

DUCKWORTHS
ARBORICULTURE

BS:5837 ARBORICULTURAL REPORT

TREE SURVEY & CONSTRAINTS ADVICE

2 CONISBORO WAY
CAVERSHAM
READING
RG4 7HT

CLIENT: SAPNA ODLIN

JULY 2022

Ref: SCD 05849 / 2022

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2. INTRODUCTION

2.1 AUTHORSHIP

This BS:5837 Arboricultural Survey has been prepared by Sarah Duckworth, Arboricultural Consultant.

I have been instructed by Sapna Odlin, Owner of 2 Conisboro Way, Caversham to survey the trees at the property. I have been asked to ascertain the constraints posed by the trees to the construction of a new replacement dwelling on site following the demolition of the existing detached property.

2.2 SCOPE

The British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction' is designed to assist those concerned with trees in relation to construction to form balanced judgments.

The tree plan which accompanies this report is illustrative and should only be used for dealing with tree issues only.

This report is for planning purposes only and does not constitute a detailed health and safety survey. A quotation can be provided for this service upon request.

This report is not a structural report not and does it consider the structural integrity of the property and its use as such is invalid.

The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by the author.

DISCLAIMER: This is an independently produced Arboricultural Report. I have no connection with any of the parties involved in this site or application that could influence or bias the opinions expressed in this report.

2.3 DOCUMENTS

The location of trees on the tree plan has been taken from a topographical survey provided by the client and is a good representation of the location of the trees in relation to the property and the proposed building works.

2.4 PLANNING CONSTRAINTS

I have confirmed on the Reading Borough Council website that T9, T12 & T16 of this survey are protected as T1, T2 & T3 of Tree Preservation Order 46/003.

Consent has recently been granted to carry out works to these trees and relevant documents are available to view on the Council's website under application 211014.

The property is not within a Conservation Area.

No works should be undertaken to the protected trees on site without the prior written consent of Reading Borough Council.

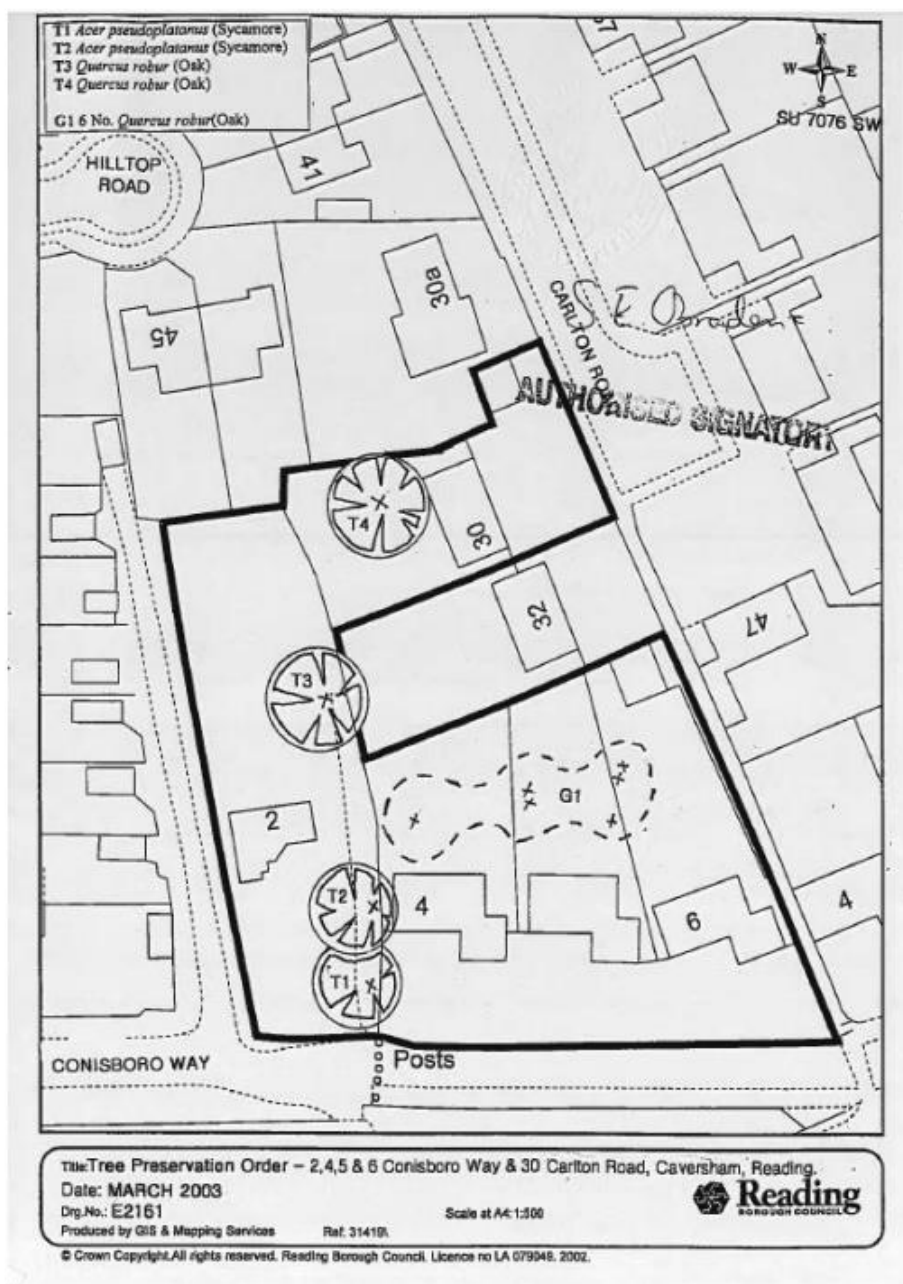


Figure.1 – Copy of the Tree Preservation Order Plan 46/003

3. SURVEY

3.1 APPRAISAL

The trees were surveyed on Wednesday 27th July 2022.

The weather conditions overcast and dry. Visibility was good.

Heights were visually estimated. Soil samples were not taken.

The tree survey identified individual trees and tree groups growing on or adjacent to the site which were relevant to the building works. The trees on site were assessed for their quality and benefits within the context of the proposed development and categorised in accordance with the recommendations in the BS:5837:2012.

3.2 PLOTTING OF ROOT PROTECTION AREAS

The root protection area radius is for information only and may not be appropriate in every case.

BS:5837 advises that:

'the RPA for each tree should initially be plotted as a circle centered on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting may have occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distributions.'

For this site, the RPA for T12 (Sycamore) has been offset where it would otherwise fall within the footprint of the adjacent building. Tree roots are not expected to extend far under the foundations of the neighbouring house as the compacted and anaerobic conditions are less conducive to healthy tree root growth. The rooting area for T12 has therefore been plotted as a polygon which is more representative of the likely rooting area of this tree.

3.3 KEY

Ref: T1 = Tree 1 G1 = Group 1
A1 = Area 1 W1 = Woodland 1

Species: Common name (Botanical name)

Height: Visually estimated

Stem: Stem diameter taken at 1.5m with a laser measure and recorded in millimeters

Branch spread: Measured with a laser measure & recorded in metres to nearest 0.5m.

Crown clearance: Existing height above ground level of canopy and / or first significant branch direction of growth in metres e.g. 2.4 (N) where relevant.

Age Class: Newly planted - 3 years following planting
Young - Tree well established but with juvenile crown form
Young Mature - Tree in first third of usual life expectancy for species
Mature - Tree in second third of usual life expectancy for species
Over Mature - Tree in final third of usual life expectancy for species / exhibiting signs of crown retrenchment & senescence
Veteran - Older than usual for species or with historical/ cultural / ecological value

General Observations: Made with reference to physiological condition (health, vigour) and structural condition, noting evidence of decay, structural weakness and physical defect and preliminary management recommendations.

Estimated Remaining Contribution: Estimated in years - less than 10, 10-20, 20-40, 40+

BS: 5837:2012 category rating: In accordance with the guidelines of the British Standard.

● Category 'A' tree (Green) ● Category 'C' tree (Grey)
● Category 'B' tree (Blue) ● Category 'U' tree – Fell (Red)

RPA Area BS:5837 (2012) Root Protection Area calculation in square metres

RPA Radius BS:5837 (2012) Root Protection Area calculation circle radius in metres.

4. BS:5837 (2012) TABLE 1: CASCADE CHART FOR TREE QUALITY ASSESSMENT

Category & Definition	Criteria (including sub-categories where appropriate)		
• Trees unsuitable for retention			
Category U Those 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.	Trees that have a serious, irremediable, structural defect such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g., where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning. Trees that are dead or showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and / or safety of other trees nearby or very low-quality trees suppressing adjacent trees of better quality. NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.		
	<u>Mainly Arboricultural Qualities</u>	<u>Mainly Landscape Qualities</u>	<u>Mainly cultural values including conservation</u>
• Trees considered suitable for retention			
Category A Trees of High Quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and / or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)
Category B Trees of Moderate Quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little contribution to the wider locality.	Trees with material conservation or other cultural value.
Category C Trees of Low Quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands but without this conferring on them significantly greater collective landscape value; and/ or trees offering low or only temporary / transient landscape benefits.	Trees with no material conservation or other cultural value.

5. SURVEY DATA

Ref.	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Condition
T001	Sycamore (Acer pseudoplatanus)	Tree 2 stems	Height (m): 15 2 stems, diam(mm): 600, 700 Crown Clearance (m): 3 Lowest Branch (m): 3(SW) Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:5 S:6 W:4	Base and trunk obscured by dense ivy growth. Foliage dense and even, good vitality.	B2	Radius: 11.1m. Area: 387 sq m.	Physiological Cond: Good Structural Cond: Fair
T002	Rowan (Sorbus aucuparia)	Tree	Height (m): 9 Stem Diam (mm): 210 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 20+ Years	N:3 E:3 S:3 W:1	Dead branch in crown.	C2	Radius: 2.5m. Area: 20 sq m.	Physiological Cond: Fair Structural Cond: Fair
T003	Flowering Cherry (Prunus Serrulata)	Tree 2 stems	Height (m): 7.5 2 stems, diam(mm): 230, 100 Crown Clearance (m): 2 Life Stage: Mature	N:3 E:3 S:3 W:1.5	Significant stem wound. Previously the stems, two stems topped and died back. Foliage on remaining stem sparse.	U	None - due to Retention Category of U.	Physiological Cond: Poor Structural Cond: Poor
T004	Laurel Cherry (Prunus laurocerasus)	Group	Height (m): 3 Stem Diam (mm): 100 Crown Clearance (m): 0 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Young, loosely maintained hedge.	C2	Area: 17 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T005	Beech (Fagus sylvatica)	Tree	Height (m): 14 Stem Diam (mm): 250 Crown Clearance (m): 0.5 Life Stage: Early Mature Rem. Contrib.: 20+ Years	N:6.5 E:5.5 S:5 W:4.5	Young tree, good vitality. Weak fork midway up trunk undermines tree structure.	C1	Radius: 3.0m. Area: 28 sq m.	Physiological Cond: Good Structural Cond: Fair

Ref.	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Condition
T007	Norway Spruce (Picea abies)	Tree	Height (m): 12 Stem Diam (mm): 220 Crown Clearance (m): 1 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:3 E:2.8 S:2.8 W:2.8	Slender tree, etiolated form.	B1	Radius: 2.6m. Area: 21 sq m.	Physiological Cond: Fair Structural Cond: Good
T008	Magnolia (Magnolia sp.)	Tree 2 stems	Height (m): 3 2 stems, diam(mm): 90, 60 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:3 E:2.8 S:2.8 W:2.8	Large shrub/small tree	C2	Radius: 1.3m. Area: 5 sq m.	Physiological Cond: Fair Structural Cond: Fair
T009	Sycamore (Acer pseudoplatanus)	Tree	Height (m): 18 Stem Diam (mm): 560 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5 E:4.5 S:7 W:7.5	Swept lower trunk, minor deadwood. Fair form and vitality.	A1	Radius: 6.7m. Area: 141 sq m.	Physiological Cond: Good Structural Cond: Fair
T010	Rowan (Sorbus aucuparia)	Tree	Height (m): 4 Stem Diam (mm): 100 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:0.5 W:1	Small, suppressed tree.	C1	Radius: 1.2m. Area: 5 sq m.	Physiological Cond: Poor Structural Cond: Poor
T011	Rowan (Sorbus aucuparia)	Tree	Height (m): 4 Stem Diam (mm): 100 Crown Clearance (m): 2 Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:0.5 W:1	Small, suppressed tree. Four stems from ground level	C1	Radius: 1.2m. Area: 5 sq m.	Physiological Cond: Poor Structural Cond: Poor
T012	Sycamore (Acer pseudoplatanus)	Tree	Height (m): 18 Stem Diam (mm): 760 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 20+ Years	N:5.5 E:5 S:7 W:7.5	1.3m from neighbouring property. Twin stem, secondary stem topped and pollarded. Branches in close contact to property. Foliage even, slightly clustered. Moderate vitality	B1	Radius: 9.1m. Area: 260 sq m.	Physiological Cond: Good Structural Cond: Fair

Ref.	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Condition
T013	Laurel Cherry (Prunus laurocerasus)	Tree	Height (m): 7 Stem Diam (mm): 180 Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 10+ Years	N:1.5 E:3.5 S:3 W:1.5	Low grade mature shrub.	C2	Radius: 2.2m. Area: 15 sq m.	Physiological Cond: Fair Structural Cond: Poor
T015	Laurel Cherry (Prunus laurocerasus)	Tree	Height (m): 6 Stem Diam (mm): 140 Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:1 S:1.5 W:2.5	Low grade mature shrub.	C2	Radius: 1.7m. Area: 9 sq m.	Physiological Cond: Fair Structural Cond: Fair
T016	Pedunculate Oak (Quercus robur)	Tree	Height (m): 14 Stem Diam (mm): 840 Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 20+ Years	N:5 E:5 S:7.5 W:5	Superficial historic bark wounds on lower trunk. Foliage in upper canopy slightly sparse. Lower canopy formed of mature epicormic growth. Foliage dense and even. Woodpecker holes in upper canopy & deadwood.	B1,3	Radius: 10.1m. Area: 320 sq m.	Physiological Cond: Fair Structural Cond: Fair
T017	Cypress species (Cupressocyparis sp.)	Tree	Height (m): 3 Stem Diam (mm): 310 Life Stage: Dead	N:1 E:1 S:1 W:1	Topped at 3m.	U	None - due to Retention Category of U.	Physiological Cond: Dead Structural Cond: Poor
T018	Cypress (Chamaecyparis sp.)	Tree	Height (m): 4.5 Stem Diam (mm): 140 Life Stage: Dead	N:1 E:1 S:3 W:1	Topped at 3m.	U	None - due to Retention Category of U.	Physiological Cond: Dead Structural Cond: Poor
T019	Laurel Cherry (Prunus laurocerasus)	Tree 2 stems	Height (m): 3.5 2 stems, diam(mm): 50, 50 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years	N:1 E:1 S:1.5 W:1	Shrub. Moderate vitality.	C2	Radius: 0.9m. Area: 3 sq m.	Physiological Cond: Fair Structural Cond: Poor

Ref.	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Condition
T020	Cultivar Apple (Malus domestica)	Tree	Height (m): 7 Stem Diam (mm): 400 Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:3 W:5	Some stem necrosis, weeping lesions on lower trunk. Asymmetrical canopy.	C2	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Fair Bat Habitat:
T021	Laurel Cherry (Prunus laurocerasus)	Tree	Height (m): 4 Stem Diam (mm): 100 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:3 E:1 S:1.5 W:2.5	Shrub. Moderate vitality.	C2	Radius: 1.2m. Area: 5 sq m.	Physiological Cond: Fair Structural Cond: Poor
T022	Cultivar Apple (Malus domestica)	Tree	Height (m): 5 Stem Diam (mm): 230 Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 20+ Years	N:1 E:1 S:4 W:4	Multi-stem from 0.5m. Asymmetrical canopy.	C2	Radius: 2.8m. Area: 25 sq m.	Physiological Cond: Structural Cond:
T023	Sycamore (Acer pseudoplatanus)	Tree 10 stems	Height (m): 19 10 stems, avg.(mm): 220 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 20+ Years	N:5.5 E:5.5 S:5.5 W:5.5	Base obscured by dense ivy growth. Multi-stem tree from 1m. Unions obscured. Multiple vertical stems above this point. Foliage dense and even, reasonable vitality. Recommended severing of ivy to enable full inspection of trunk and unions.	B1	Radius: 8.4m. Area: 222 sq m.	Physiological Cond: Good Structural Cond: Poor
T024	Privet (Ligustrum vulgare)	Tree	Height (m): 3 Stem Diam (mm): 90 Life Stage: Mature Rem. Contrib.: 10+ Years	N:1 E:1.5 S:1.5 W:0.5	Large shrub/small tree.	C1	Radius: 1.1m. Area: 4 sq m.	Physiological Cond: Fair Structural Cond: Poor

6. ARBORICULTURAL CONSTRAINTS

6.1 TREES APPRAISAL

Total Number of individual trees surveyed:	21
Total Number of tree groups surveyed:	1
Number of category 'A' trees / groups:	1
Number of category 'B' trees / groups:	5
Number of category 'C' trees / groups:	13
Number of category 'U' trees:	3

6.2 PLANNING POLICY

Reading Borough Council Policy EN14 of the Adopted Local Plan (November 2019) 'Trees, Hedges and Woodlands' states that:

EN14: TREES, HEDGES AND WOODLANDS

Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal where they are of importance, and Reading's vegetation cover will be extended. The quality of waterside vegetation will be maintained or enhanced.

New development shall make provision for tree retention and planting within the application site, particularly on the street frontage, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change. Measures must be in place to ensure that these trees are adequately maintained.

6.3 BS:5837 INTERPRETATION & DESIGN GUIDANCE

The suitability of planning development in relation to trees will be assessed by the Local Authority in accordance with the British Standard 5837: 2012 'Trees in Relation to Design, Demolition and Construction.

This document requires that the conception and design of the final development layout must take into account the constraints posed by the trees on site. These constraints include not only the existing canopy and likely root spread but also:

- The ultimate height and spread of the trees.
- Potential impact of species characteristics for future residents – evergreen / deciduous, density of foliage, seasonal leaf drop / berries etc.
- Current and future shade patterns.

The default position in planning is that every effort should be made to retain and protect the category A and B trees on site and that new structures, areas of hard standing and services should be located outside of the identified RPA's of trees to be retained.

Cutting trees' canopies back in order to allow development to be constructed within a tree's natural canopy space results in conflict with trees and is generally considered to be unsustainable in the long term. Reasonable 'future growth space' should be maintained between the tree's canopies and the proposed development.

Consideration must be given not only to the footprints of the replacement building but any associated new areas of hard standing – patio and driveways associated with the new buildings and changes in ground levels and the impact this may have on tree roots.

BS: 5837 advises that particular care should also be taken regarding the retention of large, mature or over-mature trees which become enclosed in new development or small rear gardens where they will cause detriment to the useable garden space and put pressure on trees to be cut back or removed prematurely in the future.

6.4 SITE SPECIFIC OVERVIEW

A Local Authority can reject a scheme if they feel it will create a layout where future occupants will want to reduce or remove protected trees to alleviate issues of shading, light loss, leaf fall etc. Also, where tree work will inevitably be required to prevent tree canopies coming into direct contact with properties or simply in response to a natural anxiety from having very large trees close to or overbearing in relation to the property.

You should also bear in mind that the Tree Officer may reject an application which brings development closer to T16 (Oak) if (s)he feels the garden layout to be unsustainable or if much of the useable garden space is under the tree's canopy.

New plans should consider the 'liveability' and sustainability of the dwelling and garden in relation to the trees. Trees will cast shade and this can be roughly presented as a segment which tracks from northwest to east during the course of the day. Increased fenestration can go some way towards alleviating shade issues.

Where roofs are close to tree canopies, hedgehog gutter guards can reduce blocked gutters and consequent maintenance costs.

There is a case to be made for the removal of low-grade category 'C' trees on site however, provision should be made for a robust scheme of replacement tree and hedge planting to ensure there is no net loss of tree cover on site.

BS:5837 advises that where new areas of hard landscaping are essential within the rooting areas of trees, they should be of a no-dig construction and not exceed 20% of the previously undeveloped rooting area of the tree. Care will need to be taken with the layout of the access driveway to ensure this does not exceed 20% of the rooting areas of the protected trees at the front of the property.

Services may be able to connect with those of the existing property. If new service runs are required, then care will need to be taken on the routing of services to avoid damage to

tree roots. Moling or thrust-boring under roots is occasionally an option but is not always practical and will greatly increase costs for the building works.

Future planning applications will need to be supported by an Arboricultural Impact and Method Assessment which will be written once the design layout for the site has been finalised.

7. QUALIFICATIONS

This Arboricultural Survey was carried out by Sarah Duckworth, Independent Arboricultural Consultant, trading as Duckworth's Arboriculture.

I have over 19 years' experience working in the field of Arboriculture and for the past 17 years I have worked as a Local Authority Tree Officer both directly and independently providing contracted support. Since 2010 I have worked as a private consultant carrying out a range of Arboricultural Reports and Assessments for private clients.

I hold the Royal Forestry Society's Professional Diploma (Level 6) for which I received the Lockhart Garrett Award Commendation.

I also hold the Arboricultural Association's Technicians Certificate (with Distinction) and am a LANTRA qualified Professional Tree Inspector.

I am a Professional Member of both the Arboricultural Association and the Consulting Arborist Society (CAS).