



Location:
**Ferrand Lane,
Gomersal**

Report Type:
Arboricultural Impact Assessment

Ref:
ARB/CP/1224

Date:
November 2018

Wrens Nest, Underhill, Glaisdale, North Yorkshire, YO21 2PF
Tel – 01947 897001 Email: enquiries@elliottconsultancy.com
www.elliottconsultancy.com

Company Registration No: 5515572 VAT No: 889226571

Contents

- 1 Introduction
- 2 Site Details
- 3 Tree Category Evaluation
- 4 Arboricultural Impact Assessment
- 5 Tree Retention & Protection Considerations

Appendices

- 1 Tree Details
- 2 Tree Constraints Plan
- 3 Tree Protection Plan (draft)
- 4 BS 5837 Tree Assessment Cascade Chart
- 5 Arboricultural Glossary

1 Introduction

- 1.1 Acting upon the request of the client a survey of trees to the south of Ferrand Lane, Gomersal was carried out on the 10th November 2015 to inform site layout decisions and to form the basis of this arboricultural 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 inform 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.
 - Section 4 evaluates the proposed development in context to the existing trees, with potential issues discussed and remedial options offered.
 - Matters pertinent to tree retention and protection are briefly discussed and a draft Tree Protection Plan provided. 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.
- 1.3 This report should be read in conjunction with the Tree Constraints Plan (Appendix 2) and the draft Tree Protection Plan (Appendix 3).
- 1.4 This document represents the second in a series of documents outlined within BS5837:2012 that are intended to provide the necessary advice to ensure appropriate tree retention and protection. The information provided to the client’s design team (pre-development tree report and Tree Constraints Plan) is included within this Arboricultural Impact Assessment. Following planning approval an Arboricultural Method Statement and Tree Protection Plan should be produced, and approved by the Local Planning Authority.

2 Site Information

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



Figure 1: Area Surveyed Highlighted

- 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 abut 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. Two individual trees were classified as Category A; their numbers being Trees 20 and 34.
- 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. Fifteen individual trees, and two hedgerows were classified as Category B; their numbers being Trees 1, 3, 4, 6, 9, 10, 12, 14, 15, 18, 21-25, 30, 32, 33 and Hedgerows 1 and 2.
- 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. Twelve individual trees, eight groups of trees and nine hedgerows were classified as Category C; their numbers being Trees 2, 7, 8, 11, 13, 16, 17, 26-29, 31, Groups 1-8, and Hedges 3-11.

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. Two of the trees were classified as Category U. Tree 5 is a goat willow with poor form which is in contact with an out-building and Tree 19 is an oak which has been left unbalanced and with a stem crack following the loss of a co-dominant stem.

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.

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, groups and hedgerows can be found within Appendix 1.

Summary of Categories Awarded			
Category	Tree Numbers	Group Numbers	Hedgerow Numbers
A	20, 34		
B	1, 3, 4, 6, 9, 10, 12, 14, 15, 18, 21-25, 30, 32, 33		1 & 2
C	2, 7, 8, 11, 13, 16, 17, 26-29, 31	1-8	3-11
U	5, 19		

4 Arboricultural Impact Assessment

- 4.1 This section concentrates on the proposed alterations 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.
- 4.2 As detailed within Figures 2 to 4 it is proposed that a housing development with supporting infrastructure would be constructed within the site. Vehicular access would be taken from Cliffe lane, through the property of number 271.

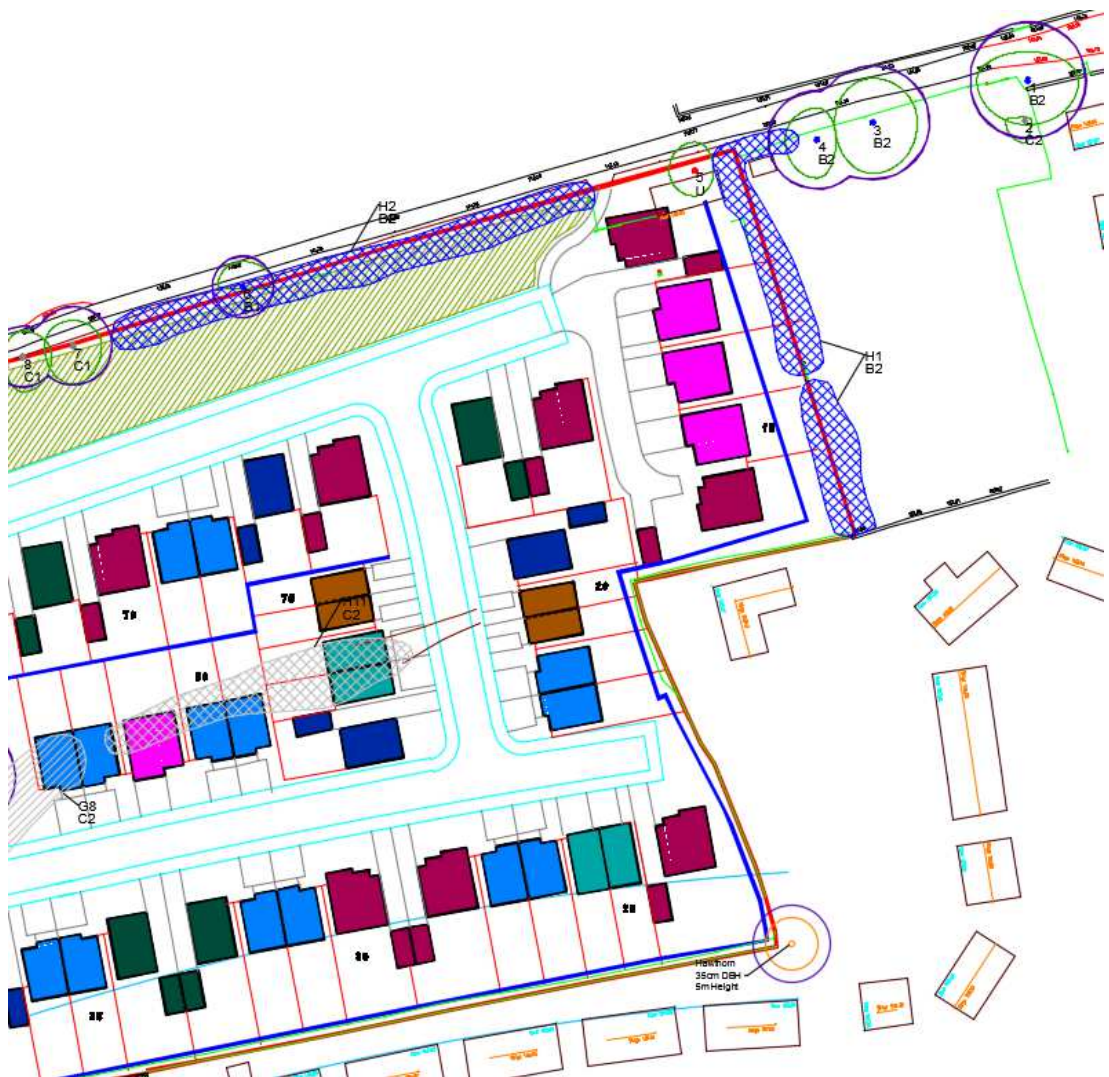


Figure 2: Proposed Alterations – Northeast Section



Figure 3: Proposed Alterations – Northwest Section

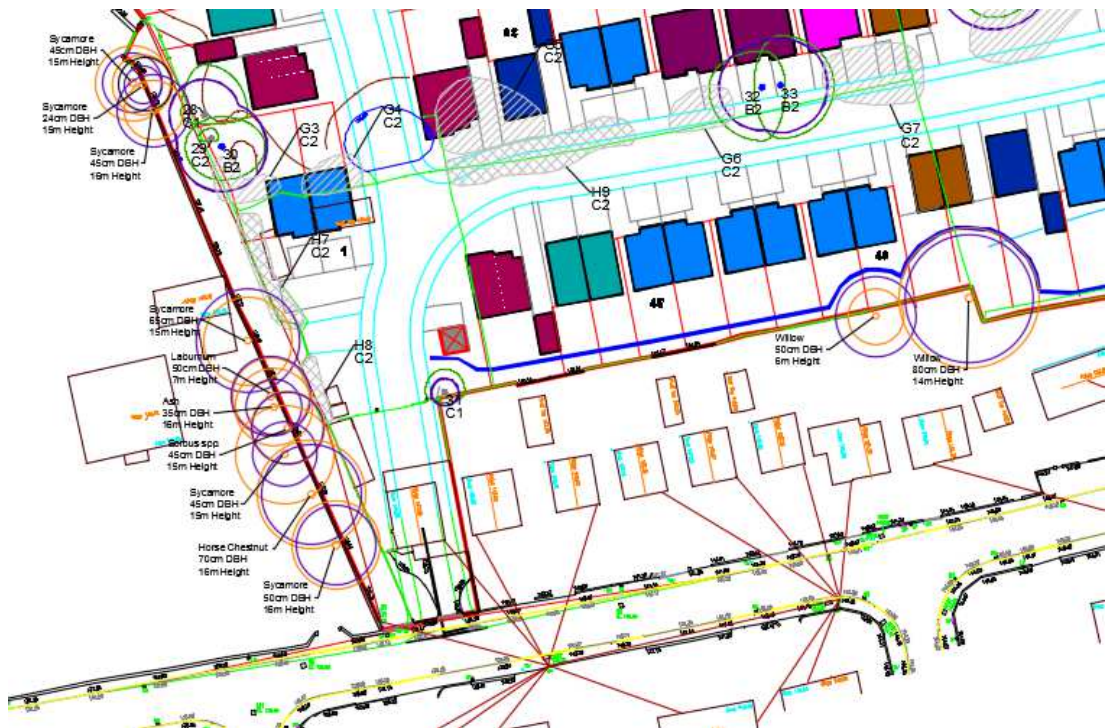


Figure 4: Proposed Alterations - Southern Section

4.3 **Conflict 1: Loss of trees and hedgerows due to proposed layout.**

Four individual trees (numbers 28, 29, 32, 33), six groups of trees (3-8) and four hedgerows (7, 9-11) would need to be removed in order to enable the proposed development. Furthermore the removal of Tree 5, a Category U Willow would be recommended for removal to benefit the scheme.

Mitigation / Justification: All of the hedgerows and groups of trees that would need to be removed in order to realise the proposed layout were classified as Category C. These hedgerows and groups are predominantly situated within the site interior and as such their loss is unlikely to be visually detrimental to the wider landscape. Of the four trees noted for removal to enable the layout, two are Category C and two Category B. The Category C Trees 28 and 29 could theoretically be retained but the canopy of Tree 28 would cover almost the entire garden of the proposed plot and Tree 29 is small and suppressed. As with the hedgerows and groups, the trees are in locations whereby their loss would not detrimentally impact the wider landscape.

4.4 **Conflict 2: 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 / Justification: 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.

4.5 **Potential Conflict 3: Location of utilities runs with Root Protection Areas.**

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

Mitigation / Justification: New utility runs must not 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. Details of intended service runs should be made available once the technical information has been drafted in order to complete

the Arboricultural Method Statement.

4.6 Potential Conflict 5: 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 / Justification: 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 barrier, along with any additional tree protection requirements should be specified within an Arboricultural Method Statement prior to **any** site works commencing.

4.7 Potential Conflict 6: Pruning trees and hedgerows to create clearance to structures and gardens.

A number of trees and hedgerows may require pruning operations such as crown lifting in order to allow full use of proposed gardens.

Mitigation / Justification: Pruning operations would primarily be limited to cutting back hedgerows and crown lifting of the trees over proposed gardens and the area of public open space. The willows within the properties adjacent to proposed Plots 37-41 would perhaps require some detailed pruning in order to reduce their impact on the proposed gardens. All pruning operations would be undertaken in accordance with BS 3998:2010 Tree work. Recommendations and specified within an Arboricultural Method Statement.

4.8 Potential Conflict 7: 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 / Justification: 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.

5 Tree Retention and Protection Considerations

- 5.1 The following gives brief detail of information that should be provided within an Arboricultural Method Statement and Tree Protection Plan following planning approval and/or once all technical details regarding the development are known.
- 5.2 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 Appendices 2 and 3); 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.
- 5.3 These protected 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.
- 5.4 Areas that have been identified for post-development tree planting should also be protected to ensure that the soil does not become compacted or contaminated.
- 5.5 Trees are capable of causing damage to structures either directly, such as physical contact damage or indirectly given the required conditions, such as subsidence. 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.
- 5.6 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.

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 1 st significant limb e.g. 2 NE = 1 st 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 - Ferrand Lane, Gommersal

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	1st Branch	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W							
1	Sycamore	M	76	1	14	5	7	8	8	2	3 SW	N	Co-dominant crown. Branch failure stub(s).	40+	B2	No work required
2	Ash	Y	17	2-5	6	0.5	4	1	3	1.5	2 S	N	Co-dominant stems at base. Slightly suppressed form.	40+	C2	No work required
3	Sycamore	M	74	1	14	7	8	7	6	2.5	4 S	N	Open cavity from wound 0.5m to 1.8m - extent is limited at present. Branch failure stub(s). Deadwood. Co-dominant crown.	20+	B2	No work required
4	Sycamore	M	64	1	12	5	6	3	5	2.5	3 N	N	Epicormic growth at base. Damage to surface roots. Branch failure stub(s). Co-dominant crown.	40+	B2	No work required
5	Willow spp	M	36	1	7.5	5	4	3	4	2	1 N	N	Tree in contact with out-building	10+	U	Fell.
6	Ash	EM	40	1	10	4	0	5	4	2.5	2 E	N	North of hedge. Stem leaning 15 degrees. Pruning stub(s) within crown.	40+	B1	No work required
7	Ash	EM	51	2-5	10	4	6	5	5	1.5	1 SE	N	Multi-stemmed. Co-dominant stems at base. Pruning stub(s) within crown.	40+	C1	No work required
8	Ash	EM	40	2-5	9.5	4	6	5	3	2	2 S	N	Co-dominant stems at base. Stem wounds.	40+	C1	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	1st Branch		EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W								
9	Oak spp	EM	63	1	9	5	5	5	4	2	2 S	N	Stem wounds. Basal cavity - extent unknown. Stem sweep. Branch failure stub(s). Deadwood.	40+	B1	Investigate extent of basal decay to ascertain structural integrity.	
10	Ash	EM	46	2-5	9	6	5	6	4	3.5	3 SW	N	Co-dominant stems at base. Branch failure stub(s). Minor deadwood.	40+	B1	No work required	
11	Ash	EM	52	2-5	14	4	6	5	4	1.5	2 SE	N	Multi-stemmed. Stem wounds.	20+	C1	No work required	
12	Ash	M	46	1	14	4	9	7	4	2	4 NE	N	Slightly suppressed form. Branch failure stub(s).	40+	B2	No work required	
13	Ash spp	M	84	1	19	6	12	5	7	2	4 S	N	Pholiota squarrosa fruiting bodies at bse. Branch failure stub(s).	10+	C1	Undertake decay detection to ascertain structural integrity.	
14	Sycamore	SM	42	1	12	4	7	4	4	2	3 SE	N	Located at the bottom of the bank beyond the boundary fence.	40+	B2	No work required	
15	Sycamore	EM	62	2-5	8	4	5	5	6	2	2 W	N	Multi-stemmed at base.	40+	B2	No work required	
16	Hawthorn	M	45	5+	7	4	5	5	5	1	0 S	N	Multi-stemmed.	40+	C1	No work required	
17	Ash	SM	38	1	12	4	4	4	3	1.5	2 S	N	Stem wound with superficial decay. Severe stem sweep. Poor form.	20+	C1	No work required	
18	Ash	SM	37	1	13	5	3	4	3	1.5	2 SE	N	Co-dominant crown.	40+	B2	No work required	

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	1st Branch	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W							
19	Oak spp	M	73	1	11	5	9	6	4	3	2 NE	N	Failure of Co-dominant stem at 1.5m has resulted in the the remaining elements being unbalanced. Cracks within upper stem wound suggest failure of remaining parts is likely	<10	U	Fell or reduce weight within canopy.
20	Sycamore	M	64	1	16	7	6	8	6	2.5	3 E	N	Pruning wound(s) on stem. Dominant canopy over neighbouring tree.	40+	A2	No work required
21	Sycamore	EM	41	1	13	4	4	6	5	3.5	3 E	N	Part of linear group with contiguous crowns. Co-dominant stems at 2.5m.	40+	B2	No work required
22	Sycamore	EM	40	1	13	2	3	6	5	3	2 E	N	Part of linear group with contiguous crowns. Co-dominant stems at 2.5m.	40+	B2	No work required
23	Sycamore	EM	38	1	11	3	4	6	5	3	3 E	N	Part of linear group with contiguous crowns.	40+	B2	No work required
24	Sycamore	EM	40	1	9	4	4	4	4	1.5	1 E	N	Stem leaning 10 degrees. Stem wound.	40+	B1	No work required
25	Oak spp	M	94	1	13	6	7	6	6	2	1 N	N	Multi-stemmed at 1.3m. Minor Stem decay. Branch failure stub(s).	40+	B1	No work required
26	Sycamore	SM	22	1	8	0.5	3	1	3	4	3 SW	N	Suppressed form. Stem leaning 20 degrees.	40+	C2	No work required
27	Oak spp	EM	36	2-5	7	5	4	5	4	2	1 N	N	Co-dominant stems at base - previously trifurcated. Stem wounds wd. Pruning stub(s) upon stem.	20+	C1	No work required

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	1st Branch		EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W								
28	Ash	EM	44	1	14	8	2	7	4	2	2	N	N	Suppressed form. Co-dominant stems at 1.5m.	20+	C1	No work required
29	Hawthorn	M	30	2-5	7	2	0.5	1	2	1.5	2	E	N	Co-dominant stems at 0.8m Stem wound with decay. Suppressed form.	20+	C2	No work required
30	Sycamore	M	56	1	13	5	5	7	6	2.5	2	E	N	Base obscured by debris. Soil level has possibly increased to the east of the stem in the past. Stem wound from 1.2m to 4.4m. Minor deadwood. Branch failure stub(s).	40+	B2	No work required
31	Elm spp	Y	17	1	5	4	2	3	3	1	0	N	N	Multi-stemmed.	40+	C1	No work required
32	Ash	M	54	1	16	6	8	4	8	2.5	4	SW	N	Fused limb at base btween this and adjcant tree - possibly remnants of previously laid hedgerow ash. Co-dominant crown. Branch failure stub(s).	40+	B2	No work required
33	Ash	M	59	1	18	8	8	8	4	2	4	N	N	Fused limb at base btween this and adjcant tree - possibly remnants of previously laid hedgerow ash. Co-dominant crown. Branch failure stub(s).	40+	B2	No work required
34	Oak spp	M	73	1	12	7	7	7	6	2.5	2	N	N	Damage to surface roots. Tree house within crown. Branch failure stub(s).	40+	A1	No work required

Group Data - Ferrand Lane, Gommersal

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

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
5	Blackthorn Hawthorn		10	4	EM	1	Group of blackthorn with occasional hawthorn	No work required	40+	C2
6	Holly		15	4	EM	3	Small group of holly.	No work required	40+	C2
7	Hawthorn		35	5	M	3	Remnants of outgrouwn hedgerow.	No work required	40+	C2
8	Holly Hawthorn		20	5	M	3	Linear group - hawthorn are remnants of an old hedgerow.	No work required	40+	C2

Hedgerow Data - Ferrand Lane, Gommersal

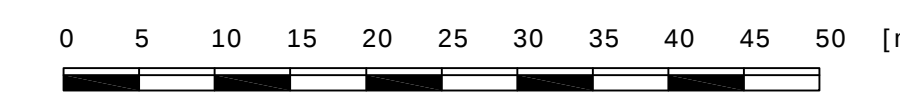
Hedge Number	Dominant Species	Lesser Species	Age	Average Height	Average Depth	Historically Managed Height	Historically Managed Depth	Condition/Comments	Recommendations	EstCont	BS Cat
1	Hawthorn Elder Holly		M	4	2	1	1	Unmanaged hedgerow broken by gateway. Becoming gappy at base.	No work required	40+	B2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

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	5	2	As current height	As current depth	Unmanaged hedgerow adjacent to field boundary.	No work required	40+	C2
8	Western Red Cedar		SM	5	2	As current height	As current depth	Unmanaged hedgerow adjacent to field boundary.	No work required	40+	C2

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	3	3	2	1	Unmanaged, broken hedgerow.	No work required	40+	C2
10	Hawthorn Elder	Ash Sycamore Holly	Y-M	3	3	1	1	Unmanaged outgrown boundary hedgerow. Broken in places.	No work required	20+	C2
11	Hawthorn	Holly Ash Elder Oak spp	M	4	3	1	1	Unmanaged outgrown boundary hedgerow. Broken in places. Bramble covered. Some young self-seeded trees within.	No work required	40+	C2

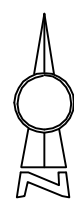


- Tree Position Showing Crown Extents and BS5837 Category A
- Tree Position Showing Crown Extents and BS5837 Category B
- Tree Position Showing Crown Extents and BS5837 Category C
- Tree Position Showing Crown Extents and BS5837 Category U
- Root Protection Area - to remain free from disturbance (merged where over-lapping)
- Position of Tree Upon Adjacent Property Showing Extent of Crown Overhanging the Site & Root Protection Area Estimate
- Group Position Showing Crown & Root Protection Area Extents, and BS5837 Category C
- Hedgerow Position Showing Crown & Root Protection Area Extents, and BS5837 Category B
- Hedgerow Position Showing Crown & Root Protection Area Extents, and BS5837 Category C
- Photo Number, Position and Aspect
- 1/G1 Tree/Group
- A1/B1/C1/U BS5837 Retention Category



APPENDIX 2

Drawing Title: Tree Constraints Plan
Project: Ferrand Lane, Gomersal
Drawing Number: ARB/CP1224/TCP
Date: November 2015
Scale: 1:500 @ A1
Client:



- 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 (merged where over-lapping)
- Position of Tree Upon Adjacent Property Showing Extent of Crown Overhanging the Site & Root Protection Area Estimate
- Group Position Showing Crown & Root Protection Area Extents, and BS5837 Category C
- Hedgerow Position Showing Crown & Root Protection Area Extents, and BS5837 Category B
- Hedgerow Position Showing Crown & Root Protection Area Extents, and BS5837 Category C
- 1/G1 Tree/Group
- A1/B1/C1/U BS5837 Retention Category

APPENDIX 3

Drawing Title: Arboricultural Impact Plan
Project: Ferrand Lane, Commercial
Drawing Number: ARB/CP/1224/AIP
Date: November 2018
Scale: 1:500 @ A0

0 5 10 15 20 25 30 35 40 45 50 [m]

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	- 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
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 trees or wood-pasture)	See Table 2
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	Trees with material conservation or other cultural value	See Table 2
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 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 2

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.