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SHINFIELD – GARAGE APPLICATION



- TREE SURVEY TO BS5837:2012 - TREE RETENTION & REMOVAL ADVICE

Prepared for: University of Reading

FLAC Instruction ref: CC28-1018

Issued: June 2021

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KEY TO TREE SURVEY DATA SCHEDULE

Note

This survey has been undertaken in compliance with BS5837:2012; it is not intended to be a tree safety survey. Any notes offered on structural integrity of trees are incidental, though where trees are considered to be in immediately hazardous condition (identified by red font in the *Structural condition & Notes* column, see below), our recommendations given for immediate intervention should be put in hand by the owner / site manager as soon as can be arranged.

Trees are dynamic living organisms capable of achieving considerable size and structural complexity. They are exposed to and can become damaged by the elements and by human activity, and have co-evolved with decay-causing organisms that can degrade and sometimes destroy their structural integrity. Due to genetic characteristics and local microenvironmental factors this integrity can be innately uncertain. The laws and forces of nature dictate a natural failure rate even among trees that are healthy and structurally sound. By their very nature, therefore, trees cannot be considered entirely hazard-free.

Tree surveys and / or tree inspections are, inherently, only a snapshot in time of the physiological and structural condition of the trees concerned.

Unless otherwise stated in our reporting material, all such surveys and inspections are undertaken from ground level and no internal inspections or tests have been undertaken. Any structural defects present might not be visible, for example being masked by vegetation, whether the tree's foliage, plants growing round the base of the tree, or climbing plants growing on the stem and into the crown.

Unless otherwise stated, the survey data should be considered time-limited **for planning purposes** to a maximum of three years (absent revisions of BS5837, which render pre-existing data obsolete).

FLAC Ref. No.

Tree numbers per relevant FLAC dwg

In line with the advice of BS5837:2012, where trees occur as a cohesive group feature (prefixed TG for tree group or WG for woodland group), they are assessed as such

Size data for TG or WG are given as mean figures for trees at roughly the 80 percentile of the population concerned. Trees in the 90-100 percentile range for the group are identified on the TSP

Trees within TG / WG boundaries that have more than one stem and which are sub-dominant within the TG / WG (i.e. <80 percentile) are subsumed within the TG / WG data; dominant multi-stemmed trees (i.e. >80 percentile) within TG / WG boundaries are listed as individual trees

TG / WG outlines follow the mapping base (typically either topographical survey or geo-rectified aerial imagery)

Hedges (domestic) are recorded prefixed H and are always excluded from the provisions of the Hedgerows Regulations 1997

Hedgerows (rural) are recorded prefixed HR and possibly fall within the provisions of the Hedgerows Regulations 1997

All numbering starts from x001 **for each type of vegetation**, where x identifies the surveyor (3000 series = AJC). Thus:

3000	Individual tree
TG3000	Tree group
WG3000	Woodland group
H3000	Domestic hedge
HR3000	Rural hedgerow

The addition of the FLAC instruction ref. ahead of the tree number provides a unique, non-repeated reference number for the particular tree in question

Any trees omitted from the topo survey are listed on the referenced plan, though their positions are only shown indicatively. Off-site trees are included where deemed relevant, though their positions are also shown indicatively if omitted from the topo base

TPO Ref.

Statutory protection listing for individual trees, TG and WG

ATTENTION: SEE NOTE IMMEDIATELY BELOW

Note

This column is only completed in cases where FLAC has been instructed to undertake a TPO search and correlation to FLAC reference numbers. The absence of data in this column **must not** be taken to indicate that the trees concerned are not under TPO protection. Statutory protection may also arise from the trees' location within a Conservation Area. Further statutory control over tree removal may be conferred by the Forestry Act 1967

Species

Tree species as listed in the schedule by common name. Species present are [LIST ADAPTED TO REFLECT SURVEY FINDINGS]:

<i>Common name</i>	<i>Botanical name</i>	<i>Provenance</i>	<i>Notes</i>
Boxleaf honeysuckle	Lonicera nitida	Exotic	
Cherry laurel	Prunus laurocerasus	Exotic	
Elder	Sambucus nigra	Native	
Hawthorn	Crataegus monogyna	Native	
Hazel	Corylus avellana	Native	
Orange ball Buddleja	Buddleja globosa	Exotic	
Pedunculate oak	Quercus robur	Native	
Snowberry	Symphoricarpos albus	Exotic	
Wych elm	Ulmus glabra	Native	

Tree Count

For trees assessed as groups (ident. prefix TG), number of trees present, according to:

2-10 trees	Accurate count
11-50 trees	Close estimate
51-100 trees	Estimate

Area m²

For trees assessed as woodland (ident. prefix WG), existing area in square metres within survey envelope, derived from CAD interrogation of the completed tree survey plan

Ht. (m)

Tree height in metres

Either:

Crown Spread

For individual trees, measured radial crown spread in metres, listed for each of the four cardinal points

Or:

MRCS

For trees assessed as groups or woodland, an estimated mean radial crown spread in metres for trees at the 80 percentile size

Note

For trees assessed as woodland, sample measurements for canopy overhang beyond woodland boundary (i.e. hedgerow, fence, ditch etc.) are given on the tree survey plan

Or:

Mean Width

Mean width in metres of hedge or hedgerow

Length

Approximate length in metres of hedge or hedgerow

Ht. 1st Br.

For individual trees and trees assessed as groups or woodland, height in metres above ground of attachment point of first significant branch (cardinal point may be given indicating growing direction)

Ht. Can.

For individual trees and trees assessed as groups or woodland, mean height in metres of lower extent of tree canopy above ground

Stem Count

For individual trees, number of stems present below 1.5m AGL. Stem count affects diameter entry as follows:

Where the stem count is 1 the diameter should be entered into the 1 column under Stem Dia.

Where the stem count is up to 5 each stem dia. should be listed

Where the stem count exceeds 5, the mean stem diameter should be entered in the 1 column

Either:

Stem Dia. (mm)

Stem diameter(s) at 1.5m above ground level (see measurement system in BS5837:2012 Annex C), given in millimetres

Where entered 1:

Single measured stem diameter

Where entered 2-5:

Multiple measured stem diameters, listed per stem

Where entered >5:

For trees with more than five stems, diameter is listed as an estimated mean

Where the diameter entry for trees with 1 or 2-5 stems appears in italics, this indicates that it was estimated by the surveyor (for example, due to the presence of ivy on the stem)

It is our practice to round up when estimating stem diameters

Or:

Specimen Stem Dia.

For trees assessed as groups or woodland, stem diameter in millimetres at 1.5m above ground level for 80 percentile member of TG or WG. Trees with larger diameters are identified on the TSP

Or:

Mean Stem Dia.

Mean stem diameter in millimetres above the basal flare of hedge or hedgerow component plants

Either:

RPA Rad.

Radius in metres of the notionally circular Root Protection Area, based on 12x stem diameter (example for single stemmed trees), capped to 15m radial to stem centre

Note

Where trees are identified as being *notable* (i.e. very large trees that have yet to attain veteran status), FLAC removes the cap such that the RPA is simply 12x stem diameter

Or:

Specimen RPA Rad.

For trees assessed as groups or woodland, radius in metres of the notionally circular Root Protection Area based on specimen diameter for TG or WG 80 percentile tree

Either:

Conversion of RPA radius to an area, given in m², capped to a maximum of 707m² (in line with BS5837:2012), except for *notable* trees

Or:

Specimen RPA Area

For trees assessed as groups or woodland, conversion of specimen RPA radius to an area, given in m², capped to a maximum of 707m²

Note

RPA for hedges or hedgerows is to be taken as 3m from the centreline, half the height or 2m beyond existing width, whichever is the greater

Life Stage

Life stage assessment according into:

Y	Young
SM	Semi-mature
EM	Early mature
M	Mature
OM	Over-mature

Phys. Condition

An assessment of the **physiological** condition (i.e. health/vitality) status of the tree summarised according to:

GOOD	Generally in healthy condition
FAIR	Condition satisfactory though below mean species performance
POOR	Tree in decline/retranching
DEAD	Self explanatory

Structural condition & Notes

Notes on the apparent structural integrity of the tree based on visual tree assessment, including notes on form, taper, forking habit, storm damage, decay fungi, pests, etc. plus other pertinent observations

Management recommendations

Preliminary recommendations for intervention (e.g. tree surgery, felling, etc) in relation to existing context

Trees assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practical. Where the recommendation is for further investigation, including removal of ivy and reinspection, the given retention span and quality/value grade (see below) should be treated as provisional

Notes

This is **not** intended to comprise a specification for tree work: further advice should be sought prior to implementation

Change in land use (target value) requires further assessment

Ret. Span

Estimated remaining retention span based on species, condition & context divided into the following bands (relates to quality and value grade achievable as stated):

<i>Years</i>	<i>Best QV grade</i>
<10	U
10+	C
20+	B
>40	A

QV Grade

Quality & Value grade classification according to BS5837:2012 (see attached extract from BS5837:2012 'Table 1 - Cascade Chart for Tree Quality Assessment') –

<i>Grade</i>	<i>Summary meaning</i>	<i>Ident. colour spot on TSP</i>
U	Trees that are unretainable in viable condition	Dark red
A	High quality & value and consequent high retention priority	Light green
B	Moderate quality and value (moderate priority for retention)	Mid-blue
C	Low quality and value (generally considered to be sacrificial)	Grey

Note

Trees present which we consider to be **exceptional** specimens are identified by the suffix * after the A grade, e.g. A1*

Proposal

This column identifies:

1. Pre-planning (Arboricultural Stages 1, Tree Survey, & 2, Design):
Our initial view of a defensible tree retention / removal balance
2. Planning submission (Arboricultural Stage 3):
The actual tree retention / removal balance as proposed

The following codes are used:

RET	1. Trees preferably retained 2. Trees that would be retained
PRET	<i>For tree groups (TG), woodlands (WG) & hedgerows (HR) – signifies partial retention (see below)</i>
REM	1. Trees defensibly removed to facilitate development 2. Trees that would be removed
U	Trees identified to be unsuitable for retention

No. of trees retained

For tree groups only

Number of trees retained out of the total recorded for the group. Outcomes are as follows:

Survey grade U	Number of trees for retention defaults to 0 (can be amended by manual override)
Proposal code RET	Number of trees for retention defaults to total from <i>Tree Count</i> data field
Proposal code PRET	No. of trees for retention requires manual input following interrogation of relevant plans
Proposal code REM	Number of trees for retention defaults to 0

Trees retained %

For tree groups only

Percentage of pre-existing TG tree count that would be retained, based on an auto-sum derived from inputs into the preceding column

Area retained m²

For woodlands only

Area, in square metres, of woodland (WG) proposed for retention. Outcomes are as follows:

Survey grade U	Area for retention defaults to 0 (can be amended by manual override)
Proposal code RET	Area for retention defaults to existing area
Proposal code PRET	Area for retention requires manual input following interrogation of relevant plans
Proposal code REM	Area for retention defaults to 0

Area retained %

For woodlands only

Percentage of pre-existing WG area that would be retained, based on an auto-sum derived from inputs into the preceding column

Length retained m

For hedgerows only

Length, in metres, of hedgerow (HR) proposed for retention. Outcomes are as follows:

Survey grade U	Length for retention defaults to 0 (can be amended by manual override)
Proposal code RET	Length for retention defaults to existing length
Proposal code PRET	Length for retention requires manual input following interrogation of relevant plans
Proposal code REM	Length for retention defaults to 0

Length retained %

For hedgerows only

Percentage of pre-existing HR length that would be retained, based on an auto-sum derived from inputs into the preceding column

BS5837:2012 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 [BS5837:2012] 4.5.7.</i>			
	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)	
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	
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	

FLAC Note

The original contents of the column *Identification on plan* have been replaced by FLAC in the version above; spot colours to RGB codes given in BS5837:2012 Table 2

SHINFIELD - GARAGE APPLICATION : TREE SURVEY DATA TABLE

Data for individual trees

FLAC Ref. No.	TPO Ref	Species	Ht. (m)	Crown Spread (m)				Ht. 1 st Rr. (m)	Ht. Can. (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal
				N	S	W	E				1 / mean	2	3	4	5									
3001		Hawthorn	5	2	2	2	2	2 W	2	5	90	80	80	80	70	2.16	15	SM	F	Omitted from topo, plotted indicatively. Very dense shrub vegetation impedes access and visual assessment. Appears to be a multi-stemmed specimen but only upper portion of tree can be accessed or assessed. Tree of relatively low significance.	No action required at time of survey.	40+	C1	REM

Data for trees assessed as groups (TG)

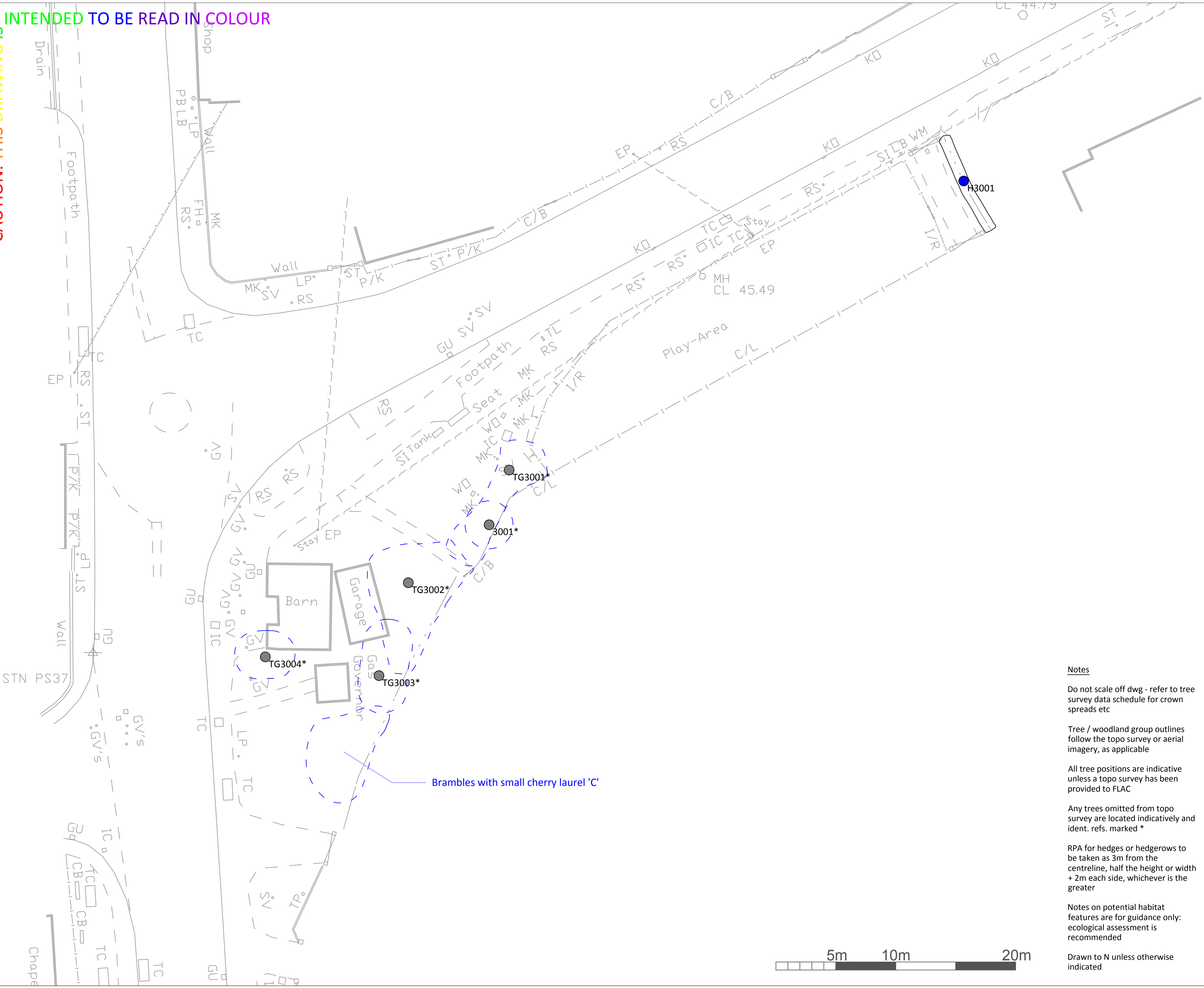
FLAC Ref. No.	TPO Ref	Species	Tree Count	Ht. (m)	M RCS (m)	Ht. 1st Br. (m)	Ht. Can. (m)	Specimen Stem Dia. (mm)	Specimen RPA Rad. (m)	Specimen RPA Area (m2)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal
TG3001		Boxleaf honeysuckle, snowberry, elder	10	4	2	0	0	150	1.80	10	M	G	A cluster of shrub species, now collectively massed as one, no management evident. Locally dense ivy and brambles. Low arboricultural merit.	No action required at time of survey	40+	C2	REM
TG3002		Orange ball Buddleja, elder	10	4	3	0	0	150	1.80	10	M	G	A cluster of shrub species, Buddleja dominant, now collectively massed as one, no management evident. Locally dense ivy and brambles. Low arboricultural merit.	No action required at time of survey	40+	C2	REM
TG3003		Cherry laurel	5	5	2	0	0	200	2.40	18	EM	G	Line of multi-stemmed shrubs. Typical form and structure for the species. Low arboricultural merit.	No action required at time of survey	40+	C2	REM
TG3004		Wych elm	2	6	3	0	0	300	3.60	41	SM	G	Two regrowing stumps giving rise to multi-stemmed cluster. Low arboricultural merit. Scrubby, small cherry laurel beneath crown at north.	No action required at time of survey	40+	C2	REM

Data for hedges (H)

FLAC Ref. No.	Species	Ht. (m)	Mean Width (m)	Length (m)	Mean Stem Dia. (mm)	Life Stage Y-SM-EM-M-OM	Phys. Condition G-F-P-D	Structural condition & Notes	Management recommendations	Ret. Span <10, 10+ 20+, >40	QV Grade U-A-B-C	Proposal
H3001	Hawthorn (90%), pedunculate oak, hazel	2.3	1.3	9	80	M	G	Regularly clipped hedge on domestic garden boundary. Good overall condition. Effective visual screening.	No action required at time of survey	40+	B2	RET

INTENDED TO BE READ IN COLOUR

CAUTION: THIS DRAWING IS



Client
University of Reading

Instruction
Shinfield - Garage Application

Instruction ref.
28-1018

Dwg title
Tree Survey & Preliminary
Retention and Removal Advice

Dwg no.
28-1018.30

Date
10.06.21

Scale
1:200@A2

Key

Quality & value grades:

Category A High

Category B Moderate

Category C Low

Category U Unretainable

Trees recommended for retention

Trees defensibly removed to facilitate development

Trees for removal for arboricultural reasons

Indicative tree root protection area (retention trees only)

Notes

Do not scale off dwg - refer to tree survey data schedule for crown spreads etc

Tree / woodland group outlines follow the topo survey or aerial imagery, as applicable

All tree positions are indicative unless a topo survey has been provided to FLAC

Any trees omitted from topo survey are located indicatively and ident. refs. marked *

RPA for hedges or hedgerows to be taken as 3m from the centreline, half the height or width + 2m each side, whichever is the greater

Notes on potential habitat features are for guidance only: ecological assessment is recommended

Drawn to N unless otherwise indicated

