Institute of Chartered Foresters
Registered Consultant

PATRICK STILEMAN LTD
ARBORICULTURAL CONSULTANCY

Arboricultural Association REGISTERED CONSULTANT

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TREE SURVEY REPORT

In accordance with British Standard 5837 2012 *'Trees in Relation to design, demolition and construction – Recommendations'*

Site
10 Nutley Terrace, London, NW3 5SB

Client
Brian Glasser

Prepared by
Patrick Stileman BSc(Hons), MICFor, Dip. Arb (RFS), M.Arbor.A

Date
23rd June 2015

Project reference:
DS14051501

1 INTRODUCTION

1.1 I am Patrick Stileman, Director of Patrick Stileman Ltd. I am acting on instruction of the client Brian Glasser. I have qualifications and experience in arboricultural consultancy and I have given details of this in Appendix 1.

1.2 Brief:

1.2.1 Patrick Stileman Ltd is instructed by the client to undertake a survey of trees which could potentially be affected by proposed development at 10 Nutley Terrace, London, NW3 5SB in accordance with British Standard 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' (hereafter referred to as BS5837). We are to survey all trees with stem diameters in excess of 75 mm at a height of 1.5 metres, including those off site which could pose a potential constraint to development.

1.2.2 Based on the data collected in the tree survey we are to show constraints to development posed by trees at a preliminary level in a Tree Constraints Plan.

1.2.3 The purpose of the information provided at this stage is to give advice on the principal tree constraints in relation to development in order to assist the design process towards the preparation of an arboriculturally defensible scheme.

1.3 Caveats:

1.3.1 I surveyed trees at a preliminary level only. The survey must not be substituted for a tree risk assessment report. Detailed inspection including decay mapping, aerial inspections, root or soil analysis etc. was not undertaken. In cases where I consider that further investigation is required I note this in the preliminary management recommendations column of the tree survey data.

1.3.2 The trees were viewed from public vantage points and within the site boundaries only. I had no access to third-party property.

1.3.3 This Tree Survey Report comprises Stage 1 of a five stage arboricultural process relating to planning. Stage 2 is the arboricultural input required during layout design taking account of arboricultural features and constraints; Stage 3 is the preparation of supporting documentation (Arboricultural Impact Assessment) when the layout is to our satisfaction; Stage 4 is the preparation of an Arboricultural Method Statement specifying how trees will be physically protected during the development process; and Stage 5 is the implementation, supervision and on-going monitoring of the works during development.

1.4 **Survey date:** Trees were surveyed by me, Patrick Stileman, on 18th June 2015.

2 TREE SURVEY

2.1 **Tree identification:** Individual trees have been allocated a number and groups of trees have been allocated a number prefixed by the letter G. Their locations are shown on the Tree Survey Plan drawing no: DS14051501.01 dated 23rd June 2015, included on Page 11 of this report. Data pertaining to each tree or group of trees is included in the Tree Survey Data on Pages 8-10 of this report.

2.2 **Tree data:** In carrying out the survey I assessed the following for each tree and group of trees:

- Dimensions (height, crown spread, stem diameter, and height of crown base).
- Root protection area, based on stem diameter (See 4.6).
- Life stage and physiological condition.
- Structural defects of significance, and general condition. Assessment of the value that the tree provides from a wider landscaping perspective.
- An assessment of the likely remaining useful contribution in years.

Based on the above information, I have allocated a category (A, B, C, U) indicating the quality and value for each tree or tree group (in accordance with BS5837), to be taken into account when planning any future development.

3 STATUTORY PROTECTION

3.1 At this stage I am unaware (and have not been instructed to establish) if there is any statutory protection on trees at this site by means of a tree preservation order (TPO) or by virtue of the site being within a conservation area (which confers provisional protection on all trees (bar exemptions) with stem diameters greater than 75mm at 1.5 metres above ground).

4 TREE CONSTRAINTS PLAN

4.1 Based on the information obtained by the tree survey I have prepared a tree constraints plan (TCP), drawing no: DS14051501.02 dated 23rd June 2015, included on Page 12 of this report.

4.2 On the TCP, I have used different colours indicating tree crowns to distinguish between trees which should be removed for reasons of sound arboricultural management (red); trees which could defensibly be removed in order to facilitate development (blue); and trees with a higher retention priority which should, initially, be considered for retention (green). The TCP has been prepared as a working drawing and the suggested tree retention / removal balance is not definitive.

4.3 Category C trees are classified as trees of low quality; they should not impose significant constraints to design layout and if necessary can defensibly be shown for removal in order to facilitate good design. If Category C trees can be satisfactorily retained within the proposed layout then consideration should be given for this.

4.4 Category B trees are classified as trees of moderate quality, which covers a large range. It is likely that most Category B trees are ones which should initially be considered for retention and regarded as a constraint to development.

4.5 Category A trees are classified as trees of high quality and there should be a general presumption initially for retention of these.

4.6 The TCP shows the position of the Root Protection Area (RPA) for trees with a higher retention priority as broken pink lines. BS5837 (Section 3.7) defines the RPA as a '*layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority*'. In other words, the RPA represents the **minimum** area around each tree in which the ground should remain largely undisturbed. The RPA is an area based on a circle with a radial distance of 12x the stem diameter at 1.5 metres in the case of single-stemmed trees, or 12x the combined stem diameter (calculated in accordance with a formula set out in BS5837) for trees with more than one stem. In situations where the site conditions clearly prevent consistent rooting around the tree (for example the presence of roads or buildings within the notional RPA circle) I modify the shape of the RPA to take this into account. At 10 Nutley Terrace I have not adjusted the RPA shape for any tree and these are all shown based on circles.

4.7 At the design stage (Stage 2 – see Section 1.3.3), detailed advice should be given by the arboriculturalist, specifically in relation to the above ground constraints, namely:

1. Future growth predictions for the key retention trees where this is likely to be significantly different to their existing dimensions.

2. The effects of dominance and shading posed by trees in a) their current context, and b) taking account their future likely growth.

This level of detailed advice is beyond the scope of this report which is preliminary in nature.

5 SOIL

5.1 I am not aware if a detailed soil analysis has been undertaken at this site. I did not take soil samples while on site however I have looked at the British Geological Survey plan to establish the likely nature of the soil present. This indicates that the bedrock geology is the London Clay Formation, with no superficial deposits above.

5.2 The soils associated with the geology described above are likely to be base-rich slightly acidic loams with poor drainage.

5.3 There may be local anomalies not shown in the British Geological Survey maps and a more detailed site specific soil assessment should be undertaken if required.

6 KEY TO TREE SURVEY DATA

6.1 **Tree / Group reference:** Tree numbers as shown on the Tree Survey Plan. Where trees form a coherent group, they have been assessed as a group, and are shown in the survey and on the plan prefixed with the letter G.

6.2 **Species:** These are listed in the schedule by their common name. The botanical names of the principal species present are as follows:

Mount Etna Broom: *Genista aetensis*
Flowering cherry: *Prunus sp*
Magnolia: *Magnolia sp.*
Chinese privet: *Ligustrum lucidum*
Weeping ash: *Fraxinus excelsior* 'Pendula'
Orchard apple: *Malus domestica*
Cotoneaster: *Cotoneaster sp.*
Eucalyptus: *Eucalyptus sp*
Olive: *Olea europaea*
Table dogwood: *Cornus controversa*
Pedunculate oak: *Quercus robur*
Bay: *Laurus noblis*

6.3 **Ht. (m):** The height of the tree is measured or estimated to the nearest metre.

6.4 **Crown spread – NSWE:** Radial crown spread measured or estimated, rounded up to the nearest metre, for north, south, west and east.

6.5 **Crown base:** The height above ground level and orientation of the lowest permanent crown base (excluding basal, and small epicormic growth).

6.6 **Stem count:** For trees recorded as individuals, the number of stems recorded for the purpose of RPA calculation (where stem numbers exceed 5 an average diameter is assessed).

6.7 **Stem dia:** In the first column the stem diameter is recorded for trees with a single stem, or the first measured stem where there are fewer than five, or the average stem diameter for trees with more than 5 stems. The diameter of individual stems for trees with up to five stems is recorded in columns 2-5. Measurements are shown in mm, rounded to the nearest 10. In some situations it is not possible to measure the diameter of stems, and for these estimates are made. When stem diameters have been estimated they are written in *italics*. Measurements are taken in accordance with BS5837 Annex C. For tree groups, stem measurements are recorded for the largest tree in the group.

6.8 **RPA Rad:** This shows the radius of the notional RPA circle in metres to be centered on the tree, based on the calculation made using the stem diameter.

6.9 **RPA Area:** This shows the calculated RPA in m^2 for each tree (as individuals or within groups). If the notional RPA circle is adjusted (see 4.6) the area must be maintained. The RPA area is capped at 707 m^2, equivalent to a circle with a radius of 15m.

6.10 **Life Stage:** An assessment of the tree's stage of life, where: Y = young, SM = semi-mature, EM = early-mature, M = mature, and OM = over-mature.

6.11 **Phys. Condition:** The physiological condition of the tree, reflecting the condition of the vascular system as indicated by leaf and shoot vitality. The physiological condition is not a comment on the tree's structural condition. The physiological condition codes used are G = good; F = fair; P = poor; D = dead.

6.12 **Condition and observations:** Description of general tree condition, including structural integrity, the presence of hazards, pests and diseases which may affect the tree's retention span.

6.13 **Preliminary management recommendations:** Work required to trees for reasons of sound arboricultural management only, **not for development facilitation**. This is not to be taken as a list of tree work required prior to development activity, but provides management recommendations for trees in their current context. This may include the further investigation of suspected defects. Where trees are located in neighbouring property, this is usually not applicable.

6.14 **Ret span:** Estimated remaining likely retention span based on species, condition & context. The following longevity bands are used: <10; 10-20; 20-40; >40. The retention span assessment is based on trees in their current context.

6.15 **Category:** BS5837:2012 Category where:

6.15.1 **U = Trees unsuitable for retention**. Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. These trees are shown on the tree plans with dark red centres.

6.15.2 **A = Trees of high quality**. Trees of high quality with an estimated remaining life expectancy of at least 40 years. These trees are shown on the tree plans with green centres.

6.15.3 **B = Trees of moderate quality**. Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. These trees are shown on the tree plans with blue centres.

6.15.4 **C = Trees of low quality.** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. These trees are shown on the tree plans with grey centres.

6.15.5 Trees of notable quality are graded as Category A or Category B. These trees are divided further into sub-categories. Sub-category 1 is allocated where it has been assessed that the tree has mainly arboricultural qualities. Sub-category 2 is allocated where it is assessed that the tree has mainly landscape qualities. Sub-category 3 is allocated where it is assessed that the tree has mainly cultural qualities, including conservation.

6.15.6 Trees may be allocated more than one sub-category. All sub-categories carry equal weight, with for example an A3 tree being of the same importance and priority as an A1 tree.

6.15.7 I do not allocate sub-categories to Category C trees.

Patrick Stileman

PATRICK STILEMAN BSc(Hons), MICFor, Dip.Arb(RFS), M.Arbor.A
Chartered Arboriculturist. Arboricultural Association Registered Consultant

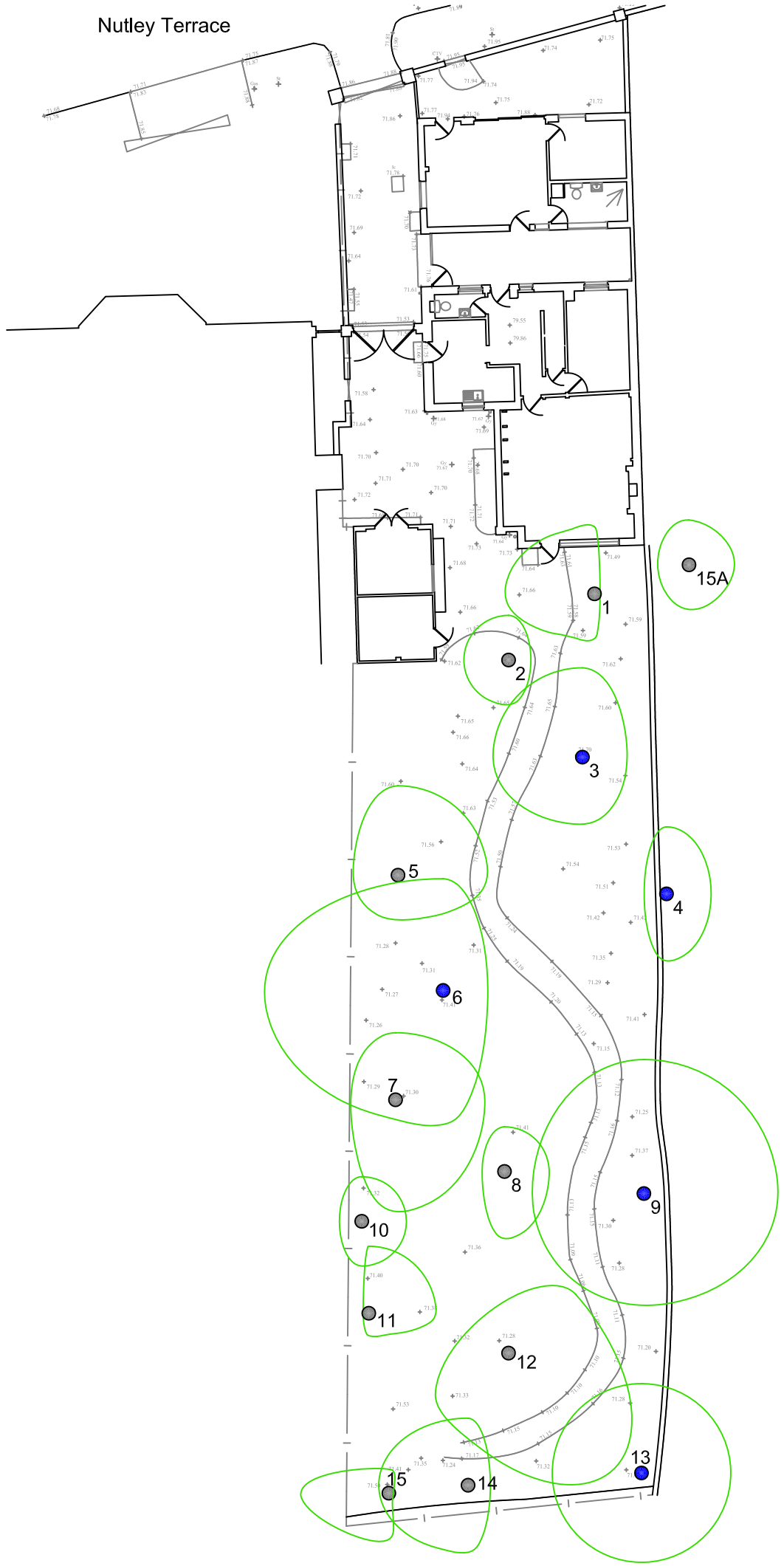
Director Patrick Stileman Ltd

10 NUTLEY TERRACE : TREE SURVEY DATA

Tree / Group reference	Species	Ht. (m)	Crown Spread (m)				Crown base (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
			N	S	W	E			1 / mean	2	3	4	5								
1	Mount Etna Broom	7	3	2	4	0	2m W	2	160	110				2.33	17	M	F	Large for species. Pronounced lean to west. Tree of relatively low significance.	No action required at time of survey	10+	C
2	Flowering cherry	7	2	2	2	1	3m E	3	110	110	130			2.44	19	M	F	Multi-stemmed from 0.5 metres. Columnar habit. Small tree of relatively low significance.	No action required at time of survey	10+	C
3	Magnolia sp	9	4	3	4	2	2m N	1	240					2.88	26	EM	G	Upright form. Pruned back from property adjacent. Tree of moderate quality and value - minimal view of it from beyond site boundary.	No action required at time of survey	20+	B1
4	Chinese privet	8	3	3	1	2	2m W	3	*100*	*120*	*150*			2.60	21	M	G	Located off-site in adjacent property. Upright growth habit. Provides useful boundary screening.	No action required at time of survey	20+	B2
5	Flowering cherry	4	4	2	2	4	2m E	1	260					3.12	31	M	F	Low spreading tree forming component of shrub bed. Multi-stemmed at 1.6 metres graft union.	No action required at time of survey	10+	C

Tree / Group reference	Species	Ht. (m)	Crown Spread (m)				Crown base (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
			N	S	W	E			1 / mean	2	3	4	5								
6	Weeping ash	13	5	6	8	2	3m E	1	500					6.00	113	M	G	Prominent tree. Distorted stem growth on graft union at 3 metres. Crown asymmetry east over neighbouring property. No defects seen of apparent structural signficance.	No action required at time of survey	20+	B1
7	Apple	5	3	5	2	4	2m S	3	260	140	220			4.42	61	M	F	Small tree of relatively low significance partially suppressed by Tree 6.	No action required at time of survey	20+	C
8	Cotoneaster sp	5	2	3	1	2	1m S	3	100	70	70			1.69	9	EM	F	Small tree of relatively low significance.	No action required at time of survey	20+	C
9	Eucalyptus	16	6	5	5	6	4m W	1	510					6.12	118	EM	G	Prominent tree with reasonably good form for species, prominent on boundary.	No action required at time of survey	>40	B1
10	Olive	8	2	2	1	2	2m E	2	120	180				2.60	21	SM	F	Slender, drawn-up tree of relatively low significance. Sparse vitality.	No action required at time of survey	10+	C
11	Table dogwood	5	3	1	0	3	1m E	1	120					1.44	7	SM	F	Pronounced crown asymmetry to north and east. Small tree of relatively low significance.	No action required at time of survey	20+	C

Tree / Group reference	Species	Ht. (m)	Crown Spread (m)				Crown base (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
			N	S	W	E			1 / mean	2	3	4	5								
12	Pedunculate oak	7	4	4	2	7	2m W	1	360					4.32	59	EM	F	Small, distorted tree with decayed, leaning stem and crown from single upright secondary stem only. Small tree with stable form of relatively low significance.	No action required at time of survey	>40	C
13	Bay	9	4	4	4	4	1m N	4	*200*	*200*	*200*	*200*		4.80	72	M	G	Reasonably prominent boundary tree of moderate quality and value.	No action required at time of survey	20+	B2
14	Chinese privet	13	3	3	4	1	3m N	3	*350*	*250*	*200*			5.70	102	M	P	Large-for-species prominent boundary tree with low vitality and relatively short likely retention span.	No action required at time of survey	10+	C
15	Eucalyptus	14	1	2	4	0	3m W	1	320					3.84	46	EM	P	Three slender stems have re-grown from past topping at 2 metres with moderate lean to west. Tree currently appears stable, but limited future potential and retention span.	No action required at time of survey	10+	C
15A	Magnolia sp	5	2	2	1.5	2	2m S	2	*120*	*100*				1.88	11	EM	F	Located off-site in adjacent property. Small tree of relatively low significance	No action required at time of survey	20+	C



This drawing must be viewed in colour

TREE SURVEY PLAN

SITE ADDRESS
10 Nutley Terrace, London,
NW3 5SB

CLIENT
Brian Glasser

JOB REF
DS14051501

DRAWING NO
DS14051501.01

DATE
23/06/2015

Patrick Stileman Ltd
9 Chestnut Drive, Berkhamsted, Herts,
HP4 2JL 01442 866112

N

KEY

Tree canopy spread

BS 5837 Category key

- Category U tree
- Category A tree
- Category B tree
- Category C tree

SCALE
1:250 @ A3

0 5m 10m

NOTE:

Stem diameters are not drawn to scale. See schedule for dimensions

This drawing is based on the topographic survey supplied to us by the client. The following trees were excluded from the topo survey and their positions shown are indicative only: 4, 5, 13, 15A

This drawing must be viewed in colour

TREE CONSTRAINTS PLAN

SITE ADDRESS
10 Nutley Terrace, London,
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CLIENT
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JOB REF
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N

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HP4 2JL 01442 866112

KEY

Tree / tree group which should initially be considered for retention

Tree / tree group which could initially be considered for removal

Tree / tree group which should be removed for management purposes

Root Protection Area (RPA) for tree with high higher retention priority

BS 5837 Category key

- Category U tree
- Category A tree
- Category B tree
- Category C tree

SCALE
1:250 @ A3

0 5m 10m

Stem diameters are not drawn to scale. See schedule for dimensions

This drawing is based on the topographic survey supplied to us by the client. The following trees were excluded from the topo survey and their positions shown are indicative only: 4, 5, 13, 15A

APPENDIX 1

Qualifications and experience of Patrick Stileman BSc(Hons), MICFor, Dip.Arb(RFS), M.Arbor.A

I am Patrick Stileman, director of Patrick Stileman Ltd Arboriculltural Consultancy.

My qualifications in arboriculture are as follows:

National Certificate in Arboriculture *Nch(arb)*

The Arboricultural Associations Technicians Certificate *Tech.Cert (Arbor.A)*

The Royal Forestry Society's Professional Diploma in Arboriculture *Dip.Arb(RFS)*

In addition to the qualifications listed above which are specific to the field of arboriculture, I also hold an honours degree in Environmental Science *BSc(Hons).*

I hold chartered status, being a Chartered Arboriculturist and professional member of the Institute of Chartered Foresters *MICFor.*

I am a registered consultant with the Arboricultural Association.

I am a trained expert witness, and hold the Cardiff University Bond Solon Expert Witness Certificate.

I am a member of the Royal Forestry Society.

I have been working within the arboricultural industry since 1994 and have been working as a consultant since 2001. I am frequently instructed by professionals to provide advice and assistance relating to trees within the planning process; I have a wide client base in this field including developers, architects, planning consultants, and Local Planning Authorities. I am experienced with providing arboricultural input in planning appeals as written representation, informal hearing and public local inquiry.

I am regularly instructed to assist with tree risk assessments, and to provide guidance relating to tree safety. Past clients for this work include Local Authorities, schools, residents associations, large organisations including zoos and estates, and private individuals.

I provide advice in relation to alleged tree-related damage to buildings. Clients for this work are typically domestic homeowners, but have also included Hertfordshire County Council and Dacorum Borough Council. Other work that I undertake involves the provision of tree planting schemes; and advice relating to the general management of trees.

I have worked as an arboricultural expert witness for public and private sector clients.

Prior to running my current consulting practice, I was a partner in an arboricultural contracting business in which I was involved with the practical aspect of organising, and execution of contract tree work.