TREE SURVEY REPORT

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

Project
Land adjacent to 86 Camlet Way, Hadley Wood, Barnet, EN4 0NX

Client
Jenna Rachel

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

Date
18th October 2021

Project reference:
DS21092101

1   INTRODUCTION

1.1   I am Patrick Stileman, Director of Patrick Stileman Ltd. I am acting on instruction of the client, Jenna Rachel. 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 land adjacent to 86 Camlet Way, Hadley Wood.

1.2.2   The survey is to be undertaken 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 which could potentially be affected with stem diameters in excess of 75 mm at a height of 1.5 metres.

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   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.

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 an Arboricultural Implication Assessment detailing what impact the proposed development will have to trees; 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 8th October 2021.

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 dated 15th October 2021, drawing no: DS21092101.01, included on Page 10 of this report. Data pertaining to each tree is included in the Tree Survey Data on Pages 8-9 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.

- 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 I have been advised by our client that trees at the site are not protected by a tree preservation order (TPO) and that the site is not located in a conservation area (which would impose provisional protection to trees). I have not contacted the local planning authority to confirm this.

4 TREE CONSTRAINTS PLAN

4.1 Based on the information obtained by the tree survey I have prepared a Tree Constraints Plan (TCP), dated 15th October 2021, drawing no: DS21092101.02, included on Page 11 of this report.

4.2   On the TCP I have used different colours indicating tree crowns to distinguish between trees which could defensibly be removed in order to facilitate development (broken blue); and trees with a higher retention priority which should, initially, be considered for retention (solid green).

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. Some Category B trees are of insufficient value to impose significant design constraints, such that their removal can be justified in order to promote good design.

4.5   Category A trees are classified as trees of high quality and there should be an initial presumption for retention of these trees.

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.

4.7   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 this site I have not adjusted the RPA shape for any tree, and RPAs shown are all based on circles.

4.8   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 recorded.

5.2   The soils associated with the geology described above are likely to be slightly acidic base-rich loams with potentially impeded 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:

Monterey cypress: *Cupressus macrocarpa*
Dogwood: *Cornus sanguinea*
Leyland cypress: *x Cupressocyparis leylandii*
Lawson cypress: *Chamaecyparis lawsoniana*
Holly: *Ilex aquifolium*

6.3   **Ht. (m):** The height of the tree is measured or estimated to the nearest half metre for dimensions up to 10 m, and to the nearest whole metre for dimensions over 10 m.

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 BSc(Hons), MICFor, MRICS, Dip.Arb(RFS), RC.Arbor.A
**Chartered Arboriculturist. Arboricultural Association Registered Consultant**

Director Patrick Stileman Ltd

TREE SURVEY DATA : LAND ADJACENT TO 86 CAMLET WAY

Tree / Group reference	Species	Ht. (m)	Crown Spread (m) N	S	W	E	Crown base (m)	Stem Count	Stem Dia. (mm) 1 / mean	2	3	4	5	RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Prelimianry management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
1	Monterey cypress	11	4	4	4	3	2m N	3	350	450	450			8.72	239	M	D	Dead tree.	Remove for reasons of sound arboricultural management	<10	U
2	Dogwood	6	3	4	5	2	1m W	3	120	120	120			2.50	20	M	G	Multi-stemmed from near ground level. Good vitality and useful screening function.	No action required at time of survey	20+	B2
3	Leyland cypress	19	3	5	3	4	0m N	1	530					6.36	127	M	F	Component of G2. Has suffered past root plate heave and tree leans to south east. Risk of failure will increase as height increases.	Reduce height by 30%	10+	C
4	Monterey cypress	19	5	2	3	3	2m N	1	580					6.96	152	EM	F	Component of G2. Crown asymmetry to north. Tree has not previously been subject to height reduction and should be managed as a component of G2.	No action required at time of survey	10+	C
G1	Leyland cypress	8	0	3	2	2	1m S	1	600					7.20	163	M	P	Located off-site. Heavily topped trees with no live foliage on north side. Closest stem approximately 0.5 metres from corner of site.	No action required at time of survey	10+	C
G2	Lawson cypress, leyland cypress	19	1	3	3	3	1m N	1	400					4.80	72	M	F	Wide linear group along southern boundary with trees planted 3 deep in width. Predominantly leyland cypress, with occasional lawson cypress. Trees have previously been topped at approximately 8 metres around 15-20 years ago, but have subsequently re-grown from topping points with slender, tall stems. Stems likely to become vulnerable to failure with time if no management is taken. Lack of regular past management has left group now having outgrown location, with poor future prospects. It would be best to remove entirely and replace with new trees along boundary.	No action required at time of survey	10+	C

Tree / Group reference	Species	Ht. (m)	Crown Spread (m) N	S	W	E	Crown base (m)	Stem Count	Stem Dia. (mm) 1 / mean	2	3	4	5	RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Condition and observations	Prelimianry management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
G3	Lawson cypress x17, holly x1	14	3.5	3.5	3.5	3.5	0m E	1	*350*					4.20	55	EM	F	Located off-site. Single line of trees adjacent to boundary. Group has not previously been managed, but are a slower growing species than leyland cypress in G2. Useful screening function on boundary.	No action required at time of survey	20+	B2

This drawing must be viewed in colour
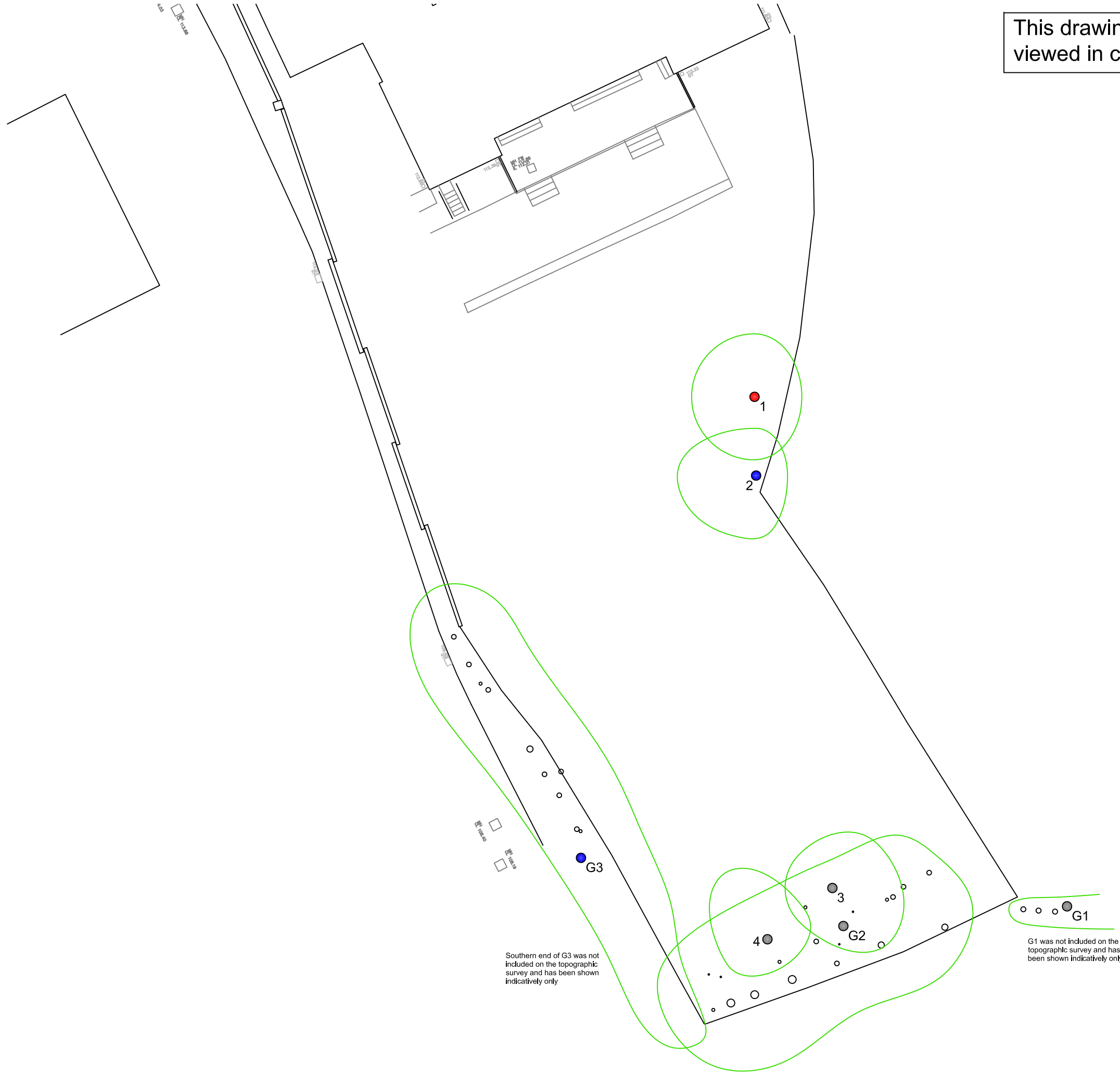
SITE ADDRESS
Land adjacent to 86 Camlet
Way, Hadley Wood, Barnet,
EN4 0NX

CLIENT
Jenna Rachel

JOB REF
DS21092101

DRAWING NO
DS21092101.01

DATE
15/10/2021

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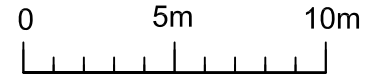9 Chestnut Drive, Berkhamsted, Herts,
HP4 2JL   01442 866112

N

KEY

Tree / tree group 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

Tree positions are based on the topographic
survey provided

1

2

G3

3

G2

4

G1

Southern end of G3 was not
included on the topographic
survey and has been shown
indicatively only

G1 was not included on the
topographic survey and has
been shown indicatively only

This drawing must be viewed in colour

TREE CONSTRAINTS PLAN

SITE ADDRESS
Land adjacent to 86 Camlet Way, Hadley Wood, Barnet, EN4 0NX
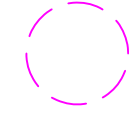
CLIENT
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JOB REF
DS21092101

DRAWING NO
DS21092101.02

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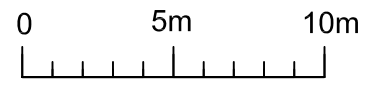9 Chestnut Drive, Berkhamsted, Herts, HP4 2JL   01442 866112

N

KEY

Tree / tree group recommended for retention initially

Tree / tree group which could initially be considered for removal

Root Protection Area (RPA) for suggested retention trees

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

Tree positions are based on the topographic survey provided

G1 was not included on the topographic survey and has been shown indicatively only

APPENDIX 1

Qualifications and experience of Patrick Stileman BSc(Hons), MICFor, Dip.Arb(RFS), RC.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 professional member of the Royal Institution of Chartered Surveyors *MRICS*.

I am a Registered Consultant with the Arboricultural Association, a scheme for which I am also an assessor.

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 in the arboricultural industry since 1994 and 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 local authorities. 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 in both civil and criminal cases.

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.