



Location:
**Cliffe Lane,
Gomersal**

Report Type:
Arboricultural Impact Assessment

Ref:
ARB/CP/3075

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1 Introduction

- 1.1 Acting upon the request of the client, Quarters Gomersal Ltd, a survey of trees on land at Cliffe Lane, Gomersal was carried out on the 13th of March 2023 to form the basis of this impact assessment. The tree survey and report production were undertaken by Charles Prowse of Elliott Consultancy Ltd.
- 1.2 Scope of the report:
- This report provides arboricultural information and advice in relation to re-development decisions for the site.
 - All trees within the site were assessed and categorised with regard to their quality and a retention value was assigned using criteria outlined in British Standard 5837:2012 – ‘Trees in Relation to Design, Demolition & Construction’ (BS5837:2012). Appendix 4 provides information regarding the categorisation.
 - Matters pertinent to tree retention and protection are briefly discussed within Section 4. Following receipt of detailed engineering drawings providing service runs and ground level alterations all measures relating to tree removal, tree retention and protection should be finalised within an Arboricultural Method Statement.
 - Section 5 evaluates the proposals in context to the existing trees, with potential issues discussed and remedial options offered.
- 1.3 This report should be read in conjunction with the Tree Constraints Plan (Appendix 2) and the Arboricultural Impact Plan (Appendix 3).
- 1.4 The locations of the trees upon the Tree Constraints Plan are as per the positions indicated upon the topographical plan provided.
- 1.5 Trees may be covered by Tree Preservation Order or located within a Conservation Area which restricts any tree works being undertaken without local authority notification and approval. Checks using Kirklees Council’s website indicate that a small number of trees within the site are covered by Tree Preservation Order (Ref: 08/19).

2 Site Information

- 2.1 The area surveyed is located to the south of Ferrand Lane, and north of Cliffe lane in Gomersal. Figure 1 shows the extent of the area.

Figure 1: Area surveyed highlighted



Map data ©Google Imagery

- 2.2 The area is comprised of a number of agricultural fields currently used for grazing. Some outbuildings used for housing poultry are located to the rear number 271 Cliffe Lane which was also included within the survey area.
- 2.3 The trees are predominantly located within field boundary hedgerows that surround and crisscross the area. A small number of trees located within adjacent properties were recorded where they could have an influence within the site. Their details are annotated upon the Tree Constraints Plan, Appendix 2.
- 2.4 Residential properties are adjacent to the survey area to the east, south and the southern half of the western boundary. A commercial property is located to the northwest. Agricultural land and a cemetery are located beyond Ferrand Lane to the north.
- 2.5 On the day the site was surveyed the sky was predominantly overcast which presented reasonable levels of light. Any visibility issues encountered are noted within Appendix 1).

3 Tree Category Evaluation

- 3.1 The criteria used for evaluating how suitable each tree is for retention within a development is that suggested within BS5837:2012; a copy of the categorisation sheet can be found within Appendix 4.
- 3.2 BS5837:2012 notes that all trees apart from those with stem diameters <150mm or classified as Category U should be considered for retention and viewed as a potential site constraint. When inspected, each tree and or group feature is assigned one of four categories that signify how suitable that tree/group would be for retention within any development proposals, and therefore the degree to which it should constrain the site. The four categories are as follows:
- 3.2.1 **Category A** (coloured green) trees are those of high quality and value, and of a condition whereby they could make a substantial contribution to the site. The retention of Category A trees should be considered during the design phase and afforded adequate physical protection during the construction phase in accordance with BS 5837:2012 where retained. This means keeping proposed features and alterations to ground levels outside of root protection areas and crown spreads so as to ensure that the tree remains in an adequate condition post-development. Root protection areas and crown spreads are displayed upon the Tree Constraints Plan, Appendix 2. Seven individual trees were classified as Category A.
- 3.2.2 **Category B** (coloured blue) trees are those of moderate quality and value, and of a condition that they make a substantial contribution to the site. The retention of Category B trees should be considered during the design phase and afforded adequate physical protection during the construction phase in accordance with BS 5837:2012 where retained. Twenty-two individual trees, and three hedgerows were classified as Category B.
- 3.2.3 **Category C** (coloured grey) trees are considered to be of low quality and value, but of an adequate condition to remain in the short-term. Trees with a stem diameter of less than 150mm (measured at 1.5m above ground level) are classified as Category C; these trees should also be retained where possible but where they form a significant constraint to development their removal should be permitted. Where they are to be retained they should be

afforded adequate consideration during the design phase and physical protection during the construction phase in accordance with BS 5837:2012. Nineteen individual trees, nine groups of trees and ten hedgerows were classified as Category C.

3.2.4 **Category U** (coloured red) trees are of such a condition that any existing value would be lost within 10 years. As a result, it is recommended that Category U trees are not considered a constraint for development and are removed prior to construction commencing. Three of the trees were classified as Category U.

3.2.5 In addition to the four main categories explained above, each tree/group is assigned a sub-category which signifies its overriding value as determined by the surveyor, which is noted by adding a suffix of 1, 2 or 3 alongside the category letter. 1 signifies that the trees/groups main value is arboricultural e.g. it may be a particularly good example or may be rare. 2 signifies that the overriding factor was due to the landscape value that the tree/group provides e.g. it may be part of a group feature such as a screen. 3 indicates that a cultural factor was the overriding value e.g. it may have historical or commemorative importance.

Summary of Categories Awarded			
* Prefix 'N' denotes tree within adjacent property			
Category	Tree Numbers	Group Numbers	Hedgerow Numbers
A	20, 34, N9, N10, N13-N15		
B	1, 3, 4, 6, 7, 9-12, 14, 15, 18, 21-25, 32, N5, N7, N11, N12		1, 2, 12
C	2, 8, 13, 16, 17, 26-31, 35, 36, N1-N4, N6, N8	1-9	3-11, 13
U	5, 19, 33		

3.3 Overall the majority of the trees within the site are of reasonable to good physiological and structural condition with few arboricultural issues noted. Specific details for trees and groups can be found within Appendix 1.

4 Constraints and Retention Considerations

- 4.1 Any tree retained within the design will require protection in accordance with *BS 5837 'Trees in relation to design, demolition and construction'* 2012 regardless of its initial retention category. This protection will usually require trees enclosed by a barrier in areas equal to the Root Protection Areas (As detailed within Appendix 2); this should be undertaken prior to any work beginning, including demolition and site preparation works. The specification for the fencing and for any other protection measures required must be provided within the **Arboricultural Method Statement** and approved by the Local Planning Authority.
- 4.2 A number of trees where not positioned on the topographical plan provided so their locations have been estimated using aerial images. It is noted in the survey data which tree positions have been estimated. Many of the estimated trees have been plotted as groups, with their retention category rating taken by the dominant average size and condition of the individuals within.
- 4.3 Root protection areas should be considered sacrosanct from any disturbance throughout the entire development process - with no ground disturbance, material storage, or physical encroachment allowed. Where possible trees should be protected with continuous barriers protecting trees as groups rather than individual specimens – this is of particular merit around the periphery of the site to protect boundary trees on and off-site.
- 4.4 Areas that have been identified for post-development tree planting should also be protected, where possible, to ensure that the soil does not become compacted or contaminated.
- 4.5 No new utility runs must be located within any of the retained trees' root protection areas. Any works to existing utilities will be undertaken with regard for the retained tree cover and will be in accordance with NJUG (National Joint Utility Groups) guidelines.

5 Arboricultural Impact Assessment

- 5.1 This section concentrates on the proposed development and how it relates to the current tree population within the site. Any conflict issues between the proposed layout and existing trees are discussed and remedial options, where possible, suggested.
- 5.2 It is proposed that a housing development with supporting infrastructure will be constructed within the site, as displayed upon the Arboricultural Impact Plan (Appendix 3).

5.3 **Conflict 1: Loss of trees due to the proposed layout.**

The proposed layout will necessitate the removal of six individually surveyed trees, six groups of trees and six hedgerows.

Mitigation / Countermeasure: Two of the individually surveyed trees requiring removal (9 & 32) were classified as Category B. Three individual trees (28, 31 & 36), six groups of trees (3-6, 8 & 9), and six hedgerows (3, 7, 9-11 & 13) that would need to be removed were classified as Category C. The remaining one tree that would need to be removed (33) was classified as Category U. In addition, we would also recommend the removal of Tree 5 due to poor condition and unsuitability to be incorporated within a residential development. The tree and hedge removals will be necessary to enable construction of the proposed houses, internal road and path network and other supporting infrastructure. A great deal of effort has been made by architects and engineers to minimise losses of the larger individual trees, with numerous changes made to ensure that proposed structures, drainage infrastructure and ground level changes have as little negative impact as possible. Whilst the loss of the internal hedgerows and groups has been unavoidable, they are all of low quality, Category C, along with three individual trees. The retention of two moderate quality, Category B trees has not been possible. Tree 9 is an early-mature Oak with a basal cavity, whose loss is necessary to ensure that Tree 34, a Category A Oak, is afforded adequate space. Tree 32 is a mature Ash which would need to be removed due to the mine shaft easements dictating the road position. From an arboricultural perspective the magnitude of impact from the tree and hedgerow losses that would be necessary is deemed to be low/moderate. Post-development tree, hedge and shrub planting will assist with mitigating the impact.

5.4 **Conflict 2: Encroachments within root protection areas.**

There are some encroachments from proposed structures within root protection areas of trees.

Mitigation / Countermeasure: The site topography is such that ground level alterations need to be made across the site to deal with the sloping nature. Ensuring that the level changes can be achieved whilst avoiding root protection areas has been a challenge for the design team, but they have produced a scheme that largely meets the brief. There are some encroachments of ground level changes within the root protection areas of Trees 6, 7, 13, 15, 16 and 20. Where the site needs to be built up the higher ground will be graded down to meet the existing levels. Impacts of grading down to and in some cases into the root protection areas will be minor and will not negatively impact the trees.

Similarly, the drainage infrastructure adjacent to the northern boundary has been aligned to minimise impacts to trees wherever possible, but there are a few unavoidable encroachments, such as where the foul water route skirts the edge of Tree 7's root protection area. Excavations for this drainage route should not overly affect the tree, but contractor access within the indicated easement will be required so ground protection will need to be installed, as dealt with in section 5.5. A section of Hedgerow 2 will need to be cut back to enable installation of the drainage routes. The hedgerow is somewhat overgrown due to lack of management, and it will hopefully be possible to avoid a gap being created. The engineers have noted that when drawing up the final detailed drainage plans it might be possible to move the drainage alignment further from the hedgerow.

There is a minor encroachment for Tree 27 from a proposed parking bay, which should not negatively impact the condition of the tree.

A proposed retaining wall enters into the northern section of the root protection area of tree N5, a Willow located within an adjacent property. The rear gardens of the plots in this area have been terraced to ensure that the existing ground levels can be retained as far as possible but the retaining wall encroachment in this area is unavoidable. The encroachment would be minor and should not impact the tree.

There would be some minor adjustments to the existing ground levels immediate to the root protection area of Tree 34, but as indicated within the sections drawings the degree of alteration will be very minimal and should not detrimentally affect the condition of the tree. There are similar, minor encroachments into root protection

areas from retaining walls for Tree 30 and Hedgerow 1, which should not result in significant detrimental impacts.

The proposed footpath from Cliffe Lane and the access route serving properties to the west of the site will be formed over existing hard surfaces. As such, these features should not present an additional impact for trees (N7-N15) located within the property to the west. However, we would recommend that the existing surface is retained and overlaid, if required, to avoid removal which could then potentially damage roots.

5.5 **Potential Conflict 3: Contractor access within Root Protection Areas**

Access by building contractors will be required within some root protection areas during the construction period.

Mitigation / Justification: Access within root protection areas can be accounted for by installing ground protection that avoids damage to the roots and soil structure. A specification for ground protection would be provided within an Arboricultural Method Statement, provided as a pre-commencement condition.

5.6 **Potential Conflict 4: Location of proposed boundary features within root protection areas.**

Boundary features passing through the root protection areas of retained trees have the potential to cause damage to root tissue.

Mitigation / Countermeasure: Any boundary features that pass-through root protection areas would need to be limited to post-supported fences or railings. Post holes would need to be created using hand-operated tools only with care taken to minimise any disruption to root tissue. Details of how and when such features should be constructed will need to be detailed within an Arboricultural Method Statement.

5.7 **Potential Conflict 5: Location of utilities runs with Root Protection Areas.**

Damage can be caused to root tissue during the installation of utilities runs.

Mitigation / Countermeasure: As previously discussed the alignment of proposed underground utilities has taken account of the trees and hedgerows as far as is currently possible but further adjustments might be made at the detailed drainage stage. Any works to existing utilities will be undertaken with regard for the retained tree cover and will be in accordance with NJUG (National Joint Utility Groups) guidelines. Details of final service runs should be made available once the technical

information has been drafted in order to complete the Arboricultural Method Statement.

5.8 Potential Conflict 6: Damage to trees within site during demolition and construction.

Trees may be damaged due to a variety of reasons during a demolition and development process.

Mitigation / Countermeasure: A physical demarcation will be created between the retained trees and demolition/development areas to ensure that the trees and the medium within which they are rooting are protected from damage. The actual method of creating the demarcation might vary, where appropriate, but will typically be a physical barrier. The final tree protection requirements should be specified within an Arboricultural Method Statement prior to **any** site works commencing.

5.9 Potential Conflict 7: Pruning trees to create clearance to structures.

Trees overhanging proposed plots, public open spaces or highways may require pruning in order to ensure the necessary clearances.

Mitigation / Countermeasure: Pruning operations would primarily be limited to crown lifting of the trees over proposed structures/areas but some branch reduction may be necessary in certain circumstances. All pruning operations would be specified within Arboricultural Method Statement and undertaken in accordance with BS 3998:2010 Tree work. Recommendations.

5.10 Potential Conflict 8: Damage to structures from trees.

Trees are capable causing damage to structures either directly, such as physical contact damage or indirectly given the right conditions, such as subsidence.

Mitigation / Countermeasure: Chapter 4.2 'Building near Trees' of the NHBC Standards should be consulted by those responsible regarding building foundation depths required according to the species of adjacent trees, and for suitable species to be planted given their intended positions to new and existing structures.

Appendix 1 Tree Details

Key for Tree & Group Data tables:

No. Tree Number

Species Tree Name (common)

Age Y = Young; SM = Semi-mature; EM = Early-mature M = Mature; OM = Over-mature; V = Veteran; D = Dead

DBH Diameter at Breast Height (measured at 1.5m above ground level to the nearest cm)

Stems The number of stems the tree has

Height Overall tree height measured in metres

Crown Spread Measured along the four cardinal points in metres

CH Canopy Height (height of crown above ground)

1st Branch The height and aspect of the 1st significant limb e.g. 2 NE = 1st limb at 2m growing in a north-easterly direction.

EstD Indication of whether any of the trees dimensions were estimated: Y=Yes, N=No.

General Observations Appraisal of trees general condition

EstCont Estimated remaining contribution (years)

BS Cat British Standard 5837:2012 retention category

Recommendation Remedial works that may be required should the tree be retained (Note: these recommendations do not relate to proposed development requirements – such recommendations should be covered within the Arboricultural Method Statement)

Tree Survey Data

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
1	Sycamore	M	82	1	16	5	8	8	9	2	N	Ivy covered stem and crown limited the visual inspection. Co-dominant crown. Branch failure stub(s). Minor deadwood.	40+	B2	No work required
2	Ash	Y	17	2-5	7	0.5	5	4	5	1.5	N	Co-dominant stems at base. Slightly suppressed form.	20+	C2	No work required
3	Sycamore	M	78	1	14	8	10	7	6	2.5	N	Heavily trampled ground. Open cavity resulting from wound 0.5m to 1.8m - extent is limited at present. Branch failure stub(s). Moderate deadwood. Co-dominant crown.	40+	B2	Crown clean
4	Sycamore	M	72	1	12	5	6	3	5	2.5	N	Heavily trampled ground. Branch failure stub(s). Co-dominant crown. Moderate deadwood.	40+	B2	Crown clean
5	Willow spp	M	36	1	7.5	5	4	3	4	2	N	Tree in contact with building	10+	U	Fell.
6	Ash	EM	47	1	10	5	6	8	6	2.5	N	North of hedge. Stem leaning 15 degrees. Pruning stub(s) within crown. Minor deadwood.	20+	B1	No work required
7	Ash	EM	58	2-5	10	4	6	5	5	1.5	N	Multi-stemmed. Co-dominant stems at base. Pruning stub(s) within crown.	40+	B1	No work required
8	Ash	EM	45	2-5	8	4	7	6	4	3	N	Co-dominant stems at base. Stem wounds with decay of unknown extent.	40+	C1	Undertake decay detection investigation to assess structural condition.

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
9	Oak spp	EM	66	1	9	6	7	6	6	2	N	Stem wounds. Basal cavity - extent unknown. Stem sweep. Branch failure stub(s). Deadwood. Covered by TPO	40+	B1	Investigate extent of basal decay to ascertain structural integrity.
10	Ash	SM	48	2-5	9.5	6	5	6	5	3.5	N	Co-dominant stems at base. Branch failure stub(s). Minor deadwood.	20+	B1	No work required
11	Ash	EM	59	2-5	14	5	8	5	8	1.5	N	Multi-stemmed. Stem wounds.	20+	B2	No work required
12	Ash	M	47	1	15	5	10	8	4	2	N	Slightly suppressed form. Branch failure stub(s).	40+	B2	No work required
13	Ash spp	M	94	1	19	7	13	8	7	2	N	Pholiota squarrosa fruiting bodies at base. Branch failure stub(s). Minor deadwood. Covered by TPO	10+	C1	Undertake decay detection to ascertain structural integrity.
14	Sycamore	SM	42	1	12	4	7	5	4	2	N	Located at the bottom of the bank beyond the boundary fence.	40+	B2	No work required
15	Sycamore	EM	64	2-5	8	4	6	5	6	2	N	Multi-stemmed at base. Minor deadwood.	40+	B2	No work required
16	Hawthorn	M	46	5+	7	4	5	5	5	1	N	Multi-stemmed.	40+	C1	No work required
17	Ash	SM	41	1	12	4	5	5	5	1.5	N	Stem wound with superficial decay. Severe stem sweep. Poor form.	20+	C1	No work required
18	Ash	SM	38	1	13	7	3	7	5	1.5	N	Co-dominant crown.	40+	B2	No work required
19	Oak spp	M	73	1	5	1	3	3	0.5	3	N	Canopy removed and stem retained as habitat monolith 4m in height.	<10	U	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
20	Sycamore	M	72	1	18	8	7	9	8	2.5	N	Pruning wound(s) on stem. Dominant canopy over neighbouring tree. Covered by TPO	40+	A2	No work required
21	Sycamore	EM	43	1	15	5	4	8	7	3.5	N	Part of linear group with contiguous crowns. Co-dominant stems at 2.5m. Covered by TPO	40+	B2	No work required
22	Sycamore	EM	41	1	15	3	4	8	5	3	N	Part of linear group with contiguous crowns. Co-dominant stems at 2.5m. Covered by TPO	40+	B2	No work required
23	Sycamore	EM	42	1	13	4	5	8	5	3	N	Part of linear group with contiguous crowns. Covered by TPO	40+	B2	No work required
24	Sycamore	EM	40	1	10	4	5	6	5	2	N	Stem leaning 10 degrees. Stem wound. Pruning stubs within crown.	40+	B1	No work required
25	Oak spp	M	80	2-5	14	7	7	7	8	2	N	Multi-stemmed at 1.3m. Minor Stem decay. Branch failure stub(s). Covered by TPO	40+	B1	No work required
26	Sycamore	SM	26	1	8.5	0.5	6	1	5	4	N	Suppressed form. Stem leaning 20 degrees.	20+	C2	No work required
27	Oak spp	EM	52	2-5	9.5	6	5	6	6	2	N	Co-dominant stems at base - previously trifurcated. Stem wounds with limited decay. Pruning stub(s) upon stem.	20+	C1	No work required
28	Ash	EM	48	1	14	9	2	8	4	2	N	Suppressed form. Co-dominant stems at 1.5m. Stem leaning 25 degrees.	20+	C2	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
29	Hawthorn	M	30	2-5	6.5	3	2	3	3	1.5	N	Co-dominant stems at 0.8m Stem wound with decay. Suppressed form.	20+	C2	No work required
30	Sycamore	M	58	1	13	6	5	7	6	2.5	N	Soil level has possibly increased to the east of the stem in the past. Stem wound from 1.2m to 4.4m - sounds hollow behind wound wood. Possible Woodpecker hole at 3m. Minor deadwood. Branch failure stub(s).	10+	C2	Undertake decay detection investigation to assess structural condition.
31	Beech	Y	18	1	3	1	1	2	0.5	0.5	N	Growing against wall and fence. Pruning stubs within crown. Crown encroaching footpath.	10+	C1	Prune to clear footpath.
32	Ash	M	63	1	16	6	8	4	8	2.5	N	Fused limb at base between this and adjcant tree. Co-dominant crown. Branch failure stub(s). Slightly suppressed form. Minor deadwood.	20+	B2	No work required
33	Ash	M	73	1	18	8	8	8	4	2	N	Fused limb at base btween this and adjcant tree - Tree infected with decay fungus Inonotus hispidus. Co-dominant crown. Branch failure stub(s).	<10	U	Fell if developed
34	Oak spp	M	78	1	13	8	8	8	7	2	N	Damage to surface roots. Tree house within crown. Branch failure stub(s). Minor deadwood. Covered by TPO	40+	A1	No work required
35	Elder	M	35	2-5	4	2	1	3	3	1.5	N	Multi-stemmed. Growing beside wall	10+	C1	No work required
36	Elder	SM	14	1	2.5	2	2	1	2	0.5	N	Multi-stemmed.	10+	C1	No work required

Group Data

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
1	Hazel		45	7	M	4	Linear group of previously coppiced hazel.	No work required	40+	C2
2	Hazel Hawthorn Elder	Sycamore	25	6	Y-M	4	Linear group along boundary. Remnants of old hedgerow hawthorn.	No work required	20+	C2
3	Sycamore Hawthorn		20	6	SM	3	Stem wounds. Fire damage from nearby bonfire.	No work required	10+	C2
4	Hawthorn Ash Elder		15	4	Y-M	3	Small group along line of old field boundary.	No work required	20+	C2

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Note: Any recommendations relate to the tree survey and not development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
5	Blackthorn Hawthorn		10	6	EM	2	Group of blackthorn with occasional hawthorn	No work required	40+	C2
6	Holly Hawthorn	Sycamore	20	6	M	3	Linear group - hawthorn are remnants of an old hedgerow. Occasion young tree	No work required	40+	C2
7	Holly Hawthorn Elder		15	4	M	3	Small group on boundary.	No work required	20+	C2
8	Hawthorn		13	3	EM	1	Small disconnected group of small trees. Position of tree(s) not located on topo - position estimated.	No work required		C2

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Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
9	Snowberry Hawthorn Blackthorn		14	4	M	2	Linear group. Position of tree(s) not located on topo - position estimated.	No work required	10+	C2

Hedgerow Data

Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
1	Hawthorn Elder Holly	Willow spp Ash	M	5	3	1	1	Unmanaged hedgerow broken by gateway. Becoming gappy at base.	No work required	40+	B2
2	Hawthorn	Ash Elm spp Holly	M	3	1	2	As current depth	Sporadically managed hedgerow upon earthen bank. Broken in sections and bolstered with timber fence.	No work required	40+	B2
3	Hawthorn	Holly Ash Sycamore	M	4	2	1	1	Remnants of an outgrown hedgerow. Ash & Sycamore saplings present.	No work required	40+	C2
4	Hawthorn	Holly Ash	M	4	2	1	1	Sporadically managed hedgerow. Broken in sections and bolstered with timber fence. Gaps at western end.	No work required	40+	C2

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Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
5	Hawthorn	Elder	M	4	4	As current height	2	Remnants of an unmanaged broken hedgerow with large gaps between trees.	No work required	20+	C2
6	Hawthorn		M	4	2	2	1	Remnants of an unmanaged broken hedgerow. Gaps between trees.	No work required	20+	C2
7	Western Red Cedar		SM	6	2	As current height	As current depth	Unmanaged hedgerow adjacent to field boundary.	No work required	40+	C2
8	Western Red Cedar		SM	6	2	As current height	As current depth	Unmanaged hedgerow adjacent to field boundary.	No work required	40+	C2

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Note: Any recommendations relate to the tree survey and not development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
9	Hawthorn		M	5	3	2	1	Unmanaged, broken hedgerow.	No work required	40+	C2
10	Hawthorn Elder	Ash Sycamore Holly	Y-M	6	3	1	1	Unmanaged outgrown boundary hedgerow. Broken in places. Young to semi-mature Ash & Sycamore	No work required	20+	C2
11	Hawthorn	Holly Ash Elder Oak spp	M	4	3	1	1	Unmanaged outgrown boundary hedgerow. Broken in places. Bamble covered. Some young self-seeded trees within.	No work required	40+	C2
12	Hawthorn	Elder Holly Broom	M	2	1	As current height	As current depth	Managed hedgerow.	No work required	40+	B2

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Note: Any recommendations relate to the tree survey and not development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
13	Hawthorn		SM	2	1	As current height	As current depth	Short section of managed hedgerow.	No work required	40+	C2

Trees Within Adjacent Properties

Note: Reduced details recorded to ensure constraints within site are represented but typical lack of direct access does not allow for full assessment. Estimate of BS Category provided based on limited view

No.	Species	Age	DBH (cm)	Height (m)	Crown Spread Affecting Site (m)	CH (m)	General Observations	BS Cat
N1	Holly	M	15	5	2	1		C1
N2	Sycamore	SM	27	6	3	3	Ivy covered stem and crown. Growing close to wall.	C1
N3	Hawthorn	M	40	6	4	1.5		C1
N4	Hawthorn	M	25	6.5	3	2.5		C1
N5	Willow spp	M	80	12	6	2	Topped	B2
N6	Willow spp	SM	45	6.5	3	2	Topped.	C1
N7	Sycamore	M	48	16	6	4		B2
N8	Sycamore	SM	24	16	6	5		C2
N9	Sycamore	M	70	18	7	5		A2
N10	Sycamore	M	70	17	7	5		A1

No.	Species	Age	DBH (cm)	Height (m)	Crown Spread Affecting Site (m)	CH (m)	General Observations	BS Cat
N11	Ash	M	43	17	8	5		B2
N12	Whitebeam spp	M	45	13	6	5		B2
N13	Sycamore	M	55	17	5	5		A2
N14	Horse Chestnut	M	70	17	8	5		A2
N15	Sycamore	M	55	17	7	5		A2



- Tree Position Showing Crown Extents and BS5837 Category A
- Tree Position Showing Crown Extents and BS5837 Category B
- Tree Position Showing Crown Extents and BS5837 Category C
- Tree Position Showing Crown Extents and BS5837 Category U
- Root Protection Area - to remain free from disturbance
- Group of Trees
- Hedgerow
- Potential Mature Canopy Size
- 1/G1/H1 Tree/Group/Hedgerow Number
- A1/B1/C1/U BS5837 Retention Category
- Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)
- Position of Tree within Adjacent Property
- Average Crown Spread within Site
- Root Protection Area
- N1 ID of Tree Located within Adjacent Property
- Photo Number, Position and Aspect

APPENDIX 2

Drawing Title: Tree Constraints Plan
 Project: Cliffe Lane, Gomersal
 Drawing Number: ARB/CP/3075/TCP
 Date: March 2023
 Scale: 1:500 @ A0





-  Tree to be Removed
-  Group of Trees to be Removed
-  Hedgerow to be Removed
-  Tree Position Showing Crown Extents and BS5837 Category A
-  Tree Position Showing Crown Extents and BS5837 Category B
-  Tree Position Showing Crown Extents and BS5837 Category C
-  Tree Position Showing Crown Extents and BS5837 Category U
-  Root Protection Area - to remain free from disturbance
-  Group of Trees
-  Hedgerow
-  Potential Mature Canopy Size
- 1/G/1/H1 Tree/Group/Hedgerow Number
- A1/B1/
C1/U BS5837 Retention Category
- Tree and Root Protection Area within Adjacent Property (position and size possibly estimated)
-  Position of Tree within Adjacent Property
Average Crown Spread within Site
Root Protection Area
- N1 ID of Tree Located within Adjacent Property



APPENDIX 3

Drawing Title: Arboricultural Impact Plan
 Project: Cliffe Lane, Gomersal
 Drawing Number: ARB/CP/3075/AIP
 Date: July 2023
 Scale: 1:500 @ A0

Appendix 4 BS 5837 Tree Quality Assessment Chart

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
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	<ul style="list-style-type: none"> Trees that have a 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, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7</i></p>	See Table 2
Trees to be considered for retention		
1 Mainly arboricultural qualities		
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
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 are 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 as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees with material conservation or other cultural value
2 Mainly landscape qualities		
3 Mainly cultural values, including conservation		
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		

Table excerpt from BS5837:2012

Appendix 5 Arboricultural Glossary

Abiotic Factors – Nonliving factors of the environment, including temperature & wind.

Age-class – A general classification of the tree into either - young, semi-mature, early-mature, mature, over-mature, or senescent.

Amenity Value – A general classification based on the trees contribution to local amenity. Factors such as location and visibility from public spaces, size, maturity and species are taken into account.

Apical Bud/Shoot – The apical bud, also known as the leading shoot, is responsible for shoot extension and is dominant.

Apical Dominance – A singular, leading shoot remains dominant.

Biotic factors - Living factors. For example, animals and pathogens.

Bottle Butt – Term used to describe shape of stem base, usually associated with an internal defect – refer to 'Reaction Wood' below.

Branch union/junction - The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.

Cambium - A lateral meristem (see below) in vascular plants located just beneath the bark responsible for secondary growth, e.g. production of annual growth rings.

Canker – A clearly defined area of dead and sunken or malformed bark, caused by bacteria or fungi. Can have a bearing on structural integrity of infected limb(s) depending on size and location.

Chlorosis/Chlorotic – Abnormal yellow or yellow-green coloration of usually green leaves. Essentially a reduction of chlorophyll levels often as a result disease or nutrient deficiency.

Co-dominant stems - A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.

Coppice - The method of managing trees by cutting the stems at between 1.0 inch and 1.0 foot from the ground level on a regular cycle, the cut stumps of the trees or shrubs are allowed to re-grow many new stems.

Crown spread - Gives distances between extreme limits of the crown and the stem, usually along the four compass points. Helps to show crown symmetry.

Crown Reduction – The removal of branch ends to reduce the extreme limits of a trees branch spread and height.

Crown Thin – The removal of selected branches within the crown to thin the internal branch structure.

D.B.H. - 'Diameter at Breast Height', an industry standard to gauge tree stem size and development. Within arboriculture, breast height is taken to be 1.5m above ground level.

Dieback - The reduction in crown vigour and extension growth progressing to death of distal parts; often associated with decline.

Epicormic/adventitious growth - New growth from dormant buds that can often form tenuous attachments. Although some species readily form such shoots, it can be an indication of stress.

Hanger – Term used to describe a branch that has become detached and is being supported by other branches. Can be a hazard to persons and property below.

Hazard Beam – After the loss of a distal part, a limb concentrates growth upwards creating adverse end weights that can render the limb susceptible to failure.

Hyphae – Fine branching tubes that make up the body (or mycelium) of a multi-cellular fungus.

Included bark – Growth characteristic usually caused when two or more stems/branches growing in close proximity ‘fuse’ together entrapping the bark from when the parts were separate in the middle, creating a potential structural weakness. Some trees are able to strengthen such ‘weakened’ unions with adaptive growth.

Meristem - The undifferentiated plant tissue from which new cells are formed, such as that at the tip of a stem or root.

Meristematic Disorder – A growth disorder caused by a disruption of the meristem (see above) from any of a number of biotic factors (see above). Manifests as growths such as ‘Witches Brooms’ & ‘Galls’.

Mycelium – Mass of hyphae that constitutes the vegetative part of a fungus.

Necrosis/Necrotic – Death of tissues usually characterised by a blackening in colour.

Occlusion/Occluded – Normally used to describe the overgrowth of a wound. Also, immovable foreign objects in contact with a tree part can become encased or ‘occluded’ by the tree as it grows incrementally.

Pathogen - An agent that causes disease, especially a living micro-organism such as a bacterium or fungus.

Pollard – The removal and subsequent regular re-removal of the crown of a tree above animal browsing height. Can be an effective method of controlling the size of trees in urban areas. This is ideally begun in the trees early stages and maintained throughout its life.

PSULE – Potential Safe Useful Life Expectancy. A general classification as to the trees life expectancy.

Reaction wood - Essentially additional wood laid down by the tree to compensate for structural defects such as a cavities.

Ring barking/Girdling – the removal of bark around the entire circumference of a stem or branch, causing the death of all distal parts.

Rhizomorphs – Dense bundles of mycelium, blackened by melanin for protection, that aid in the spread of the fungus.

Root Protection Area – An area, usually represented as a circle, around each tree which should remain free from disturbance during a development in order to protect the roots of a tree.

Saprophyte – An organism which exists on dead plant material.

Scaffold branches - The main structural branches within the crown.

Veteran tree – Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Vigour - A general classification, as to the present and future potential growth and development of a tree. A comment regarding the health status of the tree specific to its species.