Land by Barugh Green Road, Barnsley

Arboricultural Survey

September 2024

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Contents

1 Introduction

1.1.1.1 This report presents the results of an Arboricultural Survey undertaken on land adjacent to Barugh Green Road, Barugh Green, Barnsley S75 1HR. The site is approximately 3.5 ha and is centred on grid reference SE 31817 07844.

1.1.1.2 The Arboricultural Survey has been undertaken to provide supporting information for proposed development of the site.

1.1.1.3 The Arboricultural Survey included a Tree Constraints Survey which was conducted on 24th September 2024 by Dan Brown (FdSc Arb).

Figure 1. Site location and approximate site boundary (Aerial imagery dated 2024)

2 Methodology

2.1.1.1 This Arboricultural survey covers those trees or groups of trees which are considered relevant for the brief. During the survey all relevant individual trees and groups of trees located within and close to the boundary of the site were assessed.

2.1.1.2 The objective of the survey was to collect tree data relevant to the proposed works at the site and to categorise individual trees or tree groups in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'[1] based on their condition, quality and future potential.

2.1.1.3 The purpose of the categories within BS 5837:2012 is not to determine whether retention of trees is desirable, 'The purpose of the tree categorization method, which should be applied by the arboriculturist, is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of the development occurring.' (BS 5837:2012, Section 4.5.2). This survey should therefore be regarded as an initial appraisal with observations recorded for trees within and adjacent to the site. Remedial tree works, foundation design and material specification are not covered within this report.

2.1.1.4 The location of the trees is shown within the attached Tree Constraints Plan (TCP) (Appendix 4). A detailed inspection of the trees with respect to decay, defects and hazard is not included. The tree locations are as shown on the topographical drawing supplied.

2.1.1.5 The site survey was conducted on 24th September by Dan Brown (FdSc Arb) in accordance with the BS 5837:2012 methodology[1].

2.1.1.6 Information collected during the survey included species, height, stem diameter, branch spread, height of crown clearance, age class, physiological condition, structural condition, estimated remaining contribution and category grade. The survey was made at ground level using visual assessment of the tree canopy and stem. No removal of vegetation, digging or drilling was undertaken during the survey and parts of the stems of some trees remained partly obscured by vegetation.

2.1.1.7 The TCP in Appendix 4 shows the positions, canopy spreads and Root Protection Areas (RPA) of the trees included within the survey. The RPA's have been calculated in accordance with Section 4.6 of BS 5837:2012. Where significant ground constraints, such as roads, walls, buildings, water bodies are likely to restrict and influence root development, the RPA circles have been adjusted to form a polygon of equivalent area, in order to show the likely rooting area for trees subjected to significant constraints, in accordance with paragraph 4.6.2 of BS5837:2012.

2.1.1.8 When considering the layout of the site and the retention of trees, proposals should generally be kept outside of both the RPA and the canopy spreads. However, it may be possible to encroach into these with access roads, footpaths and parking areas assuming the existing ground levels can be maintained, and the appropriate construction methods are used. No liability can be accepted by Quants Environmental in respect of the trees or for events which happen after the time of the survey.

[1] British Standards Institution (BSI) BS 5837:2012. Trees in relation to design, demolition and construction – Recommendations. Published by BSI Standards Limited 2012. ISBN 978 0 58069917 7.

3 Results

3.1.1.1 The survey results are shown in Appendix 2 (Tree Survey Results – Table 1) and Appendix 3 (Tree Constraints Plan). The trees included within this survey comprise of 21 individual trees, 7 groups of trees and 8 hedgerows.

- 4 individual trees were classified as Category B;
- 14 individual trees were classified as Category C;
- 1 tree group was classified as Category B;
- 5 tree groups were classified as Category C;
- 7 hedgerows were classified as Category B;
- 1 hedgerow was classified as Category C;
- 3 individual trees were classified as Category U; and
- 1 tree group were classified as Category U.

3.1.1.2 The species on site consisted predominantly of hawthorn *Crataegus monogyna*, ash *Fraxinus excelsior*, blackthorn *Prunus spinosa* and oak *Quercus rubra*.

3.1.1.3 The site is currently open grassland used for livestock. The site is surrounded by further grassland to the south and west and is adjacent to Barugh Green Road and Claycliffe Avenue to the north and east. The site is accessed from Barugh Green Road to the northwest corner of the field.

3.1.1.4 A Tree Preservation Order (TPO) check for the site was carried out via the interactive Barnsley Council website on 27th September 2024. No trees were found to have TPOs, and the site is not within a conservation area.

3.1.1.5 The predominant Arboricultural features on the site are the hedgerows along the site boundaries. The hedgerows comprise of predominantly mature hawthorn trees, with understorey of blackthorn and dog rose. Along the north hedgerow are several self-sown trees which comprise predominantly of ash trees which are lapsed coppice trees resulting in interesting forms. With exception to H1, the remaining hedgerows are in good condition, have full canopies and comprise of more species, and so have been classified as Category B due to their landscape and habitat value.

3.1.1.6 T3, T6 and G2 comprise of hawthorn and ash trees along the north boundary hedgerow and have been classified as Category B due to their higher value as opposed to the low value hedgerow.

3.1.1.7 Several trees along the north boundary were found to be in significant decline, or already dead, and were classified as Category U because of this.

3.1.1.8 The predominant tree within the site is T20, a mature oak tree to the east of the site. The tree is displaying a column of decay within the centre of the stem, with the remaining sound wood appearing to have responded with reaction growth around the cavity. The crown is imbalanced, with bias to the east over Claycliffe Avenue. Whilst the tree does have an impaired condition, it has potential to become a veteran tree in future years and has been classified as Category B due to this potential value.

3.1.1.9 T21 is located on an adjacent site, in a garden and comprises of a mature ash stem, which has been topped previously. The tree has responded with some minimal reaction growth. Due to the large stem, it is likely there has been some form of RPA encroachment into the site. T21 has been classified as Category B.

3.1.1.10 All remaining trees and hedgerows have been identified as low quality, and with no significant impact to the site so have therefore been classified as Category C.

4 Conclusions and Recommendations

4.1.1.1 During the survey 21 individual trees, 7 groups of trees and 8 hedgerows were surveyed.

4.1.1.2 The high value tree, tree groups and hedgerows are located along the site borders, which will provide the main constraint for any proposed development.

4.1.1.3 It is recommended that all Category B trees on site are retained where possible, with suitable replacement planting with trees to mitigate the loss of canopy where removal is unavoidable.

4.1.1.4 Category C trees should be retained to allow retention of existing canopy within the site, however, where tree removal is required, it is recommended to preferably remove Category C trees due to being low value. Suitable replacement planting with trees of improved form will likely increase the longevity of the canopy of these trees.

4.1.1.5 All tree works are to be conducted by a qualified arborist and are to be in accordance with BS 3998:2010.

4.1.1.6 All retained trees will require protection of their RPA's and canopies during any development of the site.

4.1.1.7 An Arboricultural Tree Protection Plan and Working Method Statement should be produced prior to works commencing on site. The Arboricultural Tree Protection Plan and Working Method Statement should cover detailed methods for construction and operation within any of the RPAs in order to minimise the potential for adverse effects on these trees, e.g., digging using hand tools and supervision by a suitably qualified arboriculturist, in accordance with BS5837:2012.

4.1.1.8 During supervised work within the RPAs and canopies, if trees are considered to become unsafe e.g., due to unavoidable severance of significant roots, such trees may need to be felled by a qualified tree surgeon. Any such loss of trees should be mitigated where practicable with replacement tree planting on site, to be agreed with the Local Planning Authority. The Arboricultural Tree Protection Plan and Working Method Statement should cover compensation planting as required.

4.1.1.9 Detailed methods for construction and operation should be developed in order to minimise the potential for adverse effects on trees.

4.1.1.10 Where appropriate, all the trees to be retained should be protected with a tree protection fence in line with BS5837:2012 current recommendations.

4.1.1.11 The loss of any trees should be mitigated where practicable with suitable replacement tree planting on site, to be agreed with the Local Planning Authority. Any new landscaping should be maintained to promote longevity.

Appendix 1. Photographs

Photograph 1. Looking across north boundary of the site.

Photograph 2. Looking along site boundary from Barugh Green Road

Photograph 3. Trees in decline along the north boundary.

Photograph 4. G2

Photograph 5. T20

Photograph 6 . Looking towards south boundary of site and H3 – H5.

Photograph 7. H6

Photograph 8. H7 and T21

Appendix 2. Table 1 - Tree Survey Results

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
T1	Ash	8	3	3	3	3	3	190	EM	G	G	Stem divides above 1.5m.	Retain or remove as per development plans.	10+	C1	2.3	16.33
T2	Ash	8	3	2	3	3	3	140	EM	G	G	Minor decline in crown	Retain or remove as per development plans.	10+	C1	1.7	8.87
T3	Ash	8	3	5	5	4	3	180	M	G	G	Lapsed coppice along site boundary. Minor decline to east	Retain where possible.	10+	B3	6.5	131.92
T4	Hawthorn	3	2.5	2.5	2.5	2.5	1	130,120	M	G	G	Unable to inspect stem due to undergrowth. Stem divides above 1.5m.	Retain or remove as per development plans.	10+	C1	2.1	14.17
T5	Hawthorn	3	0.5	1	1	1	1	75	M	G	G	Unable to inspect stem due to undergrowth. Stem divides above 1.5m.	Retain or remove as per development plans.	10+	C1	0.9	2.54
T6	Ash	8	4	5	5	4	3	260,180	M	G	G	Stem divides below 1.5m.lapsed hedgerow tree	Retain where possible.	10+	B3	3.8	45.17

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
T7	Ash	10	3	4	2	4	3	75,75,120,100	M	F	G	Stem divides below 1.5m.lapsed hedgerow tree. crown in decline	Retain where possible.	10+	C3	2.3	16.16
T8	Ash	10	2	2	2	2	3	75,75,100	M	F	G	Stem divides below 1.5m.lapsed hedgerow tree. crown in decline	Retain or remove as per development plans.	10+	C3	1.8	9.64
T9	Sycamore	10	2.5	2.5	2	2.5	4	200	EM	F	G	Tree within hedgerow	Retain or remove as per development plans	10+	C1	2.4	18.10
T10	Ash	5	2	3	3	3	0	80,80,80,80,100	EM	P	P	Declining. Unable to inspect stem due to undergrowth. Multiple stems below 1.5m.	Remove	<10	U	2.3	16.16
T11	Hawthorn	2	1	1	1	1	0	100	EM	F	P	Small tree in significant decline	Remove	<10	U	1.2	4.52
T12	Hawthorn	2	1	1	1	1	0	100	EM	F	P	Small tree in significant decline	Remove	<10	U	1.2	4.52

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
T13	Hawthorn	3	2.5	2.5	2.5	2.5	1	150	M	G	G	Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.8	10.18
T14	Hawthorn	3	2.5	2.5	2.5	2.5	1	150	M	G	G	Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.8	10.18
T15	Hawthorn	3	2.5	2.5	2.5	2.5	1	150	M	G	G	Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.8	10.18
T16	Hawthorn	4	2.5	2.5	2.5	2.5	1	150	M	G	G	Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.8	10.18
T17	Hawthorn	4	2.5	2.5	2.5	2.5	1	150	M	G	G	Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.8	10.18

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
T18	Hawthorn	2	3	1	1	1	1	75,75	M	G	G	Leaning North-West. Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.3	5.08
T19	Hawthorn	4	2	2.5	2.5	1.5	1	75	M	G	G	Leaning North-West. Unable to inspect stem due to undergrowth. Stem divides below 1.5m.	Retain or remove as per development plans.	10+	C1	1.8	10.18
T20	Oak	14	7	9	6	6	0	950	M	G	F	Cavity on main stem. Tree adjacent to boundary. has suffered limb failure and significant decay within main stem	Retain where possible	20+	B3	11.4	408.28
T21	Ash	14	1	1	1	1	0	700	M	F	F	Tree has been topped leaving no canopy with some minor reaction growth	Retain where possible	20+	B3	8.4	221.67

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
G1	Hawthorn	5	4	4	3	4	0	200,180,100,100,100	SM	G	G	two multistem trees in proximity to each other forming collective canopy	Retain or remove as per development plans.	10+	C1	3.8	46.32
G2	Ash	10	4	5	5	5	0	200,180,160	M	G	G	group of lapsed coppice ash in close proximity	Retain where possible	20+	B2	3.8	44.32
G3	Ash	10	3	3	3	3	3	140	EM	G	G	Line of ash stems alongside hedgerow boundary	Retain or remove as per development plans.	10+	C2	1.7	8.87
G4	Hawthorn	2	1	1	1	1	0	100	EM	F	P	All trees within group in poor condition	Remove	<10	U	1.2	4.52
G5	Ash	8	2	2	2	2	2	170	EM	F	G	Deadwood present in small number of trees within group. Adjacent to boundary.	Retain or remove as per development plans.	10+	C2	2	13.07
G6	Hawthorn	4	2	2	2	2	0	150	M	G	G	Small line of hawthorn shrubs parallel to boundary hedgerow.	Retain or remove as per development plans.	10+	C2	1.8	10.18
G7	Hawthorn, Ash	7	1	1	1	1	0	220	M	G	G	Line of hedging parallel to the boundary hedgerow	Retain or remove as per development plans.	20+	C2	2.6	21.90

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
H1	Hawthorn, Ash	7	1	1	1	1	0	100	M	G	G	Boundary hedgerow to north with intermittent gaps between each stem.	Retain or remove as per development plans.	20+	C2	1.2	4.52
H2	Hawthorn, Prunus spinosa (Blackthorn)	7	1	2	5	2	0	100	M	G	G	Hedgerow with thick canopy and good visual screening	Retain where possible	20+	B2	1.2	4.52
H3	Hawthorn	4	3	3	3	3	0	140	M	G	G	Hedgerow with thick canopy and good visual screening	Retain where possible	20+	B2	1.7	8.87
H4	Hawthorn	4	3	3	3	3	0	140	M	G	G	Boundary hedgerow to the south	Retain where possible	20+	B2	1.7	8.87
H5	Hawthorn	4	3	3	3	3	0	100	M	G	G	Boundary hedgerow to the south	Retain where possible	20+	B2	1.2	4.52
H6	Hawthorn	4	2	2	2	2	0	80	M	G	G	Boundary hedgerow to the south	Retain where possible	20+	B2	1	2.90
H7	Hawthorn, Dog rose, Ash	5	3	3	3	3	0	90	M	G	G	Boundary hedgerow to the west, comprising predominantly of hawthorn and self-sown sash	Retain where possible	20+	B2	1.1	3.66

Tree / Group ref.no	Species	Height	Crown Spread (m)				Crown clearance	Stem diameter (mm)	Age class	Phys. Condition	Struct. Condition	Comments	Recommendations	ERC	Cat Grade	Radius of Nominal Circle	RPA SqM
			N	E	S	W											
H8	Hawthorn, Dog rose	4	1	1	1	1	0	90	M	G	G	managed hedgerow along boundary between site and adjacent property.	Retain where possible	20+	B2	1.1	3.66

Key

***** - Denotes estimated measurement where access to tree stems was restricted or not accessible

Tree/ Group Ref No. – tree/group number, to be recorded on tree survey plan where necessary.

Species – common and scientific names where possible.

Height – overall height of tree in metres.

Stem Dia – stem diameter, in millimetres at 1.5m above adjacent ground level (on sloping ground to the taken on the upslope of the tree base) or immediately above the roof flare for multi-stemmed trees.

Branch spread – in meters taken at the four cardinal points to derive an accurate representation of the crown (to be recorded on the tree survey plan where necessary).

Height of cc – height of crown clearance – in meters above adjacent ground level to inform on ground clearance, crown stem ratio and shading.

Age class – young (Y), young mature (YM), middle mature (MM), over mature (OM) and veteran (V).

Physiological condition – e.g. presence of crown decline, disease, discolouration of leaves - good (G), fair (F), poor (P) and dead (D).

Structural condition – e.g. collapsing, the presence of decay and any physical defect - good (G), fair (F), poor (P) and dead (D)

Management recommendations – including further investigations of suspected defects that require more detailed assessment and potential wildlife habitat.

ERC – estimated remaining contribution – in years e.g. less than 10, 10-20, 20-40, more than 40.

Cat grade – category grade – U or A to C, to be recorded in plan on the tree survey plan where possible.

RPA – Root protection area calculated from BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations in sq/m. Where indicated, dimensions of radius of circle or sides of square based around centre point of trunk calculated for design purposes.

Appendix 3. Table 2 - Cascade Chart for the Quality Assessment[2]

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	Trees that have serious, irremediable, structural defect, such that their early loss is expected due to collapse including those that will become unviable after removal of other category U trees (e.g., where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate, or irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees supressing adjacent trees of better quality. *Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve.*			See Table 1
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g., the dominant and/or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran or trees or wood pasture).	See Table 1
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in Category A, but were downgraded because of impaired condition (e.g., presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing groups or woodlands, such that they attract a higher collective rating than they might attract as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	See Table 1
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter of <150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	See Table 1

[2] The British Standards Institute 2012, Page 9 – Table 1.

Appendix 4. Tree Constraints Plan