ARBORICULTURAL REPORT
AND
ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012
at
1 Foxmill View
Millhouse Green
Penistone
South Yorkshire
S36 9AB

Client:
Mr Darren Rowell

Client Address:
1 Foxmill View
Millhouse Green
Penistone
South Yorkshire
S36 9AB

JCA Ref:
12255/AJB

JCA Limited

Arboricultural Consultants

Contents

1. Introduction

1.1 Purpose of the Report

1.1.1 A report is required at **1 Foxmill View, Millhouse Green, Penistone**, 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 **Mr Darren Rowell** 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. 2015/016/03**).

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 the proposed development has been considered within the Arboricultural Implication Assessment in **Section 6** and detailed on the plan at **Appendix 7**.

1.4 Survey Details

1.4.1 The survey took place during the month of April 2015.

1.4.2 The survey was conducted by Andrew Bussey.

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 occupied by a two storey detached residential dwelling with gardens to the front, side and rear.

2.2 Topography

2.2.1 The main garden area is level in ground level, however; there is an upward slope in ground level to the northern section of the garden. The trees which are the subject of this report are located at the top of this raised area.

2.3 Treescape

2.3.1 Surrounding the site is a residential area containing occasional garden trees.

2.3.2 The trees on this site have a moderate impact on the local treescape.

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 Common Ash and Sycamore.

3. Status of the Trees

3.1 A check was made on the 7th of May 2015 with **Barnsley Metropolitan Borough Council**.

3.2 We are informed that an Area Tree Preservation Order (reference **A4 TPO 17/2005**) protects all trees on this site.

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

3.3 ***No work must be done to any trees until permission has been granted.***

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 **1** individual tree and **1** group of trees. The individual early-mature tree was identified as retention category 'B' and the group of young to semi-mature trees were identified as retention category 'C'. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.2 **T1** is a healthy tree of good form; however, the canopy of this tree touches the gable end of the existing building as it stands at present. As such; it is advised that it be pruned back by the removal of secondary branches only in order to allow for a clearance distance of 1.5m between the branch extents and the gable of the building. The minor deadwood noted throughout the crown should also be removed as part of this remedial work.

5.1.3 As **T1** overhangs the public footpath it shall also require future maintenance in order to maintain a clearance height of 2.5m for pedestrian traffic above the adjacent public footpath.

5.1.4 **G2** is comprised of what are presumed to be five self-seeded Sycamores and Common Ash of low overall value; these trees require no remedial action at this time.

6. Arboricultural Implications Assessment (AIA)

6.1 Proposed Development

6.1.1 The proposed development will consist of the construction of a single storey extension to the northern aspect of the existing building. This is to be constructed on the existing hard standing of an existing bin store area (as shown in hatch on the Tree Constraints Plan at Appendix 6).

6.1.2 A raised footpath with a small retaining wall and a new inspection chamber manhole also form part of the development proposals, these are to be constructed adjacent to the proposed single storey extension.

6.1.3 Drawing No. **2015/016/03** has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.

6.2 Trees to be Removed

6.2.1 None of the surveyed trees require removal in order to facilitate the proposed extension.

6.3 Trees to be Pruned

6.3.1 In addition to the remedial works recommended for **T1** in **Section 5.1.2**, in order to facilitate the construction of the proposed single storey extension it will necessary to crown lift the southern aspect of **T1** to a height of no more than 4.5m by the removal of secondary branches only where possible.

6.4 Excavations Required for the Proposed Building

6.4.1 The proposed single storey extension is to be constructed on the same footprint as the existing bin store. The erection of this feature is considered to be outside the root protection area of **T1** will not result in any significant degree of root loss.

6.5 Excavations Required for the Proposed Footpath and Retaining Wall

6.5.1 The proposed footpath and retaining wall encroach within the root protection area of **T1**. As such; they are to be constructed following the existing contours in ground level in order to minimise the risk of root damage to **T1**.

6.5.2 The exact method of construction of the proposed footpath and retaining wall are not known at present, as such; these issues will be discussed at a later date in an Arboricultural Method Statement in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations*.

6.5.3 It is important to note that all excavations within the root protection area must be carried out in a cautious manner in order to minimise root damage to **T1**. Only hand tools are permitted within the area shown in blue on the Development Proposals Plan at **Appendix 7**. The use of machinery within this area is not permitted.

6.6 Installation of the inspection Chamber Manhole

6.6.1 The proposed inspection chamber manhole is located within the far extent of the root protection area of **T1** (4.9m away from the base of the tree which has a root protection radius of 5.52m).

6.6.2 The excavations required in order to install this feature are likely to result in a negligible degree of fibrous root damage to **T1**. As such; the location of this manhole is considered to be acceptable as long as the excavations required remain vertical to its required footprint and do not encroach any further into the rooting zone of this tree.

6.7 Exposed Roots

6.7.1 Any tree roots exposed within the root protection area during excavations must be left as intact as possible. This can be achieved by carefully digging around the roots using hand tools.

6.7.2 Exposed roots can become desiccated quickly and must therefore be covered with a dry cloth, to prevent freezing overnight, or a wet cloth on warm days.

6.7.3 If roots are required to be severed then clean, straight cuts must be made, in order to minimise the extent of wounding. If roots with a diameter of greater than 50mm are encountered, then a representative from JCA must first be informed to supervise before any further work is undertaken.

6.8 Protection of the Retained Trees

6.8.1 **T1** and **G2** will be protected during the construction phase by a temporary protective barrier (protective fencing), in accordance with BS 5837: 2012. The installation of the temporary protective barrier will be the very first job on site following the tree removal and pruning works.

6.8.2 Wherever possible the temporary protective barrier will be positioned to enclose the entire **Root Protection Area** (**RPA**) and canopies of the retained trees, in order to create a **Construction Exclusion Zone** (**CEZ**).

7. Conclusions

7.1 The trees were found to be in a good condition.

7.2 All the trees on this site are protected by an Area Tree Preservation Order.

7.3 The arboricultural implications of the development have been considered and discussed in **Section 6**.

7.4 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 to ensure that the retained trees are suitably protected.

7.5 In accordance with **Section 6.1** of **BS 5837: 2012**, the next stage on this site will be the preparation of an **Arboricultural Method Statement (AMS)**, to ensure that all the retained trees survive the development process. The **AMS** will advise on the location of temporary protective barriers and ground protection (if required). It will also detail the construction techniques of the proposed footpath, retaining wall and inspection chamber manhole.

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
T 1	Early-mature Common Ash *Fraxinus excelsior*	9	2	2.2 SE	46	7.5# 6.3 6 6.3	Overhanging the footpath and road and also located very close to the gable end of the subject property. The form of the tree is well proportioned, being multi-stemmed at 2.5m with an open and balanced crown. Occasional pruning wounds were noted. Minor deadwood was present throughout the crown, as is typical of this species. A buttress root was noted growing under the dry stone wall to the north of the tree. No major visible defects were observed.	Deadwood as a matter of low priority. Prune back to allow for a clearance distance of 1.5m between the canopy and the subject property by the removal of secondary branches only. Additionally, crown lift lift to 4.5m on the southern side of the tree to allow for the construction of the proposed extention.	GOOD	GOOD	MOD	20-40	B
G 2	Young to semi-mature Sycamore & Common Ash *Acer pseudoplatanus & Fraxinus excelsior*	To 7	0+	0+ n/a	To 15	See plan	5 trees of single-stemmed and vertical form with balanced crowns. These trees are presumed to be self-seeded specimens with little immediate or future value in the context of the family garden within which they are situated.	No action required.	GOOD	GOOD	LOW	10-20	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) Removal of other category U trees will render them exposed and unstable.
3) They are in serious, overall decline or are dead.
4) They are of low quality and suppressing adjacent trees of better quality.
5) 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.

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 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 – 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.

Michelle Ryan *BSc (Hons) Arboriculture.* Michelle has recently joined JCA having previously worked for a Local Authority. She obtained a degree in Arboriculture at the University of Central Lancashire and has various NPTC qualifications. Michelle is seeking to become LANTRA certified in Professional Tree Inspection.

Liam Plummer *BSc (Hons), Ecology.* Liam graduated from Bangor University in Ecology. He has recently joined JCA having worked for the Forestry Commission Scotland and previously in the Arboriculture and Conservation sectors. Liam has various NPTC qualifications and has completed several National Diploma (Arboriculture) units.

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).*

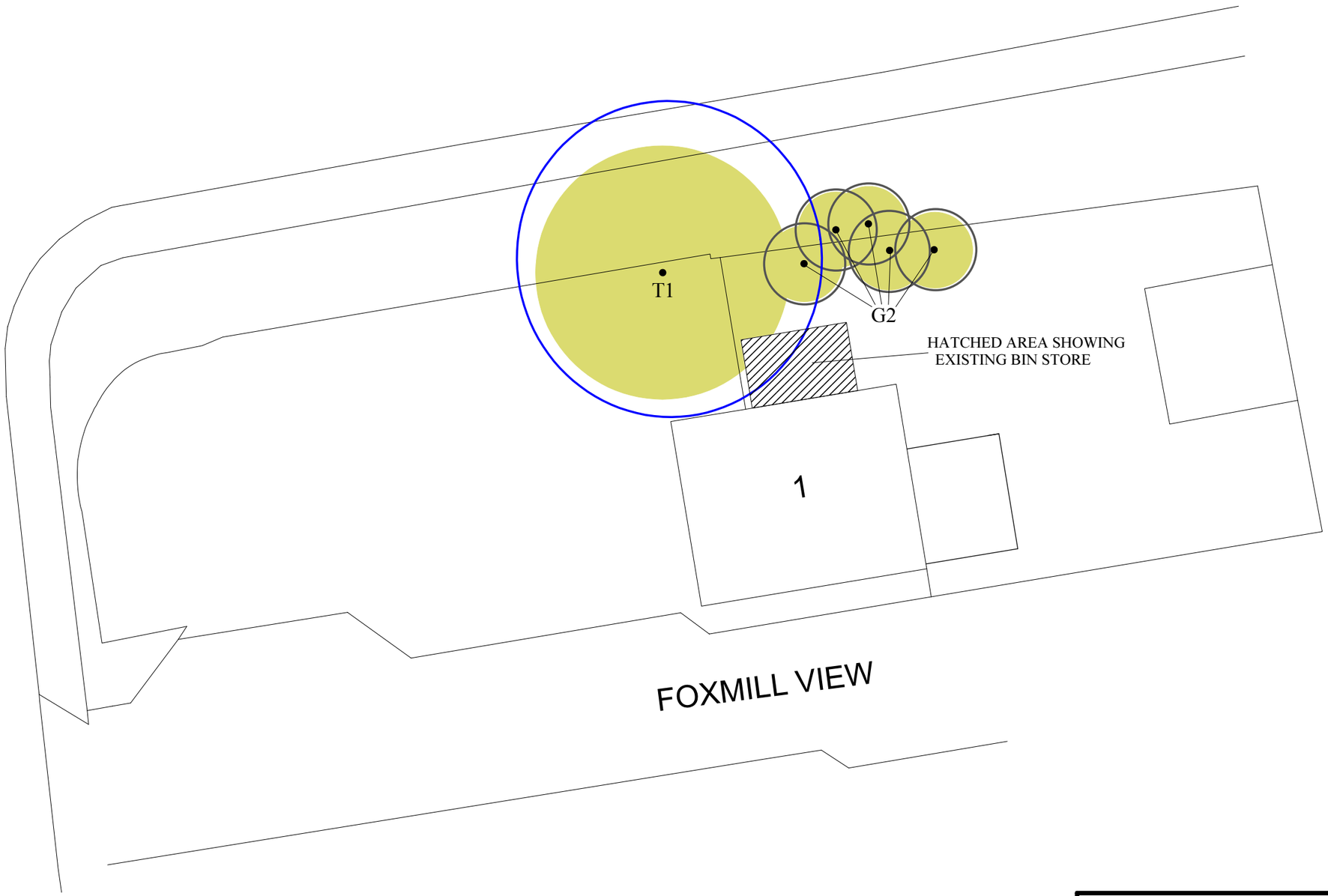
Consulting Staff: Ecology

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.

Alice Palmer. Alice Palmer. *BSc (Hons) Ecology, MSc (Dist) Biodiversity and Conservation.* Alice joined JCA in 2014 after graduating from the University of Leeds, having obtained a BSc in Ecology and an MSc in Biodiversity and Conservation. Alice is a student member of the Chartered Institute of Ecology & Environmental Management (CIEEM), and is working towards a graduate membership of CIEEM and a Class 18 Natural England bat licence.

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.



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.

Appendix 6: Tree Constraints Plan

ADDRESS: 1 Foxmill View, Millhouse Green, Penistone, South Yorkshire, S36 9AB.
JCA REF: 12255/AJB.

SCALE : 1:200	PAPER SIZE : A3

SURVEYED BY: AJB	DRAWN BY: AJB	APPROVED BY: PH

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

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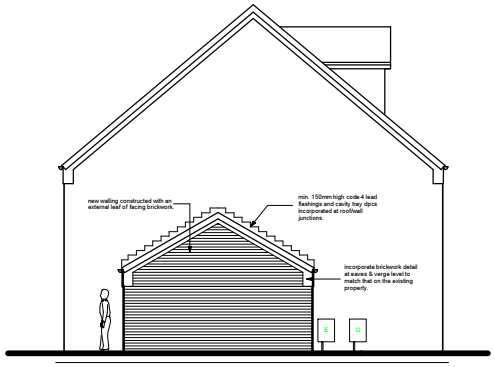
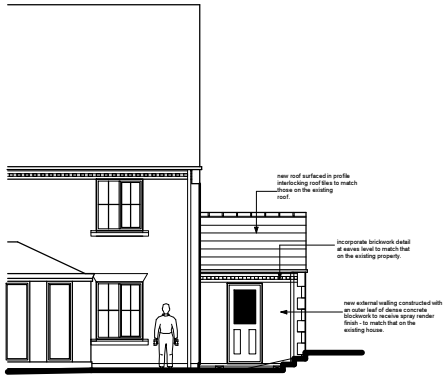
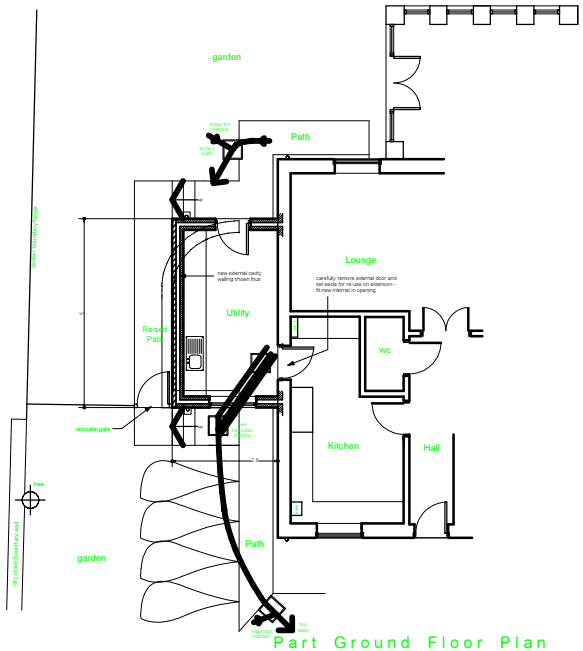
Part West Elevation



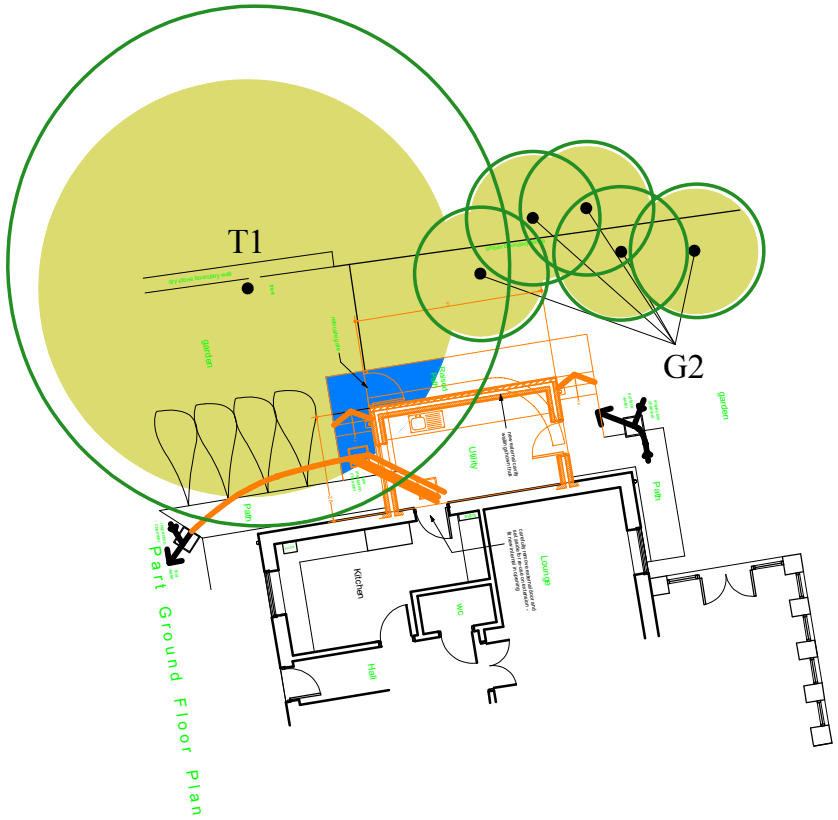
North Elevation



Part East Elevation



Part Ground Floor Plan



Part Ground Floor Plan

0 1 2 3 4 5 10 15 20 metres

N
W E
S

Appendix 7: Development Proposals

ADDRESS: 1 Foxmill View, Millhouse Green, Penistone, South Yorkshire, S36 9AB.
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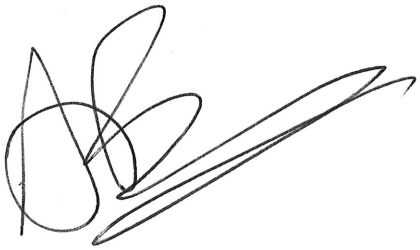
SCALE : 1:200	PAPER SIZE : A4

	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT
	PROPOSED DEVELOPMENT

JCA Limited
Arboricultural & Forestry Consultants

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.

15th May 2015

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

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- Garden tree and shrub maintenance plans

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- Trees in Historic Parks and Gardens
- Veteran trees
- Woodland Management Plans
- Ancient woodland
- Tree planting schemes

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

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(R. F. S.), F. Arbor. A., CBiol, MIBiol

Catherine Cocking
RGN RM

Photo front cover: Sluice at Bowers Mill

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