

BRISLINGTON MEADOWS

TOWN AND COUNTRY PLANNING ACT 1990
(as amended)
Section 78 — APPEAL

PINS Ref: APP/Z0116/W/21/3308537

EXPERT EVIDENCE OF JULIAN FORBES-LAIRD

ON BEHALF OF THE LOCAL PLANNING AUTHORITY,
IN RELATION TO ARBORICULTURAL MATTERS

Vol. 2 - APPENDIX



Prepared for: *Bristol City Council*

FLAC Instruction ref: *42-1061_JFL*

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JFL 1

QUALIFICATIONS & EXPERIENCE OF THE AUTHOR

JULIAN FORBES-LAIRD

QUALIFICATIONS & EXPERIENCE

Julian Forbes-Laird is Senior Director at FLAC, a small but internationally reputed arboricultural and environmental risk consultancy. He has over 30 years' experience in arboriculture, and works with a wide range of public, corporate and private clients.

Together with Alistair Baxter of Aspect Ecology, JFL is co-principal of Sylvan Consulting, which provides planning and development-related advice on ancient woodland, veteran trees and historic landscapes.

JFL started his career on the practical side of the profession, completing a transition to consultancy in 2000 after a decade 'on the tools'. After two years spent working as an independent consultant, he spent a further two years as Senior Consultant at CBA Trees, before establishing FLAC in 2004.

Having developed and lectured widely on a respected and peer-reviewed method designed to quantify the risk posed by defective trees (THREATS), JFL is a recognised authority on tree hazard assessment. He has undertaken numerous forensic accident investigations, including in relation to fatalities caused by trees, and has appeared as an expert witness in the High Court several times.

He is *Special Advisor on Tree Risk* for Network Rail Infrastructure Ltd and Consultant to *L'Union Internationale des Chemins de Fer* (the world cooperation body for railways), for whom he has drafted a new International Railway Standard *Technical Aspects of Tree Risk and Vegetation Management – Recommendations*. He now leads FLAC's collaboration with its technology partner, Airbus Defence and Space, on the development of natural hazard management systems.

JFL has published a number of articles in the arboricultural and landscape press, variously covering tree risk assessment, legal aspects of liability for hazard trees, subsidence, and the arboricultural significance of certain wood decay fungi on trees. He is the author of RAVEN, the only appeal-validated field recognition system for ancient veteran and notable trees.

In addition, JFL is a well-known figure on the international arboricultural lecture circuit, covering specialist topics such as the philosophy of tree risk assessment, retrenchment pruning of veteran trees, the use of remote sensing technology for vegetation management and infrastructure protection, and forensic entomology for tree-related accident investigation.

In 2019 he developed a proof of Professor Claus Mattheck's principle of the *Axiom of Uniform Stress* in trees, and has subsequently been granted Licensed Lecturer status in *Visual Tree Assessment* by Karlsruhe Institute of Technology, being one of only a handful of such licensees worldwide.

JFL is regularly instructed in the area of tree root damage to buildings, frequently acting as an expert witness in this complex area of arboriculture.

JFL has been instructed as an expert witness on several occasions in relation to prosecutions for offences under Tree Preservation Order legislation and has appeared for both prosecution and defence in the Crown Court. Additionally, he is author of the TEMPO system for assessing whether trees merit TPO protection; TEMPO is used by over 60 local authorities and dozens of consultants.

JFL has appeared numerous times at planning-related Public Inquiries, the majority of which have concerned ancient woodland, veteran tree and historic landscape issues.

JFL was a technical editor of BS5837:2012, being responsible for preparing drafts of the clauses relating to tree survey methodology, and demolition & construction in proximity to trees.

In December 2021, he was appointed Chair of British Standards Institution committee B/213 *Trees and tree work*, with responsibility for steering the revision and development of all British Standards relating to arboriculture.

JFL has undertaken several items of original research, including:

- Stability of trees on slopes to derive failure criteria for tree height against degrees of slope
- The use of infra-red aerial photography for tree vitality assessment
- Site-related predisposing factors for storm resilience modelling of large-scale tree populations
- Cross-correlational analysis of woodbank width as an indicator of century of formation

A summary of JFL's memberships, designations and appointments is set out below:

- Chartered Arboriculturist and Registered Consultant of the Institute of Chartered Foresters
- Member of the Royal Society of Biology
- Member of the Royal Institution of Chartered Surveyors
- Professional Member of the Arboricultural Association
- Registered Consultant of the Arboricultural Association 2004-2018
- Member of the Expert Witness Institute
- Member of the Royal Forestry Society and holder of its 'Professional Diploma in Arboriculture'
- National Special Advisor on Tree Risk for Network Rail Infrastructure Ltd
- Consultant to the world cooperation body for railways, the UIC
- VTA Licensed Lecturer, Karlsruhe Institute of Technology
- Chair of British Standards Institution technical committee B/213 Trees and Tree Work

JFL has a Bachelor of Arts Honours Degree in Theology and a Diploma in Greek and Roman Studies, from the University of Exeter; and read for a Masters in War Studies at King's College London.



JFL 2

OBJECTION SUBMITTED BY THE APPELLANT
TO BCC TPO/1400



Homes
England

Tim O'Gara
Service Director - Legal Services
Bristol City Council
City Hall
College Green
Bristol
BS1 5TR

Date: 27 May 2020

Dear Mr O'Gara

OBJECTION to Tree Preservation Order No. 1400
Land at Broom Mill, Broomhill Road, Bristol BS4 4UD
Your reference: DM.GD02.7

1. The Homes and Communities Agency trading as Homes England ("**Homes England**") acquired land at Brislington Meadows shown edged orange, yellow, green and blue on the plan at Appendix 1 to this letter ("**the Site**") on 20 March 2020 part of which is affected by Tree Preservation Order No. 1400 ("**the TPO**"). We write to formally object to the TPO in accordance with Regulation 6 of the Town and Country Planning (Tree Preservation) (England) Regulations 2012 ("**the Regulations**").
2. **Background**
 - 2.1 Bristol City Council ("**BCC**") made the TPO on 28 April 2020. We append to this letter the following documents received from BCC pursuant to the making of the TPO:
 - 2.1.1 Copy of the TPO and accompanying map (Appendix 2);
 - 2.1.2 Notice (Appendix 3); and
 - 2.1.3 Covering letter (Appendix 4).
 - 2.2 As required by Regulation 5(2)(c) of the Regulations, the Notice specifies the date, being at least 28 days after the date of the Notice, by which any objection or representation must be received by the authority, that date being 2 June 2020.
 - 2.3 Homes England objects to the TPO for the following reasons. Where no reference is given to individual trees, groups of trees or woodland as specified in the TPO the points of objection relate to all those trees affected by the TPO.

3. Defective TPO

- 3.1 The TPO in the form provided by BCC and dated 28 April 2020 is defective and as a consequence the TPO has no legal effect.
- 3.2 Regulation 3(1)(b) of the Regulations requires the TPO specifies, in any case where it relates to a group of trees, the number of trees of each species in each group.
- 3.3 In respect of the groups of trees specified in Schedule 1 to the TPO (and shown on the accompanying map), the Regulation 3(1)(b) requirement has not been satisfied. The number of trees in each group is not provided, nor is the number of each species in each group. Further, group G2 does not specify any species.
- 3.4 As the TPO does not meet the statutory tests for a validly made TPO, Homes England objects on the basis that the TPO currently has no legal effect and cannot be confirmed.

4. Reasons for making the TPO

- 4.1 BCC has not provided adequate reasons for the TPO being made.
- 4.2 Regulations 5(1)(a)(ii) and 5(2)(a) of the Regulations require the notice to be served on those persons interested in the land affected by the order to include the reasons for making the order.
- 4.3 The fourth paragraph of the Notice states: *"It is considered by the Local Planning Authority that the trees, the subject of the Order, should be retained in the interest of amenity"*.
- 4.4 No evidence in respect of amenity value is given. For example, BCC has not supplied any completed Tree Evaluation Method for Preservation Orders (TEMPO) assessment. Further, the TPO specifies 14 individual trees, five groups of trees, and two woodlands which are affected by the TPO. Homes England's land interest in this area extends to 9.343 hectares, and the TPO specifies trees, groups of trees or woodland spanning much of Homes England's land interest and additional land to the south (woodland W1) held by BCC. Nevertheless, the only reason for the making of the TPO provided in the Notice is that it is in the interest of amenity. This is insufficient to satisfy the evidential test imposed by Regulations 5(1)(a)(ii) and 5(2)(a).
- 4.5 In its pre-application response to Homes England (reference 19/05220/PREAPP dated 21 January 2020), BCC makes no reference to any known amenity value attaching to any trees, groups of trees or woodland at the Site giving rise to a need for a TPO. The response does refer (at Appendix D) to the existence of an ancient hedgerow network, and the impact of the proposed emergency vehicle access from Bonville Road on a number of ancient trees. Reference is also made to the ancient trees within the hedgerows providing *"significant historical and cultural heritage locally"*. However, there is no evidence of an assessment for the purpose of making a

TPO having been made either to support the pre-application response or in making the TPO. In particular we also note that no reference is made to woodland W2 and Homes England queries how this area has come to be included in the TPO without any evidence to support its inclusion.

- 4.6 BCC's pre-application response recommends further ecological surveys and a review of the proposed scheme layout to better incorporate ancient trees and the ancient hedgerow structure. This advice was given for the purpose of refining Homes England's proposed scheme ahead of any planning application submission, and forms no basis for immediate imposition of a TPO.
- 4.7 Notwithstanding its response to Homes England's pre-application enquiry, no reasons have been given by BCC for the imposition of a TPO on the Site, and such reasons were required to be given in the Notice to accord with the requirements in Regulations 5(1)(a)(ii) and 5(2)(a).
- 4.8 As BCC has failed to adequately give reasons for the making of the TPO, Homes England objects to the TPO on the basis that the Notice is ineffective and the TPO cannot be confirmed.

5. Suggested approach

- 5.1 Whilst Homes England objects to the TPO it is nevertheless seeking to cooperate with BCC to find an alternative solution, either without the need for a TPO, or by way of a variation to a TPO if lawfully made.
- 5.2 BCC is aware of Homes England's aspirations to deliver a major housing scheme at the Site and has sold land to Homes England to facilitate this. An ongoing master planning exercise proposes access to the scheme via Broomhill Road at the former Police station (Sinnott House). As such, the specification of woodland W2 within the TPO is of particular concern. Given the critical importance of access through area W2 for the delivery of this major scheme (in accordance with BCC's planning allocation for the Site) Homes England must strongly object to inclusion of this woodland in the TPO. As the scheme design evolves Homes England will nevertheless seek engagement with BCC on whether any individual trees or groups of trees within woodland W2 are suitable for retention.
- 5.3 Homes England further objects to the inclusion of trees T6-T13 and groups of trees G3-G5 in the TPO. Homes England accepts that an arboricultural survey will be required as part of the planning process and Policy BSA1201 sets out a specific policy for the retention or incorporation of important trees and hedgerows to be identified by a tree survey. Homes England seeks to work with BCC as the evidence emerges from these surveys through the planning process. However, no justification has been given for inclusion of these trees and groups of trees in the TPO.
- 5.4 A number of the trees identified in the TPO are situated around the perimeter (and thus outside the developable area) of the Site. These are trees T1-T5 and groups of

trees G1 and G2. These trees and groups of trees present less concern for Homes England at this stage.

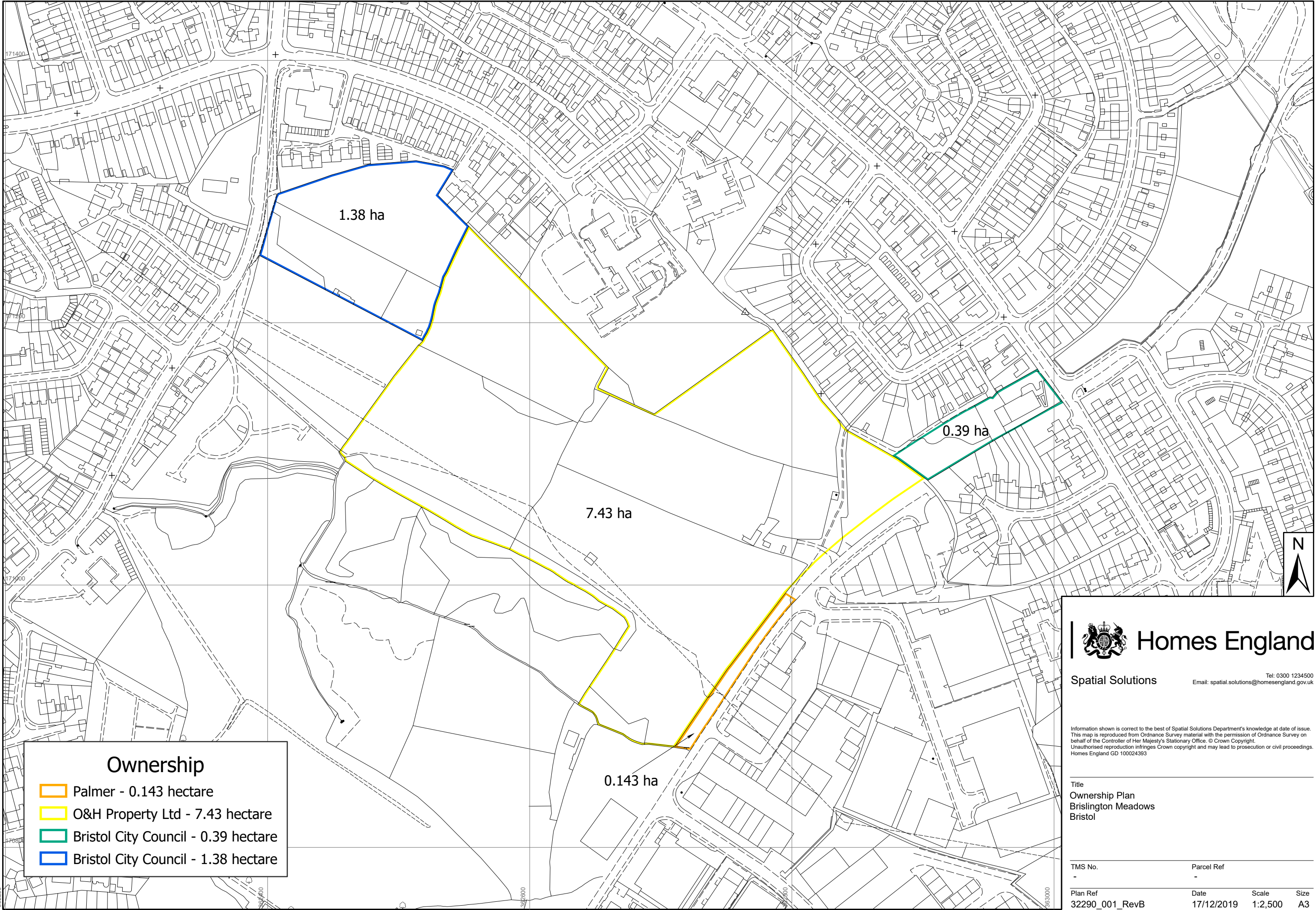
- 5.5 Homes England seeks to reassure BCC that any tree loss proposed in a future planning application will be accompanied by proposals for on-site planting wherever possible and compliance, if applicable, with BCC policy on off-site contributions. Ahead of any application coming forward Homes England is seeking constructive dialogue with BCC as to the form of reassurances that can be given now to either dispense with the TPO, or agree the form of a varied TPO.
6. Please acknowledge receipt of this letter and provide BCC's response by email to me on john.boutwood@homesengland.gov.uk or 0117 9377230. I look forward to positive engagement with BCC on this matter.

Yours sincerely



John Boutwood
Senior Development Manager, Homes England

APPENDIX 1: SITE PLAN



Homes England

Spatial Solutions

Tel: 0300 1234500
Email: spatial.solutions@homesengland.gov.uk

Information shown is correct to the best of Spatial Solutions Department's knowledge at date of issue. This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office. © Crown Copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Homes England GD 100024393

Title
Ownership Plan
Brislington Meadows
Bristol

TMS No.	Parcel Ref	Plan Ref	Date	Scale	Size
-	-	32290_001_RevB	17/12/2019	1:2,500	A3

APPENDIX 2: TREE PRESERVATION ORDER AND MAP

**TOWN AND COUNTRY PLANNING [TREE PRESERVATION] [ENGLAND] REGULATIONS
2012**

DATED 28 APRIL 2020

THE CITY OF BRISTOL

TOWN AND COUNTRY PLANNING ACT 1990

TREE PRESERVATION ORDER 2020 NO 1400
LAND AT BROOM HILL, BROOMHILL ROAD, BRISTOL BS4 4UD

TOWN AND COUNTRY PLANNING ACT 1990

THE CITY COUNCIL OF BRISTOL

TREE PRESERVATION ORDER 2020 NO.1400

LAND AT BROOM HILL, BROOMHILL ROAD, BRISTOL BS4 4UD

The City Council of Bristol in exercise of the powers conferred on them by section 198 of the Town and Country Planning Act 1990 make the following Order

Citation

1. This Order may be cited as The City Council of Bristol Tree Preservation Order 2020 No 1400 LAND AT BROOM HILL, BROOMHILL ROAD, BRISTOL BS4 4UD

Interpretation

2. (1) In this Order "the authority" means the City Council of Bristol.
- (2) In this Order any reference to a numbered section is a reference to the section so numbered in the Town and Country Planning Act 1990 and any reference to a numbered regulation is a reference to the regulation so numbered in the Town and Country Planning (Tree Preservation) (England) Regulations 2012.

Effect

3. (1) Subject to article 4, this Order takes effect provisionally on the date on which it is made.
- (2) Without prejudice to subsection (7) of section 198 (power to make tree preservation orders) or subsection (1) of section 200 (tree preservation orders: Forestry Commissioners) and, subject to the exceptions in regulation 14, no person shall –
 - (a) cut down, top, lop, uproot, wilfully damage, or wilfully destroy; or
 - (b) cause or permit the cutting down, topping, lopping, wilful damage or wilful destruction of,

any tree specified in the Schedule to this Order except with the written consent of the authority in accordance with regulations 16 and 17, or of the Secretary of State in accordance with regulation 23, and, where such consent is given subject to conditions, in accordance with those conditions.

Application to trees to be planted pursuant to a condition

4. In relation to any tree identified in the first column of the Schedule by the letter "C", being a tree to be planted pursuant to a condition imposed under paragraph (a) of section 197 (planning permission to include appropriate provision for preservation and planting of trees), this Order takes effect as from the time when the tree is planted.

Dated this 28 day of APRIL 2020

Signed on behalf of Bristol City Council



.....
Authorised by the Council in that behalf

[CONFIRMATION OF ORDER

[This Order was confirmed by Bristol City Council without modification on the day of]

Signed on behalf of Bristol City Council

.....
Authorised by the Council to sign in that behalf]

or

[This Order was confirmed by Bristol City Council subject to the modifications indicated by
[], on the [] day of []

Signed on behalf of Bristol City Council

.....
Authorised by the Council to sign in that behalf]

[DECISION NOT TO CONFIRM ORDER

[A decision not to confirm this Order was taken by Bristol City Council on the [] day of []

Signed on behalf of Bristol City Council

.....
Authorised by the Council to sign in that behalf]

[VARIATION OF ORDER

[This Order was varied by Bristol City Council on the [] day of by a variation order under
reference number *[insert reference number to the variation order]* a copy of which is attached

Signed on behalf of Bristol City Council

.....
Authorised by the Council to sign in that behalf]

[REVOCACTION OF ORDER

[This Order was revoked by Bristol City Council on the [] day of []
under the reference number

Signed on behalf of Bristol City Council

.....
 Authorised by the Council to sign in that behalf]

SCHEDULE 1

SPECIFICATION OF TREES

Trees specified individually

(encircled in black and hatched black on the map)

Reference on map	Description	Situation
T1	Oak (<i>Quercus robur</i>)	
T2	Holly (<i>Ilex aquifolium</i>)	
T3	Oak (<i>Quercus robur</i>)	
T3	Oak (<i>Quercus robur</i>)	
T4	Oak (<i>Quercus robur</i>)	
T5	Oak (<i>Quercus robur</i>)	
T6	Holly (<i>Ilex aquifolium</i>)	
T7	Oak (<i>Quercus robur</i>)	
T8	Oak (<i>Quercus robur</i>)	
T9	Oak (<i>Quercus robur</i>)	
T10	Oak (<i>Quercus robur</i>)	
T11	Oak (<i>Quercus robur</i>)	
T12	Ash (<i>Fraxinus excelsior</i>)	
T13	Ash (<i>Fraxinus excelsior</i>)	

Group of trees

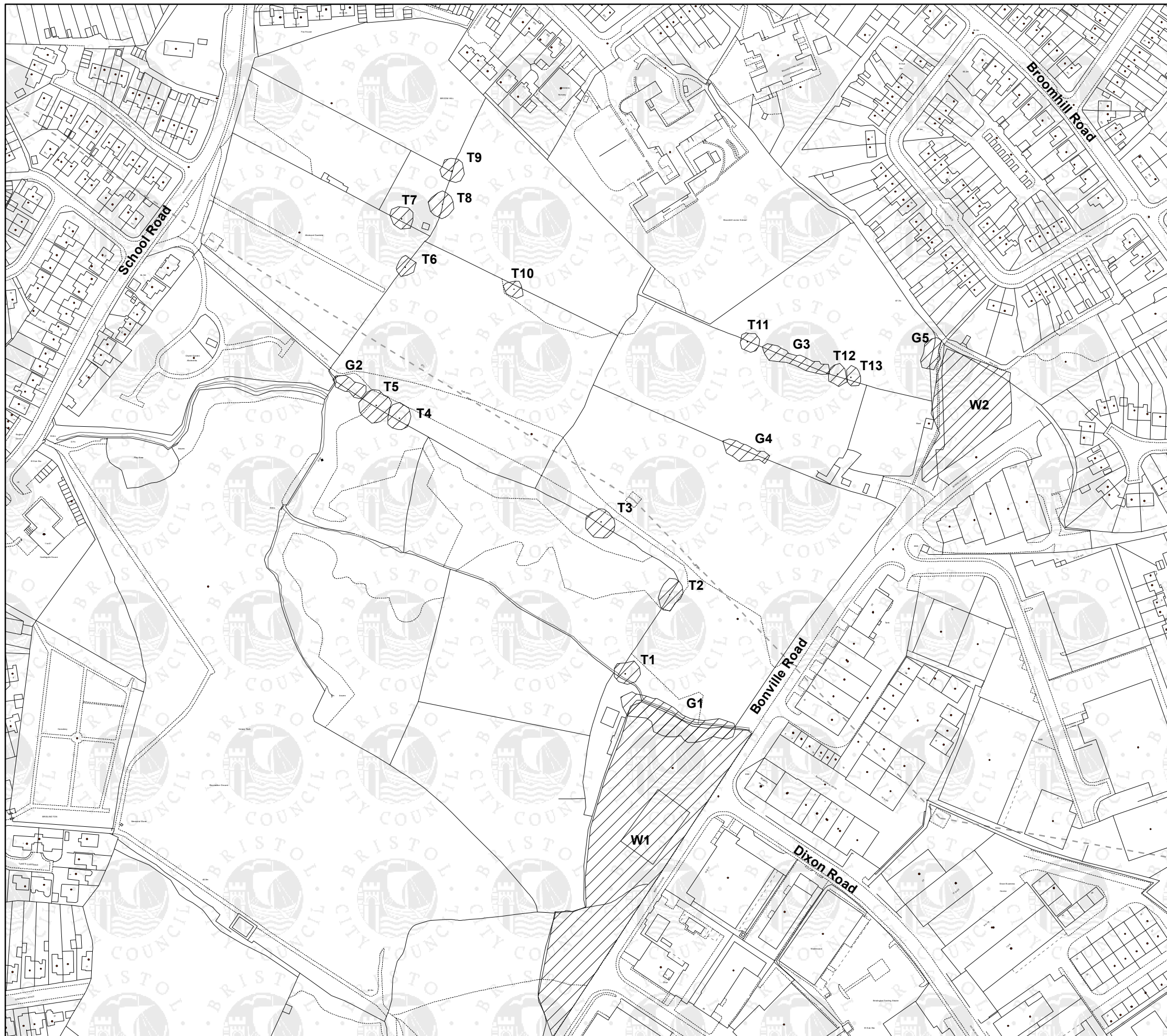
(within a black line and hatched black on the map)

Reference on map	Description (including number of trees in the group)	Situation
G1	Oak (<i>Quercus robur</i>)	
G2	Mixed broadleaf species	
G3	Holly (<i>Ilex aquifolium</i>) Hawthorn (<i>Crataegus monogyna</i>)	
G4	Holly (<i>Ilex aquifolium</i>) Field maple (<i>Acer campestre</i>)	
G5	Holly (<i>Ilex aquifolium</i>)	

Woodlands

(within a continuous black line and hatched black on the map)

Reference on map	Description	Situation
W1	Mixed broadleaf species	
W2	Mixed broadleaf species	



CITY DEVELOPMENT
TREE PRESERVATION ORDER 1400
Land At Broom Hill
Broomhill Road
Bristol
BS4 4UD

- T1 – Oak (*Quercus robur*)
- T2 – Holly (*Ilex aquifolium*)
- T3 – Oak (*Quercus robur*)
- T3 – Oak (*Quercus robur*)
- T4 – Oak (*Quercus robur*)
- T5 – Oak (*Quercus robur*)
- T6 – Holly (*Ilex aquifolium*)
- T7 – Oak (*Quercus robur*)
- T8 – Oak (*Quercus robur*)
- T9 – Oak (*Quercus robur*)
- T10 – Oak (*Quercus robur*)
- T11 – Oak (*Quercus robur*)
- T12 – Ash (*Fraxinus excelsior*)
- T13 – Ash (*Fraxinus excelsior*)

- G1 – Oak (*Quercus robur*)
- G2 – Mixed broadleaf species
- G3 – Holly (*Ilex aquifolium*)
Hawthorn (*Crataegus monogyna*)
- G4 – Holly (*Ilex aquifolium*)
Field maple (*Acer campestre*)
- G5 – Holly (*Ilex aquifolium*)

- W1 – Mixed broadleaf species
- W2 – Mixed broadleaf species



0 40 80 160 Meters

Produced by the Corporate GIS Team
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Bristol City Council. 100023406. 2016.

Copy of TPO No 1400
Grid Ref: ST6271

1:2,500

APPENDIX 3: NOTICE

IMPORTANT - THIS COMMUNICATION AFFECTS YOUR PROPERTY

TOWN AND COUNTRY PLANNING (TREE PRESERVATION) (ENGLAND) 2012

THE CITY OF BRISTOL
TOWN AND COUNTRY PLANNING ACT 1990

TREE PRESERVATION ORDER NO. 1400
LAND AT BROOM HILL, BROOMHILL ROAD, BRISTOL BS4 4UD

NOTICE IS HEREBY GIVEN THAT the Council of the City of Bristol has made an Order under Sections 198, 201 and 203 of the Town and Country Planning Act, 1990, making provision for the preservation of the trees on land at BROOM HILL, BROOMHILL ROAD, BRISTOL BS4 4UD. A copy of the Order is herewith served on you.

A copy of the Order has been deposited for inspection at Legal Services, City Hall, College Green, Bristol and may be inspected between the hours of 10.00 a.m. and 4.00 p.m. Monday to Friday.

NOTICE IS HEREBY GIVEN THAT by virtue of the provision of Article 4 of the Order, this Order takes effect immediately and will continue in force provisionally for a period ending 27 October 2020 or until the Order is confirmed by the Council whichever first occurs.

It is considered by the Local Planning Authority that the trees, the subject of the Order, should be retained in the interest of amenity.

Any objection or representation in support of the Order should be made to the Service Director - Legal Services at the under-mentioned address, in writing quoting reference DM.GD02.7 stating the reasons for any objection and specifying the particular trees, groups of trees, or woodlands in respect of which it is made not later than 2 June 2020.

If no objection or representation is made (or any are made but subsequently withdrawn) then after a period of six weeks has elapsed from the date of the service of this Notice, the Order may be confirmed by the City Council as an unopposed Order.

Please note any objections received after 2 June 2020 will not be taken into consideration.



Tim O'Gara
SERVICE DIRECTOR - LEGAL & DEMOCRATIC SERVICES

City Hall
College Green
Bristol
BS1 5TR

28 April 2020
DM/GD02.7

APPENDIX 4: COVERING LETTER



Fao John Boutwood
Homes England
2 Rivergate
Temple Quay
Bristol BS1 6EH

Debra Moreton
telephone: 01179 222307
e-mail: deb.moreton@bristol.gov.uk
our ref: GD02.7
your ref:
date: 28 April 2020

By recorded delivery

Dear Mr Boutwood

Town and Country Planning Act 1990 - Tree Preservation Order No 1400
Land at Broom Hill, Broomhill Road, Bristol BS4 4UD

The Council has power to preserve, by means of an Order, trees in its area which are considered worthy of protection and this power is exercised in the interests of amenity. The Council has decided to make a Tree Preservation Order in respect of trees on land in which you have an interest.

I am required to serve a copy of the Order and a Notice relating to the Order but, in so doing, I would like to explain that the Order by virtue of Article 4 of the Town and Country Planning (Tree Preservation) (England) Regulations 2012, takes effect immediately and continues in force provisionally for six months or until confirmed by the Council, whichever is the earlier. You have a statutory right to object or support the Order and this should be made no later than **2 June 2020**. Your comments must comply with Regulation 6 of the Town and Country Planning (Tree Preservation) (England) Regulations 2012, a copy of which is attached. The Council will not confirm the Order without considering objections/representations, and will notify you in due course of its decision as to whether or not the order has been confirmed.

Whilst writing may I also draw your attention to the following:-

Under the provisions of this Order it is an offence to cut down, top, lop, uproot or wilfully damage or wilfully destroy a tree, or cause or permit the cutting down topping, lopping, wilful damage or wilful destruction of a tree. Any person found guilty of such an offence is liable on conviction to a fine not exceeding the prescribed sum * or on indictment to a fine. The penalty for any other contravention of this Order is a fine not exceeding Level 4 on the standard scale **, on summary conviction.

Please note: * (the prescribed sum is at present £20,000 but subject to alteration by order).

**** (the standard scale is at present £2,500 but subject to alteration by order).**

Legal Services

PO Box 3176, Parkview Campus,
Bristol BS3 9FS
DX 7827 Bristol

Tim O'Gara Service Director Legal and
Democratic Services

Website
www.bristol.gov.uk



The leaflet issued by the Department of Communities and Local Government regarding Tree Preservation Procedures, was withdrawn on 7th March 2014 and replaced by the new planning practice guidance which may be viewed on line.

Please note any objections received after 2 June 2020 will not be taken into consideration.

Yours faithfully

A handwritten signature in black ink, appearing to read 'T. O'Gara', with a stylized flourish at the end.

Tim O'Gara
Service Director – Legal and Democratic Services

Enc.



JFL 3

GUIDANCE ON INTERPRETING
STANDING ADVICE
ON VETERAN TREES

Natural England & Forestry Commission Standing Advice, 14 January 2022:
“Ancient woodland, ancient trees and veteran trees: advice for making planning decisions”

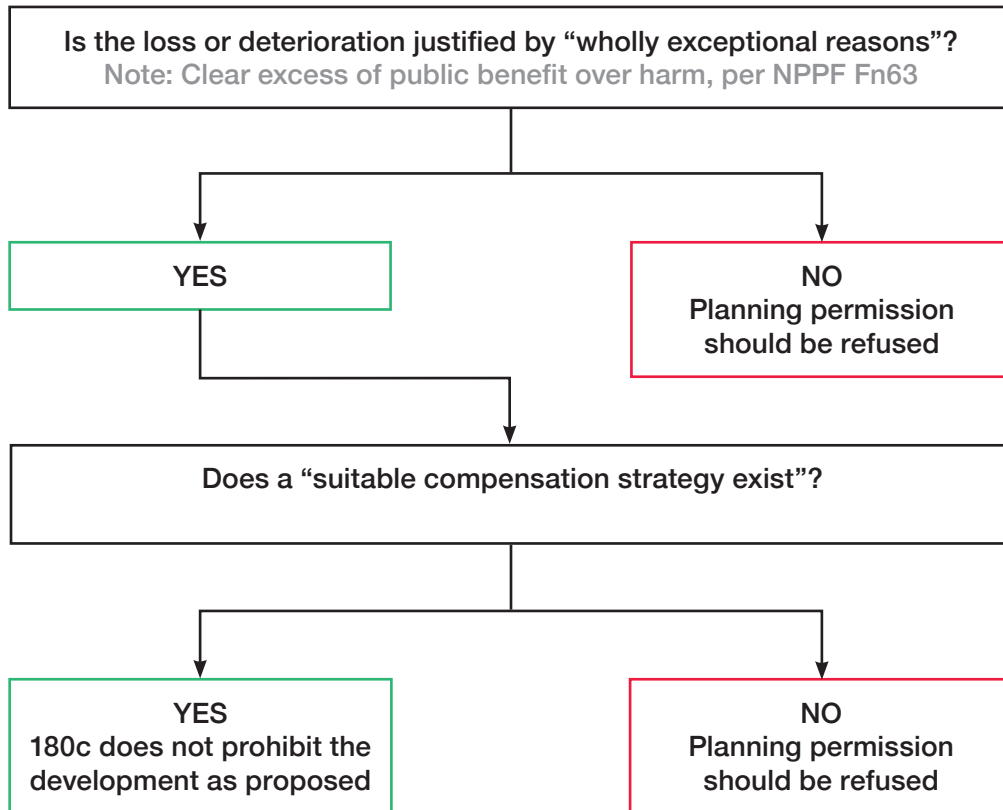
Interpretation flowchart in light of relevant National Planning Policy

Step One

If Irreplaceable Habitat trees and woodland (IHTW) are present, 180c is *relevant*

180c is *engaged* if the development proposal would cause "loss or deterioration" of IHTW.

Note: Deterioration is an adverse effect residual after mitigation

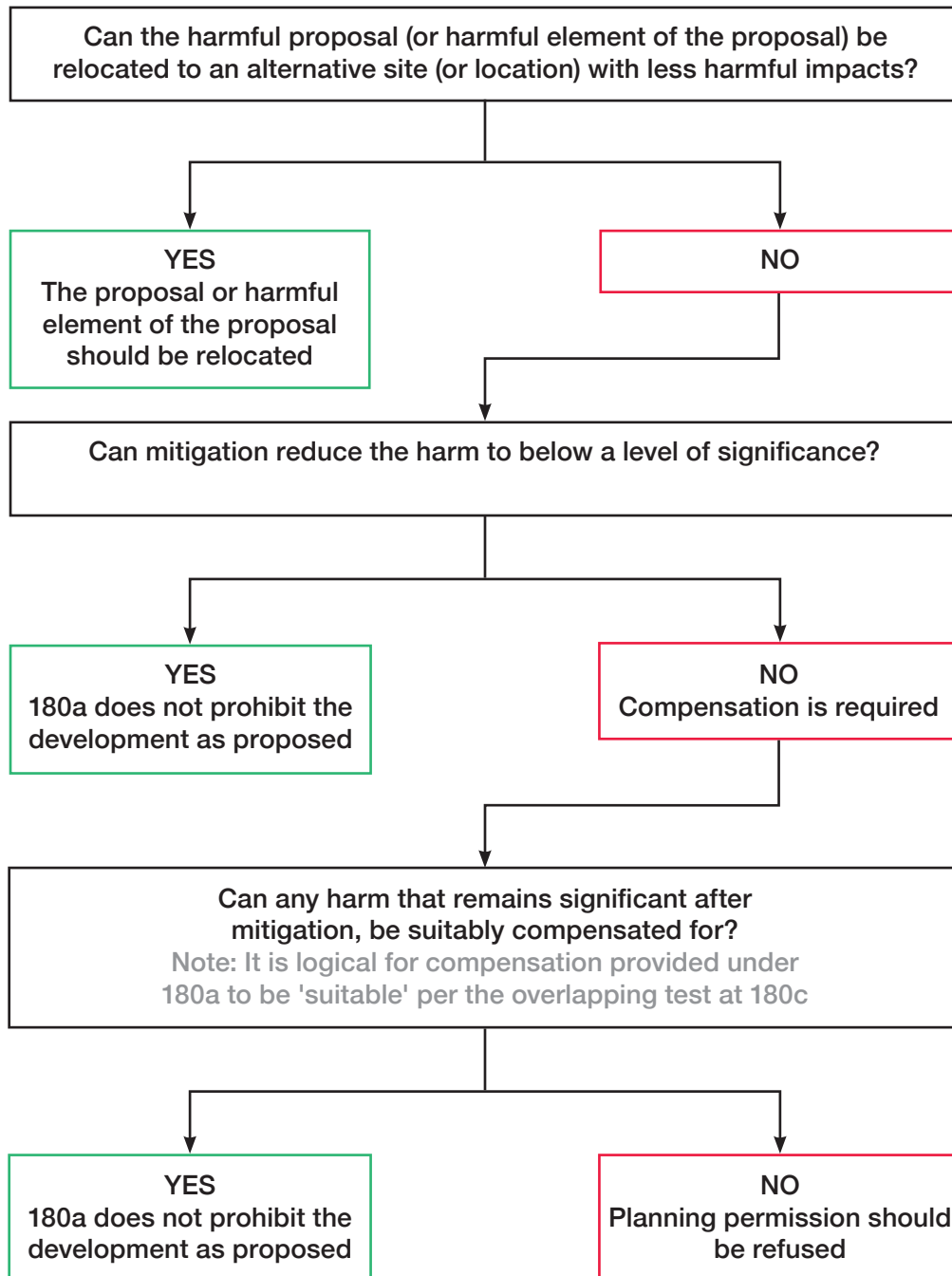


Step Two

Additionally, if the development proposal would cause significant harm to biodiversity apply 180a

Note: Whether significant harm would occur to biodiversity requires ecological assessment

The Mitigation Hierarchy





JFL 4

VETERAN TREE IDENTIFICATION METHOD
RAVEN



Recognition of Ancient, Veteran & Notable Trees – **R A V E N**

*The only Appeal-validated field recognition system for
Irreplaceable Habitat trees*

Step One—Size Assessment

Tree has very large girth for species

Note—pollarding & senescence reduce stem increment: girth may be deceptive – assess stem girth relationship with life-stage accordingly

Refer to *Ancient and other veteran trees: further guidance on management* (Lonsdale, ATF 2013) at Fig. 1.3:
Chart of girth in relation to age and developmental classification of trees

IF GIRTH NOT VERY LARGE FOR SPECIES, STOP HERE!

Step Two—Additional Primary Features

At least one of the following should be present, or refer to Step Three

- ☐ Extensive decay, especially brown rot or exposed stem heartwood in relevant species
- ☐ Extensive hollowing
- ☐ Crown senescence
- ☐ Retrenchment

Step Three—Secondary Features

If no additional Primary Feature is present, tree should have at least four Secondary Features

- ☐ Large quantity of dead wood in crown, especially where large-sized
- ☐ Major storm damage/ breakout wounds
- ☐ Habitat spaces: decay holes and/ or crevices/ branch splits sheltered from direct rainfall
- ☐ Aerial rooting
- ☐ Sap run/ slime flux
- ☐ Water pool
- ☐ Bark loss inc. due to lightning strike
- ☐ Fungi
- ☐ Other epiphytic plants, including significant presence of lichens

Step Four – Identification Guide



ANCIENT

Veteran tree with extremely large girth: age likely > 50% of estimated species maximum
E.g. pedunculate oak, 2m stem dia, average site: ca. 460 years old, ca. 50% of species max



VETERAN

Very large girth for species and qualifies under either Step Two or Step Three



NOTABLE

Very large girth for species but does not qualify under either Step Two or Step Three

IF A TARGET IS PRESENT, ASSESS RISK USING *THREATS*

© Julian Forbes-Laird 2018



JFL 5

**RAVEN DATA
FOR CONFIRMED VETERAN TREES**



Guide to column headings

Tree No.	Refer to accompanying plan	Required primary feature	Tree must be large relative to others of its kind to qualify for assessment (or evidence retarded increment); refer to Lonsdale 2013	DW>150mm dia	Dead wood present in the crown with diameter over 150mm	Age estimate	Computed using FC White Method, form & senescence weighting added
Species	Listed by common name	Additional primary features	Features of principal importance for identifying A/V trees. In each case, feature should be present significantly	Maj. Storm damage	Breakout wounds or broken spars exceeding 30cm dia	Ancient	Trees beyond 50% of species maximum life expectancy
Form	Key factors that influence significance of stem size and age estimation	Secondary features	Less important though still valuable features that aid identification, especially where present in numbers	Dry habitat space	Potential for faunal use where not subject to rain entry	Veteran	Trees with Required/ Primary or Secondary features as listed, and age >25% of species maximum life expectancy
Pollard	Whether the tree bears a pollard form, even if now long grown out	Extensive decay	Exposed decay areas should exceed 400cm2	Water pool	Offers niche habitat for specialist inverts, even where transient	Notable	Trees that are large and/ or old for species, but which lack qualifying features
Relic	Tree assessed as bearing <75% of former maximum crown volume	Exposed HW	HW refers to heartwood; applicable to relevant species only	Signif. bark loss/ LS	Bark loss exceeding 400cm2. LS refers to lightning strike	Non-special	All other trees
				Notable fungi	Refers to species with known associations to old-growth trees		
				Other epiphytic plants	Should be either rare or present in significant quantity		

Tree no.	Species	Form		REQUIRED PRIMARY FEATURE	Either: ADDITIONAL PRIMARY FEATURES - at least one of						Or: SECONDARY FEATURES - at least four of											AGE ESTIMATE		RAVEN ASSESSMENT				NOTES	
		Pollard	Relic	Large stem dia. (mm)	Extensive decay			Hollowing	Senescence	Retrenchment	DW>150mm dia	Maj. Storm Damage	Dry habitat space	Aerial roots	Sap run/ slime flux	Water pool	Signif. bark loss/ LS	Fungi		Other epiphytic plants			Years	Origin	Ancient	Veteran	Notable		Non-special
					Brown rot	Exposed HW	Other											Notable	Other	Lichens	Ferns	Other							
5	Pedunculate oak	X		1140	X		X	X			X		X						X				223	1800		X			Stem dia slightly below guidance threshold, however increment loss due to pollard treatment hence tree has 'missing' stem size. Table 8 fungus confirmed by visible brown rot
6	Pedunculate oak	X		1450			X	X			X		X										305	1718		X			
VH1	Hawthorn			650			X						X										253	1770		X			
VH2	Hawthorn			225x6 av	X		X												X				273	748	X				Very large example multi-stemmed from ground level: likely coppiced as part of hedgerow management, age adjustment applied accordingly
VH3	Hawthorn			740 base	X		X												X	X			312	1711	X				3 stems 49cm, 26cm, 20cm. Stems historically topped at est 1.2m with associated pollard knuckle type regrowth and cavities at pruning points. Deadwood shows saproxylic invertebrate activity.
VH4	Hawthorn			620 base	X														X	X			236	1787		X			5 stems 17cm, 27cm, 17cm, 19cm, 20cm. Saprotrophic fungal fruit body present. Deadwood shows saproxylic invertebrate activity.
VH5	Hawthorn			510 base	X															X			217	1806		X			Twin stem from near ground level, compression fork between stems. Measurement of individual stems not possible. Sunken dead bark with saproxylic invertebrate activity. Slightly below stem diameter threshold for veteran status, however tree in senescence and growth has slowed as a result.
VH6	Hawthorn			700 base	X														X	X			305	1718		X			3 stems 40cm (Heavy ivy covering), 28cm, 25cm. Historic hedge management by topping stems at est 1.2m with pollard knuckle type regrowth, and cavities at pruning points. Sunken dead bark with saproxylic invertebrate activity. Slightly below threshold for ancient, but pollarding will have significantly retarded growth leading to lost increment.
VH7	Hawthorn			660 base	X	X		X		X									X	X			260	1763		X			Basal cavity extending into main stem (hollow). Burr formation at base. Retrenchment in upper canopy western stem.
VH8	Hawthorn			560 base	X	X		X		X	X									X			197	1826		X			Basal cavity exposing centre of main stem, hanging deadwood from stem failure at 0.5m south side. Fungal fruit body present.
VH9	Hawthorn			550 base	X	X				X									X	X			222	1801		X			2 stems 31cm, 30cm. Historic hedge management by topping stems at est 1.2m with exposed heartwood from pruning points. Basal and root decay north side at ground level. Heavy management will have significantly retarded growth leading to lost increment.
VH10	Hawthorn			620 base	X	X		X		X										X			256	1767	X				3 stems with cavity in base seperating them. Large buttress roots compared to stem diameter. Deadwood with saproxylic invertebrate activity. Significant portion of original main stem missing hence current diameter measurement notably under-records tree age.
VH11	Hawthorn			570 base	X	X		X		X										X			228	1795		X			Single stem. Historic secondary stem failure at 0.3m from ground level east side forming stem cavity. Low lateral branch on southern side with cavity on upper surface connected to main stem cavity: likely evidence of historic hedge laying practices. Heavy management will have significantly retarded growth leading to lost increment..



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BUFFER ZONE RADII
FOR VETERAN TREES



VETERAN TREE BUFFER ZONE CALCULATOR

Confirmed veteran trees at Brislington Meadows

Tree no.	Species	Stems	Stem dia mm		3	4	5	VTB m
			1 / mean	2				
5	Pedunculate oak	1	1140					17.1
6	Pedunculate oak	1	1450					21.8
VH1	Hawthorn	1	650					9.8
VH2	Hawthorn	6	225					8.3
VH3	Hawthorn	1	740					11.1
VH4	Hawthorn	1	620					9.3
VH5	Hawthorn	1	510					7.7
VH6	Hawthorn	1	700					10.5
VH7	Hawthorn	1	660					9.9
VH8	Hawthorn	1	550					8.3
VH9	Hawthorn	1	560					8.4
VH10	Hawthorn	1	620					9.3
VH11	Hawthorn	1	570					8.6



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VETERAN TREES
IMPACT ASSESSMENT PLANS



FLAC dwg no. 42-1061.01
Veteran tree locations with buffer zones
Existing context



FLAC dwg no. 42-1061.03
Veteran tree locations with buffer zones
relative to Landscape Parameter Plan



FLAC dwg no. 42-1061.04
Veteran tree locations with buffer zones
relative to Illustrative Masterplan