

RESUME

COAL MINING RISK ASSESSMENT

1. INTRODUCTION

Architectural Drawing & Planning Services has submitted a planning application for the proposed development at Westfield House for the erection of a new dwelling in the existing grounds.

JNP Group has been commissioned to prepare a Coal Mining Risk Assessment Report of the proposed development site, in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability.

2. Site Location and Description

The site is located in the grounds of Westfield House at the junction of Penistone Road and Wellthorne Lane, Rotherham. Refer to the architectural drawing in Appendix A.

3. Description and Layout of Proposed Development

Refer to Appendix A.

4. Scope of the Coal Mining Risk Assessment

The scope of the Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy issues, including the cumulative impact of issues;
- Identify appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have affected the proposed development; and
- Recommend to the Local Planning Authority that the application site is, or can be made, safe and viable to meet the requirements of national planning policy with regard to development on unstable land.

5. SOURCES OF INFORMATION USED TO INFORM THIS REPORT

Relevant sources of information have been obtained upon which the risk assessment of coal mining has been based. Reports/extracts are appended.

An up-to-date Coal Mining Report (Appendix B) including information obtained from a visit to The Coal Authority's Mining Records Office in Mansfield, Nottinghamshire.

Geological information obtained from the British Geological Survey including the 1:50,000 Series Land and Drift Edition (Appendix C) and nearby Borehole Location Records (Appendix D).

A site history based on historic Ordnance Survey mapping of the area (Appendix E).

Four desk-based assessments of ground conditions for the application site or adjacent/nearby sites. (None of relevance available)

Results of two intrusive site investigation works undertaken to assess ground conditions for the application site or adjacent/nearby sites. (None of relevance available)

ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

The following table assesses the potential risks associated with coal mining legacy for the proposed development, based on the sources listed in Section 2.

	Yes	No	Risk Assessment
Are there any recorded coal workings (recorded at shallow depths)		X	
Are there any recorded coal workings (recorded at shallow depths)	X		YES
Are there any recorded coal workings (recorded at shallow depths)		X	
Are there any recorded coal workings (recorded at shallow depths)		X	
Are there any recorded coal workings (recorded at shallow depths)		X	
Are there any recorded coal workings (recorded at shallow depths)		X	
Are there any recorded coal workings (recorded at shallow depths)		X	
Are there any recorded coal workings (recorded at shallow depths)		X	

The assessment identifies possible ancient coal mining workings within the zone of influence on the proposed development, for which no accurate plans or records exist". An assessment of the proposed development shows two seams of coal in the area, the Crow Coal seam and the Lower Penistone.

The Crow Coal seam is located approximately 500m to the south west, dipping towards the north east at approximately 10°. This would give a projected depth of approximately 30m. This is confirmed by the EGS borehole records (ref BH SE20 NW/11) to the north west of the site, which shows a coal seam at 24.5m depth with a suggestion of this being the Crow Coal Seam. This would give a depth to cover ratio to alleviate concerns.

Lower Penistone Seam

The Lower Penistone seam is located approximately 50m to the south west, dipping towards the north east at approximately 10°. This would give a projected depth of approximately 3m below the site. Coal at this depth has been extracted through bell pits. Although the historical records do not show any workings at the site there is still a residual risk of past shallow workings that can only be determined through intrusive investigation.

MITIGATION STRATEGY PROPOSED

The assessment cannot conclude with certainty the extent of the coal mining risks on the proposed on-site intrusive investigation works should be carried out. Given the shallow nature of the seam we suggest trial holes be excavated in the first instance to determine whether any excavation has occurred on the site.

The trial holes should be excavated to a depth of 4m. These should be supervised by a suitably qualified person. Should the investigation be inconclusive then consideration should be given to further investigation through rock drilling techniques.

If a coal mining risk still exist following this investigation then appropriate measures should be put in place in accordance with The Construction Industry Research and Information Association (CIRIA) Special Publication 32 "Construction over Abandoned Mine Workings". This should be dealt with by a qualified Engineer.

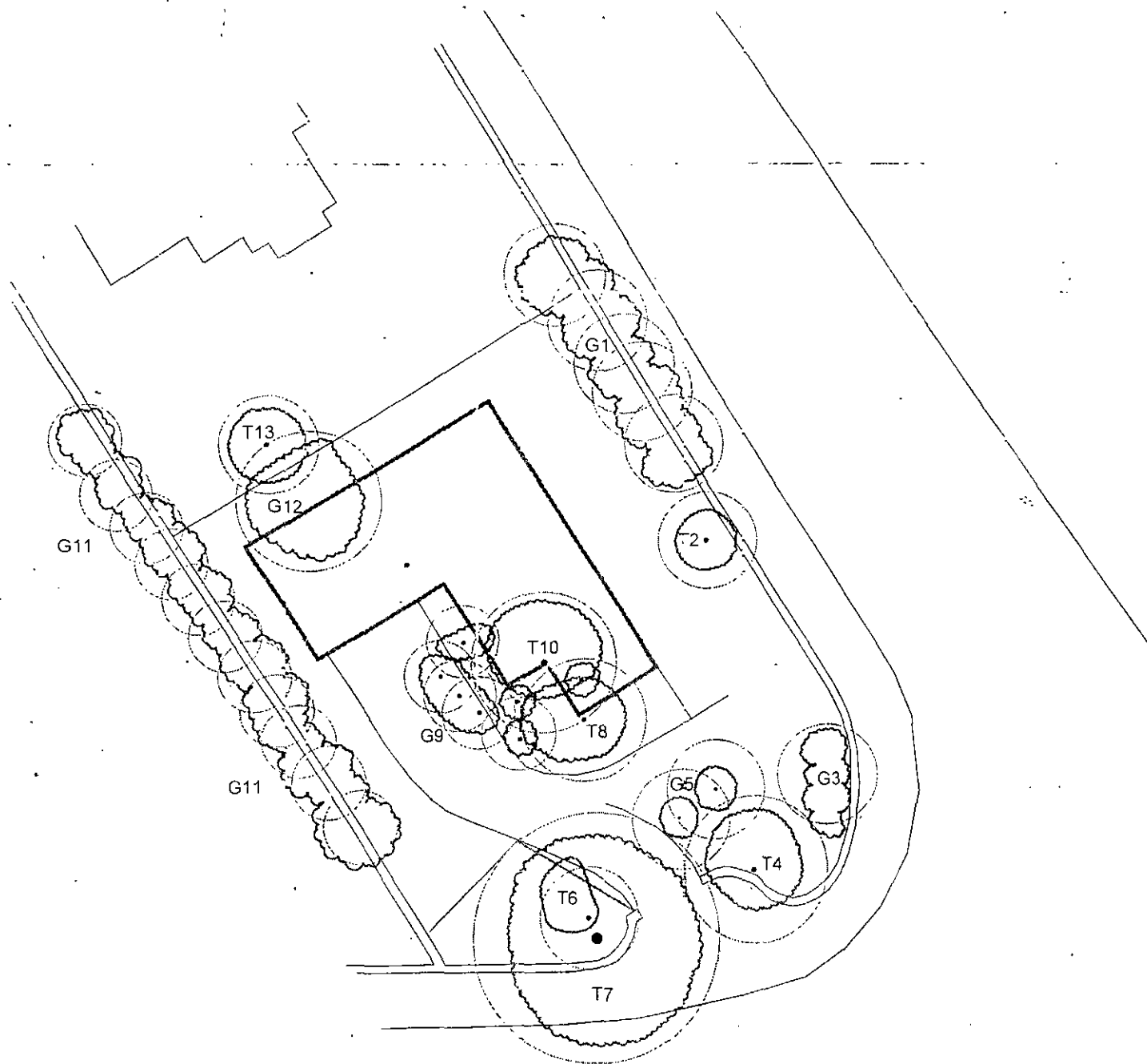
COAL AUTHORITY PERMISSION

Permission from The Coal Authority is required for intrusive activities which will disturb or destroy coal seams, coal mine workings or coal mine entries (shafts and adits). Further information on the Coal Authority's permissions process can be found on www.coal.gov.uk/services/permissions/index.cfm. This permission has not been requested at this stage.

shallow mine workings affecting the site that should be investigated prior to

level of risk still exist on completion of the intrusive works then a strategy should
possibly qualified Engineer

11



Appendix 5: Tree Constraints Plan

WELLTHORNE LANE PENISTONE
Ref: AWA1048

BRITISH STANDARD 5337:2012
RETENTION CATEGORIES
Definitions of these categories can be
found in Appendix 2 of the report.

SCALE: 1:200

PAPER: A3

	CATEGORY A: RETENTION MOST DESIRABLE
	CATEGORY B: RETENTION DESIRABLE
	CATEGORY C: COULD BE RETAINED
	CATEGORY U: FOR REMOVAL
	RPA ROOT PROTECTION AREA
	TREE STEM
	TREE STEM TO BE REMOVED
	NEW DEVELOPMENT
	TREE PROTECTION FENCING

Tree Data

1048AWA

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 S E	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
G 11	Semi-Mature Laurel <i>Prunus laurocerasus</i>	8	0	0 n/a	15	See plan	Boundary shrubs with no major visible defects. Occasional Holly in group. Good screening potential.	No action required	GOOD	GOOD	LOW	20-40	C
G 12	Semi-Mature Laurel <i>Prunus laurocerasus</i>	4	0	0 n/a	25	See plan	Overgrown shrub.	No action required	FAIR	FAIR	LOW	10-20	C
T 13	Semi-Mature Cypress <i>Cupressus sp.</i>	5	1	1 N	22	2 2 7	Twin-stemmed at 0.5m. Situated on top of low wall. No major visible defects.	No action required	FAIR	FAIR	LOW	10-20	C

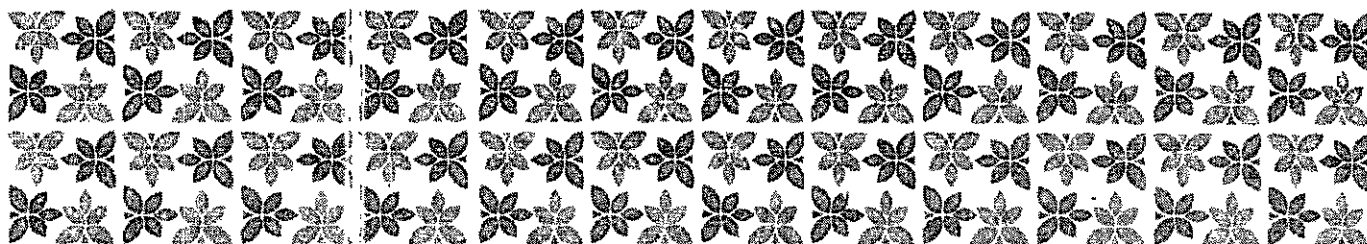
Tree Data

1048AWA

Tree Ref	Age Species Latin Name	Height (m)	Crown Height (m)	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
G 1	Early-Mature Leylandii X Cupressocypariss leylandii	7	0	0 n/a	22	See plan	Line of boundary trees adjacent to roadside. All previously topped with poor form and limited long term value.	No action required consider future removal and replacement planting.	FAIR	POOR	LOW	10-20	C
T 2	Semi-Mature Cypress Cupressus sp.	5	1	1 W	25	1.5 1.5 1.5 1.5	Twin-stemmed 1m. No major visible defects.	No action required	GOOD	FAIR	LOW	20-40	C
G 3	Semi-Mature Laurel Prunus lusitanica	1	0	0 n/a	10	See plan	Multiple-stemmed shrubs. No major visible defects.	No action required	GOOD	GOOD	LOW	10-20	C
T 4	Early-Mature Laburnum Laburnum anagyroides	4	2.5	2 S	30	3 2.5 3 2	Multiple-stemmed at 1m. Occasional branches pushing against boundary wall. Limited long term value.	No action required	FAIR	FAIR	LOW	10-20	C
G 5	Semi-Mature Holly Ilex aquifolium	4	1	1 S	17	See plan	Multiple-stemmed shrubs. Minor dieback.	No action required	FAIR	FAIR	LOW	20-40	C
T 6	Semi-Mature Blue Atlas Cedar Cedrus atlantica	4	2	2 N	20	3 2 0 1	Twin-stemmed at 1.5m. Poor form with unbalanced crown due to suppression from T7. Limited long term value.	No action required	FAIR	POOR	LOW	10-20	C
T 7	Early-Mature Ash Fraxinus excelsior	9	3	3 N	50	5 4 5 5	Single-stemmed to 3.5m. Occasional old pruning wounds, healing well. Crown overhanging road. Minor branch damage in crown, occasional minor deadwood.	Crown lift to 5m over roadside and remove deadwood.	FAIR	GOOD	MOD	20-40	B
T 8	Early-Mature Apple Malus sp.	4	2	2 W	24	2 3 2 2	Multiple-stemmed at 1.5m. Pruning wounds throughout crown. Minor dieback.	No action required	FAIR	FAIR	LOW	10-20	C
G 9	Semi-Mature Laurel Prunus lusitanica	3	0	0 n/a	15	See plan	Group of small shrubs including Laurel, Holly and Cypress. No major visible defects yet limited long term value.	No action required	GOOD	GOOD	LOW	10-20	C
T 10	Semi-Mature Purple Plum Prunus cerasifera	4	1	1 N	30	3 2 3 2	Multiple-stemmed with tight unions. No major visible defects.	No action required	GOOD	FAIR	LOW	20-40	C

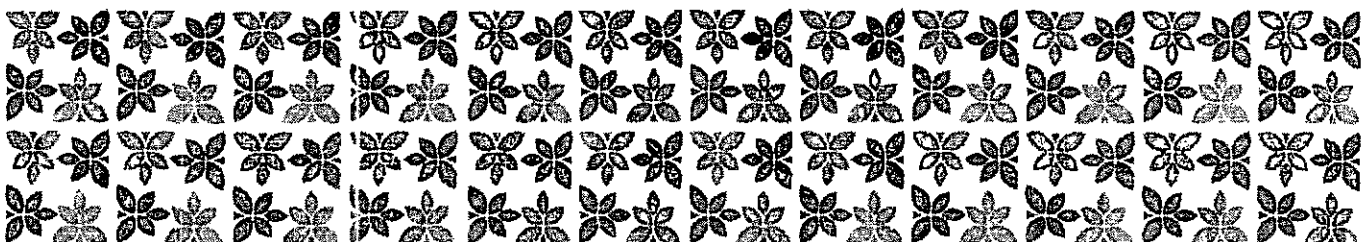
Appendix 5: Tree Constraints Plan

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Appendix 4: Tree Descriptions and Recommendations

Adam Winson | ARBORICULTURIST



Appendix 3: Explanation of Tree Descriptions

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

CROWN HEIGHT is an indication of the average height at which the crown begins and includes information of the first significant branch and direction of growth.

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 or else a combined stem diameter is calculated.

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

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

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.

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.

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

Retention Categories

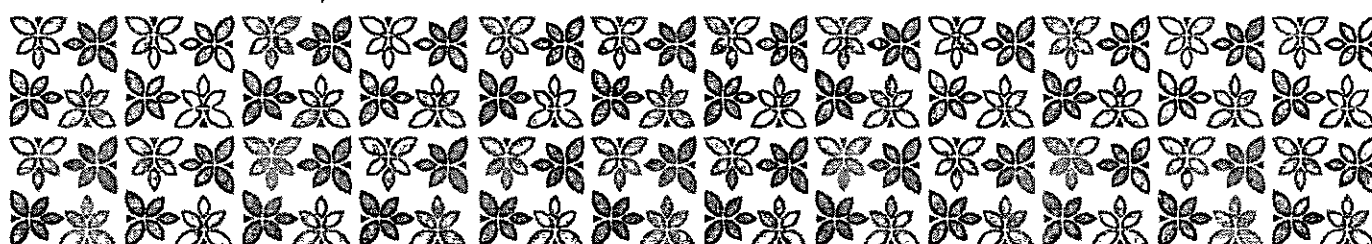
A (marked green on the plan) = retention most desirable. These trees are of very high quality and value with a good life expectancy.

B (marked in blue on the plan) = retention desirable. These trees are of good quality and value with a significant life expectancy.

C (marked in grey on the plan) = trees which could be retained. These trees are of low or average quality and value, and are in adequate condition to remain until new planting could be established.

U (marked in red on the plan) = trees for removal. These trees are in such a condition that any existing value would be lost within 10 years.

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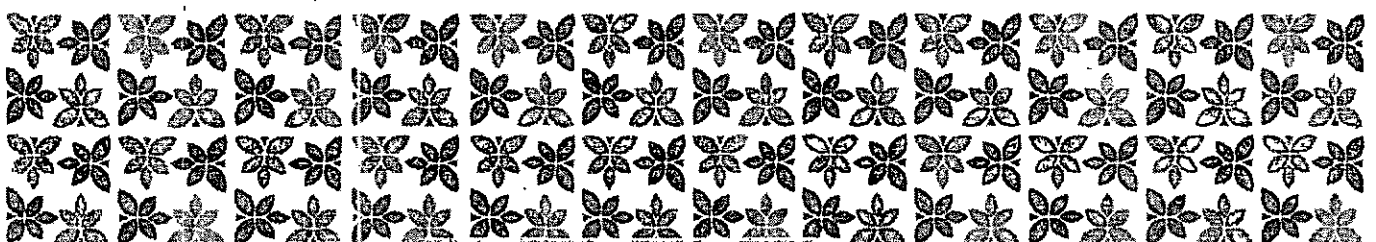
Appendix 2: Survey Methodology and Limitations of Report

The survey was undertaken in accordance with British Standard 5837 (2012) *Trees in relation to design, demolition and construction –Recommendations*. The trees were assessed objectively and without reference to any proposed site layout. The trees were surveyed from the ground using 'Visual Tree Assessment' (VTA) methodology. VTA is appropriate and is endorsed by industry guidance. It is used by arboriculturists to evaluate the structural integrity of a tree, relying on observation of trees biomechanical and physiological features. Measurements are obtained using a diameter tape, clinometer, distometer and loggers tape. Where this is not practical measurements are estimated. Tree groups have been identified in instances as defined in BS 5837 (2012). Shrubs and insignificant trees may have been omitted from the survey.

This report represents a BS5837 tree survey and should not be accepted as a detailed tree safety inspection report; however, tree related hazards are recorded and commented upon where observed, yet no guarantee can be given as to the absolute safety or otherwise of any individual tree. All recommended tree work must be to BS 3998: 2010 - '*Tree Work:Recommendations*'.

The findings and recommendations contained within this report are valid for a period of twelve months from the date of survey. The author 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 these guidelines and terms.

Adam Winson | ARBORICULTURIST



Appendix 1: Authors Qualifications & Experience

Mr Adam Winson Chartered Arboriculturist, MSc, BSc (Hons), ND, MICFor, AIEEM.

Adam has extensive experience in arboriculture, having worked with trees for over 15 years. He initially worked as a climbing arborist, throughout Europe and Australia. After returning home, to study a BSc (Hons), he began working as a Consulting Arboriculturist. His work now ranges from individual expert tree inspections to managing trees on major multi-million pound housing and park developments and highway and infrastructure projects. In 2010 Adam obtained an MSc in Arboriculture and Urban Forestry (with distinction), also gaining the top student award. Adam has had articles published in industry magazines and has original research published by the UK Forestry Commission.

Membership of Professional Bodies

Professional Member of the Institute of Chartered Foresters

Associate of the Institute of Ecology and Environmental Management

Education and Qualifications

MSc Arboriculture and Urban Forestry (Distinction) University of Central Lancashire -
Myerscough College. 2006 -2009

BSc (Hons) Environmental Conservation 2:1. Sheffield Hallam University. 2002 2005

National Diploma in Arboriculture University of Lincoln/ Riseholme. 1996-1998

Previous Experience

Consulting Arboriculturist at JCA Ltd. Halifax, Yorkshire 2005 to 2012

Freelance Arborist for various companies. Sheffield, South Yorkshire 2002 - 2005

Arborist for AAA Arbor /Sydney City Council Australia 2001- 2002

Arborist for The Tree Surgeon, Brisbane, Australia 2000- 2001

Groundsman/Climber at Lindsey Tree Services, Grimsby, Lincolnshire 1998 -2000

Groundsman/Climber at Freelance Baumpflege, Frankfurt, Germany 1998

Freelance Groundsman/Climber for various companies, Lincoln Area 1996-1998

Training, Awards & Qualifications

MSc Top Student Award University of Central Lancashire 2010

Bats and Bat Surveys- a foundation course for ecological consultants. BCT 2007

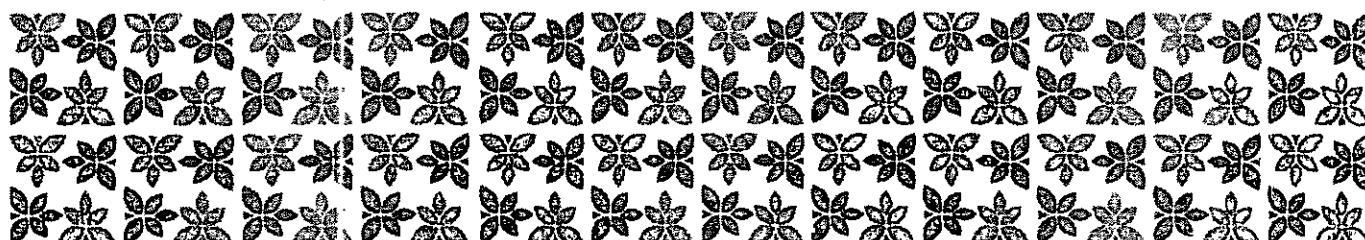
Arboriculture & Bats: A Guide for Practitioners BCT and AA 2007

CPRE Prize for best dissertation on the theme of Countryside Management. Campaign to
Protect Rural England Prize 2006

Lady Hastings Prize; awarded for the best performance whilst on work placement.
Sheffield Hallam University 2005

**Tree Climbing, Aerial Rescue & Use of Chainsaw from Rope and Harness (CS 38 &
39) N.P.T.C** 1998

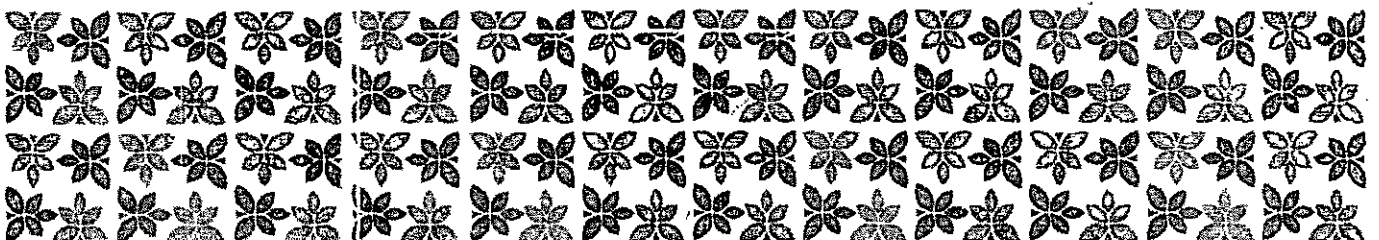
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Appendices

- Appendix 1: Authors Qualifications and Experience**
- Appendix 2: Survey Methodology and Limitations**
- Appendix 3: Explanation of Tree Descriptions**
- Appendix 4: Tree Descriptions and Recommendations**
- Appendix 5: Tree Constraints Plan**

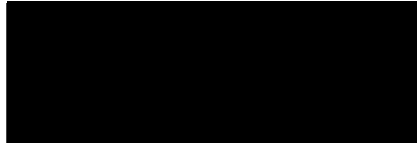
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4. Signature

I trust this report provides all the required information.

Signed



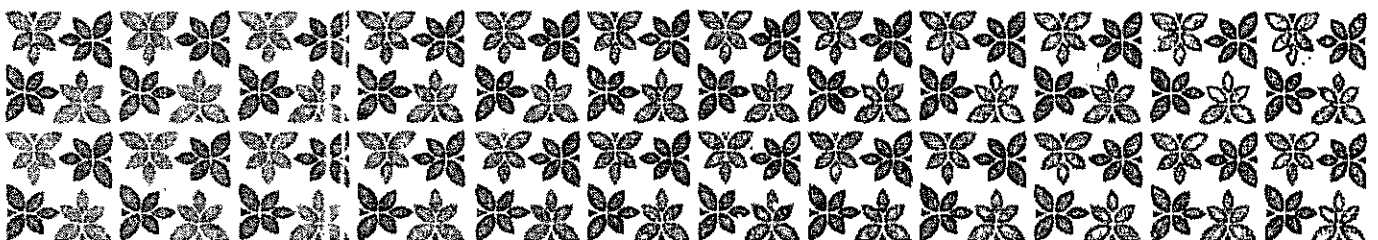
Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons), MICFor, AIEEM.

15th November 2012

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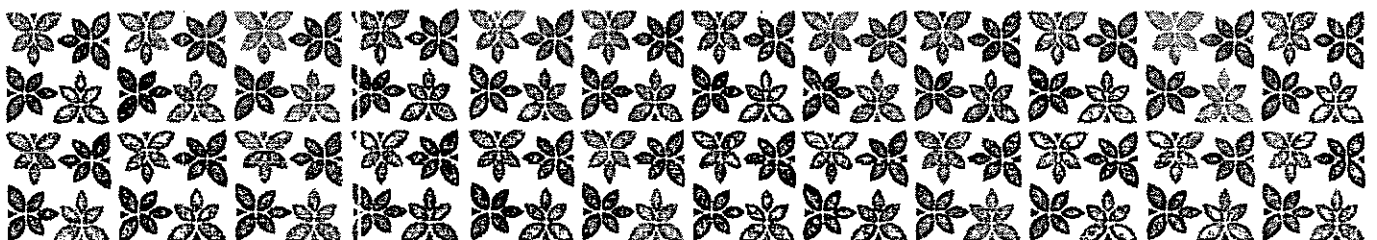
3.4 Arboricultural Impacts

- 3.4.1 It is proposed to build a new residential dwelling. Please refer to the plan at Appendix 5 for the layout of the new building.
- 3.4.2 It is likely the new development will require the removal of several lower value trees and shrubs situated in the centre of the garden, including T8, G9, T10 and G12, as they are situated within or next to the footprint of the new development.
- 3.4.3 Most other trees are situated near the site boundary and so should not be significantly impacted by the construction of the building.
- 3.4.4 It is recommended, if possible, to retain and protect the higher value Ash tree, T7, throughout the development. The existing hard-standing driveway is being utilised for the development and so this should avoid any root damage to this tree.

3.5 Protection of the Retained Trees

- 3.5.1 The retained trees may require protection by fencing in accordance with BS 5837: 2012, during the development phase. The protective fencing should protect the Root Protection Area (RPA) of the tree as highlighted on the plan at Appendix 5.

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3. The Trees

3.1 Legal

- 3.1.1 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works a check should be made with the Local Planning Authority to see if the trees are covered by a Tree Preservation Order or if they are within a Conservation Area. If either applies, then statutory permission is required before any works can take place.
- 3.1.2 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance. All tree work should be carried out according to British Standard 3998: 2010 *Tree Work - Recommendations*.

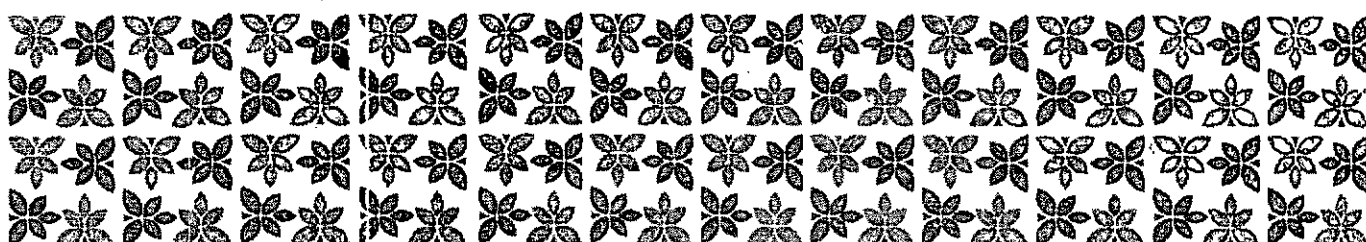
3.2 Vegetation Overview

- 3.2.1 Surrounding the site is a reasonable mix and distribution of established trees, situated within residential gardens or as field boundary or highway trees.

3.3 Summary of Results & Discussion

- 3.3.1 The tree survey revealed 13 items, labelled G1 to T13 on the attached plan at Appendix 5. Of the surveyed trees, 1 is a higher value retention category 'B' and 12 are lower value retention category 'C'.
- 3.3.2 The trees are all semi-mature or early mature in age and are typical species of the surrounding residential gardens. None of the trees are worthy of particular note, however collectively they do provide some landscape value.
- 3.3.3 The Ash tree (T7) is in good health and is more visually prominent than the other surveyed trees.

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2. The Site

2.1 Location

2.1.1 The site is located in the village of Ingbirchworth, in the Metropolitan Borough of Barnsley; grid reference SE 22030 06269.

2.1.2 The tree survey was limited to the area within the red line, shown in the (2009) image below:



2.2 Site Description

2.2.1 The site is formed by the garden area of a residential dwelling.

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1. Introduction

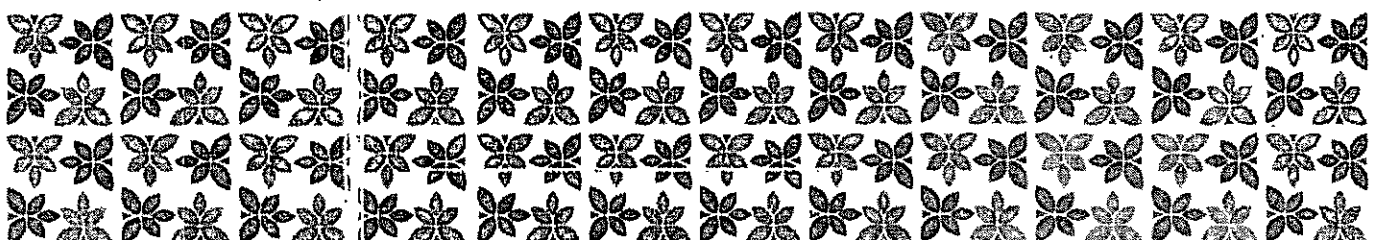
1.1 Instructions and Brief

- 1.1.1 I am instructed by Mr David Jones of Ingbirchworth, to visit the site and prepare my findings in a report.
- 1.1.2 The report is required in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction –Recommendations*, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Survey Details

- 1.2.1 The survey took place during November 2012 by Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons) MICFor, AIEEM, (the author's qualifications and experience are included within **Appendix 1**).
- 1.2.2 The trees were surveyed visually from the ground using 'Visual Tree Assessment' techniques and in accordance with the guiding principles of British Standard 5837:2012 (explanatory details regarding the survey methodology are included within **Appendix 2**).
- 1.2.3 A full explanation of the tree data can be found at **Appendix 3**. Full details of all the trees surveyed are found in **Appendix 4**. For tree locations please refer to the Tree Constraints Plan at **Appendix 5**.

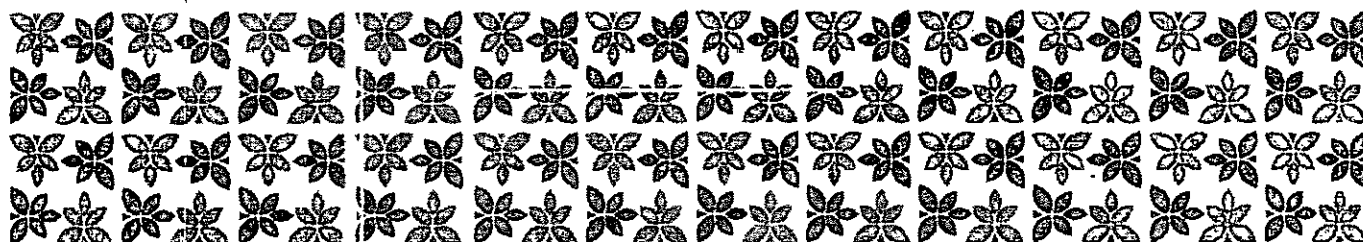
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ARBORICULTURAL REPORT

to BS 5837:2012 at:

***Land Adjacent to
Westfield House
Wellthorne Lane
Ingbirchworth
Penistone
South Yorkshire
S36 7GJ***

For:

**Mr David Jones
Westfield House
Wellthorne Lane
Ingbirchworth
Penistone**

November 2012

