C
Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10years is suggested), or young trees with a stem diameter below 150mm.



Category R
Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.



BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work

REVISIONS		

Title
Tree Survey

Client
Mr. H Patel

Project
59 Aberdare Gardens

Date	Drawn by
Ocober 2009	HR
Drawing No	Scale
291003-P-01	1:250@A3

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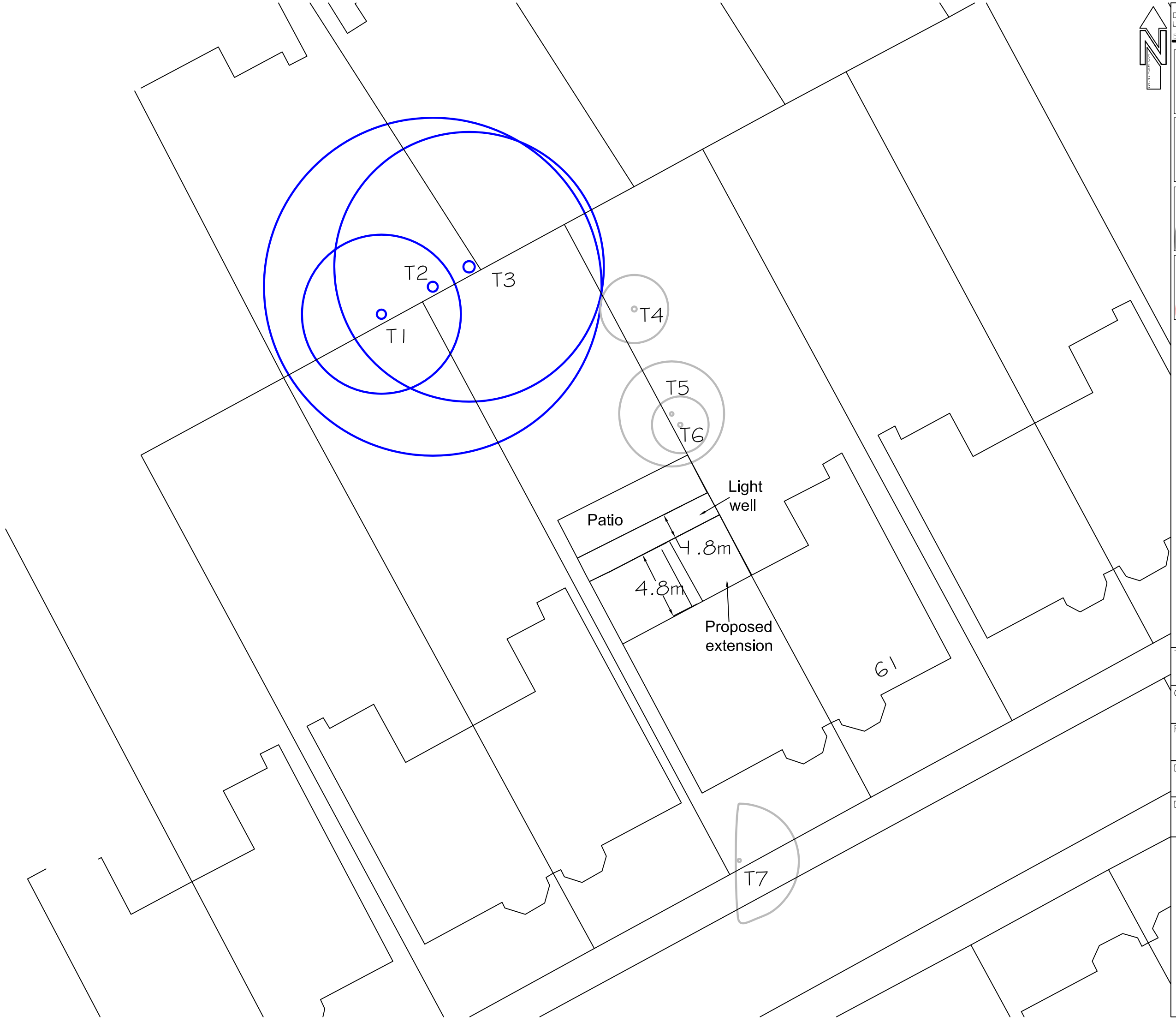
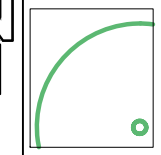
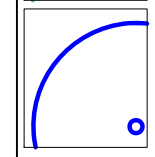


DO NOT SCALE
Use only figured dimensions

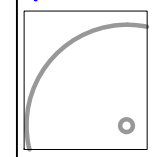
BS 5837:2005 TREE RETENTION CATEGORIES



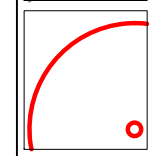
Category A
Trees of high quality and value: in such a condition as to be able to make substantial contribution (a minimum of 40 years is suggested)



Category B
Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20years is suggested)



Category C
Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10years is suggested), or young trees with a stem diameter below 150mm.



Category R
Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

	-	9505/TP/01
REVISIONS		

Title
Tree Survey & Proposed Layout

Client
Mr. H Patel

Project
59 Aberdare Gardens

Date	Drawn by
Ocober 2009	HR
Drawing No	Scale
291003-P-02	1:250@A3

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T1
T2
T3
T4
T5
T6
T7
Light well
Patio
4.8m
4.8m
Proposed extension
61

DO NOT SCALE
Use only figured dimensions

BS 5837:2005 TREE RETENTION CATEGORIES

Category A
Trees of high quality and value: in such a condition as to be able to make substantial contribution (a minimum of 40 years is suggested)

Category B
Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20years is suggested)

Category C
Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10years is suggested), or young trees with a stem diameter below 150mm.

Category R
Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

Tree protection zones and protective fencing

-	-	9505/TP/01
REVISIONS		

Title
Tree Protection Plan

Client
Mr H Patel

Project
59 Aberdare Gardens

Date	Drawn by
October 2009	HR
Drawing No	Scale
291003-P-03	1:250 @A3

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APPENDIX B: TREE SCHEDULE

Tree schedule 291003-PD-01

Site: Aberdare Gardens
Date: October 2009
Surveyed: TC

Client: Mr H Patel

TIM MOYA ASSOCIATES
ARBORICULTURAL & LANDSCAPE CONSULTANTS

Tree No.	Species	Height (m)	Stem diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	Clear crown (m)	Maturity	Physiological condition	Structural condition	Comments and recommendations	Estimated remaining contribution (yrs)	Retention category
T1	Platanus x hispanica (London Plane)	23	650 e	5.6	5.6	5.6	5.6	4	Mature	Good	Good	Leaf miner on leaves (Phyllonorycter platani). **Recommend:**	20-40	B2
T2	Platanus x hispanica (London Plane)	23	700 e	11.9	11.9	11.9	11.9	3	Mature	Good	Good	Leaf miner on leaves (Phyllonorycter platani). **Recommend:**	20-40	B2
T3	Platanus x hispanica (London Plane)	23	800 e	9.5	9.5	9.5	9.5	3	Mature	Good	Fair	Leaf miner on leaves (Phyllonorycter platani). Leaning to east. Some decaying pruning wounds. **Recommend:**	20-40	B2
T4	Cratageus monogyna (Hawthorn)	5	350 e				2.4	1.5	Mature	Good	Fair	Leaning to east, Ivy on lower stem. **Recommend:** Crown lift to 3m overhanging boundary.	20-40	C1
T5	Cratageus monogyna (Hawthorn)	8	250 e	3.7	3.7	3.7	3.7		Mature	Good	Fair	Ivy growing throughout crown. **Recommend:**	10-20	C1
T6	Sorbus torminalis (Wild Service tree)	6	300 e				2.0		Mature	Fair	Fair	Completely overgrown with Ivy. **Recommend:**	10-20	C1

e- estimated g/l- ground level
av.- average m/s- multi-stemmed

Tree No.	Species	Height (m)	Stem diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	Clear crown (m)	Maturity	Physiological condition	Structural condition	Comments and recommendations	Estimated remaining contribution (yrs)	Retention category
T7	Cratageus monogyna (Hawthorn)	6	230	4.0	4.2	4.3	0.0	3	Mature	Fair	Good	**Recommend:** Re-shape crown. Remove deadwood.	20-40	C1

e- estimated g/l- ground level
av.- average m/s- multi-stemmed

BS 5837:2005 'Trees in relation to construction -recommendations'
-Description of tree retention categorisation

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ARBORICULTURAL & LANDSCAPE CONSULTANTS

Trees for removal

Category and definition	Criteria	Identification on plan
Category R Those in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.	Trees that have a serious, irremediable, structural defect, such that their early loss is expected to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning); Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline; Trees infected with pathogens of significance to the health and/or stability of other nearby trees (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. NOTE: Habitat reinstatement may be appropriate (e.g. R Category trees used as a bat roost: installation of a bat box nearby trees).	DARK RED

Trees to be considered for retention

Category and definition	Criteria			Identification on plan
	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values including conservation	
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are of particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principle tree within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 10mm should be considered for relocation.			

APPENDIX C: LOCAL PLAN EXTRACTS

Camden UDP policy N8

London Borough of Camden

Replacement

Unitary Development Plan

Adopted June 2006

Saved policies version

Camden

N7 - Protected species and their habitats

The Council will not grant planning permission for development that it considers would harm the following species and their habitats:

a) legally protected species; and
b) species in the National, London and Camden Biodiversity Action Plans (BAPs) that are uncommon, declining or under threat.

4.39 Legally protected species include species protected by the Wildlife and Countryside Act 1981 (as amended), the Protection of Badgers Act 1992 and the Conservation (Natural Habitats etc) Regulations 1994. The plant and animal species protected by these Acts and Regulations are protected because they are already at risk; therefore, their protection is very important for biodiversity conservation. However, these Acts do not protect some species that are uncommon, in decline or under threat. Where such species have been identified in BAPs, they will also be protected.

4.40 The above species make a significant contribution to the Borough's biodiversity and therefore will be protected from any development that will harm them. English Nature will be consulted on planning applications where species protected under the Wildlife and Countryside Act 1981 (as amended) or the Conservation (Natural Habitats etc) Regulations 1994 are known to be present. In considering planning applications where protected species are know to be present, the Council will request a survey to be carried out, the results of which will be taken into consideration when determining the application. Where development is permitted, the use of conditions or planning obligations will be considered to ensure the protection of these species. BAPs provide more information on how to protect the species covered by this policy.

N8 - Ancient Woodlands and trees

A - Ancient Woodlands

The Council will not grant planning permission for development that it considers to cause harm to Ancient Woodland sites as shown on the Proposals Map.

B - Protected trees

The Council will not grant consent for works that result in the removal of, or that cause harm to the health and amenity value of, trees protected by a Tree Preservation Order (TPO), unless it can be demonstrated that the tree has a limited safe useful life expectancy or is proven to be damaging to buildings. Six weeks notice in writing is required to be given to the Council of the intention to remove or carry out works to trees over a certain size in a conservation area.

C - Trees

The Council will seek to protect trees within the Borough. The Council may include a planning condition on any planning permission to:

a) protect trees that make a significant contribution to the biodiversity or appearance of a development site; and/or
b) require replacement or new trees to be planted on the development site.

Ancient Woodlands

4.41 Ancient Woodlands are woodlands that have been under some form of woodland management since at least 1600AD and that contain groups of mature trees that

are not obviously planted. The English Nature inventory of Ancient Woodlands identifies two in Camden: North Wood and Kenwood/Hampstead Heath Wood, which are located within Hampstead Heath. These are both semi-natural woodlands, as they mainly consist of trees and shrubs native to the area that are not obviously planted. Camden's Biodiversity Action Plan provides more information on Ancient Woodlands.

4.42 In general such woods contain a variety of natural features that are either absent or poorly represented in woodlands of more recent age, and therefore provide significant habitats for wildlife. In this way, the protection of Ancient Woodlands makes a major contribution to biodiversity conservation.

Protected trees

4.43 The purpose of a Tree Preservation Order (TPO) is to protect trees that make a significant impact in their local surroundings. Before any work can be carried out on a tree with a TPO, the Council must grant consent. Within conservation areas, six weeks notice in writing is required to be given to the Council of the intention to remove or carry out works to trees that have a stem diameter of 75 millimetres or greater (taken at 1.5 metres above ground level). Where a tree significantly contributes to the character or appearance of a conservation area, the Council will consider serving a TPO. The main exception to the usual requirements for protected trees is the emergency cutting down or cutting back of a tree that is dying, dead or dangerous. When a protected tree is lost, the Council will seek the planting of a replacement tree. Supplementary guidance contains more information on TPOs, and trees in conservation areas.

4.44 Developers should not regard the existence of trees on site as a constraint, but as a valuable feature that will enhance the development as well as the wider area. The loss of trees will not be allowed solely on the basis that new planting will be undertaken elsewhere on the site, although additional planting and replacement planting for any trees that are removed will be encouraged.

Trees on development sites

4.45 Trees, individually and in groups, are a valuable resource for Camden. The value of trees in urban areas comes from the amenity provided to people, the habitats provided for wildlife, the enhancement of the character and appearance of local areas, the reduction of air pollution and improvement to local microclimates. To ensure that trees on development sites are protected in the long term, including those that are planted as result of a planning condition, the Council may make a TPO.

4.46 To ensure that existing trees are provided with short term protection during the development process, minimum standards will be applied. The minimum standards required by the Council for the protection and planting of trees on or adjacent to development sites are set out in the British Standard Institutes 'Guide for Trees in Relation to Construction' (BS 5837:1991). Supplementary guidance contains more details on the protection of trees.

APPENDIX D: PRINCIPLES OF TREE PROTECTION

Arboricultural Method Statement

59 Aberdare Gardens

London

NW6 3AL

October 2009

291003-PD-03

Contents Page

1 INTRODUCTION

Aims of this method statement

1.1 This method statement is submitted to ensure the successful retention of trees during the demolition and construction work at 59 Aberdare Gardens, London NW6 3AL.

Definitions

1.2 Root protection area (RPA) - a layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree.

Tree protection zone (TPZ) - an area based on the RPA in m^2 identified by an arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.

Areas considered

1.3 For the success of tree retention and protection, this statement clarifies:

- methods employed for protection through construction;
- supervision issues;

Relevant plans and documents

1.4 As well as any other approved plans and particulars the following are to be read in conjunction with this statement and are attached to this report in the appendices.

Document	Reference	Location
Tree schedule	291003-PD-01	Appendix B of AIA
Proposed layout and tree removals	291003-P-02	Appendix A of AIA
Tree protection plan	291003-P-03	Appendix A of AIA
Specification for protective fencing	291003-P-04	Appendix 1
Example of signage	291003-P-05	Appendix 2

2 SEQUENCE OF OPERATIONS

2.1 The sequence of operations followed as part of the demolition process are:

- pre contract site meeting with main contractor, project manager and appointed arboricultural consultants to discuss arboricultural issues in relation to demolition activities (see section 3);
- erection of protective fencing (see section 4);
- methods of construction (see section 5); and
- landscaping operations (see section 6).

2.2 Alternative sequences can be discussed and agreed with the local authority or client approved arboricultural consultant.

3 PRE SITE-WORKS MEETING

3.1 Before demolition of existing hard surfaces and structures begins, a site meeting between the arboricultural officer and the contractor will be held. Also attending this meeting will be the appointed arboricultural consultant.

3.2 This meeting will establish with the parties present the sequence of events, the purpose of tree protection, communication protocol and the level of inspection and supervision required.

Supervision

3.3 All key / critical activities that will affect trees during the demolition and construction of the site will be inspected and monitored by a client approved arboricultural consultant.

3.4 Regular monitoring and inspection of tree protection will be undertaken by a client approved arboricultural consultant and reports issued to the client and local authority.

4 PROTECTIVE FENCING FOR DEMOLITION AND CONSTRUCTION

4.1 The position of protective fencing for the demolition phase of development will not be different to that for construction. The position of protective fencing is shown on drawing 291003-P-03 in Appendix A of the AIA report.

4.2 No materials or equipment other than those required to erect protective fencing, will be delivered to the site before the fencing is installed in the position for demolition.

4.3 Protective fencing will be constructed of robust barriers fit for the purpose of excluding demolition and construction traffic. Recommended specifications for fencing are shown in Appendix 1. Alternatives to those shown must be agreed in advance by the client approved arboricultural consultant.

4.4 Signs will be fixed to every third panel stating 'Tree Protection Area Keep Out – Any Incursion into the Protected Area Must be with the Agreement of the Local Authority or Arboricultural Consultant'. See Appendix 2 for an example of a recommended sign.

4.5 The main contractor will inform the local authority officer and the arboricultural consultant that tree protection is in place before demolition or site clearance works commence.

4.6 No alteration, removal or repositioning of the tree protection for demolition will take place during the demolition phase without the prior consent of the arboricultural consultant.

5 METHODS OF CONSTRUCTION

General principles to avoid damage to trees

5.1 No fires will be permitted within 20m of the crown of any tree.

5.2 No changes in soil levels will take place within the tree protection zones without prior written consent of the local authority.

5.3 No materials, vehicles, plant or personnel will be permitted into the tree protection zones at any time without the prior consent of the arboricultural consultant.

5.4 Any liquid materials spilled on site will be immediately cleared up and removed from the site. If liquid fuel or cement products are spilled within 2m of the tree protection zone, the contractor will report the incident to the arboricultural consultant immediately.

5.5 The contractor will report any damage to trees or shrubs, whether caused by construction activities or from any other cause, to the arboricultural consultant immediately.

Installation of services and drainage

5.6 At this time the exact location of all external utilities has not been determined. In addition, utility providers have their own preferred methods of accessing new sites and this is not known at the present time. Therefore the following lays out the principles of service installation near to trees. This follows guidance contained within NJUG Volume 4 Issue 2: 2007.

5.7 Services to be installed within the TPZ will not be carried out until the detailed method for construction has been agreed with the local authority and arboricultural consultant.

5.8 A section of protective fencing will be temporarily removed to provide access to the required area.

5.9 The service run will be excavated manually using an air lance to expose tree roots. This work will be supervised by the arboricultural consultant.

5.10 No other machinery including tracked mini diggers will be used for the purpose of excavation.

5.11 All roots in excess of 25mm in diameter will be retained. If installation is prohibited because of roots less than 25mm in diameter then root pruning may occur in accordance with the guidelines within NJUG Volume 4.

5.12 Reinstatement of the installation trench will involve backfilling with ‘Premium Grade’ quality topsoil (BS3882:1994).

5.13 Immediately upon completion of works the section of protective fencing will be replaced in the approved position and secured in place for the duration of development.

6 LANDSCAPE OPERATIONS

6.1 Landscape operations within tree protection zones have the potential to damage trees if not carried out with care; in addition the removal of protective fencing to carry out landscape operations may allow other contractors in previously protected areas.

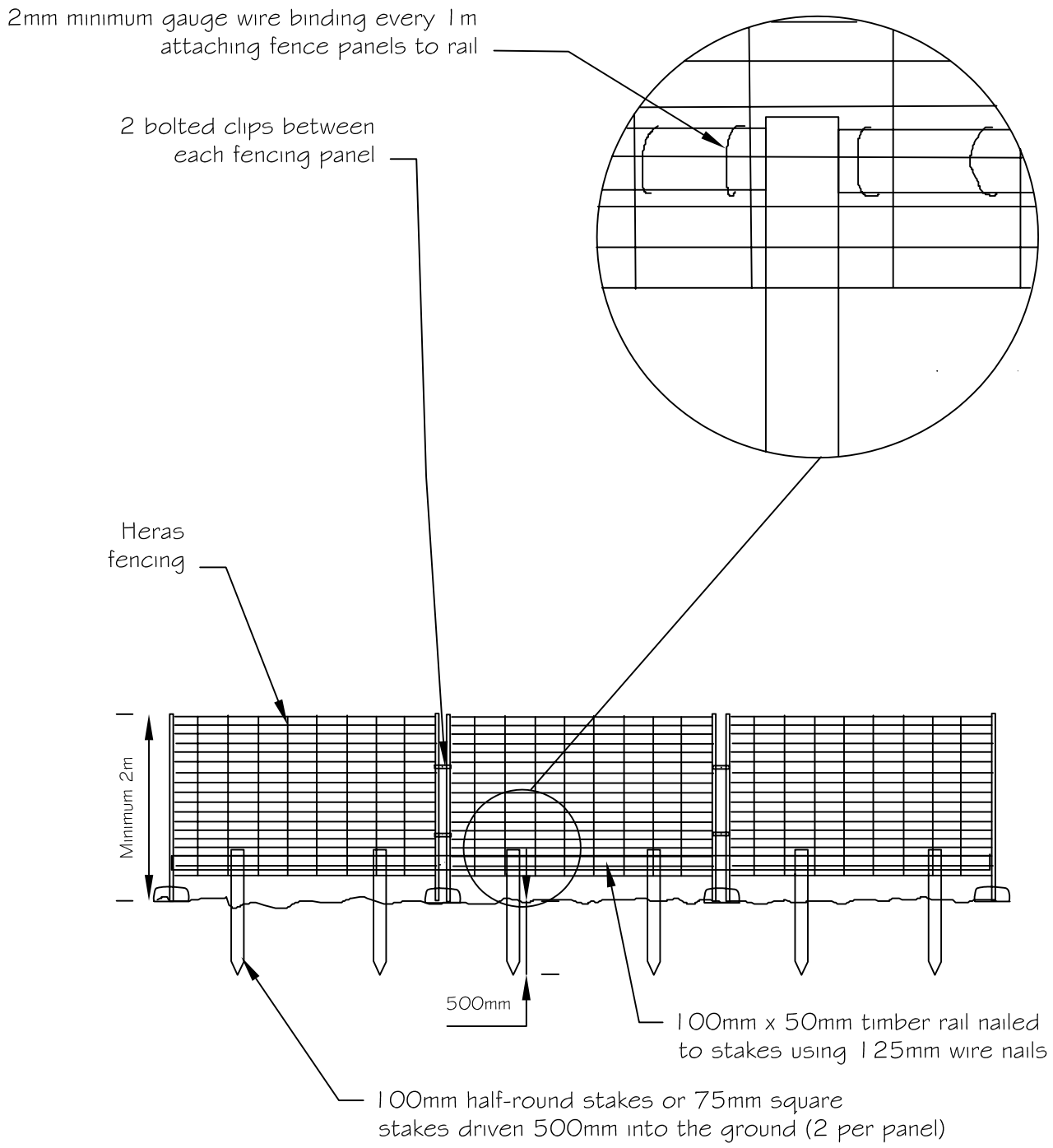
6.2 Before any landscaping operations begin within tree protection zones, a site meeting between the landscape contractor, arboricultural consultant and main contractor will be held.

6.3 This meeting will establish with the parties present the sequence of events, the purpose of tree protection, communication protocol and the level of inspection and supervision required.

6.4 The landscape contractor will provide a Landscape Method Statement to indicate the location of material storage and access requirements and methods used to implement the landscape scheme without damaging trees or soil structure.

APPENDIX 1:

Specification for protective fencing



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Drawing No 291003-P-04	**Title** Construction of protective fencing
Date October 2009	**Client** Mr Patel
Scale Not to scale	**Project** 59 Aberdare Gardens, NW6 3AL

APPENDIX 2:

Example of tree protection sign

TREE PROTECTION AREA

KEEP OUT!

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE AGREEMENT OF THE LOCAL AUTHORITY OR ARBORICULTURAL CONSULTANT

TIM MOYA ASSOCIATES
ARBORICULTURAL & LANDSCAPE CONSULTANTS

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- Feasability Studies
- Constraints Assessments
- Planning Reports
- Method Statements
- Proofs of Evidence
- Appeal Statements
- Public Inquiries
- Expert Witness
- Negotiations
- Supervision of Works
- Health & Safety Surveys
- Contract Management
- Subsidence Risk Assessments
- Insurance Assessments
- TPO Review
- Local Government Support

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