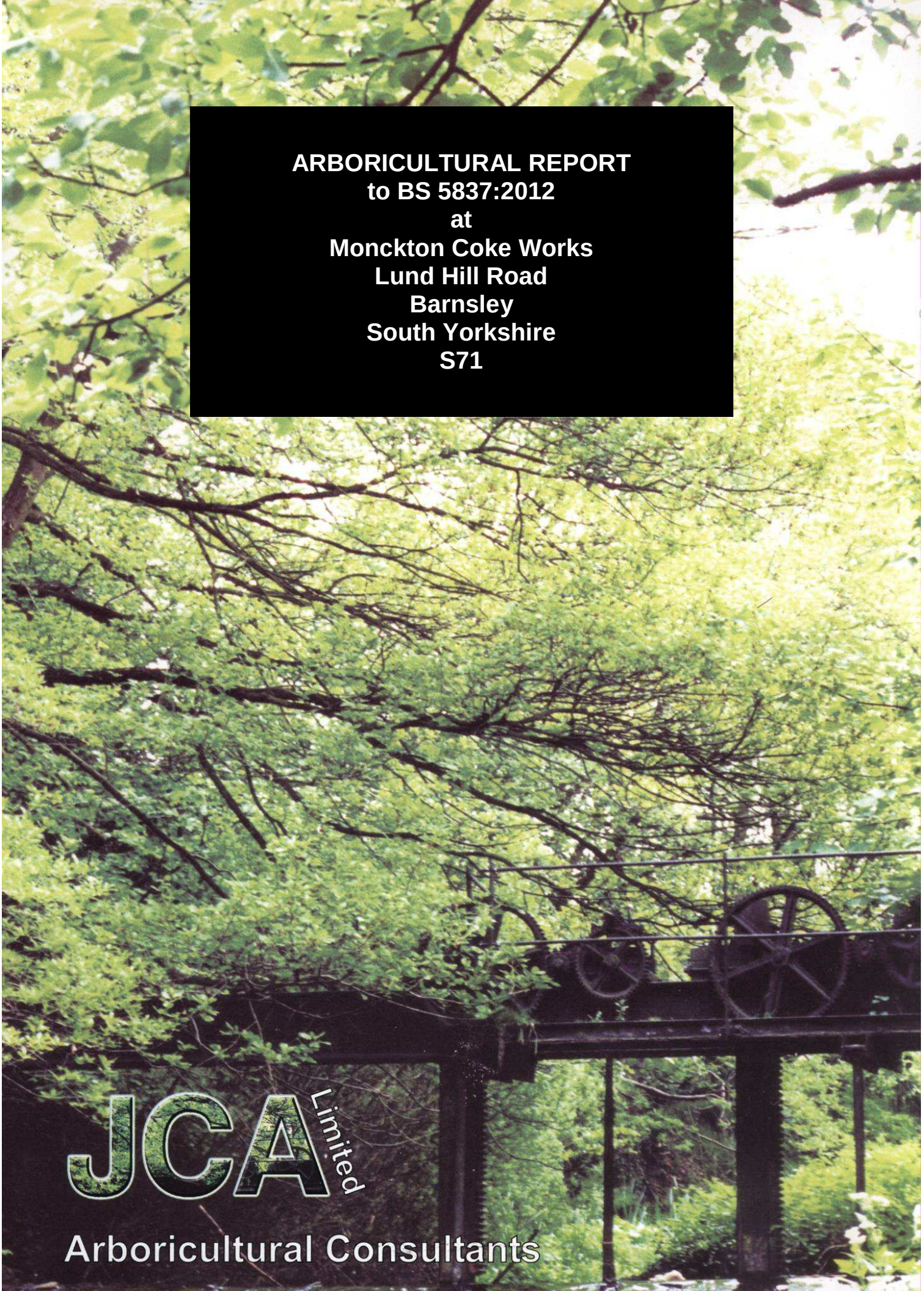


ARBORICULTURAL REPORT
to BS 5837:2012
at
Monckton Coke Works
Lund Hill Road
Barnsley
South Yorkshire
S71

JCA Limited

Arboricultural Consultants

ARBORICULTURAL REPORT
to BS 5837:2012
at
Monckton Coke Works
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South Yorkshire
S71

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1. Introduction

1.1 Purpose of the Report

1.1.1 A report is required at **Monckton Coke Works, Lund Hill Road, Royston, South Yorkshire,** 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 Hargreaves Production Surface Mining 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. 13049_100.

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 May 2013.

The survey was conducted by Gavin Proud *BSc. (Hons), NC (Arboriculture)*.

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 and electronic distometers. Where this was not possible measurements were estimated.

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2. Site Description

2.1 Land Use

2.1.1 The site is currently land comprising woodland and a track immediately to the North of the Monckton Coke Works.

2.2 Topography

2.2.1 The site is approximately level with embankments surrounding the coal stacking area and area to the East.

2.3 Treescape

2.3.1 Surrounding the site to the North is woodland. To the West and East are open fields containing occasional groups of mature trees.

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

2.4 Visual Amenity Value

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

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from young to mature. However, the trees were predominantly young and semi-mature.

2.6 Species Diversity

2.6.1 Species surveyed include Birch, Willow, Hawthorn, Poplar, Hazel, Beech, Rowan, Oak, Alder, Ash, Sycamore, Apple and Elder. The predominant species were Birch, Willow, Hawthorn, Poplar, Hazel, Beech and Oak, with other species being occasional, or even single, specimens.

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3. Status of the Trees

3.1 A check was made on 9th May 2013 with: ***Barnsley Council*** *and* ***Wakefield Council.***

3.2 We are informed that there is no Tree Preservation Order in force and that the site is not within a Conservation Area.

3.3 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken. We are able to arrange this and to organise and supervise professional contractors.

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 47 items of vegetation (13 individual trees and 34 groups of trees). Of these, 2 trees were identified as retention category 'B' and 11 trees and 34 groups were identified as retention category 'C'. No retention category 'A' or 'U' trees were identified on this occasion. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.2 There were no trees recommended for removal.

5.1.3 Tree pruning works are not recommended for any trees on this site**.**

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5.2 Potential Arboricultural Implications & General Design Advice

5.2.1 The details of the proposed development are not known at present. However, the following comments can be made about the site in terms of its tree cover in relation to a potential development.

5.2.2 Development within the site may require the removal of some trees. However many of the trees are of poor quality (retention category 'C') and could be replaced as part of a post development landscaping scheme.

5.2.3 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.

5.2.4 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**.

5.2.5 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 an RPA.

5.2.6 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.

5.2.7 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.

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

5.2.9 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.

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5.2.10 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.

5.2.11 Generally, the alteration of ground levels within the RPA is not acceptable. However, should ground levels need to be lowered in areas adjacent to trees or within the minimum distance recommended, 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.

5.2.12 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. If required, JCA can provide a shade cast prediction plan.

5.2.13 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. JCA can provide Ecological Surveys and Bat Surveys where required.

5.2.14 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. JCA can provide Tree Planting Schemes where required.

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6. Conclusions

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

6.2 All development work carried out in close proximity to trees must be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.

6.3 Care must be taken at the design stage to ensure that the retained trees are protected. The protection of the retained trees can be achieved by installing a temporary barrier to create a Construction Exclusion Zone (based on the Root Protection Areas). The Root Protection Area of each tree or group is marked on the Tree Constraints Plan at **Appendix 6**.

6.4 The proposed development should be accompanied by an Arboricultural Method Statement detailing the specific protection measures necessary for each tree. This should specify the temporary protective barrier standards and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.

6.5 Upon instruction JCA Limited are able to provide a comprehensive Arboricultural Method Statement in order to ensure the continued health of trees throughout the proposed development. We are also able to provide Tree Planting Schemes and organise tree works.

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Appendices

Appendix 1: Tree Descriptions and Recommendations

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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
G 1	Semi-mature Birch, Goat Willow, Hawthorn *Betula, Salix, Crataegus sp.*	10	0	0 n/a	Ave 10#	See Plan	A group of single and multiple-stemmed specimens growing alongside existing rail track. Some cavities & deadwood but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 2	Semi-mature Birch, Goat Willow *Betula, Salix sp.*	10	0	0 n/a	Ave 15#	See Plan	A group of single and multiple-stemmed specimens growing adjacent to existing rail tracks. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 3	Young to semi-mature Birch, Goat Willow *Betula, Salix sp.*	11	0	0 n/a	Ave 20#	See Plan	A group of single and multiple-stemmed Birch and Goat Willow overhanging the existing railway. Some tight unions but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 4	Young to semi-mature Birch, Goat Willow *Betula, Salix sp.*	11	0	0 n/a	Ave 12#	See Plan	A group of single-stemmed Silver Birch and occasional Goat Willow overhanging existing railway. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 5	Young to semi-mature Birch, Goat Willow *Betula, Salix sp.*	10	0	0 n/a	Ave 18#	See Plan	A group of Silver Birch and occasional Goat Willow overhanging existing railway. One birch is growing against a concrete wall with bark wounds present on the stem, but in an acceptable condition at present.	No action required.	GOOD	FAIR	LOW	40+	C
T 6	Mature Goat Willow *Salix caprea*	8	1	0.5 SW	33	4.5 3 2 6	Single-stemmed and vertical with an unbalanced crown overhanging the railway. Previously topped at 2m. Dieback is present in some of the branches at the pollard points, but in an acceptable condition at present.	No action required.	FAIR	FAIR	LOW	10-20	C
G 7	Young to semi-mature Birch, Goat Willow *Betula, Salix sp.*	9	0	0 n/a	Ave 12#	See Plan	A group of single and multiple-stemmed Birch and Goat Willow. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 8	Young to early-mature Birch, Goat Willow *Betula, Salix sp.*	12	0	0 n/a	Ave 20#	See Plan	A group of single and multiple-stemmed specimens, with occasional larger specimens of multiple-stemmed Goat Willow. Some fallen stems. Occasional tight unions and cavities but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 9	Young to semi-mature Birch, Goat Willow, Hawthorn *Betula, Salix, Crataegus sp.*	9	0	0 n/a	Ave 14#	See Plan	A group of single and multiple-stemmed Silver Birch and Goat Willow with occasional specimens of Hawthorn. Some tight unions and occasional fallen stems but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C

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
G 10	Young to semi-mature Birch, Willow, Hawthorn, Oak *Betula, Salix, Crataegus, Quercus sp.*	10	0	0 n/a	Ave 10#	See Plan	A group of single and multiple-stemmed Silver Birch and Goat Willow with occasional specimens of young Oak and Hawthorn. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 11	Young to early-mature Silver Birch, Goat Willow *Betula, Salix sp.*	10	0	0 n/a	Ave 18#	See Plan	A group of single and multiple-stemmed specimens. Several tight unions but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 12	Young to early mature Birch, Willow, Poplar, Hawthorn *Betula, Salix, Populus, Crataegus sp.*	12	0	0 n/a	Ave 19#	See Plan	A group of single and multiple-stemmed specimens. Some tight unions, cavities and broken branches but acceptable condition at present.	No action required.	GOOD	FAIR	LOW	40+	C
G 13	Young to early-mature Birch, Willow, Hawthorn, Ash *Betula, Salix, Crataegus, Fraxinus sp.*	10	0	0 n/a	Ave 18#	See Plan	A group of single and multiple-stemmed Birch, Hawthorn and Goat Willow with occasional Ash. Some cavities and tight unions present but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 14	Young to Early-mature Birch, Goat Willow *Betula, Salix sp.*	11	0	0 n/a	Ave 24#	See Plan	A group of single and multiple-stemmed specimens. Occasional pruning wounds and branch stubs due to crown lifting. Some tight unions, cavities and occasional fallen stems present but in an acceptable condition at present.	No action required.	GOOD	FAIR	LOW	40+	C
G 15	Young to early-mature Silver Birch, Goat Willow *Betula, Salix sp.*	9	0	0 n/a	Ave 25#	See Plan	A group of single and multiple-stemmed specimens. Occasional fallen stems. One previously uprooted willow. Acceptable condition at present.	No action required.	GOOD	FAIR	LOW	40+	C
T 16	Semi-mature Common Ash *Fraxinus excelsior*	7	2	1 E	12	2 2 2 2	Single-stemmed and vertical with a balanced crown. Occasional pruning wounds and branch stubs due to crown lifting. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 17	Semi-mature Common Hawthorn *Crataegus monogyna*	3	0	0 n/a	Ave 7 x5	2 2 2 2	Multi-stemmed at 0.5m with a balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 18	Young to early-mature Birch, Hawthorn, Ash, Elder *Betula, Crataegus, Fraxinus, Sumbucus*	11	0	0 n/a	Ave 20#	See Plan	A group of Silver Birch and Hawthorn with occasional Ash and Elder. One small dead Elder and occasional leaning stems but acceptable condition at present.	No action required.	GOOD	FAIR	LOW	40+	C

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
G 19	Young to early-mature Birch, Hawthorn, Sycamore, Rowan *Betula, Crataegus, Acer, Sorbus sp.*	12	0	0 n/a	Ave 19#	See Plan	A group of Silver Birch with occasional specimens of Hawthorn, Sycamore and Rowan. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 20	Young to Early-mature Birch, Hawthorn, Apple *Betula, Crataegus sp.*	9	0	0 n/a	Ave 18#	See Plan	A small group of one early-mature twin-stemmed Birch, 2 young and 1 semi-mature Hawthorn, and one semi-mature apple. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 21	Early-mature Silver Birch *Betula pendula*	9	1	0.5 NE	17	2.5 2 3 3	Single-stemmed and vertical with a balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 22	Early-mature Silver Birch *Betula pendula*	9	1	1 N	23	4 3 3 3	Single-stemmed and vertical with a balanced crown, growing on bankside. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 23	Mature Silver Birch *Betula pendula*	12	2	1 E	31	3.5 3 3 3	Single-stemmed and vertical with an unbalanced crown. No evidence of previous pruning. Occasional deadwood but no major visible defects.	No action required.	GOOD	GOOD	LOW	40+	B
G 24	Young to Semi-mature Birch, Willow, Hawthorn, Apple *Betula, Salix, Crataegus, Malus sp.*	11	0	0 n/a	Ave 18#	See Plan	A group single and multiple-stemmed specimens. Occasional tight unions and cavities but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
T 25	Mature Silver Birch *Betula pendula*	12	1.5	1 NE	37	4.5 2 4 4	Single-stemmed and vertical with a slightly unbalanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	B
T 26	Early-mature Silver Birch *Betula pendula*	10	1	1 NW	26	3 2.5 4 3	Single-stemmed with a slight lean and a reasonably balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 27	Young to Semi-mature Birch, Willow, Hawthorn *Betula, Salix, Crataegus*	9	0	0 n/a	Ave 18#	See Plan	A group of single and multiple-stemmed Silver Birch and Goat Willow with occasional specimens of Hawthorn. Occasional tight unions but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 28	Young to Semi-mature Birch, Willow, Hawthorn *Betula, Salix, Crataegus*	19	0	0 n/a	Ave 15#	See Plan	A group of single and multiple-stemmed specimens. Occasional tight unions and cavities but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C

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
G 29	Young to Early - mature Birch, Willow, Hawthorn, Svcamore *Details in observations*	10	0	0 n/a	Ave 20#	See Plan	A group of single and multiple-stemmed Silver Birch and Goat Willow with occasional specimens of Hawthorn and one twin-stemmed Sycamore. Occasional tight unions present but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 30	Semi-mature Birch, Hawthorn *Betula, Crataegus sp.*	9	0	0 n/a	Ave 10#	See Plan	A group of 3 single-stemmed Silver Birch and one multiple-stemmed Hawthorn overhanging the reservoir area. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 31	Semi-mature Silver Birch, Rowan *Betula, Sorbus sp.*	5	0.5	0 n/a	Ave 15#	See Plan	A group of 1 multiple-stemmed Rowan and 1 slightly leaning Silver Birch overhanging the reservoir area. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
T 32	Semi-mature Silver Birch *Betula pendula*	5	0.5	0 SE	13	2 2 3 2	Single-stemmed and vertical with a balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 33	Semi-mature Silver Birch *Betula pendula*	5	0	0 n/a	14 10	2.5 2 2 2	Twin-stemmed at 1.5m with a slight lean and a balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 34	Semi-mature to Early-mature Silver Birch, Hawthorn, Apple *Betula, Crataegus, Malus sp.*	5	0	0 n/a	Ave 20#	See Plan	A group of single and multiple-stemmed Hawthorn, Silver Birch and Apple with occasional leaning stems and tight unions but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
T 35	Mature Silver Birch *Betula pendula*	10	0.5	0.5 W	9 17 19 21 23	4 4.5 3 4	Multi-stemmed at ground level with a balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	FAIR	LOW	20-40	C
G 36	Young Birch, Grey poplar *Betula, Populus sp.*	5	0.5	0.5 n/a	Ave 5#	See Plan	A small group of single-stemmed specimens. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 37	Young Birch, Alder *Betula, Alnus sp.*	4	0	0 n/a	Ave 5#	See Plan	A small group of single-stemmed specimens. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 38	Semi-mature Alder, Hawthorn, Birch, Rowan *Alnus, Crataegus, Betula, Sorbus sp.*	7	1	1 N	Ave 10#	See Plan	A group of multiple-stemmed specimens overhanging coal stacking area. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C

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
G 39	Young Willow, Hawthorn, Poplar, Rowan, Birch *Salix, Crataegus, Populus, Sorbus, Betula sp.*	6	0	0 n/a	Ave 9#	See Plan	A group of young Goat Willow with occasional specimens of Hawthorn, Grey Poplar, Rowan and Silver Birch growing on embankment. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 40	Young to Semi-mature Birch, Hawthorn, Willow, Alder *Betula, Crataegus, Salix, Alnus sp.*	10	0	0 n/a	Ave 10#	See Plan	A group of single and multiple-stemmed specimens growing on an embankment overhanging the coal stacking area. A limited inspection only due to poor access but no major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 41	Young to Semi-mature Hawthorn, Hazel, Poplar, Beech Oak *Crataegus, Corylus,Populus, Fagus, Quercus sp.*	5	0	0 n/a	Ave 6#	See Plan	A group of Hawthorn and Hazel with occasional Grey Poplar on embankment overlooking pond area. Young Beech and Oak have been planted along the embankment top. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 42	Early-mature Goat Willow *Salix caprea*	7	1	0.5 E	23 18	3 3 4 4	Twin-stemmed at ground level with a balanced crown. No evidence of previous pruning. No major visible defects.	No action required.	GOOD	FAIR	LOW	20-40	C
G 43	Young to Semi-mature Birch, Goat Willow *Betula, Salix sp.*	8	0	0 n/a	Ave 9#	See Plan	A group of single and multiple-stemmed birch and goat willow overhanging yard area. A limited inspection only due to poor access but no major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 44	Young to Early-mature Hawthorn, Elder *Crataegus, Sambucus sp.*	8	0	0 n/a	Ave 18#	See Plan	A group of single and multiple-stemmed Hawthorn and Elder growing alongside bridge. No major visible defects.	No action required.	GOOD	FAIR	LOW	40+	C
G 45	Young to Semi-mature Birch, Goat Willow *Betula, Salix sp.*	8	0	0 n/a	Ave 7#	See Plan	A group of single and multiple-stemmed specimens. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
G 46	Young Grey Poplar *Populus canescens*	4	0.5	0.5 N	Ave 4#	See Plan	A group of young planted specimens forming a boundary screen running along the embankment top. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 47	Early-mature Silver Birch *Betula pendula*	6	1	0.5 S	17	4 4 2 4	Single-stemmed with a slight lean and a reasonably balanced crown. No evidence of previous pruning. Small bark wounds on stem but no major visible defects.	No action required.	FAIR	FAIR	LOW	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. Also recorded is the height of the first significant branch and the direction of growth.

A2.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed below a height of 1.5 metres, the diameter is measured at the narrowest point below the fork.

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.

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A2.3 Retention Categories

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

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; retention desirable.***

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 but which could be retained.***

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.

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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.

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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.

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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 QTRA qualified and 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.

Gavin Proud *BSc. (Hons), NC (Arboriculture).* Gavin recently joined JCA having spent 8 years working for various tree work contractors as a climber and team leader. In addition to his qualification in Arboriculture, Gavin has various NPTC qualifications and is LANTRA certified in Professional Tree Inspection.

Flora Harding *BSc. (Hons) Fd.BSc. (Arboriculture and Tree Care).* Flora has a degree in Rural Resource Development (specialising in Wildlife and Landscape Conservation). She spent her former career working for a local authority and has a licence for QTRA. In 2012, Flora published an article to enable industry based research for the purpose of gaining Chartered Arboriculturist status.

Victoria Black *FdSc (Arboriculture).* Victoria has been with JCA since 2002 building her knowledge of the Arboricultural business. She obtained a foundation degree in Arboriculture at the University of Central Lancashire.

Consulting Staff: Ecology

Kieran Shaw *BSc (Hons).* Kieran, our in-house Ecologist, joined JCA after achieving a degree in Geography from the University of Aberdeen. Prior to joining JCA, Kieran has worked for the Yorkshire Wildlife Trust and is a member of the West Yorkshire Bat Group. He is currently studying for a Masters degree in Earth Science and has undertaken research in Greenland, Scotland and throughout Europe.

Administrative Staff

Sue Guest Administrative Team Leader.
Sally Whitwam *BA (Hons),* Administrative Assistant & Marketing.
Simeon Haigh *BSc (Hons).* IT Officer.
Catherine Cocking Accounts Manager.
Yasmin Shahzad Administrative Assistant.
Liz Bone Administrative Assistant.

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Appendix 6: Tree Constraints Plan

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Appendix 6:
Tree Constraints Plan

TITLE:
Monckton Coke Works, Royston, Barnsley
JCA Ref: 11098/GP

SCALE 1:2000	PAPER SIZE A1	
SURVEYED BY: GP	DRAWN BY: GP	APPROVED BY: TP

JCA Limited
Arboricultural & Forestry Consultants

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.

Symbol	Meaning
(green outline)	CATEGORY A: 'RETENTION MOST DESIRABLE'
(blue outline)	CATEGORY B: 'RETENTION DESIRABLE'
(grey outline)	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
(red outline)	CATEGORY U: 'TREE FOR REMOVAL'
•	CENTRE OF TREE/SHRUB
• (red)	CENTRE OF TREE/SHRUB TO BE REMOVED
(yellow disc)	ROOT PROTECTION AREA

Root Protection Area: RPA

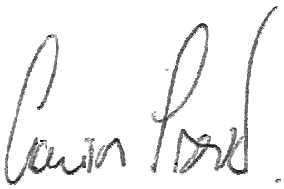
THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE. THE RPA SHOULD IDEALLY REMAIN UNDISTURBED IF A TREE IS TO BE RETAINED.

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



.....

Gavin Proud *BSc. (Hons), NC (Arboriculture).*

16th May 2013

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

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- Tree Safety/health surveys
- Tree surveys for mortgage purposes
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- 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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RGN RM

Photo front cover: Sluice at Bowers Mill

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