ARBORICULTURAL REPORT
to BS 5837:2012
at
Mitchells Way
Wombwell
Barnsley
South Yorkshire
S73 8HR

Client:
FDA Landscape Ltd.

Client Address:
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Client Telephone:
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JCA Ref:
12362/AJB

JCA Limited

Arboricultural Consultants

Contents

1. Introduction

1.1 Purpose of the Report

1.1.1 A report is required at **Mitchells Way**, **Wombwell**, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Terms of Reference

1.2.1 I am instructed by **FDA Landscape Ltd**., Huddersfield, 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 Numbers: **001** and **002**).

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.*

1.3.2 Preliminary recommendations are given with a view to 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, trees outside the site boundary, but close enough to be affected by the proposed development, are included.

1.3.5 The specific design of any proposed development is not generally taken into account at this stage.

1.4 Survey Details

1.4.1 The survey took place during the month of July 2015 and was conducted by Andrew Bussey.

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

1.4.3 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 occupied by agricultural farmland.

2.2 Topography

2.2.1 The site is approximately level.

2.3 Treescape

2.3.1 The site is bordered by sporadic hedgerows, planted woodlands groups and clusters of self-seeded trees.

2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide a reasonable visual amenity to the surrounding area.

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from young to early-mature.

2.6 Species Diversity

2.6.1 Species surveyed include Blackthorn, Hawthorn, Common Alder, Silver Birch, Scots Pine, Robinia, Field Maple and Apple sp.

3. Status of the Trees

3.1 A check was made on the 29th June 2015 with **Barnsley Borough Council**.

3.2 We are still awaiting the results of this investigation at this time and will therefore continue to pursue this matter and will inform you of the results as soon as we receive these.

3.3 ***In the meantime, we advise against undertaking any works until the protective status of the trees has been confirmed***.

4. Tree Descriptions and Recommendations

4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**, a full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

5. Discussion

5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of **7** items of vegetation (**6** groups of trees and **1** hedge).

5.1.2 Of these, **3** groups were identified as retention category 'B' and **3** groups and **1** hedge were identified as retention category 'C'. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.3 No remedial works are required for any item of vegetation on site.

5.1.4 Where a full detailed inspection of trees was inhibited by restricted access or by the presence understorey vegetation, as detailed at **Appendix 1**, it is advised that these trees be re-inspected for any possible defects when the understorey vegetation has been removed or when access has been made available.

5.2 General Design Advice

5.2.1 During development the part of the tree most commonly under threat, and most commonly ignored, is the rooting system. When trees are damaged, particularly the roots, their long-term health and stability can be affected. Most development activity can have an impact on the future condition and safety of a tree, and therefore careful planning and management of tree protection should ensure a continued sustainable tree cover with minimal stress to existing trees.

5.2.2 In order to ensure that the retained trees on site are properly protected during the development phase, the tree rooting zones are to be considered. For the purpose of development the rooting zone of the tree is known as the Root Protection Area or RPA. The RPA of each tree or group is marked on the Tree Constraints Plan at **Appendix 6** and represents the rooting zone which, where possible, should remain undisturbed. The protection of retained trees can therefore be achieved by erecting a temporary barrier (based on the RPAs), so creating a **Construction Exclusion Zone**.

5.2.3 Damage caused by any construction activity such as demolition, soil stripping, and provision of services needs to be considered at the design stage. Care must be taken to avoid damage to tree roots when existing structures such as tarmac surfaces are removed within a RPA.

5.2.4 The laying of access roads, driveways, parking areas or any other hard surfaces planned in proximity to retained trees needs to be considered. There are solutions available allowing for the construction of hard surfaces within the RPAs without causing significant damage to the trees.

5.2.5 Boundary walls or other light structures can be constructed without damage to roots through the use of piled foundations rather than the more traditional strip foundations.

5.2.6 The location of drainage and utilities within the RPA can be achieved if need be, using special techniques and supervision.

5.2.7 The position of the site compound is a major consideration. It is recommended that this, which typically includes the site office, facilities, toilets, storage of materials and parking, is located away from trees and outside the RPA.

5.2.8 Consideration must be given to movement of both vehicle and pedestrian traffic. If possible traffic should be diverted away from the RPAs. If this is not possible a range of temporary surfaces are available to distribute the weight of traffic and allow the roots to receive moisture and air.

5.2.9 Generally, the alteration of ground levels within the RPA is not acceptable and therefore existing ground levels should be retained wherever possible. Should ground levels need to be lowered in areas adjacent to trees or within the RPAs, appropriate measures must be taken to minimise the detrimental effects on the trees and their root systems. With regards to raising levels, it is necessary to maintain adequate supplies of moisture and oxygen through the soil to the tree roots. Therefore, no material must be placed within the RPA without arboricultural advice.

5.2.10 The shade that will be cast by the retained trees must also be considered. Where buildings are to be positioned within the shade cast area of trees, these should be designed in order to maximise light levels.

5.2.11 Many development sites contain areas of nature conservation interest. Trees and hedgerows, in particular, provide an important habitat for birds, bats, invertebrates and fungi and appropriate attention needs to be paid to preserving habitats throughout the development process.

5.2.12 Where a landscape planting scheme is proposed, consideration must be made at the planning stage as to where this is to be implemented on site. Such locations should be protected in order to prevent soil compaction and/or contamination and should therefore form part of the Construction Exclusion Zone.

6. Conclusions and Recommendations

6.1 The trees surveyed were generally found to be in a good condition.

6.2 All development work carried out in close proximity to trees must be executed in a manner sympathetic to their needs. Otherwise, the condition of the trees may deteriorate in the months and years following development, leading to a loss of amenity and resulting in potentially hazardous trees. Care must therefore be taken at the design stage to ensure that the retained trees are suitably protected.

6.3 In accordance with **Section 5.4** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Impact Assessment (AIA),** which will illustrate and discuss the impact of the proposals on the trees and vice versa, to help to inform good design.

6.4 In accordance with **Section 6.1** of **BS 5837: 2012**, and following the preparation of the **AIA,** an **Arboricultural Method Statement (AMS)** is recommended to ensure that all the retained trees survive the development process. An **AMS** details which trees are to be removed, which trees are to be retained and any other tree works which are required to facilitate development. The **AMS** will also advise on temporary protective barriers, temporary ground protection, site supervision, location of services and it will detail specialist construction techniques.

Appendices

Tree Ref.	Age Species *Latin Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
H 1	Semi-mature Blackthorn & Hawthorn *Prunus sp. & Crataegus monogyna*	To 2.5	0+	0+ n/a	To 5#	See plan	Sporadic, partially maintained hedgerows located on the field boundary to the southwest. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
G 2	Young Common Alder & Blackthorn *Alnus glutinosa & Prunus spinosa*	To 3.5	0+	0+ n/a	To 5#	See plan	A small cluster of self-seeded trees of little significance located on the south-western field boundary. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
G 3	Young to semi-mature Common Alder & Blackthorn *Alnus glutinosa & Prunus spinosa*	To 5	0+	0+ n/a	To 10#	See plan	A dense cluster of self-seeded trees of low value located to the south-eastern site boundary. Not fully inspected due to dense vegetation which prevented access.	No action required.	GOOD	GOOD	LOW	20-40	C
G 4	Semi to early-mature Silver Birch *Betula pendula*	To 13	0+	0+ n/a	To 30#	See plan	A planted belt of trees of generally upright and vertical form which are located just within, or just outside the presumed site boundary to the east. Not fully inspected due to limited access.	No action required.	GOOD	GOOD	MOD	40+	B
G 5	Semi to early-mature Scots Pine *Pinus sylvestris*	To 15	0+	0+ n/a	To 36#	See plan	Situated on adjacent land outside the presumed site boundary to the east. A woodland group of planted trees of vertical and balanced form. Not fully inspected due to limited access.	No action required.	GOOD	GOOD	MOD	40+	B
G 6	Semi to early-mature Mixed	To 14	0+	0+ n/a	To 30#	See plan	Robinia, Silver Birch and Hawthorn of generally upright and vertical form which are located just within, or just outside the presumed site boundary to the north. One dead stem of little signficance was noted within the group, however, this presents a negligable safety risk. Not fully inspected due to limited access.	No action required.	GOOD	GOOD	MOD	40+	B
G 7	Young to semi-mature Hawthorn & Apple sp. *Crataegus monogyna & Malus sp.*	To 4	0+	0+ n/a	To 15#	See plan	Dense groups of self-seeded trees of little significance located just within, or just outside the presumed site boundary to the north. Not fully inspected due to dense vegetation which prevented access.	No action required.	GOOD	GOOD	LOW	20-40	C

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements

A2.1.1 *HEIGHT* of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

A2.1.2 *CROWN HEIGHT* is an indication of the average height at which the crown begins.

A2.1.3 *STEM DIAMETER* is measured at 1.5 metres 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.

A2.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

A2.2 Evaluations

A2.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

A2.2.2 *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.

A2.2.3 *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.

A2.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

A2.3 Retention Categories

A2.3.1 ***A (marked green on the plan) = trees of high quality.***

These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

A1) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues.

A2) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures.

A3) Those having significant conservation or historical value e.g. veteran trees.

A2.3.2 ***B (marked in blue on the plan) = trees of moderate quality.***

These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

B1) 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.

B2) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals.

B3) Trees with clearly identifiable conservation or other cultural benefits.

A2.3.3 ***C (marked in grey on the plan) = trees of low quality.***

These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

C1) Trees not qualifying in higher categories.

C2) Groups of trees which do not form a distinct landscape feature.

C3) Trees with very limited conservation or other cultural benefits.

A2.3.4 ***U (marked in red on the plan) = unsuitable for retention: 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:

1) Failure is likely due to serious, irredeemable, structural defects.
2) The trees are considered to be hazardous.
3). Diseases are present which may affect the health of adjacent trees.
4) They are in serious, overall decline or are already dead.
5) They are of low quality and suppressing adjacent trees of better quality.
6) Removal of other category U trees will render them exposed and unstable.

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.

Appendix 3: General Guidelines

A3.1 All work must be to BS 3998: 2010 - '*Recommendations for tree work'*.

A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.

A3.3 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.

A3.4 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.

A3.5 No liability can be accepted by JCA Limited in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.

A3.6 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.

Appendix 4: 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	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
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 stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
RPA	Root Protection Area – The theoretical rooting area of a tree as defined in BS5837: 2012 *Trees in relation to construction*.
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 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby was promoted to Technical Coordinator and now oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Andy Bagshaw *FdSc (Arboriculture).* Andy joined JCA in 2005 having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. Andy has obtained a foundation degree in Arboriculture at the University of Central Lancashire, is QTRA qualified and is a JCA team leader who manages an office of Consulting Arboriculturists.

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid *ND (Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

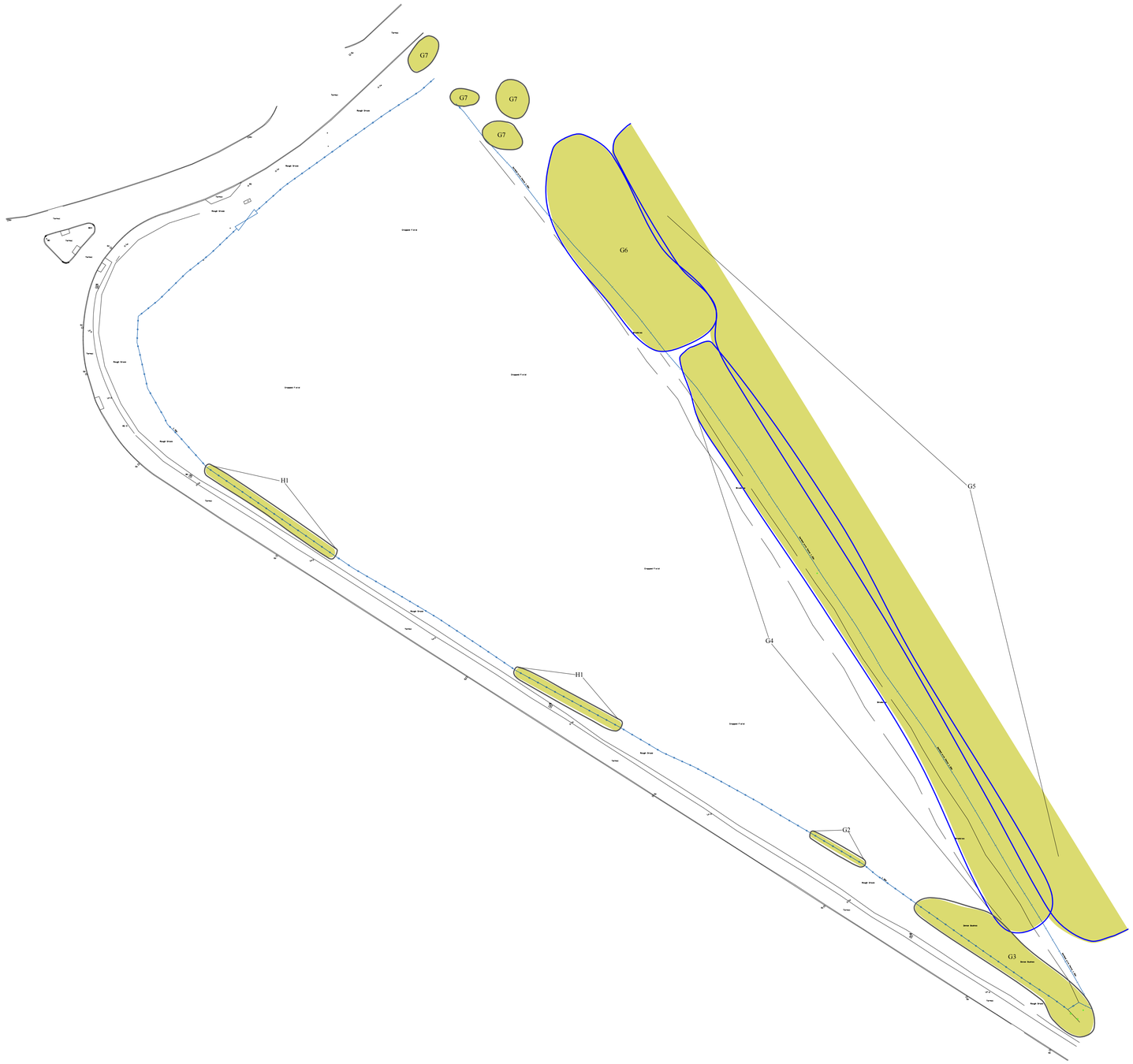
Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Myerscough College, Preston, undertaking a one year RFS course which will be followed up by a further two year course, in order to obtain a Foundation degree in Arboriculture – *FdSc (Arboriculture).*

Consulting Staff: Ecology

David Ryder. David has recently joined JCA as our in-house ecologist. He brings with him over 8 years experience in the field of ecological consultancy. David holds a Natural England Licence to disturb and handle bats and is currently undergoing assessment for Chartered Institute of Ecology & Environmental Management (CIEEM) membership.

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons).* IT Officer.
Lorraine Spink Administrative Assistant.
Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.



Appendix 6:
Tree Constraints Plan

ADDRESS: Mitchells Way, Wombwell,
Barnsley, South Yorkshire, S73 8HR.
JCA REF: 12362/AJB.

SCALE : 1:500	**PAPER SIZE : A1**

SURVEYED BY: AJB	**DRAWN BY: AJB**	**APPROVED BY: SR**

BRITISH STANDARD 5837:2012: 4.5
RETENTION CATEGORIES

Detailed definitions of these catagories are at Appendix 2 of our report. N.B. 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 U: 'TREE FOR REMOVAL'
•	STEM OF TREE TO BE RETAINED
•	STEM OF TREE TO BE REMOVED
●	ROOT PROTECTION AREA

JCA Limited

Arboricultural & Forestry Consultants

Root Protection Area: RPA

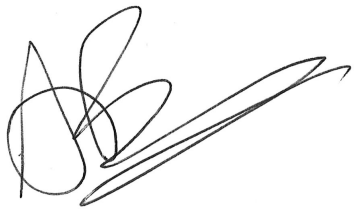
THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE. THE RPA SHOULD IDEALLY REMAIN UNDISTURBED IF A TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

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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Andrew Bussey.

2nd July 2015

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

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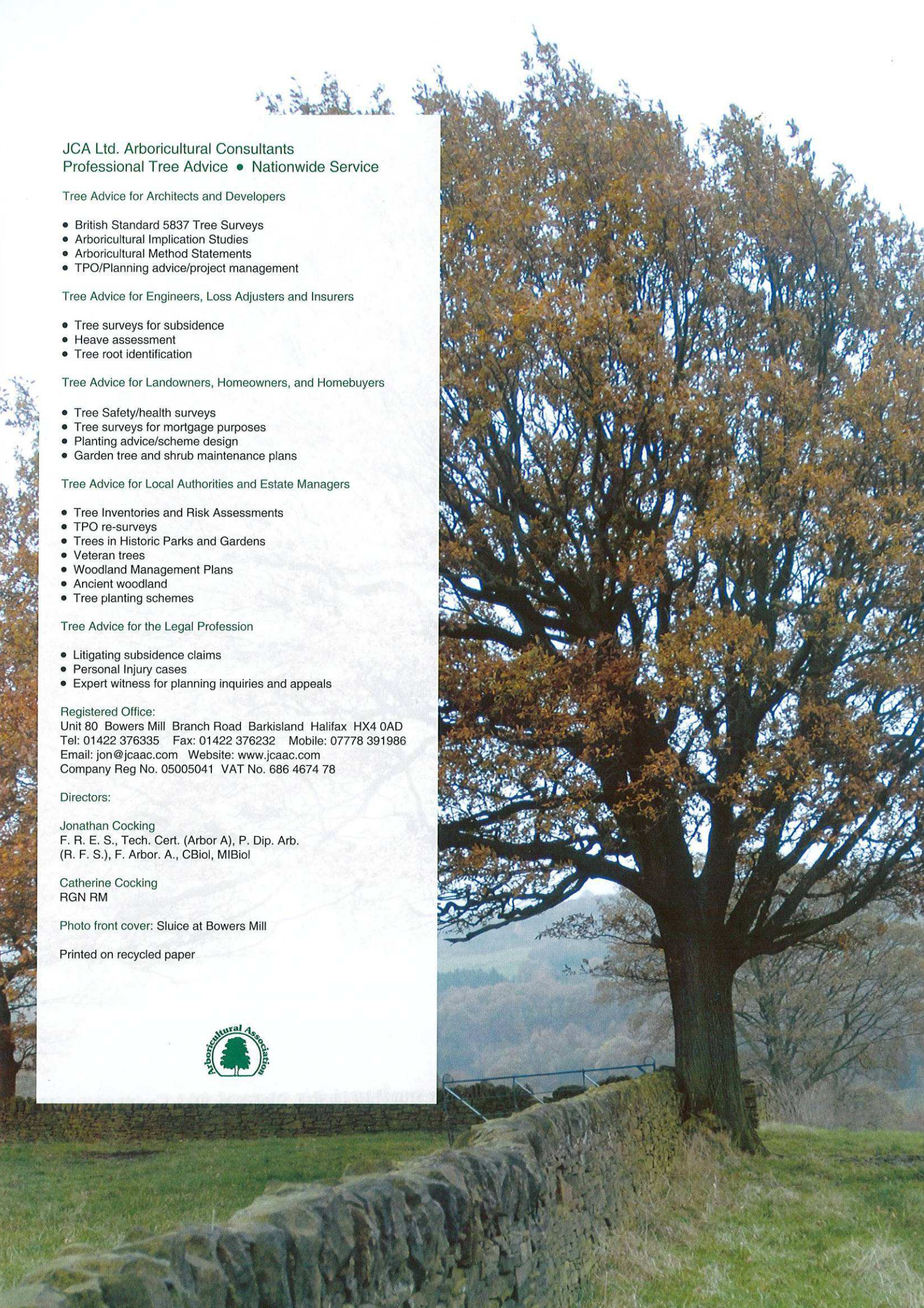

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Professional Tree Advice • Nationwide Service

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- Arboricultural Implication Studies
- Arboricultural Method Statements
- TPO/Planning advice/project management

Tree Advice for Engineers, Loss Adjusters and Insurers

- Tree surveys for subsidence
- Heave assessment
- Tree root identification

Tree Advice for Landowners, Homeowners, and Homebuyers

- Tree Safety/health surveys
- Tree surveys for mortgage purposes
- Planting advice/scheme design
- Garden tree and shrub maintenance plans

Tree Advice for Local Authorities and Estate Managers

- Tree Inventories and Risk Assessments
- TPO re-surveys
- Trees in Historic Parks and Gardens
- Veteran trees
- Woodland Management Plans
- Ancient woodland
- Tree planting schemes

Tree Advice for the Legal Profession

- Litigating subsidence claims
- Personal Injury cases
- Expert witness for planning inquiries and appeals

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Photo front cover: Sluice at Bowers Mill

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