ARBORICULTURAL REPORT

BS 5837:2012

INITIAL TREE SURVEY

SITE ADDRESS:
1 Hawksfold House, Hawksfold Lane, Fernhurst, GU27 3JW

CLIENT:
Mr Homewood

REF NO:
D3043.V1.0-TS

INSPECTION DATE:
13th of September 2023

PREPARED BY:
Tom Butterfield BSc(HONS) DipArb L4
20th of September 2023

REPORTS	INCLUDED
~INITIAL TREE SURVEY~	✓
~TREE SURVEY SCHEDULE~	✓
~TREE CONSTRAINTS PLAN~	✓
~ARBORICULTURAL IMPACT ASSESSMENT~	✘
~TREE SURVEY SCHEDULE + REQUIRED WORKS FOR THE PROPOSAL~	✘
~TREE PROTECTION PLAN~	✘
~ARBORICULTURAL METHOD STATEMENT~	✘

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BIBLIOGRAPHY

- BS5837:2012. "Trees in relation to design, demolition and construction – Recommendations".
- Mattheck, C., Breloer, H. (2006). "The body language of trees a handbook for the failure analysis". London: TSO.
- www.mapapps.bgs.ac.uk/geologyofbritain/home.html

INTRODUCTION

CLIENT	Mr Homewood
INSPECTION DATE	13th of September 2023
SITE LOCATION /S	1 Hawksfold House, Hawksfold Lane, Fernhurst, GU27 3JW
INSPECTED BY	Tom Butterfield BSc (HONS) DipArb L4

1.0 Terms And Abbreviations

Tree Preservation Order	TPO
Conservation Area	CA
Arboricultural Impact Assessment	AIA
Arboricultural Method Statement	AMS
British Standard 5837:2012 – Trees in Relation to Design, Demolition and Construction - Recommendations	BS5837
Root Protection Area	RPA
Root Protection Radius	RPR
Local Planning Authority	LPA
Tree Protective Fencing	TPF
Diameter of the stem at breast height (1.5 meters)	DBH
Tree Survey Schedule	TSS
Construction Exclusion Zone	CEZ
Sustainable Urban Drainage System	SUDS
Cellular Confinement System	CCS
Ground Protection	GP

2.0 Contact Details

Contact	Name	Company	Contact details	Issued
Client	Mr Homewood	/	steve@jehomewood.co.uk	✓
Arboricultural Consultant	Mr Tom Butterfield	Dryad Tree Specialists Ltd	tom@dryad-trees.co.uk 01483 455555	
LPA Tree Officer		Chichester District Council	www.chichester.gov.uk/planning	
Architect	Mr Chris Medland	one-world design architects	chris.medland@one-worlddesign.co.uk	✓

3.0 Brief And Purpose

3.1 This Arboricultural report was commissioned by Mr Homewood on the 6th of September 2023.

3.2 To survey trees likely to be affected by the development in accordance with BS5837.

3.3 To make preliminary management recommendations where necessary.

4.0 Planning Information

4.1 The site falls under the jurisdiction of Chichester District Council, the LPA for this area.

5.0 Document Source

Document	Source	Format
Site plan	one-world design architects	DWG TOPO: ***GC2304051 - TS***
Layout plans and proposal	/	/

6.0 Site Details

6.1 The site is located off Hawkfold Lane.

6.2 The site consists of a semi-detached property with a large garden to the South.

6.3 The site is bordered by private residential properties to the North and East, Hawksfold Lane East to the South and open pasture and wooded area to the West.

6.4 The Northern end of the site is relatively flat; the South part gradually sloped down towards the South, ending at a small bank that goes down to the track.

6.5 The soil type on-site, at a scale of 1:50,000, is classified as "Weald Clay Formation" as revealed by the Online British Geological Society.

6.6 The site has the potential to be located over soil that is shrinkable, indicating it could be more vulnerable to compaction and subsidence than that of a non-clay soil.

6.7 Note – No soil samples were taken on-site to confirm these findings.

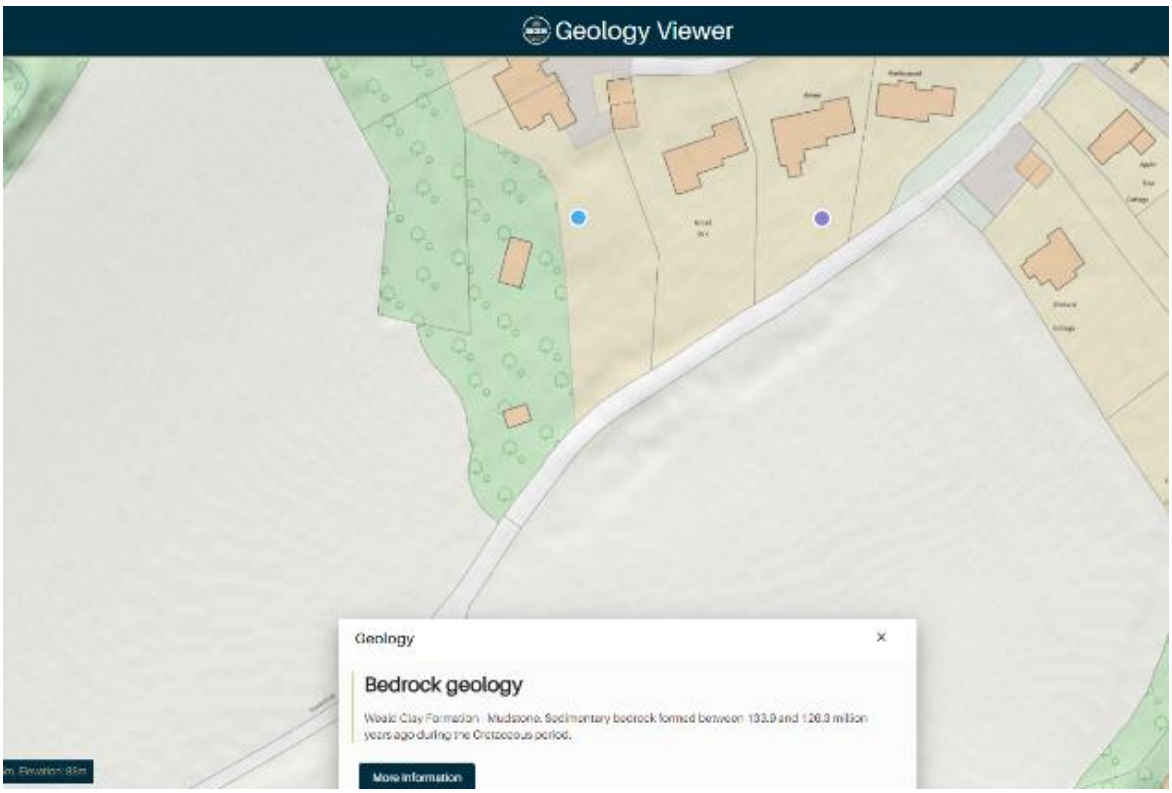


Figure 1 – BGS website 2023

TREE SURVEY

7.0 The Scope of the Survey

7.1 Only trees likely to be affected by the development (including neighbouring trees) were recorded in the tree survey.

7.2 Only trees with a DBH of 75mm or greater were surveyed in accordance with BS5837.

7.3 A full hazard assessment of the trees (including an assessment of decay, defects and their implications), as well as ecological implications, have not been undertaken, as it is seen to go beyond the scope of this report.

7.4 Observations, including any hazards, have been identified and documented in the Tree Survey Schedule with recommendations (Appendix 1).

8.0 Tree Survey Methodology

8.1 The trees were surveyed on the 13th of September 2023.

8.2 The tree survey was undertaken as to the recommendations of British Standards BS5837:2012.

8.3 The trees were plotted (Using AUTOCAD) over an existing topographical survey map of the site that was supplied by the client.

8.4 The trees were assessed from ground level using Visual Tree Assessment (Mattheck, et al. 1993) with the aid of binoculars and a mallet where necessary. No invasive techniques were employed to assess the structural integrity of the trees, or were soil samples taken.

8.5 Measurements are approximate but give a fair representation of the dimensions of the trees. Tree heights were estimated by eye, the crown spreads paced out, and the DBH's were measured with a rounded down centimetre diameter tape. Where the tree stems were not accessible, they have been estimated, and a "?" was placed after the figure in the Tree Survey Schedule.

9.0 Tree Details

9.1 The total number of trees recorded are as follows:

- Individual Trees (T): Sixteen (16)
- Groups of Trees (G): Two (2)

9.2 Full details of the surveyed trees can be found in the TSS (Appendix 1), and the tree locations can be found in the Tree Constraints Plan and Tree Protection Plan (Appendix 3).

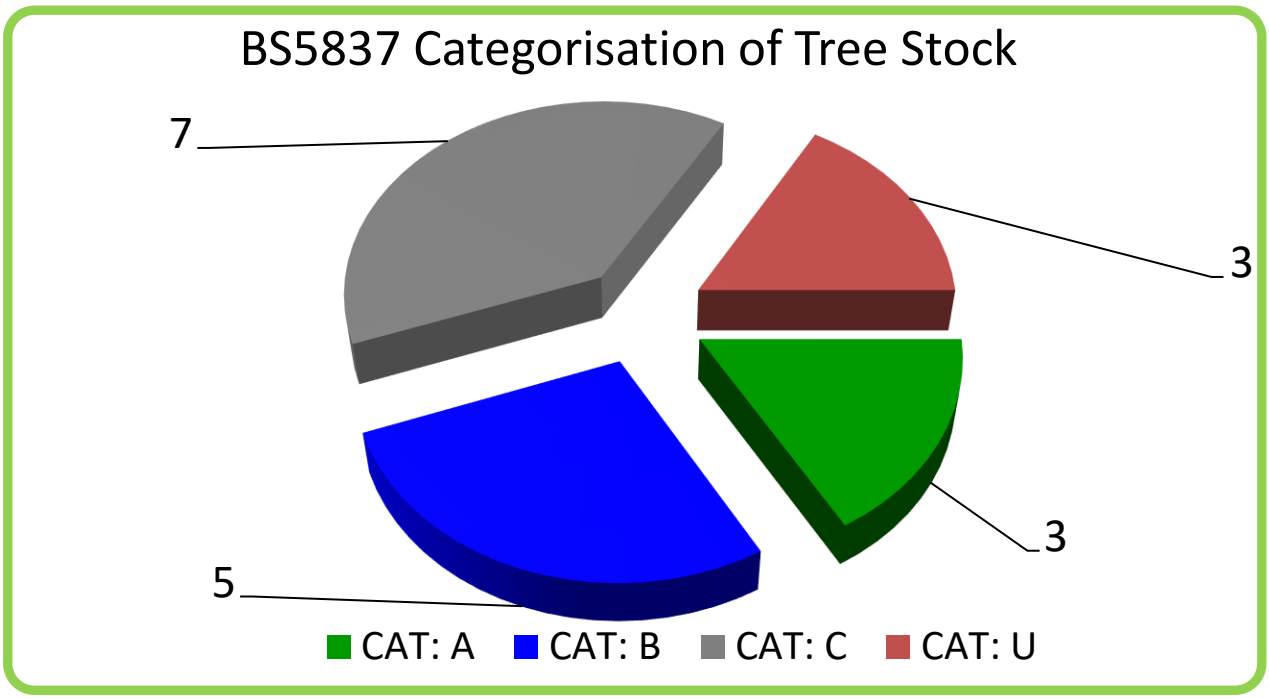
9.3 The quality and value of the trees on site have been categorised in accordance with BS5837, and the grading system is as follows:

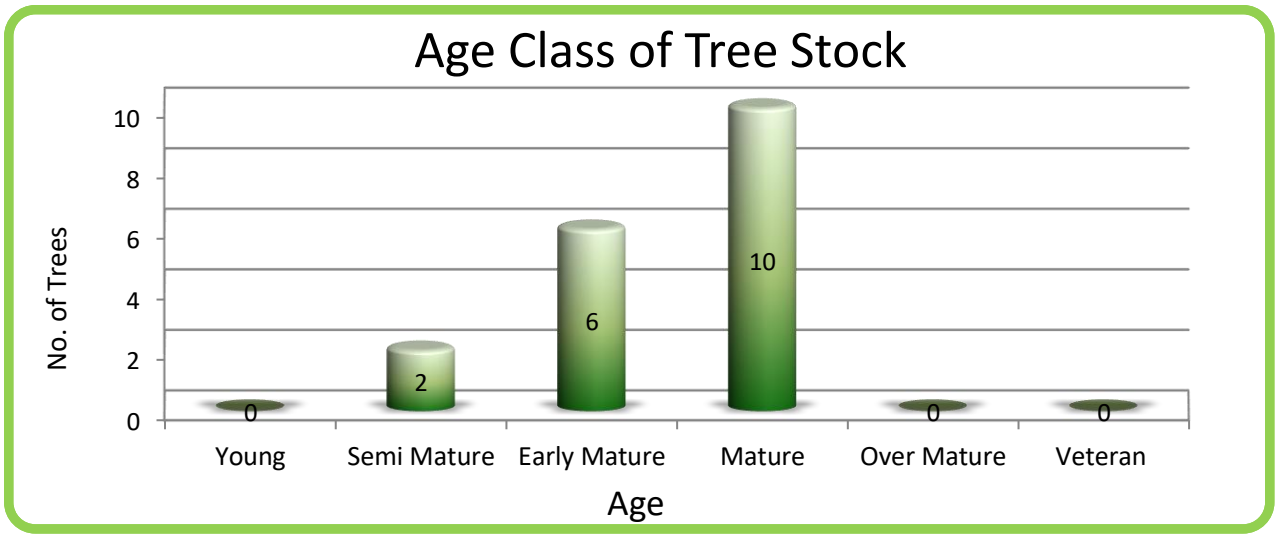
- **A Grade** – Trees of high quality and value, with a life expectancy of more than 40 years
- **B Grade** – Trees of moderate quality and value, with a life expectancy of more than 20 years
- **C Grade** – Trees of low quality and value, with a life expectancy of more than 10 years
- **U Grade** – Trees for removal, with a life expectancy of less than 10 years

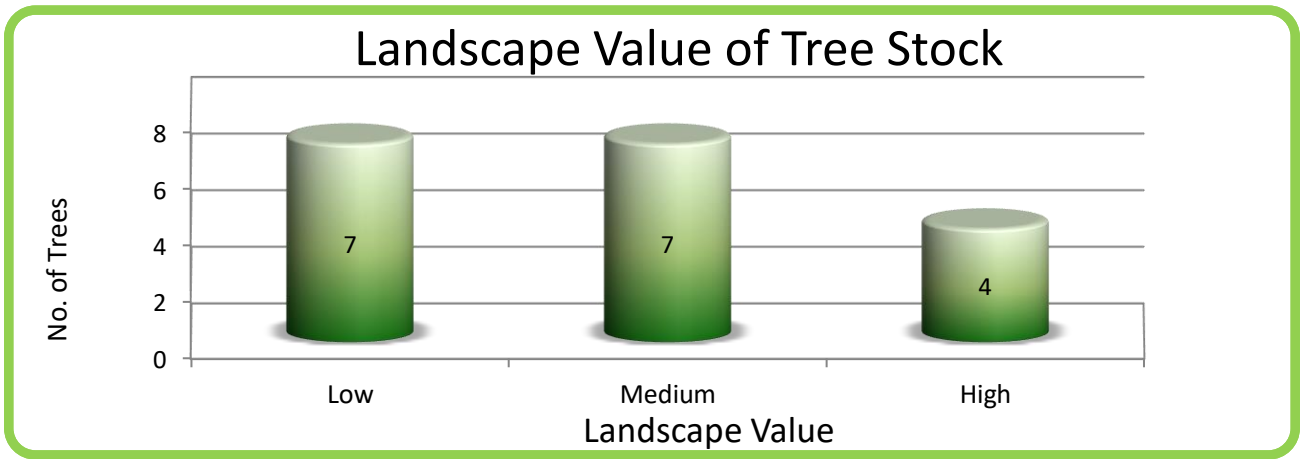
(For full details on BS5837 cascade for tree quality assessment, refer to Appendix 2)

9.4 Quality and overview of existing tree stock:

Grade	A	B	C	U
Tree No.	3	5	7	3

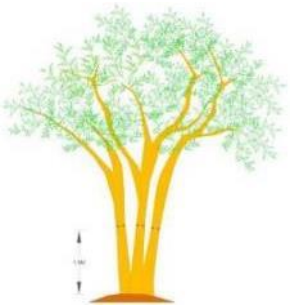

BS5837 Categorisation of Tree Stock
7
3
3
5
CAT: A
CAT: B
CAT: C
CAT: U


Age Class of Tree Stock
No. of Trees
10
8
6
4
2
0
0
2
6
10
0
0
Young
Semi Mature
Early Mature
Mature
Over Mature
Veteran
Age


Landscape Value of Tree Stock
No. of Trees
8
6
4
2
0
7
7
4
Low
Medium
High
Landscape Value

10.0 Root Protection Area

10.1 The RPA radius is calculated by multiplying the tree's stem diameter at 1.5m above ground level by 12. For multi-stem trees, the RPA radius is calculated by multiplying a formulated stem diameter by 12, as shown below.



Multi-stem diameter calculations:

For Trees with 2 – 5 stems:

$$\sqrt{(Stem\ diameter\ 1)^2 + (Stem\ diameter\ 2)^2 \ldots . + (Stem\ diameter\ 5)^2}$$

For Trees with more than 5 stems:

$$\sqrt{((Mean\ stem\ diameter)^2\ x\ Number\ of\ stems)}$$

10.2 The RPA figures shown in the TSS (Appendix 1) are in meters squared, and RPR figures represent the radius in meters from the tree stem. These figures are derived from DBH calculations in accordance with section 4.6 of BS5837 Appendix D.

10.3 The figures should provide retained trees with sufficient rooting material to survive and remain healthy during the proposed development and beyond.

10.4 The RPA of each tree has been plotted as purple dashed circles on the constraints plans.

11.0 Current Tree Protection Status

Protection type	Constraints / details
Tree Preservation Order (TPO)	✓
Conservation Area (CA)	✘
Other	Ancient Woodland

11.1 Details were checked with Chichester District Council (LPA) via their interactive website on the 20th of September 2023.

11.2 No further forms of communication were initiated to confirm these findings.

11.3 The site resides within an area TPO reference 70/00459/TPO.

11.4 The Southern part of the site is designated Ancient Woodland.

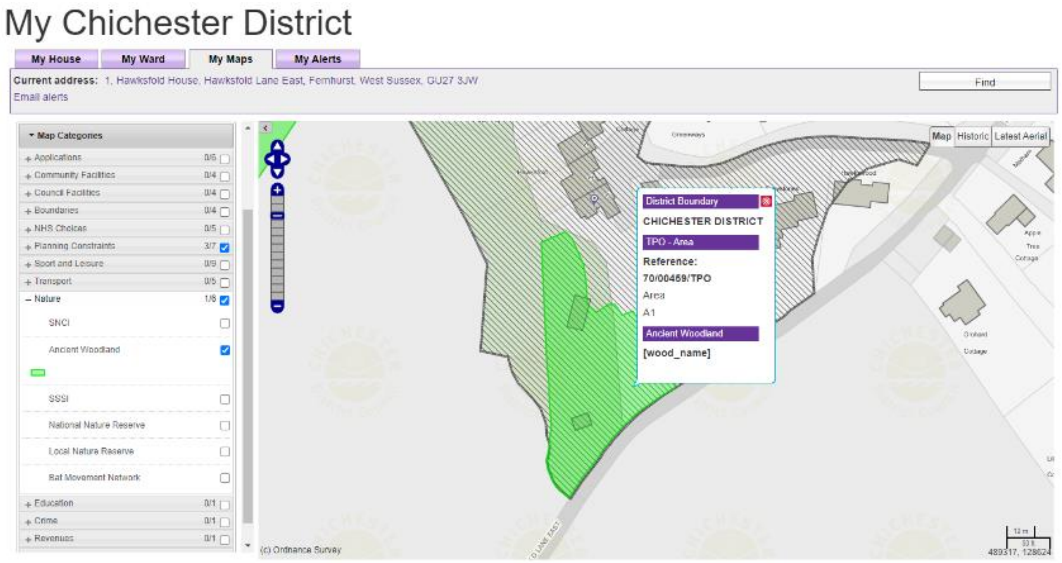


Figure 2 – Extract Chichester Website 2023

12.0 Summary

12.1 The survey revealed that 17% of the tree stock is of high quality (A grade), 28% is of moderate quality (B grade), 38% is of low quality (C grade) and 16% is dead or dying (U grade).

12.2 The majority of the tree stock is low quality (C grade).

12.3 Efforts should be made to retain A and B grade trees and C grade trees where possible.

12.4 Root Protection Areas of trees to be retained should be avoided during any potential development phase.

12.5 The site does not reside within a Conservation Area, but does reside within an Area TPO.

12.6 There are several trees identified as dead or dying (U grade) during the survey. These trees should not be considered in the future landscape or potential development.

12.7 As a TPO protects the trees, any trees that are removed should be replanted.

13.0 Images

Figure 3 – T1

Figure 4 – T2

Figure 5 – T2: Decayed base

Figure 6 - T2: Decayed base

Figure 7- T3 & G4

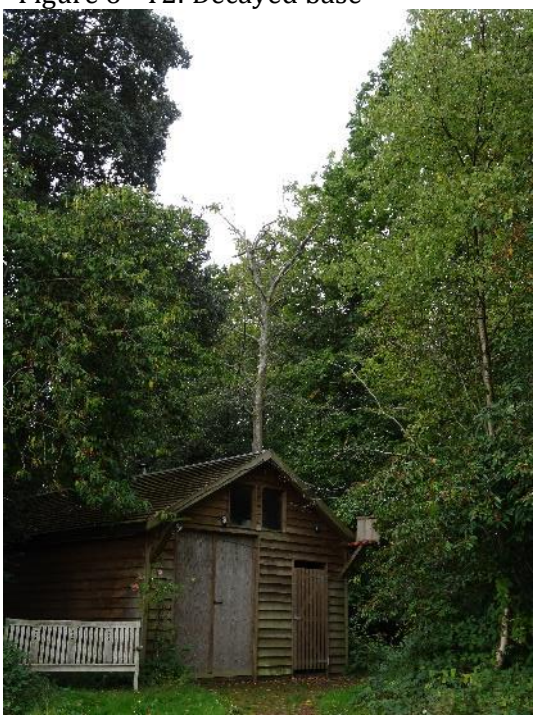


Figure 8 – T5: Dead Birch

Figure 9 – T10

Figure 10 – T10: Decayed stem

Figure 11- T9

Figure 12 – T9: Included union

Figure 13 – T14

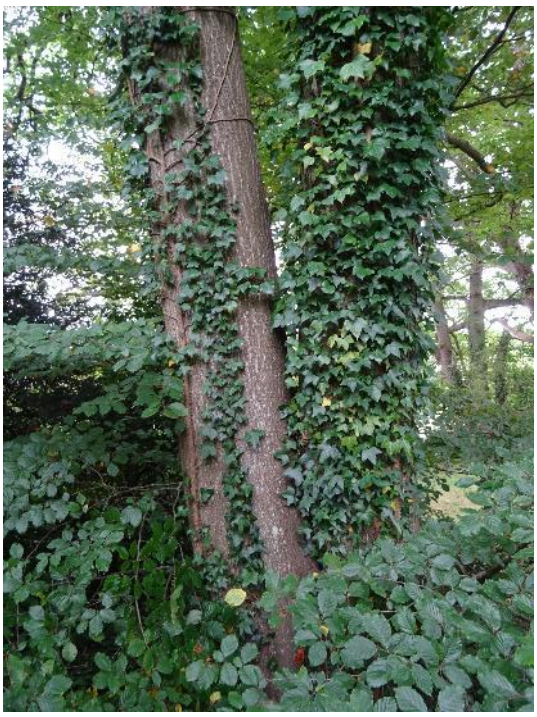


Figure 14 – T14: included union

Figure 15 – G11

Figure 16 – T16

Figure 17 – T17

Figure 18 – T17: *Ganoderma pfeifferi* at base

14.0 Appendices

Appendix 1 – Tree Survey Schedule BS5837:2012

Site: 1 Hawksfold House, Hawksfold Lane, Fernhurst, GU27 3JW
Client: Mr Homewood
Survey Date: 13th of September 2023
Ref No: D3043.V1.0-TS
LPA: Chichester District Council
Weather: Fair
Inspector: Tom Butterfield BSc (HONS) DipArb L4

Tree Survey Schedule

Dryad Tree Specialists Ltd,
Oak Hill,
Wood Street Village,
Guildford, GU3 3ET.
www.dryad-trees.co.uk
branchline@dryad-trees.co.uk

Prefix	ID	Species	No. Trees	No. Stem	HT (m)	Crown Spread (m) N	E	S	W	LB/Bear	LB/Ht(m)	DBH (mm)	Age	Landscape	RPR (m)	RPA (m^2)	Vitality	Structure	BS Cat	Life (yrs)	Notes and Observations	Preliminary Management Recommendations	Reason
T	1	Lawson Cypress	1	3	9	1.5	1.5	1.5	1.5	N	1	200, 170, 210,	SM	L	4.0	51.0	Good	Poor	C3	10+	Triple stem from near ground level with tight unions. Growing close to the garage. Growing within a rockery area	/	/
T	2	Weeping Willow	1	1	12	6.5	7	7.5	5.5	W	1	550	M	L	6.6	136.8	Fair	Poor	U	<10	Ivy colonised stem. Pollarded in the past at 7m, approximately 4-5m of re-growth. Extensive stem decay with white mycelium and loose bark around the majority of the stem. The infection is consistent with a Honey Fungus infection	Remove	Health and Safety
T	3	Yew	1	1	9	5	4.5	3.5	4	E	2	650	EM	M	7.8	191.1	Good	Good	B2	20+	Epicormic growth on the main stem. Ivy colonised stem	/	/
G	4	Mixed	/	/	6.0	2.5	2.5	2.5	2.5	E	3	200	EM	L	2.4	18.1	Fair	Fair	C2	10+	Mixed group of Portuguese Laurel, Hazel and Silver Birch	/	/
T	5	Silver Birch	1	1	13	2.5	2	4	4.5	N	7	390	M	L	4.7	68.8	Dead	Dead	U	NA	Dead standing tree	Remove	Health and Safety
T	6	Portuguese Laurel	1	2	8	4	5	3.5	3	E	1	340, 170,	EM	L	4.6	65.0	Poor	Fair	C3	10+	Twin-stem from ground level. Ivy colonised stem. The Eastern stem appears to be in decline and suffering from crown die-back. Monitor in the future	Sever and remove 1.5m of Ivy from ground level to allow the crown more light to help regenerate. Prune The Eastern crown as required to remove the die-back	Good Arboricultural Management
T	7	Holm Oak	1	1	14	6.5	4	6	6	N	3	650	M	M	7.8	191.1	Good	Fair	B2	20+	Ivy colonised stem. Stem bifurcates at 4m	/	/
T	8	Yew	1	1	11	3.5	4	6	6	E	0	520	EM	M	6.2	122.3	Good	Fair	B2	20+	Epicormic growth on the main stem. Stem bifurcates at 2.5m	/	/

Prefix	ID	Species	No. Trees	No. Stem	HT (m)	Crown Spread (m) N	E	S	W	LB/Bear	LB/Ht(m)	DBH (mm)	Age	Landscape	RPR (m)	RPA (m^2)	Vitality	Structure	BS Cat	Life (yrs)	Notes and Observations	Preliminary Management Recommendations	Reason
T	9	Beech	1	2	16	5	7	8	8	E	4	420, 600,	M	M	8.8	242.2	Good	Poor	C2	10+	The main stem bifurcates from near ground level up to 1.5m with a long, tight and included union. The eastern stem is considerably smaller in diameter but contributes to half of the overall crown	Install a non-invasive cable brace in the upper one-third of the crown to support weak union. Reduce crown height by 3m and sides by up 2m to shape and further reduce stress at the union	Good Arboricultural Management
T	10	Silver Birch	1	1	14	4	6	5	4	N	4	550	M	H	6.6	136.8	Fair	Poor	U	<10	Decayed buttress on the West side that is spreading up the stem. Sporadic crown die-back. Several lower dead branches. Limited future potential. Limited life expectancy	Remove	Health and Safety
G	11	Mixed	/	/	6	2	2	2	2	N	0	250	EM	L	3.0	28.3	Fair	Fair	C1	10+	Mixed area of Cherry Laurel, Holly, Hazel, Box, Oak, Beech and Willow. The majority are smaller trees with a DBH of 150mm or less	/	/
T	12	Beech	1	1	10	3	4.5	3.5	3.5	N	2	380	EM	M	4.6	65.3	Good	Good	B2	20+	/	/	/
T	13	Yew	1	1	12	3.5	4.5	7	3	N	3	880	M	M	10.6	350.3	Good	Fair	A2	40+	Epicormic growth on the main stem. Becomes multi-stem from 2m. Leans towards and over the track to the South	/	/
T	14	Beech	1	2	16	8	8	8	2.5	N	8	520, 450,	M	M	8.3	214.4	Good	Poor	C1	10+	The main stem bifurcates from 0.5m above ground level with a tight and slightly included union. Large basal stem. The North West stem grows up and supports an adjacent Oak limb. Asymmetrical crown with a bias towards the East, which is associated with the close proximity to adjacent Oak	Install non-invasive cable brace in the upper one third of the crown to support the weak union	Good Arboricultural Management
T	15	Oak	1	1	17	9	8	10	11	N	9	1050	M	H	12.6	498.8	Good	Fair	A2	40+	Larger mature specimen. The crown breaks into three stems from 5m. Moderate volume of medium sized dead wood throughout the crown	/	/

Prefix	ID	Species	No. Trees	No. Stem	HT (m)	Crown Spread (m) N	E	S	W	LB/Bear	LB/Ht(m)	DBH (mm)	Age	Landscape	RPR (m)	RPA (m^2)	Vitality	Structure	BS Cat	Life (yrs)	Notes and Observations	Preliminary Management Recommendations	Reason
T	16	Oak	1	1	17	11	9	10	10	N	5	1570	M	H	18.8	1115.1	Good	Good	A2	40+	Larger mature specimen. The crown breaks into multiple stems from 3-5m. Ivy colonised stem. The crown has undergone historic pruning works, with re-growth of approximately 6m in length. Small volume of dead wood throughout the crown	/	/
T	17	Oak	1	1	19	5	4	11	12	S	5	1800	M	H	21.6	1465.7	Good	Fair	B2	20+	Degraded Sporophores of *Ganoderma pfeifferi* on the Southern side, surrounding sounding doesn't indicate a significant area of decay. The crown breaks into multiple stems from 2-3m. Ivy colonised stem. Crown weighted towards the West. There is a significant volume of medium sized dead wood throughout and some major sized pieces of dead wood throughout the crown, some over track to the South	Carry out decaying detection on the stem and compile a report with recommendations. Remove dead wood over the track	Good Arboricultural Management
T	18	Holm Oak	1	1	5	1	2	1.5	2	S	0	130	SM	L	1.6	7.6	Good	Fair	C2	10+	Smaller self-sown tree. Stem bifurcates at 1.2m	/	Facilitate Development

Tree Survey Schedule Key

Tree Survey Schedule Key and Notes

Prefix	Refers to:		**ID**	Refers to a unique identification number or tag number for the given tree or group. Corresponds to the Tree Constraints Plan and Tree Survey Schedule
	T	Tree		
	NT	Neighbouring Tree		
	G	Group		
	NG	Neighbouring Group		
	W	Woodland		
	H	Hedge		
No. Trees	Refers to the number of trees in a group			
No. Stem	Refers to the number of stems per individual tree			
Height	Describes the approximate height of the tree from ground level or buttress flare in meters			
Crown Spread	Refers to the radius of the canopy in meters from the stem of the tree in the directions of North, East, South and West			
LB/Bear	Lowest Branch Bearing: Refers to the directions of the lowest point of the canopy in meters			
LB/Ht(m)	Lowest Branch Height: Refers to the ground clearance from the ground level to the height of the lowest point of the canopy in meters			
DBH	Diameter at Breast Height. Stem diameter of the tree trunk measured in millimetres. If the tree is multi-stemmed, each diameter is recorded in the survey and a final DBH is calculated in accordance with BS5837			
Age			Refers to the age class of the tree:	
	Y	Young	Young = Usually less than 10 years old	
	SM	Semi-Mature	Semi-Mature = Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy)	
	EM	Early Mature	Early Mature = Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy)	
	M	Mature	Mature = Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy)	
	OM	Over Mature	Over Mature = A level of maturity whereby significant management may be required to keep the tree in a safe condition	
	V	Veteran	Veteran = A level of maturity whereby the crown has undergone natural or aided regression (veteranisation), significant management may be required to keep the tree in a safe condition. Typically contributes richly to ecological diversity	
RPR	The radius of the **R**oot **P**rotection **R**adius given in meters. The minimum area of ground requiring protection thorough developments			
RPA	The radius of the **R**oot **P**rotection **A**rea given in meters. The minimum area of ground requiring protection thorough developments			
Vitality			Refers to the vitality of the tree:	
	G	Good	Having above average vitality	
	F	Fair	Having average vitality	
	P	Poor	Having well below average vitality is struggling to survive and may be dying	
	D	Dead	Tree is dead	
Structure			Refers to the structure of the tree:	
	G	Good	Tree presents no significant structural defects	
	F	Fair	Tree presents some structural defects, unlikely to lead to high priority works	
	P	Poor	Tree presents significant structural defects that may lead to high priority works	
	D	Dead	Tree is dead	
Landscape			Refers to the Landscape contribution value of the tree:	
	H	High	Exceptional or very attractive specimen, observable by a significant number of people and locations	
	M	Medium	Attractive specimen, Medium potential to be observable by many people or vice versa	
	L	Low	Unattractive specimen or largely hidden from view	
BS CAT	Retention category refers to the BS5837, (See Appendix 2) list quality and value. "A"-high, "B"-moderate, "C"-Low and "U"-Remove. List retentions criteria. "1"- Arboricultural, "2"-Landscape and "3"- Cultural / Conservational			
Life Exp	Life Expectancy: An estimated useful remaining contribution in years before the tree requires removal. Classed as (<10), (>10), (20+), (40+)			
Reasons	Refers to the reason a recommendation is made. Typically to facilitate the development, access, good Arboricultural practice or Health and Safety			

Appendix 2 –Cascade chart for tree quality assessment

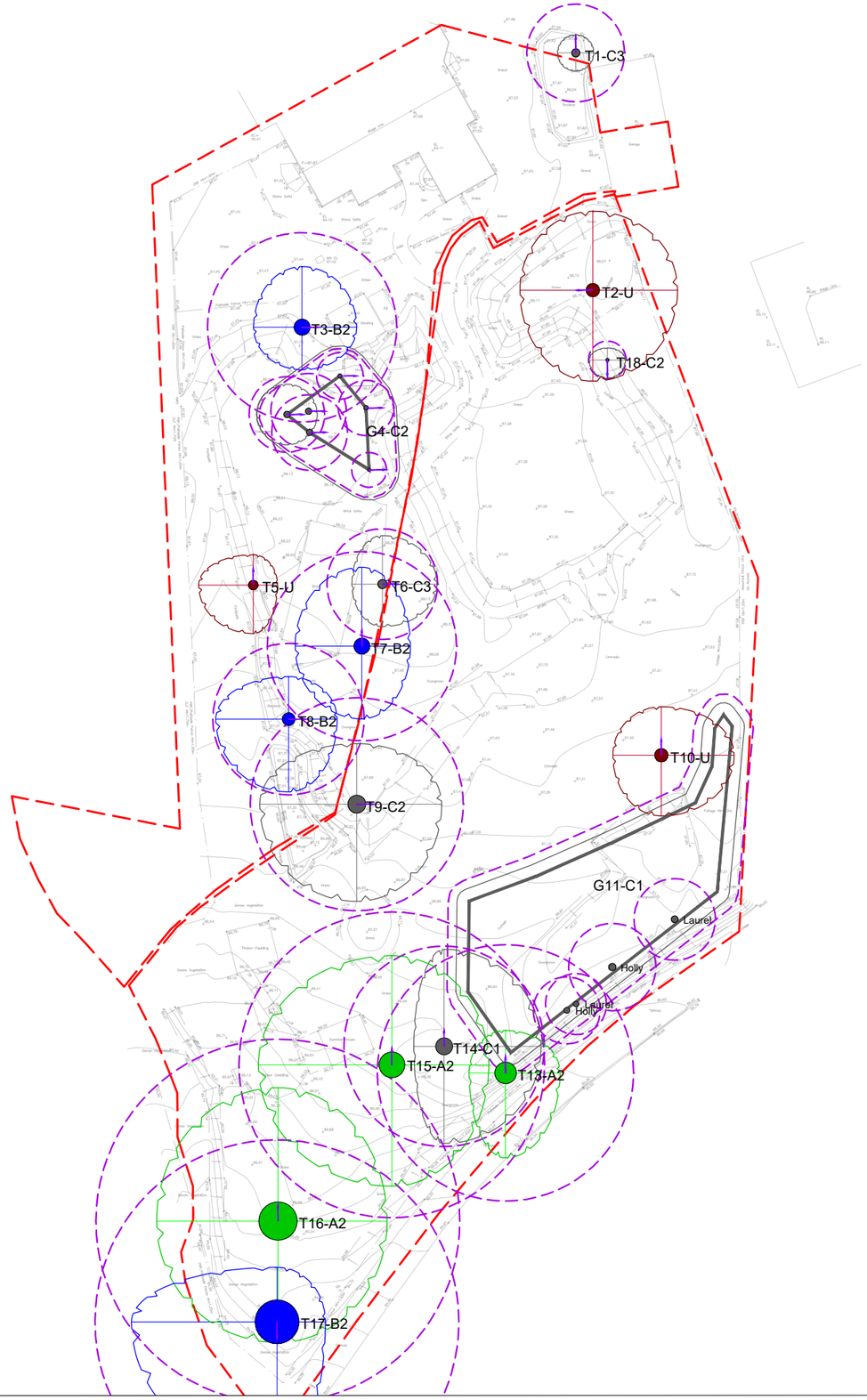
BS 5837:2012. Trees in relation to design, demolition and construction - Recommendations

Cascade Chart for tree quality assessment

Trees to be considered for retention (see Note)				Identification on Plan
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.			Dark Red RGB Code: 127-000-000
	1 Mainly Arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	Identification on Plan
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]	Light green RGB Code: 000-255-000
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 cate or A destination	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	Mild Blue RGB Code: 000-000-255
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	Grey RGB code: 091-091-019

Appendix 3
Tree Constraints Plans

D3043.V1.0.A3.TCP (Tree Constraints Plan)



0 5 10 20 (m)

Notes:

BS5837 Tree Retention Categories

CATEGORY A
Trees of a high quality with an estimated remaining life expectancy of at least 40 years

Adjoin Arrow Illustrates direction of lowest point of canopy

CATEGORY B
Trees of a moderate quality with an estimated remaining life expectancy of at least 20 years.

CATEGORY C
Trees of a low quality with an estimated remaining life expectancy of at least 10 years

CATEGORY U
Tree of poor condition that cannot be realistically retained as living trees in the context of the current land use for longer than 10 years

ROOT PROTECION AREA
Precautionary areas - soil structure must be protected.

Dryad Tree Specialists
Oak Hill
Wood Street Village
Guildford
GU3 3ET
(01483) 455 555
www.dryad-trees.co.uk

CLIENT:
Mr Steve Homewood

SITE:
1 Hawksfold House, Hawksfold Lane, Fernhurst, GU273JW

TITLE:
Tree Constraints Plan

SCALE AT A3:	DATE:	DRAWN:
1:450	18/09/2023	Tom B
PROJECT NO:	DRAWING NO:	REVISION:
D3043.V1.0	D3043.V1.0-A3-TCP	1.0