ARBORICULTURAL SURVEY
to BS 5837:2005
at
Manor Farm
Frognal Lane
Hampstead
London
NW3

Client:
Selwyn Lowe of
PKS Architects, London

Client Address:
7 Cliff Studios
London
NW1 9AN

Client Telephone:
020 7424 4800
020 7424 4801

My Ref:
7349/RS

Contents

1. Introduction

1.1 Purpose of the Report

1.1.1 A report is needed at the above location to give detailed, independent, arboricultural advice on the trees present, in the particular context of potential development.

1.2 Terms of Reference

1.2.1 I am instructed by PKS Architects to visit the site and prepare my findings in a report.

1.2.2 For this purpose I have been supplied with a topographical survey drawing No 717/001-01.

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2005 Trees in relation to construction.* The specific design of any proposed development is not generally taken into account at this stage.

1.3.2 Preliminary recommendations are given with a view to safety and the long-term management of a sustainable tree cover.

1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.

1.3.4 Where applicable smaller trees and significant shrub masses are included.

1.3.5 Where applicable trees outside the site boundary, but close enough to be affected by development, are included.

1.4 Survey details

1.4.1. The survey took place during the month of May 2006.

1.4.2. The survey was conducted by Raphael Skerratt BSc (For).

1.4.3. Inspection was made at ground level. Further investigation, such as climbed inspections or decay detection surveys, may be recommended where appropriate.

1.4.4. Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible measurements were estimated.

2. Site Description

2.1 Land Use

2.1.1 The site is currently an extensive private garden plus tennis court and ancillary buildings.

2.2 Topography

2.2.1 The site has a gentle westwards slope that is resolved into 2 plateaus – the garden area and courtyard surrounding the house and the tennis court.

2.3 Treescape

2.3.1 Although there are some fine trees on this site, the property is tucked away at the end of an access cul-de-sac and the trees have a relatively minor impact on the local treescape.

2.3.2 Surrounding the site is a residential area containing many street trees and occasional garden trees.

2.4 Amenity Value

2.4.1 The trees on site collectively provide a reasonable amenity to the surrounding area. Occasional specimens have a high amenity value.

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from young to mature. However there is a very significant young to middle aged component that will, to some extent, provide successor features when the existing oldest trees (particularly Trees T1 and T4) are removed.

2.6 Species Diversity

2.6.1 Species surveyed include Ash, Copper Beech, Fastigiate Hornbeam, Birch, Lime and several exotic varieties. There is no single predominant species.

3. Explanation of tree descriptions

3.1 Measurements

3.1.1 *HEIGHT* of the tree is measured from the stem base. Where the ground has a significant slope the higher ground is selected.

3.1.2 *CROWN HEIGHT* is an indication of the average height at which the main crown begins

3.1.3 *STEM DIAMETER* is measured at 1.5metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level, just above the root buttress.

3.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

3.2 Evaluations

3.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

3.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

3.2.3 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

3.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years (<10), 10-20 years, 20-40 years, or more than 40 years (40+). This is an indication of the number of years before removal of the tree is likely to be required.

3.3 Retention Categories

3.3.1 *RETENTION CATEGORY* values for the trees are as follows:

3.3.2 ***A (marked green on the plan) = retention most desirable***
These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

Ai) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues;

Aii) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures;
Aiii) Those having significant conservation or historical value e.g. veteran trees.

3.3.3 ***B (marked in blue on the plan) = retention desirable***
These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

Bi) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals;
Bii) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals;
Biii) Trees with clearly identifiable conservation or other cultural benefits.

3.3.4 ***C (marked in grey on the plan) = trees which could be retained***
These trees are of low quality and value with in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

Ci) Trees not qualifying in higher categories;
Cii) Groups of trees which do not form a distinct landscape feature;
Ciii) Trees with very limited conservation or other cultural benefits.

3.3.5 ***R (marked in red on the plan) = trees for removal***
These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

i) Failure is likely due to serious, irredeemable, structural defects;
ii) Removal of other category R trees will render them exposed and unstable;
iii) They are in serious, overall decline or are dead;
iv) They are of low quality and suppressing adjacent trees of better quality;
v) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

4. Status of the Trees

4.1 ***The site is in the London Borough of Camden***

The local council have informed us that there are no Tree Preservation Order in force on this site but the site is within a Conservation Area.

Before any work is organised, all the necessary steps to get the permission of the Local Planning Authority should be taken.

No work should be done to any trees until this permission has been granted.

Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken. We are able to arrange this and to organise and supervise professional contractors.

5. Tree Descriptions and Recommendations

5.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**. Please refer also to the attached plan at **Appendix 5** and section 3 above, for a full explanation of the tables and plan.

6. Discussion

6.1 In total 25 items of vegetation were surveyed.

6.2 None of the trees overhang public footpaths or highways. Where trees overhang neighbouring properties, attention has been paid in the past to appropriate remedial pruning to avoid nuisance. It would be wise to continue this policy.

6.3 Species and Age Diversity is unusually rich. Although replacement planting will be advisable if specific trees are removed, in general the resources has a good spread of age classes that will ensure its continuity.

6.4 The majority of trees fall into retention categories B and C. A notable exception is Tree T1. This prominent individual has major fungal decay that puts its stability in doubt. For purposes of general overview I have divided the trees into the following groups:

6.4.1 Trees with specific defects which render them unsafe, as described in Appendix 1 and which should be removed as soon as is reasonably practicable. The only tree in this category is T1.

6.4.2 Trees that are attractive healthy specimens in harmony with their environment and fall into retention categories A and B. These trees should be retained wherever possible and protected from damage. They include T4, T7 and T24.

6.4.3 Trees that are attractive and healthy and in adequate condition but that make a limited contribution to visual amenity.

6.5 All development work carried out in close proximity to trees should be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.

6.6 A detailed Method Statement should be obtained from a qualified arboricultural consultant and strictly adhered to.

7. Conclusion

7.1 With the exception of T1 which should be removed as soon as possible, the trees surveyed were generally found to be in good condition.

7.2 Tree T1 is discussed in Section 6 and detailed in **Appendix 1**.

7.3 During any development phase the trees to be retained will require all works to be carried out in a manner sympathetic to their needs if they are to remain safe and in good condition. A Method Statement should be obtained from a qualified arboricultural consultant, detailing how trees should be treated during the development phase.

7.4 Upon instruction JCA will produce a Method Statement, a tree planting scheme, organise and supervise tree works, and if necessary undertake climbed inspections and decay detection analysis.

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 purpose 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 stumps, snags 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: The Author's Qualifications

Principal Consultant and Managing Director

Jonathan Cocking FRES PDipArb(RFS) FArborA CBiol MIBiol
Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 25 years experience in the arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. He has since developed JCA's portfolio of services and its extensive client base. Jonathan is an expert witness with much experience of litigation work.

Consulting Arboriculturists

Toby Thwaites BSc (Hons) HND Arboriculture
Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield. He has recently completed a HND Arboriculture at Myerscough College.

James Royston BSc (Hons) Forestry ND Arboriculture
James joined JCA Ltd in 2004 with over nine years experience in the arboricultural and forestry industries. His previous experience includes working for the Forestry Commission and work in the private contracting sector.

Ivan Button NCH (Arboriculture) BSc (Hons) PGCE
Ivan joined JCA in 2005 after nine years having managed his own landscaping and tree surgery business. He has studied at the Universities of Leeds, Lincoln and Wales and is currently working towards a degree in arboriculture at the University of Lancashire.

Georgina Tearne HND Arboriculture FArborA
Now a freelance consultant Georgina worked for JCA between 2000-2005 with four years previous experience, gained first in both public and private sector arboriculture. Georgina is a graduate of Myerscough College, having completed her HND Arboriculture with a distinction, and is a Fellow of the Arboricultural Association.

Graham King Dip Arb (RFS) FArborA MRAC
Graham covers the Midlands for JCA. He ran his own arboricultural business from 1980 before gaining his Diploma in 1992 and is a Fellow of the Arboricultural Association.

Arboricultural Technician

Andrew Bagshaw HND
Andrew has recently joined JCA having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. He is currently working towards a degree in arboriculture at the University of Lancashire.

Administrative Staff

Andrew C Parker GM, BA (Hons), PGCE, Practice Manager
Catherine Cocking, Accounts Manager
Victoria Black, Administrative Officer
Yasmin Hussain, Administrative Assistant

Appendix 4: General Guidelines

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

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

4.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.

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

4.5 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out under his supervision and within his timescale.

4.6 It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made every year.

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

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Jonathan P Cocking. F.R.E.S., P.Dip. Arboriculture (RFS), F Arbor A, C.Biol., M.I.Biol.,

9th June 2006

For and on behalf of ***JCA Ltd***

Registered Office:

Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 OAD

Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com

www.jcaac.com

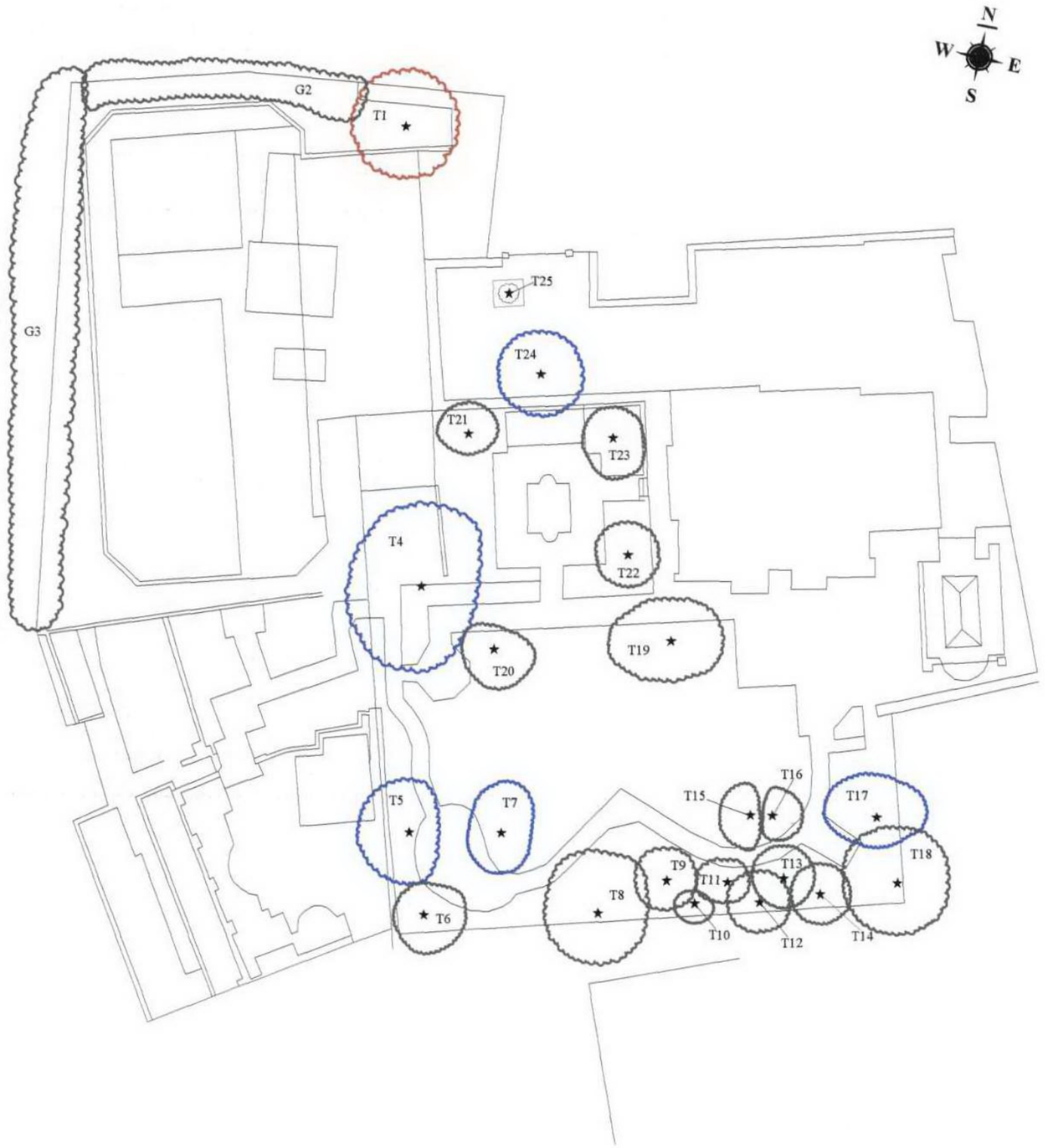
Report printed on recycled paper

Appendix 1 – Tree Descriptions and Recommendations

Ref No	Age & Species + *Latin name*	Height (m)	Crown Height (m)	Stem diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical condition & Structural condition	Amenity value	Life expectancy (yrs)	Retention category
T1	Mature Copper Beech *Fagus sylvatica 'Cuprea'*	15	3	70	N 5, W 5, E 5, S 5	Single stem to 3m. Several large callusing pruning wounds. Slight lean. Deep fissures in lower main stem with associated major fungal decay (*Ganoderma applanatum and (possibly Meripilus giganteum)*	Remove	FAIR / POOR	HIGH	<10	**R**
T2	Semi mature 18 Leyland Cypress *X Cupressocyparis leylandii*	6 av	1.5	16 av	N 2, W 2, E 2, S 2	A row of trees at 1m spacing, forming a tall, regularly maintained boundary screen. Each stem is branchless to 1.5m height. A row of suppressed apple trees runs parallel to the cypresses on the tennis court side	Maintain current height and spread	GOOD / FAIR	LOW	20-40	**C**
T3	Semi mature 35 Leyland Cypress *X Cupressocyparis leylandii*	7 av	2	16 av	N 2, W 2, E 2, S 2	A continuation of T2. individual trees are mostly single stemmed, but some are 2 or 3 stemmed	Maintain current height and spread	GOOD / FAIR	LOW	20-40	**C**
T4	Mature Ash *Fraxinus excelsior*	22	5	90	N 8, W 7, E 5, S 8	Forks at 5m into 2. Significant minor dead wood in upper crown plus several large callusing pruning wounds. Significant branch loss and associated cavity on east side at 7m. Lighting cables attached to main stem	Deadwood. Check cavity in upper crown for stability	FAIR / FAIR	HIGH	10-20	**R**
T5	Mature Copper Beech *Fagus sylvatica 'Cuprea'*	9	3	22	N 5, W 5, E 3, S 5	Two stemmed. A shapely specimen with good potential	No action required	GOOD / GOOD	AVE	40+	***B***
T6	Early mature Euonymus *Euonymus japonicus*	4	1	Ms	N 3, W 3, E 4, S 4	A squat, spreading multi-stemmed bush adding character to an adjacent informal seating area	No action required	GOOD / FAIR	LOW	20-40	**C**
T7	Mature Birch *Betula pendula*	11	2	36 max	N 5, W 3, E 3, S 4	Well proportioned and attractive specimen. Two stemmed	No action required	GOOD / GOOD	AVE	20-40	***B***
T8	Mature Horse Chestnut *Aesculus hippocastanum*	7	25	98	N 6, W 5, E 5, S 5	Previously pollarded at about 5m. Cavity in upper main stem. An impressive ruin that is still growing vigorously	Review condition annually	FAIR / POOR	AVE	20-40	**C**
T9	Semi mature Pine *Pinus sp*	7	2	24	N 3, W 3, E 3, S 3	Trees T9 to T14 form an interdependent group. Individual trees tend to be one sided or suppressed.	Maintain current height and spread	GOOD / FAIR	LOW	20-40	**C**
T10	Semi mature Leyland Cypress *X Cupressocyparis leylandii*	6	3	21	N 3, W 3, E 3, S 3	Forks at 2m. Reduced in the past (stands on boundary). One sided.	Maintain current height and spread	FAIR / POOR	LOW	10-20	**C**

Ref No	Age & Species + *Latin name*	Height (m)	Crown Height (m)	Stem diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical condition & Structural condition	Amenity value	Life expectancy (yrs)	Retention category
T11	Semi mature Pine *Pinus sp.*	7	4	19	N 2, W 3, E 2, S 2	See T9	Maintain current height and spread	GOOD FAIR	AVE	20-40	C
T12	Semi mature Fastigiate Hornbeam *Carpinus betulus 'Fastigiata'*	8	3	18	N 3, W 3, E 3, S 3	T12-T14 inclusive form a sub-group within the larger group T9-T14.	No action required	GOOD GOOD	AVE	40+	C
T13	Semi mature Fastigiate Hornbeam *Carpinus betulus 'Fastigiata'*	8	3	18	N 3, W 3, E 3, S 3	See T12.	No action required	GOOD GOOD	AVE	40+	C
T14	Semi mature Fastigiate Hornbeam *Carpinus betulus 'Fastigiata'*	8	3	18	N 3, W 3, E 3, S 3	See T12.	No action required	GOOD GOOD	AVE	40+	C
T15	Semi mature Leyland Cypress *X Cupressocyparis leylandii*	11	1	27	N 3, W 3, E 0, S 3	Forms an interdependent feature with T16	Maintain current height and spread	GOOD FAIR	AVE	20-40	C
T16	Semi mature Leyland Cypress *X Cupressocyparis leylandii*	11	1.5	24 max	N 3, W 1, E 3, S 2	Twin stemmed. See T15	Maintain current height and spread	GOOD FAIR	AVE	20-40	C
T17	Early mature Red Oak *Quercus rubra*	11	2.5	29	N 4, W 5, E 5, S 3	Very good potential	No action required	GOOD GOOD	AVE	40+	B
T18	Mature Lime *Tilia sp.*	10 est	2	6.5	N 5, W 5, E 5, S 5	A large boundary feature in the site corner	Deadwood	FAIR FAIR	AVE	20-40	C
T19	Semi mature Honey Locust *Gleditsia triacanthos*	8	3	30	N 4, W 6, E 5, S 4	Loose, spreading crown. Forks at 2m into 2	Deadwood. Formative prune to improve crown balance	FAIR FAIR	AVE	20-40	C
T20	Semi mature Sweet Gum *Liquidambar styraciflua*	7	2.5	21	N 2, W 3, E 4, S 4	Rather ragged and one sided	No action required	FAIR FAIR	AVE	20-40	C

Ref No	Age & Species + *Latin name*	Height (m)	Crown Height (m)	Stem diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical condition & Structural condition	Amenity value	Life expectancy (yrs)	Retention category
T21	Early mature Pine *Pinus sp.*	5	3	23	N 3, W 3, E 3, S 3	Forms part of a formal feature (see T22 below). Significant dead wood and still declining. 40% of crown dead	Review condition annually	FAIR POOR	LOW	10-20	C
T22	Early mature Pine *Pinus sp.*	5	3	32	N 3, W 3, E 3, S 3	Minor deadwood but vigorous. A single stem with a hemispherical crown making a sculptural contribution to a small formal garden	No action required	GOOD FAIR	AVE	20-40	C
T23	Early mature Pine *Pinus sp.*	5	3	36	N 3, W 3, E 3, S 4	See T22	No action required	GOOD FAIR	AVE	20-40	B
T24	Semi mature Variegated Deutzia *Deutzia sp*	5	2	18	N 4, W 4, E 4, S 4	Attractive cream/green variegated courtyard specimen	No action required	GOOD FAIR	AVE	20-40	B
T25	Semi mature Cypress *Chamaecyparis sp*	5	1	10	N 0.5, W 0.5, E 0.5, S 0.5	Small formal planting with good potential	No action required	FAIR FAIR	LOW	20-40	C



Appendix 5: Site Plan

TITLE:
MANOR FARM, HAMSTEAD.
7349/RS

SCALE : 1:500	PAPER SIZE : A3

BRITISH STANDARD 5837:2005: 4.3.1 RETENTION CATEGORIES

Detailed definitions of these categories are at 3.4.13 of our report.
NB These categories do not necessarily represent or correspond to recommendations for action made in this report.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY R: 'TREE FOR REMOVAL'

* CENTRE OF TREE/SHRUB

JCA LTD

Arboricultural & Forestry Consultants

Arboricultural Association Consultant