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Location:
Land off The Avenue
Seaton Delaval

Report Type:
Pre-development Tree Survey

Ref:
ARB/AE/2765

Date:
January 2022

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Contents

1 Introduction

1.1 Acting upon the request of the applicant, a pre-development survey of trees at land off The Avenue in Seaton Delaval was undertaken on the 10th January 2022 by Andrew Elliott of Elliott Consultancy Ltd.

1.2 Scope of the report:

- This report provides arboricultural information and advice in relation to a proposed development of the site for use as the new Astley High School base.
- All pertinent trees within the site were assessed and categorised with regard to their quality and retention values using criteria outlined in BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'. All potentially vulnerable trees within adjacent properties were assessed where considered appropriate.
- Tree Constraints Plans have been prepared showing tree locations, retention values, root protection areas and above ground characteristics (Appendix 3 – A&B).
- It refers only to the conditions prevailing when the site was surveyed.

1.3 Trees can be protected by Tree Preservation Order or by merit of location within a Conservation Area; advice should be sought from the local planning department prior to any tree works being undertaken.

1.4 It is possible that trees inspected within this survey may also be habitat for a variety of species. It is not within the remit of this report to investigate matters other than arboricultural issues.

2 Site Information

2.1 The survey included trees and hedges on and around an area of agricultural land to the north of Seaton Delaval. Figure 1 shows the extent of the area surveyed.

Figure 1: Area surveyed highlighted

2.2 Tree cover on the main body of the site is negligible, with most trees being located around the periphery of the field. Significant bands of trees includes a young linear tree plantation on the sites western boundary adjacent to new housing, and an established linear, scrub-woodland group on the eastern boundary adjacent to The Avenue.

2.3 Any visibility constraints encountered are noted within the survey data (Appendix 1).

3 Tree Category Explanation

3.1 The criteria used for evaluating how suitable each tree is for retention within a development is that suggested within 5837:2012; a copy of the categorisation sheet can be found within Appendix 2.

3.2 BS5837:2012 notes that all trees apart from those with stem diameters <150mm or classified as Category U should be viewed as a 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** trees are those of high quality and value, and of a condition whereby they could make a substantial contribution to the site. Such trees should be retained and offered adequate consideration during the design phase and physical protection during the construction phase in accordance with BS 5837:2012. This requires keeping proposed features and alterations to ground levels outside root protection areas and crown spreads so as to ensure that trees remains in an adequate condition post-development. Root protection areas and crown spreads are displayed upon the Tree Constraints Plan (Appendix 3).

3.2.2 **Category B** trees are those of moderate quality and value, and of a condition that they could make a substantial contribution to the site. Category B trees should be retained wherever possible and offered adequate consideration during the design phase and physical protection during the construction phase in accordance with BS 5837:2012.

3 Tree Category Explanation (cont)

3.2.3 **Category C** trees are considered to be of low quality and value, or lacking stature, but of an adequate condition to remain in the short-term. These trees could and in some cases should be retained where possible, but where they form a constraint to design their removal should be considered. 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.

3.2.4 **Category U** 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.

3.3 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. A 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. A 3 indicates that a cultural factor was the overriding value e.g. it may have historical or commemorative importance.

4 Tree Retention Considerations

4.1 All trees apart from those classified as Category U and those with stem diameters less than 150mm measured at 1.5m above ground level should be considered as potential material site constraints with the emphasis on their retention if and where appropriate. Layout plans should take account of the trees' above and below-ground constraints, namely the crown spread and root protection areas (RPA's) considered for retention. The extents of these constraints are detailed upon the Tree Constraints Plan (Appendix 3).

4.2 Where retained all protected areas around trees should be considered sacrosanct from disturbance throughout the entire development process. Where possible trees should be protected with continuous fencing protecting groups rather than individual specimens – this is of particular merit around the periphery of a site to protect boundary trees both on and off-site.

4.3 Proposed layout designs need to be assessed in context of appropriate tree retention and protection within an Arboricultural Impact Assessment. Once all of the proposed site layout decisions are finalised and the technical details to enable the construction prepared, an Arboricultural Method Statement and Tree Protection Plan should be produced.

Appendix 1 Tree Details

Key for Tree & Group Data tables:

No.	Tree Number (suffix N denotes tree within adjacent property)
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). Where trees have multi-stems an equation is used to provide a single measurement adequate for use in calculating root protection areas (as per BS5837)
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

Tree Survey Data

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
1	Ash	Y	20	1	6	3	2	3	2	1	N	Basal cavity. Self-seeded. Low quality.	20+	C1	No work required
2	Ash	SM	30	5+	6	5	4	4	3	0.5	N	Small multi-stemmed, self-seeded tree. Low quality.	20+	C1	No work required
3	Ash	SM	30	5+	6	5	4	4	3	0.5	N	Small multi-stemmed, self-seeded tree. Low quality.	20+	C1	No work required
4	Sycamore	EM	60	1	12	3	3	3	3	5	Y	Off-site.	40+	B1	No work required
5	Sycamore	EM	60	1	14	6	5	6	6	5	Y	Off-site. Multi-stemmed at 1m. 5m overhang into site.	40+	B1	No work required
6	Spruce spp	Y	20	1	5	3	2	3	2	0.5	Y	Access restricted due to dense undergrowth.	40+	C1	No work required
7	Hawthorn	EM	20	5+	5	3	3	2	3	1	N	Small multi-stemmed bush. Location estimated.	40+	C1	No work required
8	Hawthorn	EM	20	5+	5	2	2	2	2	1	N	Small multi-stemmed bush. Location estimated.	40+	C1	No work required
9	Hawthorn	M	20	5+	6	2	2	3	2	1	N	Small multi-stemmed bush.	40+	C1	No work required
10	Spruce spp	Y	16	1	7	1	2	2	2	1	N		40+	C1	No work required

Note: Recommendations are arboriculturally based and do not relate to any development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
11	Spruce spp	Y	12	1	7	2	0.5	2	2	1	N		40+	C1	No work required
12	Spruce spp	Y	12	1	6	2	2	2	2	1	N		40+	C1	No work required
13	Spruce spp	Y	12	1	5	2	0.5	2	2	1	N		40+	C1	No work required
14	Ash	SM	30	2-5	7	4	2	3	3	1.5	N	Co-dominant stems at base with acute stem union. Low quality.	10+	C1	No work required
15	Elder	M	30	1	4	2	2	4	1	0.5	N	Multi-stemmed. Low quality.	10+	C1	No work required
16	Spruce spp	Y	15	1	7	2	2	2	2	1.5	N		40+	C1	No work required
17	Ash	Y	20	2-5	7	3	3	3	3	1	N	Small multi-stemmed and self-seeded. Location estimated.	20+	C1	No work required
18	Hawthorn	SM	20	2-5	5	2	2	2	2	0.5	N	Small multi-stemmed and self-seeded. Location estimated.	20+	C1	No work required
19	Beech	M	66	1	18	5	6	6	6	4	N	Basal cavity and decay - extent unknown. Cavity at 3m on main stem - extent unknown.	20+	B1	If target potential increases - undertake decay mapping of stem
20	Beech	M	80	1	18	7	9	7	7	4	N		40+	A1	No work required
21	Lime spp	SM	37	1	13	6	3	4	5	1.5	N		40+	B2	No work required
22	Lime spp	SM	55	2-5	14	4	5	6	6	3	N	Multi-stemmed.	40+	B2	No work required

Note: Recommendations are arboriculturally based and do not relate to any development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
23	Ash	SM	60	2-5	16	6	10	8	3	2	N	Multi-stemmed. Several small cavities.	20+	B2	No work required
24	Ash	SM	55	2-5	16	4	8	3	4	5	N	Co-dominant stems at base.	20+	B2	No work required
25	Ash	SM	55	1	16	5	8	3	5	5	N		20+	B2	No work required
26	Elm spp	SM	60	2-5	15	6	8	5	6	2	N	Two stems - treat as one.	20+	B2	No work required
27	Lime spp	SM	50	2-5	14	5	4	4	4	0.5	N	Epicormic growth limited visibility.	40+	B1	No work required
28	Ash	SM	55	1	10	5	6	6	4	3	N	Crown dieback - possibly Ash Dieback. Location estimated.	10+	B2	Monitor condition
29	Wych Elm	SM	39	1	10	6	6	6	3	3	N		20+	B2	No work required
30	Beech	M	73	1	14	5	5	5	5	3	N	90% dead. Suspect poor ground conditions and root decline - possible infection by decay causing fungi.	<10	U	Fell or reduce to maintain as habitat pole
31	Ash	SM	35	1	12	4	5	4	5	4	N		40+	B2	No work required
32	Ash	EM	65	1	12	6	8	8	7	2.5	N	Moderate crown deadwood.	20+	B2	No work required
33	Leyland Cypress	SM	40	1	10	3	3	3	3	1	N	Multi-stems in crown with poor structural form.	20+	B2	No work required
34	Leyland Cypress	SM	38	1	10	3	3	3	3	1	N	Multi-stems in crown with poor structural form. Partial branch failures in crown.	20+	C1	No work required

Note: Recommendations are arboriculturally based and do not relate to any development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

No.	Species	Age	DBH	Stems	Height	Crown Spread				CH	EstD	General Observations	EstCont	BS Cat	Recommendation
						N	S	E	W						
35	Leyland Cypress	SM	16	1	6	2	2	2	2	0.5	N		20+	C1	No work required

Note: Recommendations are arboriculturally based and do not relate to any development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

Group Data

Group Number	Dominant Species	Lesser Species	DBH	Average Height	Age	Average Spread	Condition/Comments	Recommendations	EstCont	BS Cat
1	Common Alder Wild Cherry Silver Birch Rowan	Goat Willow Field Maple	6	4	Y	1	Young linear plantation of mixed native broadleaves in band adjacent to new development. Many have been reduced in height by residents.	No work required	40+	C2
2	Wych Elm		10	4	Y	3	Small dense group of multi-stemmed Elm stems on small bank.	No work required	20+	C2
3	Ash		20	7	SM	4	Remnant hedge line with numerous multi-stemmed self-seeded Ash growing out of line.	No work required	20+	C2
4	Ash Wych Elm Hawthorn Common Lime	Elder	30	10	EM	4	Linear woodland group between the site and the adjacent highway corridor. Understorey of Thorn & Elm with numerus semi / early-mature self-seeded Ash & Elm - many multi-stemmed and scrubby in form. Larger trees where possible were plotted individually.	No work required	40+	B2

Note: Recommendations are arboriculturally based and do not relate to any development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

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 Ash Blackthorn		M	4	2.5	1.5	0.5	Outgrown field boundary. No recent management. Gaps appearing due to Elder and Ash etc further to the north becomes more cohesive and with better value (B2).	No work required	20+	C2
2	Hawthorn		SM	2	1	As current height	As current depth	Small section of hedging on boundary.	No work required	40+	B2
3	Hawthorn Elder		M	2	1	1.5	0.5	Remnant hedgerow section. Still cohesive but with little connectivity.	No work required	20+	C2

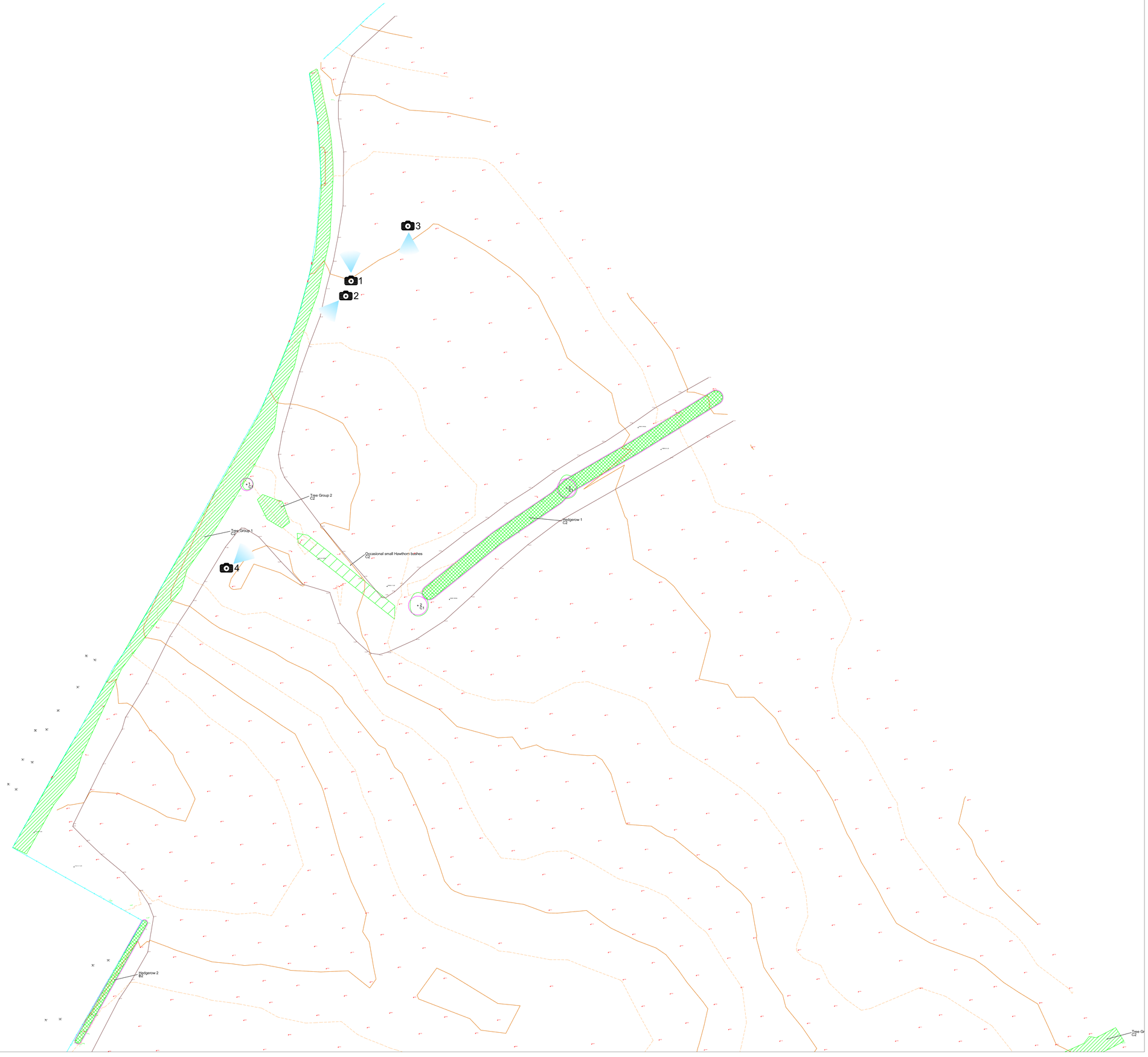
Note: Recommendations are arboriculturally based and do not relate to any development proposals at this stage. Such information would be detailed within an Arboricultural Method Statement

Appendix 2 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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			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



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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)

Group of Trees

Hedgerow

1/G1/H1 Tree/Group/Hedgerow Number

A1/B1/C1/U BS5837 Retention Category

1 Photo Number, Position and Aspect

1:500

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

APPENDIX 3a

Drawing Title:	Tree Constraints Plan A
Project:	Land off The Avenue, Seaton Delaval - North
Drawing Number:	ARB/AE/2765/TCP
Date:	January 2022
Scale:	1:500 @ A0

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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)

Group of Trees

Hedgerow

1/G1/H1 Tree/Group/Hedgerow Number

A1/B1/C1/U BS5837 Retention Category

1 Photo Number, Position and Aspect

1:500

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

APPENDIX 3b

Drawing Title: Tree Constraints Plan B

Project: Land off The Avenue, Seaton Delaval - South

Drawing Number: ARB/AE/2765/TCP

Date: January 2022

Scale: 1:500 @ A0