

**ARBORICULTURAL REPORT
to BS 5837:2005
at
Common Road
Brierley
Barnsley
South Yorkshire
S72 9EA**

Client:

Mrs Sue Wright

Client Address:

36 Booth Avenue
Sandbach
Cheshire
CW11 4JN

Client Contact:

07751797622 (Tel)

JCA Ref:

9900/AW

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is required at land off **Common Road, Brierley**, 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 Mrs Sue Wright 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.

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2005 Trees in relation to construction*.
- 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 December 2010.
- 1.4.2 The survey was conducted by Adam Winson MSc, BSc (Hons), ND (Arboriculture).
- 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 a former sandstone quarry; it has long been abandoned and suffers from fly-tipping.

2.2 Topography

- 2.2.1 Around half of the site is bounded by an approximately 10m high vertical cliff face. The site slopes down at a gentler gradient from Common Road to its lowest elevation at the base of the northern cliff face.

2.3 Treescape

- 2.3.1 Surrounding the site is a predominantly residential area containing a reasonable mix and distribution of 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 mature. However, the trees were predominantly semi-mature and mature.

2.6 Species Diversity

- 2.6.1 The predominant species were Ash and Hawthorn, with more occasional Hazel, Apple, Sycamore, Blackthorn and Oak, with other species being single specimens.

3. Status of the Trees

- 3.1 A check was made on 22nd December 2010 with: **Barnsley Metropolitan District Council**.

We are currently awaiting a response from the council, when we have received this information we will inform you in the first instance and update our reports as necessary. Before any work is organised, all the necessary steps to get the permission of the Local Planning Authority should be taken.

No work should be done to any trees until this information has been ascertained.

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 50 items of vegetation (45 individual trees and 5 groups of trees). Of these, 3 trees were identified as retention category 'B', 43 trees/groups were identified as retention category 'C' and 4 trees/groups were identified as retention category 'R'. No retention category 'A' trees were identified on this occasion. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.2 The significant vegetation can be broadly grouped into more mature Ash and Oak, growing on top of the quarry cliff face, younger scrub and self sown trees within the southern third of the site, occasional mature Apple trees along the southern boundary and lapsed hedgerows to the west and north.
- 5.1.3 The mature Ash and Oaks (**T3, T5, T38, T39** and **T41** to **T50**) situated along the northern third of the site boundary, collectively form the dominant landscape feature of the site and surrounding area. Unfortunately, due to the limited space for the trees to root, it is likely that they will have compromised root stability and are or will become structurally unstable. Thus, whilst they are mostly classed as retention category 'C' trees at present, if the site was to become occupied they would be unsuitable for long term retention.
- 5.1.4 Four trees/groups (**T1, G6, T14**, and **T25**) were identified as retention category 'R'. These trees require removal for arboricultural reasons regardless of any on site development, and have been recommended for removal to prevent them from becoming dangerous trees or in order to benefit adjacent trees; their removal is of a **low priority**.
- 5.1.5 Most of the Apple trees are in poor or fair condition and have been unmanaged for several decades. However, whilst unkempt in form, the mature Apple **T15** is a dominant feature within the site and still has reasonable long term prospects and as such is retention category 'B'.
- 5.1.6 The other category 'B' trees are self sown Ash (**T7**) and Sycamore (**T20**). These trees are only semi-mature and thus their loss could be mitigated with replacement plantings, they both have good long term prospects and would make significant features if allowed to develop.
- 5.1.7 Occasional tree pruning works are recommended for reasons of public safety/to ensure the long-term health of the trees, as detailed at **Appendix 1**.
- 5.1.8 Where a full detailed inspection of trees was inhibited by restricted access, as detailed at **Appendix 1**, it is advised that these trees be re-inspected for any possible defects when full access is available.

- 5.1.9 Those trees which overhang the public footpaths or public highways, detailed at **Appendix 1**, shall require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.
- 5.1.10 A proposed development could improve species and age diversity this by incorporating a Tree Planting Scheme which introduces younger trees of a variety of suitable species.

5.2 Potential Arboricultural Implications & 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 There is little room for development within this site without the removal of some trees. It is likely that the site would require significant level changes and ground-works to accommodate a number of dwellings; as such much of the tree cover in the central area would need to be removed. Most of these trees are lower value; retention category 'C' and their loss could be mitigated for by replacement planting.
- 5.2.3 Due to the limited rooting space for the trees situated along the cliff edge, if the site was to become occupied they would be unsuitable for long term retention and would need to be removed. Smaller hedgerow species could safely be grown here and would mitigate this loss to some degree.
- 5.2.4 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.
- 5.2.5 In order to ensure that the retained trees on site are properly protected a Construction Exclusion Zone (CEZ) must be created, based on the rooting area of the tree. For the purpose of development the rooting area 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 that should not be disturbed. The RPA of each tree should be considered during the layout phase of development.
- 5.2.6 Damage caused by any construction activity such as demolition, soil stripping, and provision of services needs to be considered at the design stage. Care should be taken to avoid damage to tree roots when existing structures such as tarmac surfaces are removed within a RPA.
- 5.2.7 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 many solutions available to construct hard surfaces over RPAs without causing damage to trees.

- 5.2.8 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.
- 5.2.9 The location of drainage and utilities within the RPA can be achieved if need be, using special techniques and supervision.
- 5.2.10 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.
- 5.2.11 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.
- 5.2.12 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 should 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 should be placed within the RPA without arboricultural advice.
- 5.2.13 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.
- 5.2.14 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 and bat surveys where required.
- 5.2.15 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.

6. Conclusions

- 6.1 The trees surveyed were generally found to be in fair condition, however many would be unsuitable for retention were the site to become occupied.
- 6.2 Some trees have been recommended for removal for arboricultural reasons. These are discussed in **Section 5** and detailed at **Appendix 1**.
- 6.3 Some works were recommended for reasons of public safety and to ensure the long term health of the trees. These are summarised in **Section 5** and detailed at **Appendix 1**.
- 6.4 All development work carried out in close proximity to trees should 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.
- 6.5 Care should be taken at the design stage to ensure that the retained trees are protected. The protection of retained trees can be achieved by the creation of a Construction Exclusion Zone based on the Root Protection Area of a tree. The Root Protection Area of each tree or group is marked on the Tree Constraints Plan at **Appendix 6**.
- 6.6 The proposed development should be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This should specify fencing standard and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.
- 6.7 Upon instruction JCA Ltd 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 trees planting schemes and organise tree works.

Appendices

Appendix 1: Tree Descriptions and Recommendations

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	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 Goat Willow <i>Salix caprea</i>	4	0	35	6 6 3 5	Crown overhangs the footpath. Multi-stemmed at ground level. Natural regeneration. Tight union and partially included bark. Limited long term value.	Remove.	FAIR	POOR	LOW	10-20	R
T 2	Semi-mature Holly <i>Ilex aquifolium</i>	9	2	30	2 1 2 2	Multi-stemmed at ground level. Vertical. Rubble at base. No major visible defects.	No action required.	GOOD	GOOD	LOW	40+	C
T 3	Early-mature Ash <i>Fraxinus excelsior</i>	9	3	Est 50	6 8 6 4	Access prevented detailed inspection. Situated on top of quarry wall, over cave-like structure. Limited rooting capacity thus limited long term value.	No action required but consider removal.	GOOD	FAIR	MOD	10-20	C
T 4	Semi-mature Hawthorn <i>Crataegus monogyna</i>	4	1	25	1 1 1 2	Access prevented detailed inspection. Situated on top of quarry rock face. Limited rooting capacity thus limited long term value. Dense Ivy throughout.	No action required but consider removal.	GOOD	FAIR	LOW	10-20	C
T 5	Early-mature Ash <i>Fraxinus excelsior</i>	12	5	35	6 6 4 4	Previously twin-stemmed now single stemmed. Access prevented detailed inspection. Situated on top of quarry rock face. Cavity at base of stem. Limited long term value.	No action required but consider removal.	GOOD	FAIR	MOD	10-20	C
G 6	Early-mature Elder <i>Sambucus nigra</i>	5	1	20	See plan	Dense scrub (bramble), covering dead and dying Elder. No long term value.	Remove.	POOR	POOR	LOW	<10	R
T 7	Semi-mature Ash <i>Fraxinus excelsior</i>	11	3	35	4 4 4.5 4.5	Twin-stemmed at 2m with partially included bark. Reasonable form and long term prospects. No major visible defects.	No action required.	GOOD	GOOD	MOD	40+	B
T 8	Semi-mature Hawthorn <i>Crataegus monogyna</i>	6	2	21	2 1 2 1	Twin-stemmed at 0.5m. Natural regeneration. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
T 9	Semi-mature Hawthorn <i>Crataegus monogyna</i>	6	1	36	2 2 2 2	Multi-stemmed at ground level. Natural regeneration. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
T 10	Semi-mature Hawthorn <i>Crataegus monogyna</i>	5	1	22	1 2 1 2	Twin-stemmed at ground level. Natural regeneration. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 11	Semi-mature Ash <i>Fraxinus excelsior</i>	6	3	14	1 2 1	Single stemmed, stem grows along ground level for 1m then sharply turns vertical. Limited long term value.	No action required.	GOOD	FAIR	LOW	10-20	C
T 12	Semi-mature Hawthorn <i>Crataegus monogyna</i>	4	2	25	1 1 2	Twin-stemmed at ground level. Natural regeneration.	No action required.	GOOD	FAIR	LOW	20-40	C
T 13	Semi-mature Hawthorn <i>Crataegus monogyna</i>	6	2	25	2 3.5 2	Twin-stemmed at 1m. Slight lean. No major visible defects.	No action required.	GOOD	FAIR	LOW	20-40	C
T 14	Early-mature Apple <i>Malus sp.</i>	4	2	30	2 3 1	Most stems snapped or rotted. One small live section to west. No long term value.	Remove.	POOR	POOR	LOW	<10	R
T 15	Mature Apple <i>Malus sp.</i>	7	2	55	6.5 7 6	Twin-stemmed at base and forks again at 1.5m. Gnarley old tree, forms dominant feature of site. Much deadwood and unmanaged yet still with good potential.	Thin 10%. Crown clean and crown reduce 15%.	GOOD	GOOD	MOD	20-40	B
T 16	Early-mature Apple <i>Malus sp.</i>	5	2	18	1 2 2	Twin-stemmed at 1m. Slightly suppressed.	No action required.	GOOD	FAIR	LOW	20-40	C
T 17	Early-mature Elder <i>Sambucus nigra</i>	5	2	27	2 1 3	Multi-stemmed at ground level. Natural regeneration.	No action required.	GOOD	FAIR	LOW	10-20	C
T 18	Mature Apple <i>Malus sp.</i>	7	2	42	3 4 5	Crown overhangs the footpath. Single stemmed. Multi-stemmed at 2m. Cavity and decay at union. Deadwood throughout.	Thin 15%. Reduce 25%.	FAIR	FAIR	MOD	10-20	C
T 19	Early-mature Hawthorn <i>Crataegus monogyna</i>	7	2	Est 23	3 2 3 2	2 stems at base forming one crown. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
T 20	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	10	3	28	4.5 4 3.5 4	Single stemmed and vertical. Self sown yet reasonable form and prospects. No major visible defects.	No action required.	GOOD	GOOD	MOD	40+	B

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 21	Mature Apple <i>Malus sp.</i>	5	1	30	3 2	Twin-stemmed at 1m. One stem dead tree in decline. Dense bramble throughout prevented detailed inspection. Limited long term value.	No action required but consider removal.	FAIR	POOR	LOW	10-20	C
G 22	Semi-mature Hawthorn and Elder <i>Crataegus monogyna</i> and <i>Sambucus nigra</i>	To 6	1	Ave 15	See plan	Small patch of natural regeneration. Limited long term value. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
T 23	Mature Hazel <i>Corylus avellana</i>	8	1	60	1 5 6 7	Multi-stemmed at ground level. Mature example of species. Unbalanced crown. Tight union. Some branches lopped - tree house.	No action required consider coppice.	GOOD	FAIR	LOW	10-20	C
T 24	Mature Hazel <i>Corylus avellana</i>	8	1	40	2 5 7 1	Multi-stemmed at ground level. Mature example of species. Unbalanced crown. Tight union. Some branches lopped.	Coppice.	GOOD	FAIR	LOW	10-20	C
T 25	Mature Hazel <i>Corylus avellana</i>	7	1	50 est	4 3 3 3	Multi-stemmed at ground level. Has previously fallen over, now new stems growing upright. Limited long term value.	Coppice/remove.	GOOD	POOR	LOW	<10	R
T 26	Early-mature Cherry <i>Prunus sp</i>	7	4	21	3 1 2 1	Single stemmed with significant lean and unbalanced crown. Cavity near base. Limited long term value.	No action required but consider removal.	FAIR	FAIR	LOW	<10	C
T 27	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	9	3	38	4 3 3 2	Twin-stemmed at 0.5m. Tight union and partially included bark. Stem wound at 0.5m. Limited long term value.	No action required but consider removal.	GOOD	POOR	LOW	10-20	C
T 28	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	6	2	23	0 2 2 2	Twin-stemmed at ground level. Suppressed form. Limited long term value.	No action required.	GOOD	FAIR	LOW	20-40	C
T 29	Early-mature Hawthorn <i>Crataegus monogyna</i>	6	2	Est 35	3 1 3 4	Crown overhangs the footpath. Multi-stemmed at ground level. Tight union. Some snapped limbs. Bramble prevented detailed inspection.	Crown lift overhanging crown.	FAIR	FAIR	MOD	10-20	C
T 30	Semi-mature Hawthorn <i>Crataegus monogyna</i>	6	2	20	2 2 1 2	Crown overhangs the footpath. Twin-stemmed at ground level. No major visible defects.	Crown lift overhanging crown.	GOOD	FAIR	LOW	20-40	C

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 31	Early-mature-Mature Hawthorn and Blackthorn <i>Crataegus monogyna</i> and <i>Prunus spinosa</i>	Ave 7	2	Ave 25	See plan	Former hedgerow - long since unmanaged and reversed into individual shrubs/trees. Some deadwood and die back throughout yet some screening potential.	Consider pollard/coppice and re plant gaps to form hedgerow feature.	FAIR	FAIR	MOD	20-40	C
G 32	Young-Semi-mature Blackthorn and Hawthorn <i>Prunus spinosa</i> and <i>Crataegus monogyna</i>	5	2	20	See plan	Young shrubs/trees. No major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
T 33	Semi-mature Blackthorn <i>Prunus spinosa</i>	6	2	15	2 0 1 0	Self sown scrub. Significant lean. No major visible defects.	No action required.	GOOD	FAIR	LOW	20-40	C
T 34	Semi-mature Blackthorn <i>Prunus spinosa</i>	6	2	16	2 2 1 2	Single stemmed, twisted form - in decline. Limited long term value.	No action required but consider removal.	FAIR	FAIR	LOW	10-20	C
T 35	Early-mature Hawthorn <i>Crataegus monogyna</i>	4	1	Est 35	2 0 4 3	Multi-stemmed at ground level. Cavity and decay at base.	No action required.	GOOD	FAIR	LOW	10-20	C
T 36	Early-mature Oak <i>Quercus robur</i>	5	2	25 est	See plan	Situated on cliff edge. Unbalanced crown. No major visible defects.	No action required.	GOOD	FAIR	LOW	20-40	C
G 37	Early-mature-Mature Hawthorn <i>Crataegus monogyna</i>	4	2	Ave 28	See plan	Former hedgerow - long since unmanaged and reversed into individual shrubs/trees. Some deadwood and die back throughout yet some screening potential. Access prevented detailed inspection.	No action required.	GOOD	FAIR	LOW	20-40	C
T 38	Early-mature Oak <i>Quercus robur</i>	12	3	Est 40	5 5 8 5	Single stemmed yet with mature suckers. Situated on edge of rock face. Limited roof area. Limited long term value.	No action required.	GOOD	FAIR	MOD	20-40	C
T 39	Mature Ash <i>Fraxinus excelsior</i>	12	3	Est 70	9 7 8 7	Multi-stemmed at ground level. Mass of twisted stems. Situated on top of rock face. One snapped stem. Access prevented detailed inspection. Limited rooting capacity thus limited long term value.	Remove snapped and hanging stem. Consider removal.	GOOD	FAIR	LOW	10-20	C
G 40	Semi-mature Hawthorn <i>Crataegus monogyna</i>	3	1	20	See plan	Former hedgerow - unmanaged and reversed into individual shrubs/trees. Some deadwood and die back throughout.	No action required.	GOOD	GOOD	LOW	10-20	C

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 41	Mature Ash <i>Fraxinus excelsior</i>	11	23	70	7 8 8	Multi-stemmed at ground level. Situated on top of rock face with limited rooting area. Limited long term value.	No action required but consider removal.	GOOD	FAIR	LOW	20-40	C
T 42	Mature Ash <i>Fraxinus excelsior</i>	12	5	70	5 6 6 7	Multi-stemmed at ground level. Tight union. Situated on top of rock face. Limited rooting capacity thus limited long term value. Occasional deadwood.	No action required but consider removal.	GOOD	FAIR	LOW	10-20	C
T 43	Mature Ash <i>Fraxinus excelsior</i>	12	5	45	7 6 6 7	Single stemmed. Situated on top of rock face with limited rooting area. Limited long term value. Access prevented detailed inspection.	No action required but consider removal.	GOOD	FAIR	LOW	10-20	C
T 44	Early-mature Oak <i>Quercus robur</i>	10	3	45	6 6 6 7	Single stemmed yet mature suckers, overhanging cliff. Situated on top of rock face with limited rooting area. Limited long term value.	No action required but consider removal.	GOOD	FAIR	LOW	10-20	C
T 45	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	8	3	21	2 5 5 5	Situated at bottom of rock face. Single stemmed and vertical. No major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	C
T 46	Early-mature Ash <i>Fraxinus excelsior</i>	11	5	Twin-stemmed 50	5 3 3 8	Twin-stemmed at ground level. Situated on top of rock face with limited rooting area. Limited long term future.	No action required but consider removal.	GOOD	POOR	LOW	10-20	C
T 47	Early-mature Ash <i>Fraxinus excelsior</i>	10	4	40	5 3 6	Single stemmed. Situated on top of rock face with limited rooting area. Deadwood. No major visible defects.	No action required but consider removal.	FAIR	FAIR	LOW	10-20	C
T 48	Early-mature Ash <i>Fraxinus excelsior</i>	11	3	45	5 4 5 6	Multi-stemmed at ground level. Situated on top of rock face with limited rooting area. Limited long term future.	No action required but consider removal.	FAIR	FAIR	LOW	10-20	C
T 49	Early-mature Oak <i>Quercus robur</i>	8	3	43	0 4 3 6	Multi-stemmed at 2m. Situated on top of rock face with limited rooting area.	No action required but consider removal.	FAIR	POOR	LOW	10-20	C
T 50	Early-mature Ash <i>Fraxinus excelsior</i>	12	3	80	7 8 8 8	Multi-stemmed at ground level. Mass of twisted stems. Situated on top of rock face with limited rooting area. Limited long term value. Access prevented detailed inspection.	No action required but consider removal.	FAIR	POOR	MOD	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) = 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) = 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 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 R (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. This may be due to any of the following:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) Removal of other category R 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 3998:1989 - '*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 Ltd 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: 2005 <i>Trees in relation to construction</i> .
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. He has since developed JCA's portfolio of services and its extensive client base. Jonathan 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 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

Andrew Bagshaw *FD (Arboriculture).* Andrew 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. Andrew has obtained a foundation degree in Arboriculture at the University of Lancashire, is QTRA qualified and is a JCA team leader who manages an office of Consulting Arboriculturists.

Adam Winson *BSc (Hons), ND (Arboriculture) MSc (Arboriculture and Urban Forestry).* Adam is a Professional Associate of the Institute of Chartered Foresters and an Associate Member of the Institute of Ecology and Environmental Management. Prior to joining JCA Adam worked as a tree surgeon. During his BSc in Environmental Conservation he gained the CPRE award for best dissertation. Adam has recently obtained an MSc in Arboriculture and Urban Forestry.

Robert Godwin *BA (Hons) (Landscape Planning), MArborA.* Robert is a Professional Member of the Arboricultural Association and a Professional Associate of the Institute of Chartered Foresters. He has a degree in Landscape Planning & Management and has several years experience as a Consulting Arboriculturist. Robert is currently working towards an MSc in Arboriculture and Urban Forestry.

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

Andrew Bussey Andrew joined JCA having spent 12 years doing tree surgery 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.

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), an Arboricultural Technicians Certificate and is QTRA qualified.

David Venables *BSc (Forestry).* David joined JCA in 2009 having achieved his degree at University of Wales, Bangor. David's work experience prior to joining JCA was as a Management Support Officer for the Forestry Commission at Delamere Nursery, Cheshire, where his responsibilities included carrying out health and safety inspections to ensure all sites and staff met relevant standards, assisting with the supervision of the workforce and the initiation of a GIS system for the nursery.

Raphael Skerratt *BSc (Forestry) FArborA.* Raphael covers the London area for JCA. He ran his own Arboricultural businesses since 1972 and is experienced in tree surveys for development, safety and subsidence purposes, and is an Expert Witness.

Administrative Staff

Sue Guest Administrative Team Leader.
Sally Whitwam Administrative Assistant.
Simeon Haigh *BSc (Hons).* IT Officer.

Catherine Cocking Accounts Manager.
Yasmin Hussain Administrative Assistant.
Liz Bone Trainee Administrative Assistant
Alec Fielden *Cert. Arb. (RFS).* CAD Technician.

Appendix 6: Tree Constraints Plan

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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Adam Winson MSc, BSc (Hons), N.D. (Arboriculture).

23rd December 2010

For and on behalf of **JCA Ltd**

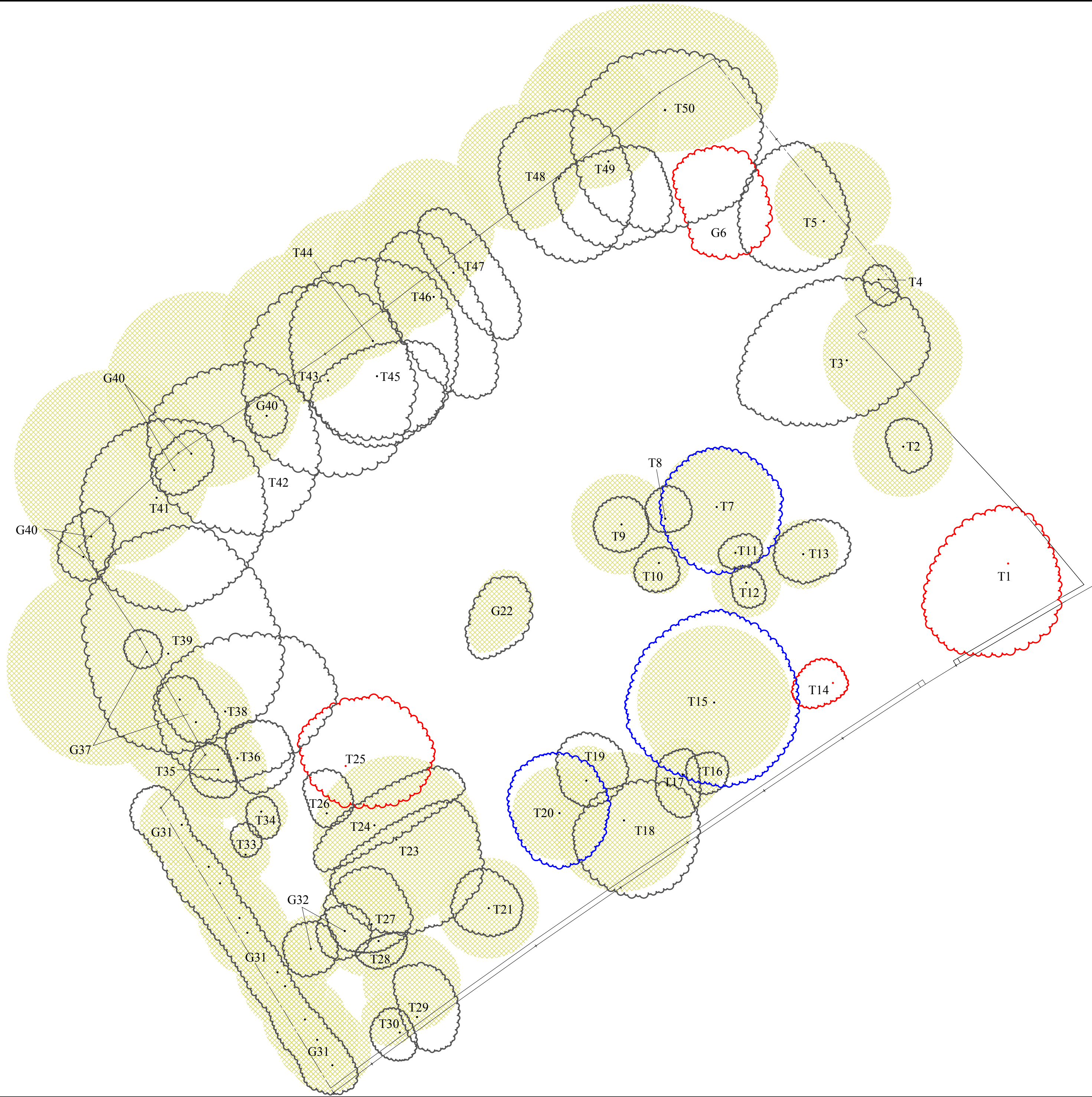
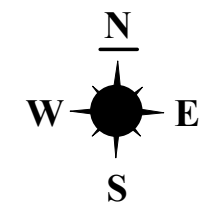
Registered Office:

**Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 0AD**

**Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com**

www.jcaac.com

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Appendix 6:
Tree Constraints Plan

TITLE:
Common Road, Barnsley.
JCA Ref: 9900AW

SCALE : 1:200 PAPER SIZE : A2

SURVEYED BY: AW DRAWN BY: AF APPROVED BY: DV

BRITISH STANDARD 5837:2005: 4.3.1
RETENTION CATEGORIES
Detailed definitions of these categories 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 R: 'TREE FOR REMOVAL'
	ROOT PROTECTION AREA

CENTRE OF TREE/SHRUB

CENTRE OF TREE/SHRUB
TO BE REMOVED

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.