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TREE SURVEY AND ARBORICULTURAL METHOD STATEMENT 3 Ranulf Road, London, NW2 2BT

Report in support of an application to demolish an existing detached dwelling house and rebuild it with the addition of an extended lower ground floor and new basement level together with off road parking.

Report by Dr Martin Dobson

Instructed by Kamvari Architects Ltd

4 April 2012

Contents

1 Introduction

1.1 Martin Dobson Associates were instructed by Kamvari Architects on 1 February 2012 to carry out a tree survey at 3 Ranulf Road London, NW2 2BT. The aim of the survey was to provide information that would assist in creating an appropriate design for proposed development taking into account the presence of trees on or near to the property.

1.2 The British Standard 5837: 2005 *Trees in relation to construction – Recommendations* provides guidance on how to decide which trees are appropriate for retention within a development, the means of protecting trees to be retained during the development (which may include both demolition and construction work), and the means of incorporating trees into the developed landscape. This report complies with the recommendations of the British Standard.

1.3 Development proposals have been prepared in the light of the tree survey that take account of the presence of trees. The proposals the subject of this report are to demolish the existing detached dwelling house and rebuild in a modern design with three floors above street level together with an extended lower ground floor and new basement level.

1.4 Planning permission was granted by the London Borough of Camden in 2007 under reference number 2007/3539/P to refurbish the interior and extend the lower ground floor to include a lightwell at the front and build single storey side and rear extensions (Appendix **MD1**). That permission has now lapsed but indicates that development of this site has been deemed acceptable in principle.

1.5 Seven trees were surveyed and of these it is proposed to retain fiveand remove two poor quality C grade trees. The trees proposed to be retained will be protected during and after development.

2. Tree survey

2.1 Ranulf Road is a residential street located in West Hampstead, north London. The area is characterised by large detached houses which generally have small front gardens but substantial gardens to the rear. Number 3 Ranulf Road is located on a curve on the southern side of the road and the plot is narrowest at the front widening out towards the rear. The house is therefore smaller than its neighbours. The plot benefits from a large south facing, but somewhat neglected, rear garden with a number of trees and shrubs. The elevated position of the rear of the house relative to the rear garden and beyond enables views over the open space of Hampstead Cemetery and neighbouring playing fields.

2.2 On 3 February 2012 Martin Dobson Associates Ltd carried out a survey of the trees at or adjacent to 3 Ranulf Road as instructed Kamvari Architects. The survey was carried out in line with British Standard 5837: 2005 *Trees in Relation to Construction - Recommendations*. Appended at **MD2** is a copy of the tree survey schedule which lists seven trees present within or adjacent to the property. Details of tree dimensions and condition are given along with an appraisal of the suitability of the trees for retention within the proposed development. The explanation of abbreviations used in the schedule is given at the end of the table.

2.3 Information from the survey enabled suitable root protection areas to be calculated for each tree and these are shown on the plan appended at **MD3** and in the schedule at **MD4.** The positions of the surveyed trees and a reasonable indication of their comparative branch spreads are shown on the plan. The drawing has been colour coded as follows:

A trees (high quality and value, minimum 40 years useful life) LIGHT GREEN

B trees (moderate quality and value, minimum 20 years useful life) MID BLUE

C trees (low quality and value, minimum 10 years useful life) GREY
(*Note: the British Standard at Table 1 advises that C grade trees should not be considered a material constraint to development)*

R trees (unsuitable or dead/dying/dangerous, less than10 years useful life) RED

2.4 A mature Pine tree (T1) is located in the front garden of No. 5 Ranulf Road and is seen illustrated on the title page of this report. The tree is prominent and makes a useful contribution to the street scene. The tree leans across the frontage of No. 3 thereby causing some shading to the front of the property but also provides a degree of screening and privacy to upstairs windows. The lean is not considered to indicate any unreasonable hazard. Damage has been caused by the tree's roots to a single skin low boundary wall and it is likely that the wall will need to be repaired or rebuilt at sometime in the foreseeable future. T1 is considered to have a moderate quality and value and is therefore regarded as a B grade tree.

2.5 In the rear garden there is a small self sown Oak present in a sloping planting bed to the rear of the patio leading away from the lower ground floor. This tree has not been considered further since it is small enough to easily be transplanted or replaced. At the lower end of the planting bed there is a Prunus (T2) which seems to be the largest individual in what may once have been a Blackthorn hedge. The tree has no particular merits and is of low value and has therefore been given a C grading. T3 is a mature Ash tree located in the neighbouring garden at No. 5. The tree leans slightly to the north and there is evidence that it was reduced in size some 20 years ago. The tree has a reasonable shape and form with no obvious defects and is considered to be of high value and has therefore been graded A. A further tree in the garden of No. 5 is a mature Cypress (T4) which has been topped in the relatively recent past and appeared to be suffering from a fungal shoot infection called Coryneum canker. The tree is not visually attractive and is considered to be of low value with a limited useful life and has therefore been graded C.

2.6 A relatively young Cypress (T5) standing in the centre of the rear half of the rear garden appears out of place with the rest of the planting and unduly dominates the garden even though it has been topped to a height of about 6 metres. A mature Wisteria growing next to it has branches extending into its crown. The tree has a limited useful life and is considered to be a low quality tree and has therefore been given a C grade. A young Holly (T7) is also considered to be of low value and has been graded C as has a mature Pear (T7). The rear boundary of the site is made up of a mixture of Camellias, Holly, Laburnum, Yew and Privet which have no individual value but together form an effective and attractive screen but are remote from the proposed development.

2.7 Whilst a number of the trees in the rear garden are considered to be low value it is intended for the purposes of this application to retain five of the trees surveyed and remove two C grade trees, namely T2 and T5. It is considered that if a suitable landscaping scheme is put forward then the loss of two C grade will result in no significant loss of amenity. T6 and T7 are also C grade trees and could be retained but equally could be replaced as part of an overall landscaping scheme.

3. Tree protection zones

3.1 Trees can very easily be damaged during construction activities through their branches being broken by traffic passing close to the canopy or by root severance during the digging of foundations or service trenches. The majority of roots are to be found in the upper 600 mm of soil and so even relatively shallow trenches can sever a large proportion of roots growing in

the direction of the trench. Similarly, the diameter of roots tapers sharply within a few metres of the trunk of a tree so that what might seem to an uninitiated site worker to be an insignificant root (perhaps only a few centimetres in diameter) may actually be highly important. In general terms it should be considered that roots larger than 2.5 cm (25 mm) diameter are important.

3.2 Tree roots can also be damaged indirectly, often inadvertently, through soil compaction caused, for example, by site vehicles which disrupts soil structure and can lead to root death through the development of anaerobic soil conditions. Spillage of toxic materials (e.g. oil or diesel) can also result in root damage and ultimately the death of a tree.

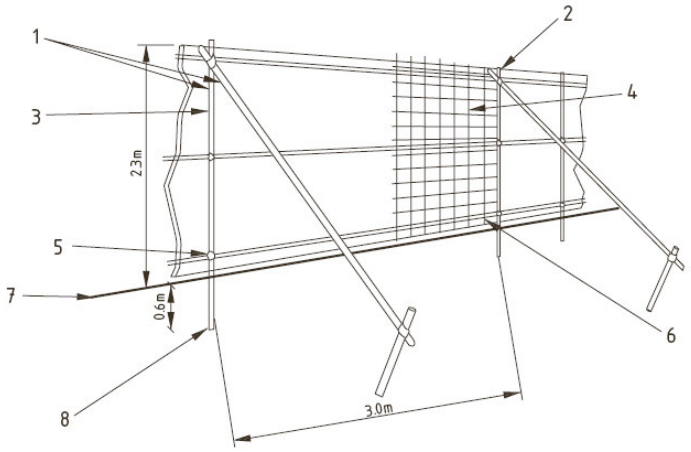
3.3 Adequate protection, both for branches above ground and roots below ground, is therefore essential for trees that are to be retained as part of a development. The British Standard BS5837: 2005 *Trees in Relation to Construction - Recommendations* gives advice for ensuring that the negative impacts of development on trees are minimised.

3.4 Essentially the guidance recommends that there should be a root protection area (RPA) around trees which is kept free of all construction activities by means of an exclusion zone enforced through protective fencing or ground protection. The RPA is calculated as the area equivalent to a circle with a radius of 12 times the trunk diameter at a height of 1.5 m above ground level (illustrated at **MD3** and tabulated at **MD4**).

3.5 The proposed root protection has been based on the values calculated for root protection area and is illustrated on the plans at **MD5** (lower ground floor) and **MD6** (basement). The position of fencing in relation to T3 has been offset by 20% as permitted by the British Standard. Fencing at the front is at the location of the existing front wall. The remaining area within the RPA to the right will be protected by the existing hard surfacing.

3.6 Protective fencing will consist of a scaffold framework (not wooden posts), well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3 m (Figure 1). Onto this, weld mesh panels or 2 m high plywood board will be securely fixed with wire or scaffold clamps. Weld mesh panels on rubber or concrete feet will not be used as these are not resistant to impact and are too easily moved by site operatives.

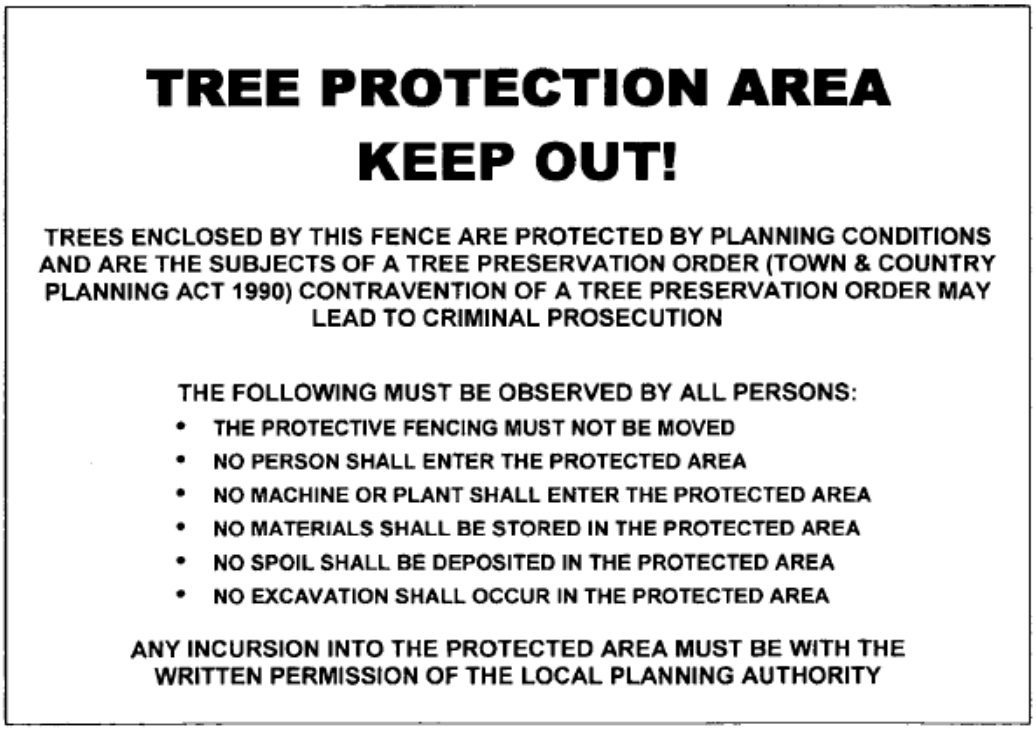
Figure 1. Diagram to illustrate design of protective fencing



1 Scaffold poles
2 Uprights, to be driven into ground
3 Panels, secured to uprights with wire tires and where necessary scaffold clamps
4 Weldmesh, wired to the uprights and horizontals
5 Clamp
6 Wire, twisted and secured
7 Ground level
8 Approx 0.6 m driven into the ground

3.7 High visibility all weather notices will be securely attached to the barriers around protection zones with the words as shown in Figure 2 below. Where long lengths of barrier are erected a sign will be attached at intervals of no less than 6 m.

Figure 2. Wording to be included in high visibility all-weather sign attached to protective fencing



3.8 No fires at all will be lit on the site as the heat rising from the fire may damage the branches of trees. All waste materials will therefore be removed from site and disposed of appropriately.

3.9 No materials of any kind will be stored within the root protection zone (especially not oil or diesel) and no mixing of potentially toxic materials (e.g. cement) will be carried out within the protection zone.

3.10 It is proposed that existing services will be used but if new service runs are required they will be installed to the left hand side of the property (when looking towards it from the road) outside the root protection area of T1. If excavation is required within the root protection area this will be by hand digging ensuring that any roots larger than 25 mm diameter are retained uncut and undamaged (i.e. the bark of roots should not be damaged). Hand digging of trenches will be subject to approval of the council and will be supervised by an arboricultural consultant with a Level 6 qualification.

3.11 Site huts will be installed outside root protection areas to the rear or, if within a root protection area, supported above ground level ensuring that the height of the hut causes no conflict with overhanging branches.

3.12 Delivery of materials will be from vehicles parked in the road and storage will be within the front garden outside of root protection area of T1, the footprint of the existing building or at the rear outside root protection areas.

3.13 Before any work commences (including stripping out and demolition of the existing building or provision of skips to remove arisings) a site meeting will be held with an arboricultural

consultant with a Level 6 qualification to agree details of the installation and maintenance of tree protection.

3.14 Before demolition or construction works of any kind commence on site protective fencing and ground protection will be installed in the positions shown in **MD5**. Once in position fencing will be checked and approved as fit for purpose by an arboricultural consultant. Only then will work on the site be permitted to commence.

3.15 No materials will be stored within root protection zones at any time nor will any trenches be dug. No raising or lowering of levels or excavation of any kind will be carried out within root protection zones.

3.16 Existing service runs will be used. But if any new services should need to be installed these will be outside root protection areas.

3.17 It is not anticipated that any branches will need to be removed or shortened in order to enable the permitted works to be implemented. But if it proves that tree surgery does need to be undertaken it will be under the guidance of an arboricultural consultant, having first sought permission from the council, and will be carried out by an approved contractor of the Arboricultural Association with all works complying with British Standard 3998: *Recommendations for tree work*.

3.18 Fencing will not be removed until all construction activities on site have been completed and any debris has been removed. Only after internal and external renovations have been completed will fencing be removed in order to allow final landscaping.

4. Conclusions

4.1 A survey of trees in the garden of and adjacent to 3 Ranulf Road, London has been carried out in accordance with the British Standard 5837: 2005 *Trees in Relation to Construction - Recommendations*. Seven trees were surveyed and out of these one considered to be a high value A grade tree (Ash T3), one was considered to be a moderate value B grade tree (Pine T1) and the remainder were considered to be C grade trees which should not be considered to pose a constraint to development.

4.2 It is proposed that five of the trees surveyed will be retained and will be carefully protected during and after development and two, namely T2 and T5 will be removed.

4.3 Methods for ensuring the protection of the five trees to be retained have been described.

4.4 It is considered that the proposed development will not pose any threat to the health and safety of the trees to be retained.

Dr Martin Dobson

BSc, DPhil, FArborA, MEWI
Registered Consultant of the Arboricultural Association

4 April 2012

APPENDIX MD1
Planning permission 2007/3539/P granted by the London Borough of Camden on 7 September 2007

Development Control
Planning Services
London Borough of Camden
Town Hall
Argyle Street
London WC1H 8ND

Tel 020 7278 4444
Fax 020 7974 1975
Textlink 020 7974 6866

env.devcon@camden.gov.uk
www.camden.gov.uk/planning

Nick Pritchett
Wolff Architects Ltd
16 Lampton Place
LONDON
W11 2SH

Application Ref: **2007/3539/P**
Please ask for: **Matthew Durling**
Telephone: 020 7974 **2643**
07 September 2007

Dear Sir/Madam

DECISION

Town and Country Planning Acts 1990 (as amended)
Town and Country Planning (General Development Procedure) Order 1995
Town and Country Planning (Applications) Regulations 1988

Full Planning Permission Granted

Address:
3 Ranulf Road
London
NW2 2BT

Proposal:
Remodelling of existing single-family dwellinghouse including, erection of single-storey extension at rear lower ground floor level, side extensions at lower ground floor to roof level, installation of dormer windows in front, rear and side roof slopes, creation of lightwell to front of property, alterations to front façade including remodelling of bay window at upper ground and first floor level, creation of entrance porch and alterations to windows and doors on all elevations.
Drawing Nos: Site Location Plan; 070-EX-100, 101, 102, 103, 104, 110, 111, 112, 120; 0709-PL-200, 201, 202, 203, 204, 210, 211, 212, 213, 220.

The Council has considered your application and decided to grant permission subject to the following condition(s):

Condition(s) and Reason(s):

1 The development hereby permitted must be begun not later than the end of three years from the date of this permission.

Reason: In order to comply with the provisions of Section 91 of the Town and Country Planning Act 1990 (as amended).

2 All new external work shall be carried out in materials that resemble, as closely as possible, in colour and texture those of the existing building, unless otherwise specified in the approved application.

Reason: To safeguard the appearance of the premises and the character of the immediate area in accordance with the requirements of policies S1/ S2 and B1 of the London Borough of Camden Replacement Unitary Development Plan 2006.

3 The dormer window at roof level on the west side elevation, as shown on drawing 0709-PL-211 hereby approved, shall be obscure glazed and fixed shut below a height of 1.8m from floor level, and shall be permanently retained and maintained as such thereafter.

Reason: In order to prevent unreasonable overlooking of neighbouring premises in accordance with the requirements of policies SD6 and B1 of the London Borough of Camden Replacement Unitary Development Plan 2006.

4 Details of the sedum roofs, including species, planting density, substrate and a section at scale 1:20 showing that adequate depth is available in terms of the construction and long-term viability of the green roof, and a programme for a scheme of maintenance, shall be submitted to and approved by the Council prior to the commencement of works. Thereafter, the green roof shall be fully provided in accordance with the approved details, and permanently retained and maintained in accordance with the approved scheme of maintenance.

Reason: To ensure that the green roof is suitably designed and maintained in accordance with the requirements of policies SD9 and B1 of the London Borough of Camden Replacement Unitary Development Plan 2006 and design advice in the Council's Supplementary Planning Guidance.

Informative(s):

1 Reasons for granting permission.

The proposed development is in general accordance with the policy requirements of the London Borough of Camden Replacement Unitary Development Plan 2006, with particular regard to policies SD6, SD9, B1 and B3. For a more detailed understanding of the reasons for the granting of this planning permission, please refer to the officers report.

2 Your proposals may be subject to control under the Building Regulations and/or the London Buildings Acts. You are advised to consult the Council's Building Control Service, Camden Town Hall, Argyle Street WC1H 8EQ, (tel: 020-7974 2363).

3 Noise from demolition and construction works is subject to control under the Control of Pollution Act 1974. You must carry out any building works that can be heard at the boundary of the site only between 08.00 and 18.00 hours Monday to Friday and 08.00 to 13.00 on Saturday and not at all on Sundays and Public Holidays. You are advised to consult the Council's Environmental Health Service, Camden Town Hall, Argyle Street, WC1H 8EQ (Tel. No. 020 7974 2090 or by email env.health@camden.gov.uk or on the website www.camden.gov.uk/pollution) or seek prior approval under Section 61 of the Act if you anticipate any difficulty in carrying out construction other than within the hours stated above.

4 You are advised that the Council will expect all new buildings and structures to be as energy efficient and sustainable as is reasonably practicable and welcomes the measures that have been indicated to date.

Your attention is drawn to the notes attached to this notice which tell you about your Rights of Appeal and other information.

Yours faithfully

Culture and Environment Directorate
(Duly authorised by the Council to sign this document)

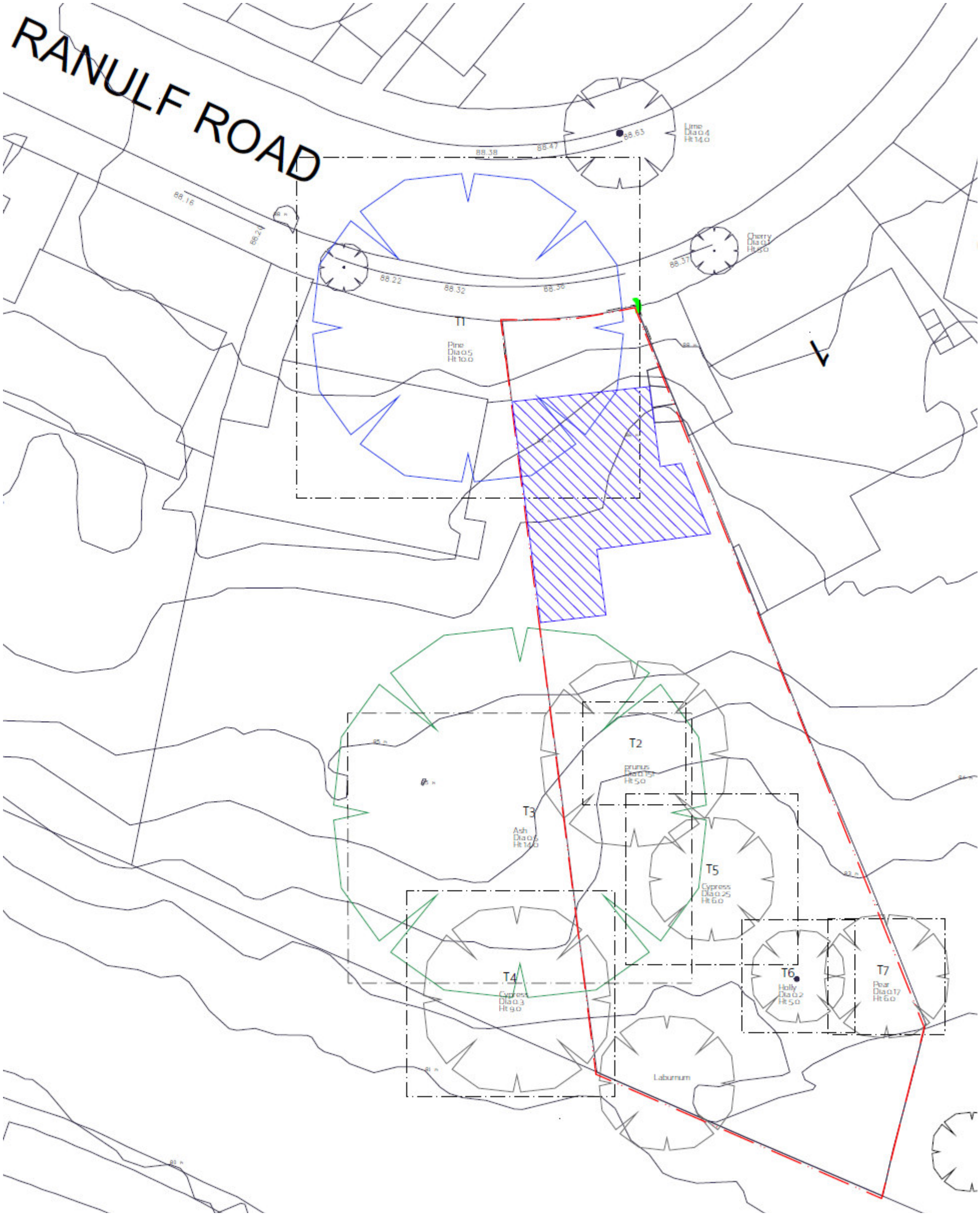
It's easy to make, pay for, track and comment on planning applications on line. Just go to www.camden.gov.uk/planning.

APPENDIX MD2
Tree survey schedule (BS5837: 2005) for 3 Ranulf Road

Tree No.	Species	Height (m)	Trunk diameter (mm)	Crown spread (m)	Height of crown clearance (m)	Age class[1]	Physiological condition	Structural condition	Useful life (y)	Management notes	BS5837 Grade
T1	Pine	10.0	500	N 5.0 S 3.0 E 5.0 W 1.0	5.0	M	Good	Good	40+	Leans to E but not currently dangerous. Local root damage to boundary wall	B
T2	Prunus	5.0	100 90 70	N 3.0 S 3.0 E 3.0 W 2.0	2.0	MA	Good	Good	20 - 40	Part of out-grown internal hedge	C
T3	Ash	14.0	500	N 10.0 S 4.0 E 6.0 W 6.0	7.0	MA	Good	Good.	40+	Tree of good form with slight lean to N Previously reduced > 20y ago.	A
T4	Cypress	9.0	300	N 3.0 S 3.0 E 3.0 W 3.0	3.0	MA	Good	Fair	<10	Topped in the past to curtail height. Possible infection with Coryneum canker	C
T5	Cypress	6.0	250	N 2.0 S 2.0 E 2.0 W 2.0	1.0	Y	Good	Fair	<10	Small tree of poor quality in inappropriate location	C
T6	Holly	5.0	200 at ground level	N 1.5 S 1.5 E 1.5 W 1.5	0.0	Y	Good	Good	40+	Multi-stem tree of no particular importance	C
T7	Pear	6.0	120 120	N 2.0 S 2.0 E 2.0 W 2.0	2.0	M	Good	Good	20 - 40	Fruit tree of reasonable form	C

APPENDIX MD3

Site survey drawing showing tree numbers, BS5837 colour codes (A – Green, B – Blue, C – Grey) and root protection areas (dashed squares)

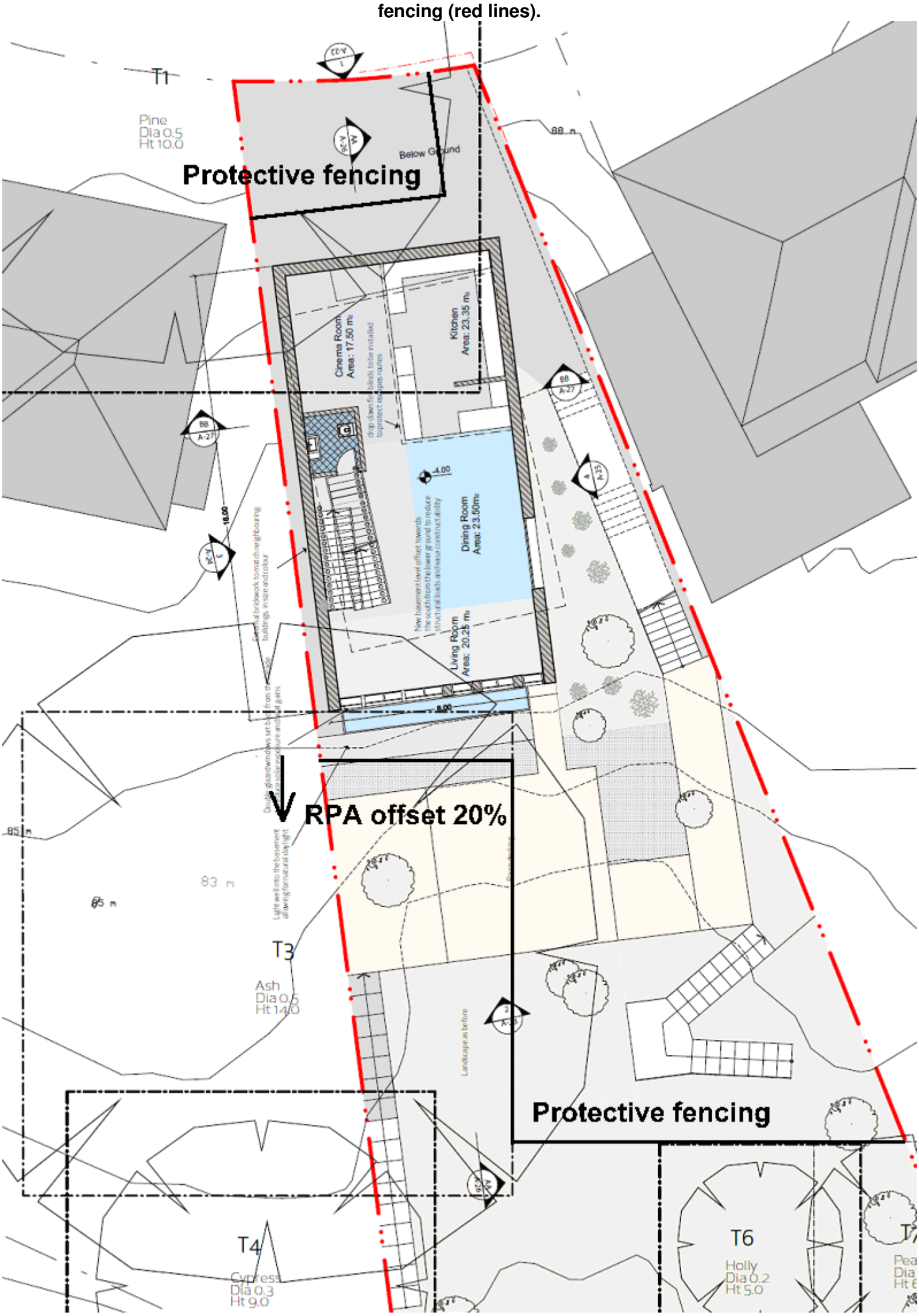


APPENDIX MD4
BS5837 schedule of protection zones

Tree No.	Species	Trunk diameter (mm)	BS5837: 2005 Root protection area, RPA, (m^2)	BS5837: 2005 Radial protection distance (m)	BS5837: 2005 Length of side of RPA if represented as a square (m)
T1	Pine	500	113.1	6.0	10.6
T2	Prunus	151	10.3	1.8	3.2
T3	Ash	500	113.1	6.0	10.6
T4	Cypress	300	40.7	3.6	6.4
T5	Cypress	250	28.3	3.0	5.3
T6	Holly	200	12.6	2.0	3.5
T7	Pear	170	13.1	2.0	3.6

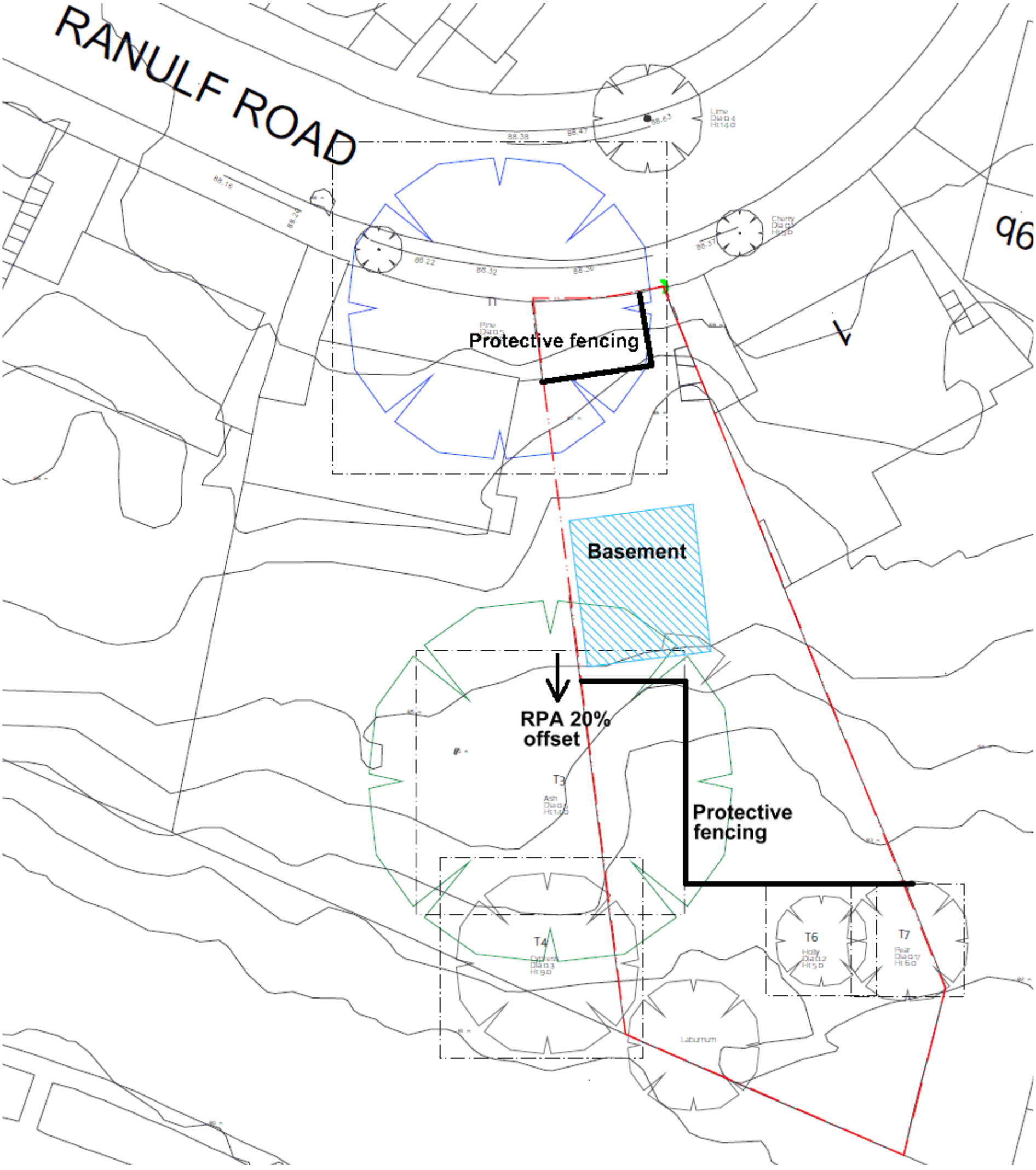
APPENDIX MD5

Proposed lower ground floor plan showing extent of root protection areas (squares) together with positions of protective fencing (red lines).



APPENDIX MD6

Proposed basement floor plan showing extent of root protection zones (squares) together with positions of protective fencing (red lines).



APPENDIX MD7
Qualifications and Experience

Dr Martin Dobson has been engaged in research and advisory work on trees since graduating in 1986 with a BSc (Hons) Degree in Biology. Subsequent postgraduate research led to the award of a Doctor of Philosophy (DPhil) Degree in Tree Physiology in 1990.

Postgraduate studies began in 1986 at the University of Ulster and continued in 1987 at the Forestry Commission's Research Station in Hampshire and focussed on the influence of air pollution on trees. Upon completion of this research in 1989 Dr Dobson was employed by the Forestry Commission and worked in both the Tree Pathology and Environmental Research Branches. During the next six years he was responsible for Department of Environment research contracts focussing on air pollution, climate change, de-icing salt damage to trees, woodland establishment on landfills and tree root research. He has authored two books: *De-icing Salt Damage to Trees and Shrubs* and *The Potential for Woodland Establishment on Landfill Sites.* He concluded his time at the Forestry Commission as Project Manager for research into the interaction between trees, roots and clay soils which included laboratory investigations, testing of root barriers and a three-year field-scale monitoring programme investigating the influence of woodland and grassland on the moisture status of clay soils.

In 1995 Martin joined the Arboricultural Advisory and Information Service as a senior Arboricultural Advisor. The AAIS advised the (then) Department of the Environment on policy matters and is the principal source of technical advice and information to the arboricultural profession as well as landscape architects, engineers, the horticultural industry and private individuals. A large proportion of advisory work focuses on issues relating to trees and buildings.

In 1997 he started an arboricultural consultancy practice specialising in subsidence and tree root claims, planning and development, tree safety issues and disease diagnosis. He has been a local authority retained consultant providing expertise on tree protection practice and legislation from 1999 - 2006 and has dealt with several thousand Tree Preservation Order and Conservation Area applications.

He has extensive experience as an Expert Witness in the High Court, County Court and Magistrates Court.

He is an examiner for the Professional Diploma in Arboriculture for the Royal Forestry Society and has been a part-time lecturer for the Middlesex University Countryside Management MSc course. He has further significant experience lecturing at technical conferences and seminars.

In addition to over 30 publications in scientific and technical journals he is the author of Arboriculture Research and Information Note 130/95/ARB *Tree Root Systems*, and leading author of:

Driveways Close to Trees. Arboricultural Practice Note 1. AAIS, Farnham.
Trees in Dispute. Arboricultural Practice Note 3. AAIS, Farnham.
Root Barriers and Building Subsidence. Arboricultural Practice Note 4. AAIS, Farnham.

He is a Fellow and Registered Consultant of the Arboricultural Association and a Member of the Expert Witness Institute.