

Rebuttal to FLAC 42-1061 EXPERT EVIDENCE (ARBORICULTURE)

Summary of Evidence of Tom Popplewell BSc (Hons)
MICFor

Brislington Meadows, Bristol
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1.0 Summary of Evidence of Tom Popplewell

Presence of Veteran and Ancient Trees

- 1.1 The Council contends that oak tree T5 and hawthorns VH1 to VH11 are veteran trees of exceptional biodiversity value because of their size, age and condition. Further they contend hawthorns VH2, VH3 and VH10 are ancient.
- 1.2 I disagree. Using evidence from the Council's witness (FL) and my own measurements and assessments, I show they are not of exceptional value in respect of size. FLAC used an inappropriate method to calculate and interpret the size of multi-stemmed trees.
- 1.3 FLAC's estimates of age are unreliable and inflated because they are directly derived from the size calculations without caveat. I conclude that, while the hawthorns may be of an age concomitant with veteran status, they do not have age-related features of exceptional value.
- 1.4 In terms of condition, I show that the hawthorns do not have sufficient veteran characteristics to meet Natural England's criteria for classification of veterans.

Oak Tree T5

- 1.5 This is a large, mature single-stemmed boundary oak. FLAC accepts T5's girth falls short of size criteria, but argue its growth was held back by historical pollarding, so it should qualify under size and age criteria. I agree it meets condition criteria; it has several features which are providing habitat for a diversity of flora and fauna.
- 1.6 TEP always recognised T5 to be an important tree with veteran characteristics of high biodiversity value that should be retained. Whilst not accepting FLAC's point on size, for the avoidance of unnecessary debate, parameter plans have been amended¹ to demarcate a veteran tree buffer zone.

Hawthorns VH1 to VH11

- 1.7 These hedgerow hawthorns were managed by cutting to a height of around 1.5m above ground until at least 1946. Regular cutting ceased later and branches sprouted to form a crown now typically 6-7m high. These are all multi-stemmed trees, with between 3 and 11 stems at the point of measurement (1.3m above ground). The mature wood that could

¹ CD 12.7 – see Drawing no. 7456_102 Landscape Parameter Plan Rev PL2 in Appendix 1 of Mr Charles Crawford's evidence – trees T5 and T6 are on southern site boundary.

display veteran characteristics is below 1.5m (the "bole") and associated rootstock.

Size

- 1.8 FLAC measures size in terms of girth at the base of the tree². This is not best practice and is not recommended by the relevant sources of guidance on veteran tree assessment and management³. A basal girth will always overstate the tree's girth at 1.3m because of basal swelling, inclusion of voids between multiple stems and other reasons.
- 1.9 The appropriate method is to measure the diameter of each stem at or near 1.3m, avoiding swellings, and then to apply a formula that calculates an equivalent girth. When this method is used, a significantly lower size is calculated and all hawthorns fall short of thresholds for classification as a veteran⁴. What those thresholds should be, is also a point of disagreement. I am of the view that FL uses unduly low thresholds, due to misinterpretation of the guidance and other reasons.
- 1.10 Also for these hawthorns, the potential veteran wood is only that which grows below 1.5m. This is a very small biomass, partly because of the hawthorns' relatively low size, and partly because hawthorn is an inherently small/moderate tree. Despite being a common tree species, it is relatively uncommon as a veteran.
- 1.11 Thus these particular hawthorns do not have great size i.e. biomass capable of supporting exceptional biodiversity value.

Age

- 1.12 FLAC estimates age based on basal girth. As described above, this is an incorrect starting point for calculating size and estimating age. Thus the FLAC method generates a much greater age than should be used. Even if basal girth is used, FLAC should have given a caveat or margin of error around the age estimate.
- 1.13 Thus I do not accept the age estimates. In relation to the specific assertion that three hawthorns are ancient, even on FLAC's own evidence, this is based on an incorrect reading of the girth required for a

² CD13.2 – refer to Appendix JFL5 – column 5 shows measurement in mm, with epithet "base"

³ CD8.8 (Estimating the Age of Large and Veteran Trees in Britain) see paragraph 7 and Figure 2. Also CD8.9 (BS5837:2012) – see Annex C – Figure C.1 diagram e for multi-stemmed trees. Also English Nature's Specialist Survey Method section 4.2.2 for measuring multi-stemmed trees.

⁴ Refer to Tables 2 and 3 of my evidence

hawthorn to be considered ancient. This threshold is 2.5m⁵, whereas FLAC's largest basal girth is 2.32m, on VH3⁶.

- 1.14 FLAC estimate the hawthorns are aged between 197 and 312 years (average 251 years)⁷. Considering these are hedgerow hawthorns, a sense check should also be made of the realistic prospect that this is the same stem that started growing at the postulated date of origin. Aerial photography shows that prior to 1946, hedges were maintained by cutting⁸. Taking FLAC's average age of 251, these trees would have been 175 years old in 1946. I consider it very improbable that the original hawthorn would have survived under a hedgerow cutting regime for 175 years. It is far more probable these are younger stems that grew following replanting, or natural regeneration, or coppicing.
- 1.15 My own experience is of assessing and managing hawthorns at Hulton Park, Bolton which are known to have been planted in the period between 1772 and 1808. These hawthorns have much further advanced senescence and many larger and more well-developed decay features, than those on the appeal site. The Brislington Meadows hawthorns do not bear the scars of great age.

Condition

- 1.16 For a tree to support biodiversity of exceptional value, there must be a measurable diversity and scale of "veteran characteristics" which support biodiversity. These define the "condition" of a tree.
- 1.17 Natural England provides guidance on the five key characteristics and associated threshold measurements needed to classify a tree as veteran⁹. Natural England state that four of the five characteristics should be present. FL's survey forms contain his data on these characteristics¹⁰.
- 1.18 On FL's own evidence, I show that none of the hawthorns have more than three of these Natural England characteristics¹¹. Most, including the

⁵ CD8.20 Refer to Figure 1.4 on page 6 which pictures an ancient hawthorn with the caption explicitly stating "hawthorn can be considered ancient where its girth exceeds about 2.5m..."

⁶ CD13.2 – Appendix JFL5 shows VH3 has a diameter (base) of 740mm which equates to a girth at base of 2.32m

⁷ CD13.2 Appendix JFL5 - RAVEN form Column 24 has estimated age and Column 25 has estimated year of origin.

⁸ CD12.5 Francis Hesketh's Proof of Evidence – see narrative and photos at Appendix J.

⁹ CD11.6f – refer to page 180 and 181, specifically Footnote 2 which lists five features (rot sites >400cm², holes and water pockets >5cm, dead wood >15cm, hollowing and fruit bodies of decay fungi)

¹⁰ CD13.2 Appendix JFL5 – RAVEN form Columns 6,7,8 deal with rot sites, column 17 deals with water pockets, column 12 deals with dead wood, column 9 deals with hollowing and columns 19 and 20 deal with fungi.

¹¹ Refer to Table 6 in my evidence

four that would be lost to the illustrative masterplan, have only one or two characteristics. I broadly agree with the evidence collected by FLAC against the Natural England characteristics, although for some trees the evidence falls at or below the lowest measurement threshold, and I do not agree that all of the characteristics he identifies are present.

- 1.19 FLAC prefers the RAVEN system for identification of veteran trees. If RAVEN is used, I consider the Natural England characteristics and thresholds should be the primary point of reference whether a candidate veteran tree meets condition criteria for exceptional biodiversity value.
- 1.20 In summary, the hawthorns are mature and are beginning to develop characteristics which could support significant biodiversity in future, but they are still some way short of having sufficient number and extent of these characteristics.

Conclusion on hawthorn veteran status

- 1.21 The hawthorns fall short of age, size and condition criteria that would classify them as veteran trees with exceptional biodiversity value. Nor are they ancient. This conclusion gains even more confidence when considering the results of other detailed ecological surveys of bats, birds, hedgerow flora and invertebrates¹² which do not indicate the hawthorns are providing habitat to specialist species dependent on ancient or veteran trees.
- 1.22 The hawthorns are correctly assessed as mature trees which contribute to the local biodiversity value of the hedgerows they are in, but they have no higher status. As they are individually small, with potential veteran interest confined to their lower boles, their value is in the aggregate of the habitat provided in lower boles.

Deterioration and Buffer Zones

- 1.23 If the Inspector prefers my evidence on the hawthorns, the illustrative masterplan and the parameters plans provide confidence that there would be no deterioration to the seven retained hawthorns.
- 1.24 If the Inspector prefers FL's evidence, then these seven hawthorns would require a wider veteran tree buffer (VTB), on a precautionary basis.
- 1.25 In my evidence¹³ I confirm that these VTB's could be secured through a planning condition.

¹² CD1.21a (Hedgerow Assessment), CD1.21e (Habitat Condition Assessment), CD 1.21g Breeding Bird Survey, CD 1.21h Invertebrate Survey, CD1.21j Bat Surveys

¹³ Refer to Table 9 of my evidence which defines the veteran tree buffer zones

Loss and the Alternative Masterplan

- 1.26 If the Inspector prefers my evidence, then the loss of four hawthorns (VH1, VH4, VH5, VH6) to the illustrative masterplan is as reported in the Outline EcIA and Outline AIA i.e. it is part of the loss of hedgerow that is considered necessary for access, circulation and place-making to deliver the allocation. It satisfies the mitigation hierarchy. Compensation is provided through replacement hedgerow tree planting and enhancement of retained hedges.
- 1.27 If the Inspector prefers FL's evidence, then these hawthorns should be retained. Mr Charles Crawford provides an alternative illustrative masterplan demonstrating that development can retain and incorporate them within the network of retained hedgerows, with an appropriate VTB.

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