Town and Country Planning Act 1990

Gleeson Land and John Alison Land and Research Ltd

Hybrid planning application comprising: Outline application (with all matters reserved except for access) for the erection of up to 424 no. Residential dwellings including affordable housing, the provision of vehicular, pedestrian and cycle access and separate emergency access from the Uckfield bypass (A22), pedestrian and cycle access from Snatts Road, open spaces including children's play space, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks; and full application comprising creation of a strategic SANG, associated landscaping and car parking, and demolition of existing residential property and other buildings and provision of pedestrian and cycle access from Rocks Road, associated landscaping, infrastructure and earthworks

Land at Downlands Farm, Uckfield

Wealden District Council Ref:	Planning Inspectorate Ref:
WD/2022/1637/MEA	APP/C1435/W/23/3321978

PROOF OF EVIDENCE

CONTENTS

		Page
1	Introduction	1
2	Structure of Evidence	2
3	Planning Policy and Guidance	3
4	Identification of Veteran Trees and Ancient Woodland	9
5	Relevant Appellant's Application Documents	13
6	Arboricultural Impacts of the Scheme	18
7	Summary and Conclusions	34
8	Appendices	36

APPENDICIES

1. **Tree & Landscape Officer Consultation Comments for Planning Application WD/2022/2198/MEA, provided on 17/10/2022.**

2. **DEFRA Ancient Woodland Irreplaceable Habitat layer map from MAGIC.**

3. **DEFRA Decious Woodland Priority Habitat layer map from MAGIC.**

4. **Map comparison of wooded areas lost on the appeal site since 1870s to date.**

5. **Primary access woodland removal proposals as shown on sheet 4 of plan 40-1020.02 (CD2/31) hatched in blue and alongside Natural England mapping showing Ancient Woodland Irreplaceable Habitat and Deciduous Woodland Priority Habitat.**

6. **6" Ordnance Survey map showing existing trackway trough Lake Wood in 1878.**

7. **Photographs of the appeal site taken by the author on 14/10/2023.**

8. **Typical example of a prefabricated ground bearing headwall. (https://www.marshalls.co.uk/commercial/product/headwalls)**

9. **Root Protection Areas for Veteran Trees, Jim Mullholland and Sharon Hosegood, The Arboricultural Association, ARB MAGAZINE, Issue 180 Spring 2018.**

1 INTRODUCTION

1.1. My name is David Massheder. I hold a BA (Hons) in History from The University of Kent, a Level 4 Diploma in Arboriculture from Myerscough College in Preston, a Certificate in Arboriculture from the Royal Forestry Society, and a suite of technical certifications from NPTC & LANTRA related to practical arboriculture operations.

1.2. I have been employed by Wealden District Council as Tree & Landscape Officer since 2014 until present day.

1.3. Prior to this, I was Arborist/Gardener at National Trust Scotney Castle, Lamberhurst, Kent from 2010-2014, Head Gardener/Arborist at Frewen College in Northiam, East Sussex from 2008-2010, a full-time student from 2004 to 2007. From 1985-2004 I was employed in an administrative role at a private firm of Solicitors in London.

1.4. For completeness, I advise that I am one of the responsible officers for the Service Level Agreement between Wealden and the South Downs National Park (in so far as the Park area crosses into the former administrative area of Wealden). I provide arboricultural advice to the Park on tree work applications in that area.

1.5. The evidence which I have prepared and provided within this proof is true and accurate.

1.6. I can confirm that the opinions expressed are my true and professional opinions.

1.7. This appeal is against the Council's refusal of the hybrid planning application comprising: Outline application (with all matters reserved except for access) for the erection of up to 424 no. Residential dwellings including affordable housing, the provision of vehicular, pedestrian and cycle access and separate emergency access from the Uckfield bypass (A22), pedestrian and cycle access from Snatts Road, open spaces including children's play space, sustainable urban drainage systems, associated landscaping, infrastructure and earthworks; and full application comprising creation of a strategic SANG, associated landscaping and car parking, and demolition of existing residential property and other buildings and provision of pedestrian and cycle access from Rocks Road, associated landscaping, infrastructure and earthworks. I shall refer to this as the 'Appeal Scheme'.

1.8. I provided a consultation response for planning application WD/2022/1637/MEA on 17th October 2022 (Appendix 1). I had previously undertaken a guided walkover site

visit with my colleague Mr Ben Rainbow (WDC Biodiversity & Arboricultural Officer) and representatives of the appellant on 2nd December 2020. Mr Rainbow and I revisited on 2nd February 2022, following the submission of additional information in relation to a pedestrian/cycle link through the site. Further site visits took place with Mr Rainbow on 24th July 2023 and on 28th September 2023 with Mr Robins (WDC Head of Planning & Environmental Services) and unaccompanied on 14/10/2023.

1.9. The Council's Statement of Case sets out the reasons as to why planning permission should be refused, which are summarised below:

- Conflict with the development plan;
- The adverse impact of the development on Ancient Woodland;
- Effect on Heritage Assets;
- Surface Water Drainage;
- Effect on Ecology – Great Crested Newts;
- Safe access and lack of non-car modes of transport;
- Impact on highway network and site access;
- No mechanism to secure appropriate policy compliance and/or necessary infrastructure;
- Planning Balance;

1.10. My evidence deals with arboricultural matters and the arboricultural implications in relation to Ancient Woodland and Veteran Trees and putative Reason for Refusal (RfR) number 2. In summary:

- I explain how the scheme would lead to direct and indirect impacts upon Veteran Trees and Ancient Woodland, leading to degradation and loss of irreplaceable habitat.
- RfR 2 says the proposals fall foul of a number of Policies, both national and local, including the saved policy EN13. I explain why this is so.

- I am aware the Appellants have made changes to the scheme determined at the planning application stage and that they are seeking a decision based on the revised scheme. I commented upon the original scheme and this lead, in part, to the decision to refuse planning permission. In the scenario that the Inspector strikes out the revised scheme, I remain of the view that there would be harm to trees and Ancient Woodland from the original scheme. There is clear overlap with many of the concerns set out in connection with the revised scheme and I can talk to those impacts if needs be. However, and to be clear, my Proof of Evidence focusses on the substitute plans presented to PINS on the 8 September 2023 (CD1/13 to CD1/20).

- In relation to the impact of the proposal upon Ancient Woodland, my evidence should be read with that of Gabrielle Graham.

2 STRUCTURE OF EVIDENCE

2.1. Reason for Refusal 2 relates to ecology and arboricultural matters, the latter point is addressed by me.

2.2. Reason 2 states:

The development proposals would result in indirect and direct degradation and loss of Ancient Woodland, an irreplaceable habitat, and lead to the unacceptable fragmentation, isolation and disturbance of natural habitats that support protected wildlife species and other flora and fauna of acknowledged nature conservation importance. In addition, the development would threaten, harm and cause degradation to veteran trees, an irreplaceable habitat.

The scheme is contrary to National Planning Policy Framework 2023, section 180c, Natural England Standing Advice, Ancient Woodland & veteran trees and saved policies EN1, EN12, EN13 and EN15 of the Wealden Local Plan 1998 and Wealden District Core Strategy Local Plan 2013, policy WCS12 Biodiversity and WCS14 sustainable development.

2.3. Following this section 2, my proof of evidence is structured as follows:

3 Planning Policy and Guidance

4 Identification of Veteran Trees and Ancient Woodland

5 Relevant Appellant's Application Documents

6 Arboricultural and Ecological Impacts of the Scheme

7 Summary and Conclusions

3 PLANNING POLICY AND GUIDANCE

National Planning Policy Framework 2021

3.1. Section 180c of NPPF 2023 states:

Development resulting in the loss or deterioration of irreplaceable habitats (such as Ancient Woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons 63 and a suitable compensation strategy exists.

3.2. The term wholly exceptional reasons is clarified in footnote 63 that states:

For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat Annex 2 of the NPPF 2021 defines Ancient Woodland and ancient or veteran trees:
Ancient Woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on Ancient Woodland sites (PAWS).

Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.

3.3. Ancient Woodland takes hundreds of years to establish and is defined as an irreplaceable habitat, important for its wildlife, soils, recreational value and cultural/historical/landscape value. It is any area that has been wooded continuously since at least 1600AD (see CD9/3).

3.4. ‘Wooded continuously’ does not mean there’s been continuous tree cover across the whole site. Not all trees in the woodland have to be old. Open ground, both temporary and permanent, is an important component of Ancient Woodlands. (see CD9/3).

Local Planning Policy

3.5. So far as is material to my areas of expertise, the Local Plan comprises Saved Policy EN12 and identifies that the Council will seek to retain and enhance the contribution of trees and woodland areas and will resist development proposals which would result in the loss of trees which make a valuable contribution to the character of the landscape, a settlement or its setting. Policy EN13 of the Wealden Local Plan (CD6/2) relates to Ancient Woodlands and identifies that the Council will resist development proposals that involve the clear felling or otherwise prejudice the ecology of Ancient Woodlands.

3.6. The reason for refusal also refers to two Wealden District Core Strategy Local Plan 2013 policies: policy WCS12 Biodiversity and WCS14 sustainable development (CD6/2).

National Level Guidance

3.7. Two pieces of national-level guidance are particularly relevant to this Appeal:

1. Standing Advice, Ancient Woodland, ancient trees and veteran trees: Protecting them from development (‘Standing Advice’). This is published on gov.uk by Natural England and the Forestry Commission. The current version is dated 14 January 2022 (CD9/3); and

2. British Standard BS5837:2012 Trees in relation to design, demolition and construction - Recommendations (CD9/8). Whilst also referencing veteran trees, BS5837 covers all trees.

3.8. The Standing Advice states ‘*authorities should refuse planning permission if development will result in the loss or deterioration of Ancient Woodland unless there are wholly exceptional reasons and there is a suitable compensation strategy in place*.’

3.9. It states '*Where a proposal involves the loss or deterioration of Ancient Woodland or ancient or veteran trees you should not take account of the existing condition of the Ancient Woodland or ancient or veteran tree when you assess the merits of the development proposal. Its existing condition is not a reason to give permission for development. A woodland or tree in poor condition can be improved with good management'*.

3.10. It also states: '*Buffer zones can protect Ancient Woodland and individual ancient and veteran trees'* and: '*The size and type of buffer zone should vary depending on the:*

- *scale and type of development and its effect on Ancient Woodland, ancient and veteran trees*
- *character of the surrounding area*

For example, larger buffer zones are more likely to be needed if the surrounding area is:

- *less densely wooded*
- *close to residential areas*
- *steeply sloped*

3.11. The Standing Advice cites the following direct effects of development that can cause loss or deterioration of Ancient Woodland and veteran trees:

- damaging or destroying all or part of them (including their soils, ground flora or fungi)
- damaging roots and understorey (all the vegetation under the taller trees)
- damaging or compacting soil
- damaging functional habitat connections, such as open habitats between the trees in wood pasture and parkland
- increasing levels of air and light pollution, noise and vibration
- changing the water table or drainage
- damaging archaeological features or heritage assets
- changing the woodland ecosystem by removing the woodland edge or thinning trees - causing greater wind damage and soil loss.

3.12. Indirect effects are also cited:

- breaking up or destroying working connections between woodlands, or ancient trees or veteran trees - affecting protected species, such as bats or wood-decay insects

- reducing the amount of semi-natural habitats next to Ancient Woodland that provide important dispersal and feeding habitat for woodland species
- reducing the resilience of the woodland or trees and making them more vulnerable to change
- increasing the amount of dust, light, water, air and soil pollution
- increasing disturbance to wildlife, such as noise from additional people and traffic
- increasing damage to habitat, for example trampling of plants and erosion of soil by people accessing the woodland or tree root protection areas
- increasing damaging activities like fly-tipping and the impact of domestic pets
- increasing the risk of damage to people and property by falling branches or trees requiring tree management that could cause habitat deterioration
- changing the landscape character of the area.

3.13. British Standards BS 5837:2012 Trees in relation to design, demolition and construction is a standard industry guidance document that gives recommendations and guidance on the relationship between trees and design, demolition, and construction processes. Whilst the guidance provides some advice regarding Veteran Trees it does not provide any specific advice regarding Ancient Woodland. This will be referred to in my evidence below.

Other guidance

3.14. It is noted that the Woodland Trust strongly objects to the appeal scheme (their most recent comments are dated 12th July 2023 (CD13/3). In summary, these concerns are:

- Intensification of human activity and recreational disturbance on ancient woodland, veteran trees and Lake Wood, particularly the inclusion of ancient woodland with designated SANG
- Fragmentation of ancient woodland sites from adjacent semi-natural habitats.
- Noise, light and dust pollution affecting habitats and important flora and fauna.
- Threats to long-term retention of notable and veteran trees from increased safety concerns, and removal of important habitat features
- Adverse hydrological impacts across the site

- Wider impacts on ecological connectivity and functioning of site, and concerns regarding the overall suitability of the site for development purposes.
- Cumulative effect of the above impacts resulting in long-term deterioration of the natural landscape

The Woodland Trust have produced guidance entitled *Woodland Trust – impacts of nearby development on the ecology of Ancient Woodland* (2012) and *Planners Manual for Ancient Woodland and Veteran Trees* (2019) (CD9/4). These identify the range of potential effects which development may have on Ancient Woodland. These include: disturbance including path creation, noise, vegetation clearance, light and dust pollution and trampling, habitat and landscape fragmentation, invasion by non-native plant species, impact from domestic pets, reducing the amount of semi-natural habitats next to Ancient Woodland, changes to the water table or drainage, damaging activities such as fly-tipping and cumulative effects (p.17).

3.15. The Planners' Manual for Ancient Woodland and Veteran Trees from the Woodland Trust (CD9/4) states on page 6:
'*Ancient Woodland is irreplaceable. It is our richest wildlife habitat, having developed over centuries, and contains a high proportion of rare and threatened species, many of which are dependent on the particular conditions that this habitat affords. For this reason, ancient woods are reservoirs of biodiversity, and because the resource is limited and highly fragmented, they and their associated wildlife are particularly vulnerable to development-induced changes*.'

3.16. The Planners Manual sets out a list of potential mitigation measures at page 19. These are measures which are designed to avoid or reduce negative impacts.

3.17. On page 20 of the Planner's Manual it states: '*Although there is no 'one size fits all' with buffer design, each one should be designed to fulfil the specific requirements of its location and the type of proposed development. As a precautionary principle, a minimum 50 metre buffer should be maintained between a development and the Ancient Woodland, including through the construction phase, unless the applicant can demonstrate very clearly how a smaller buffer would suffice. A larger buffer may be required for particularly significant engineering operations, or for after-uses that generate significant disturbance*.'

3.18. I note a particularly relevant appeal decision, Land at Bird in Eye Farm, South of Bird in Eye Hill, Framfield, Uckfield TN22 5HA ref: APP/C1435/W/22/3307820 (CD4/36) dated 12/10/2023 that has, in part, similarities to a number of Ancient Woodland matters for consideration on this scheme.

3.19. This appeal was dismissed. One of the main reasons for refusal was impact to Ancient Woodland (with a particular emphasis on the upgrading of existing tracks and the ensuing suppression of ground flora/fungi within Ancient Woodland). I note the inspector found that '*the development would result in the loss and deterioration of ancient woodland and harm to a protected species. As such it would conflict with saved Policies EN1, EN12, EN13 and EN15 of the Wealden Local Plan (1998) (LP) and Policy WCS12 of Wealden District Core Strategy Local Plan (2013) (CS). These policies seek to protect the natural environment and habitats, in particular trees and woodland generally, as well as ancient woodlands. Furthermore, The Framework at paragraph 180c) is clear that development resulting in the loss or deterioration of irreplaceable habitats such as ancient woodland should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists. No exceptional reasons have been put forward in this case*.'

3.20 Appendix 1 of Ms Graham's proof of evidence provides a review of a number of other material appeal decisions in relation to Ancient Woodland.

4 IDENTIFICATION OF VETERAN TREES AND ANCIENT WOODLAND AND KEY ELEMENTS OF THE APPEAL SCHEME

4.1. Section 1.0 of the Planning SoCG provides a full description of the appeal site and the surrounding area.

4.2. The main points are as follows:

Ancient Woodland

4.3. The site is bound to the west, the south, the south east and the north east by extensive areas of ancient semi natural woodland ('Ancient Woodland') recognised by Natural England as Shermanreed Wood, Thirty Acre Shaw 1 & 2, Longwood Gill, Lake Wood, Fir Tree Grove and Budlett's Wood respectively. Shermanreed Wood and Longwood Gill also extend significantly into the main body of the site. The extent of woodland in so far as it abuts and constrains the Appeal Site is shown on plan 5719/ECO3

(Habitats and Ecological Features) on page 232 (on PDF format) of the Appellant's Environmental Statement Addendum Letter (CD1/14).

4.4. Longwood Gill is a long and thin ghyll woodland running east-west through the central area of the site and Shermanreed Wood is a wider, further elongated area of woodland that projects into the site at the northern part of the proposed developable area. The proposed housing development area to the north would sit between Shermanreed Wood to the north and Longwood Gill to the South. The southern portion of the proposed housing development site would sit between Longwood Gill to the north and Lake wood to the South. Further proposed housing would be located to the west and north of Fir Tree Grove.

4.5. The Ancient Woodland onsite and bordering the site are all currently connected, either directly or via adjoining priority habitat deciduous woodland. Whilst Fir Tree Grove is separated from the larger areas of adjacent Ancient Woodland it remains connected via a linear belt of trees and lower growing vegetation maintaining a direct link to all the aforementioned woodland areas.

4.6. It should be noted that the majority of Ancient Woodland on and abutting the site is also recognised as Priority Habitat Deciduous Woodland (England). Both Ancient Woodland and Priority Habitat Deciduous Woodland are shown at my appendices 2 and 3 below and are also available to view by the Government's MAGIC web resource:

4.7. It will be seen on the site visit that Shermanreed Wood and Longwood Gill and the other areas of woodland are remnants from a much larger wooded area that has long since been reduced to facilitate other land based activity. This can also be seen on Appendix 4.

4.8. The Ancient Woodland present on and boarding the development site appears of good general condition, structure and species diversity.

4.9. The scheme proposes up to 424 houses in the immediate context and vicinity of the Ancient Woodland. More than that, the Appeal Site proposes development which would in effect be surrounded by Ancient Woodland with extensive interface with the Ancient Woodland. It also proposes development within the Ancient Woodland (Fir Tree Grove and the SANG boardwalk). I am in no doubt that, notwithstanding the use of a buffer, that major residential development will create residential areas 'close' to the Ancient Woodland.

Veteran Trees

4.10. Since 2018, Veteran Trees are now included along with ancient trees and Ancient Woodland within section 180c of the NPPF 2023.

4.11. The Annex 2 Glossary of the NPPF 2023 states: 'Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.'

4.12. The standing advice defines Veteran Trees as having significant decay features such as branch death or hollowing. These features contribute to its exceptional biodiversity, cultural and heritage value. The age at which a tree becomes ancient or veteran will vary by species because each species ages at a different rate.

4.13. The Arboricultural Submission, including Tree Survey, RAVEN Veteran Tree Identification, Proposes Tree Retention and Removal, and Tree Protection Plan and Arboricultural Method Statement – prepared by FLAC, dated May 2022 (CD2/31) accepts Veteran Trees have been identified on the site, these are 3001, 3003-3007, 3026, 7041, 8036, 8039 and TG3013. In addition, the survey has identified trees 7053, 7054, 7058, 7076-7077 as specimens with the potential to become Veterans and given the often encountered succession gap for Veteran Trees, these specimens take on greater significance and in cases where there may be a lack of mature trees capable of reaching veteran life stage, the management strategy should aim to maintain continuity of habitat features as far as possible.

4.14. It should be noted that the arboricultural report describes in detail the current Standing Advice in regard to Veteran Trees and the required buffer zones, which should be 15 times the stem diameter of the trees with no cap. All of the recognised Veteran Trees and tree groups have been allocated a suitable buffer zone in accordance with current standing advice for Veteran Trees (x15 stem diameter). No additional buffer has been provided to the trees identified as having potential Veteran status.

4.15. I go on to address the impact of the appeal scheme on Ancient Woodland and Veteran Trees further in my evidence below.

SuDs

4.16. The scheme proposes a number of attenuation basins/SuDs ponds and it is noted that in at least nine instances, proposed attenuation ponds encroach into the delineated 15m Ancient Woodland buffer zones. Current standing advice states that development proposals within a buffer zone should not be approved. The proposed installation of SuDs structures within Ancient Woodland buffer zones should not be encouraged as these bring with them access and maintenance requirements that would undermine the effectiveness of the buffer zone as an undisturbed protective space. In addition, excavation, and construction of the SuDs structures within 15m of the Ancient Woodland overlooks the primary purpose of the buffer zones, outlined in the standing advice (CD9/3) which states that "*the proposal should have a buffer zone of at least 15m from the boundary of the woodland to avoid root damage (known as the root protection area).*" Indeed, the standing advice goes on to say that SuDs should only be approved in buffer zones if:

- *they do not affect root protection areas*
- *any change to the water table does not negatively affect ancient woodland or ancient and veteran trees*

I address these factors further below.

Drainage/Trenchless installation

4.17. Whilst drainage matters are outside of the scope of my evidence, there are impacts from the proposed SuDs arrangements that are relevant to arboricultural matters. The drainage strategy proposes below ground drilling through much of the existing surrounding Ancient Woodland to connect with ghyll streams located within the same parcels of Ancient Woodland. The ES addendum at 7.184 notes that the proposed methodology, as shown on the preliminary drainage strategy drawing of appendix 8.1 (plan number 1685-WIE-22-XX-DR-92001 Rev P11) of the Flood Risk Assessment and Drainage Strategy (CD2/82) includes locating drainage inflows at pre-existing inflow points, installation of piped connections using trenchless methodology, and use of ground-bearing, prefabricated headwalls to prevent loss of woodland. The evidence of Mr Kean is that the geology of the appeal site may lead to failure of the directional drilling methods. Access of machinery and materials alone would cause disturbance to the habitat during the construction and this has not been fully assessed. Further, the installation of headwalls within the Ancient Woodland itself would undoubtedly lead to the loss of habitat, as has been addressed by Ms Graham in her proof.

Raised walkway/cycle path through Ancient Woodland

4.18. Lastly, the scheme also proposes the installation of raised boardwalks through the Ancient Woodland areas of Fir Tree Grove and Shermanreed Wood to provide a connection between the residential area of the appeal site and the wider facilities and services of Uckfield not only for residents of the proposed development but also visitors to the SANGs. I address the impact of this below.

5 RELEVANT APPELLANT'S APPLICATION DOCUMENTS

5.1. Below I refer to a number of the appellant and application submitted documents which are particularly relevant to my evidence:

- CD2/31 Arboricultural Submission, including Tree Survey, RAVEN Veteran Tree Identification, Proposed Tree Retention and Removal, and Tree Protection Plan and Arboricultural Method Statement – Prepared by FLAC, dated May 2022
- Technical Briefing Note Project: Downlands, Uckfield Technical Briefing Note 03: Downlands & Fir Tree Grove – Assessment of Ancient Woodland and proposed boardwalk dated 28th Jan 2022 (incorporated into CD2/101 Response to WDC Ecology Consultation, prepared by Aspect Ecology, dated November 2022. Submitted to WDC on 29 November 2022).
- CD1/5 Appellant's Statement of Case, 10 May 2023
- CD1/14 Environmental Statement Addendum Letter, 13 September 2023 inc:

  Enclosure 1 – Revised ES Figure 3.3A (also at CD2/116) and Revised ES Figure 6.6A – Detailed Hard and Soft Landscaping Plan (new plan – CD1/17)
  Enclosure 2 – Environmental Statement Chapter 7A Biodiversity
  Enclosure 3 – Environmental Statement Chapter 7.2A Report to Inform a Habitats Regulations Assessment
  Enclosure 4 – New Appendix 7.4 to the ES Ecology Chapter comprising updated baseline survey information
  Enclosure 5 – Boardwalk Tree Protection Technical Note (dated 05 September 2023)

Arboricultural Submission, Including Tree Survey, Raven Veteran Tree Identification, Proposed Tree Retention ad Removal, and Tree Protection Plan and Arboricultural Method Statement (CD2/31)

5.2. The Arboricultural Submission was submitted with the application prior to appeal. This identifies trees on site including a separate assessment of Veteran Trees. Trees to be retained and those to be removed are identified as are tree protection measures.

5.3. The Arboricultural Submission identified the need to remove (using the Tree categorization method described in BS 5837:2012 at paragraph 4.5) 1x A cat and 67x B cat & 85 C cat trees along with 63x U cat trees, the latter classification of tree is not considered a significant constraint to development (due to condition) and the trees are recommended for removal by the Arboricultural Submission regardless of the outcome of the application.

5.4. The proposals would also require the removal of 4613m^2 of woodland in order to create the principal vehicle access and associated visibility splay – within woodland groups WG7008 and WG7009. Whilst the Arboricultural Submission notes that these areas are not Ancient Woodland, it is important to note that some of woodland to be removed is identified by Natural England as deciduous woodland priority habitat. The woodland proposed for removal is shown on sheet 4 of plan 40-1020.02 hatched in blue and is shown alongside the Natural England mapping showing Ancient Woodland Irreplaceable Habitat and Deciduous Woodland Priority Habitat at my appendix 5 below. I consider the loss of deciduous woodland priority habitat at this location would cause fragmentation to the adjacent woodland, including Ancient Woodland parcels. The ecological impact of this is addressed further by Ms Graham.

Technical Briefing Note Project: Downlands, Uckfield Technical Briefing Note 03: Downlands & Fir Tree Grove – Assessment of Ancient Woodland and Proposed Boardwalk Dated 28th Jan 2022 (Incorporated into CD2/101 Response To WDC Ecology Consultation, Prepared by Aspect Ecology, Dated November 2022. Submitted to WDC on 29 November 2022). (CD2/101)

5.5. Paragraph 1.2 acknowledges the existence of the Ancient Woodland constraints and the need for a minimum of 15m buffer zones. It does however note that in some places that it may not be possible to deliver a full 15m buffer and instead proposes '*sensitive construction techniques'* to avoid loss or deterioration of the Ancient Woodland. The areas specifically referred to in this paragraph are a proposed emergency access to the A22 and the paths forming part of the SANG.

5.6. Paragraph 2.2 discusses the proposed boardwalk through Fir Tree Grove and paragraphs 3.3 – 3.5 describe the condition of the woodland as neglected, in poor

condition and declining. It is important to note that the Standing Advice states '*Where a proposal involves the loss or deterioration of Ancient Woodland or ancient or veteran trees you should not take account of the existing condition of the Ancient Woodland or ancient or veteran tree when you assess the merits of the development proposal. Its existing condition is not a reason to give permission for development. A woodland or tree in poor condition can be improved with good management*.' This improvement can be implemented regardless of development proposals and is not dependent upon planning permission being granted.

5.7. Section 5 discusses the presence of trackways within Ancient Woodland and uses an example found in the adjacent Lake Wood, which is shown on the Ordnance Survey plan. However, this track is a well established trackway and appears on Ordnance Survey maps dating back as far as 1878 (see my appendix 6 below). It does not represent the installation of a new track, as the appellant's case does. The existence of this historic track does not set a precedent for the installation of a new track on the appeal scheme site.

5.8. Paragraph 5.3 states that under permitted development rights the owner could construct a forestry track which would have greater impact on Ancient Woodland than the boardwalk proposed. However, my understanding is that the relevant permitted development right applies only development 'for the purposes of forestry' and must be 'reasonably necessary for those purposes'. Further, the permitted development right would require prior approval for siting and means of construction. Given the current use of the site as an extension to Chicory Cottage it would be difficult to argue that there would be suitable justification for such an operation. Further, the prior approval process would enable the Council to control the siting of any track. In any event, there doesn't appear to be any real likelihood that such a track would be created by the landowner, absent these appeal proposals, in any event.

5.9. Paragraph 6.1 of appendix 2 discusses the felling of trees within an Ancient Woodland context and argues that trees have been regularly felled and replanted as part of routine woodland management. Whilst I appreciate the theoretical point being made here, the trees which the Appellant proposes for removal would be removed simply to facilitate development, rather than for any sustainable woodland management. In some cases, the loss of the trees may not constitute loss of Ancient Woodland, but removal of key components of the woodland unnecessarily i.e. woodland trees, I

would argue does constitute deterioration and potentially loss when considered in combination with a loss of habitat.

5.10. Section 7 considers the impact of the proposed boardwalk. Whilst it argues that it would not result in loss of Ancient Woodland the document acknowledges that there could be impacts such as shading to the woodland floor. Paragraph 10.1 suggests translocation of species but current government guidance notes that translocation of Ancient Woodland species is a compensation method available only where the 'wholly exceptional' test of NPPF 180c has been met. It is difficult therefore to rationalize this position given that the shading impacts to the woodland floor will clearly cause loss and deterioration, prompting the need for the compensatory measure of translocation of Ancient Woodland species, this point is dealt with in further detail at 6.11 below.

5.11. Paragraph 11.2 again raises the condition of the woodland as a reason to allow the proposals, contrary to the standing advice, and promotes woodland management opportunities to improve the woodland, however, these opportunities for conservation have existed historically and presently and would in no way be dependent upon development proposals being approved.

5.12. In conclusion the document acknowledges potential deterioration from shading, lighting and access impacts but states that there would be no deterioration effects, on the proviso that ground flora translocation takes place. This is a contradictory position given that translocation is a last resort compensation method that would only be necessary where deterioration or loss would occur. Positive woodland management proposals do not mitigate for instances where Ancient Woodland loss or deterioration occurs, and I do not agree with the author's view that NPPF paragraph 180c is not engaged.

Appellant's Statement of Case, 10 May 2023 (CD1/5)

5.13. At 6.29 of the Appellant's Statement of Case (CD1/5) they summarise a number of biodiversity matters that do have a bearing on arboriculture as well as a number of specific arboricultural related matters that my evidence will address. These include:

The SuDs strategy and its impact on ancient woodland

The raised boardwalks

Incorporation of ancient woodland and veteran trees into the site layout

Veteran tree protection and enclosure

Environmental Statement Addendum Letter, 13 September 2023 (CD1/14)

5.14. The arboricultural impacts discussed in this addendum can similarly be summarized as:

Ancient Woodland

Veteran Tree impact

Impact of raised cycleway

SuDs

5.15. Ancient Woodland Impacts

At 7.164 it is stated that "*The Development will not result in the loss of any woodland areas which are listed on Natural England's provisional inventory of Ancient Woodland. This has been achieved by the careful planning of the Development to avoid such losses, including the positioning of the proposed main access and secondary emergency access. During the operational phase, damage to roots and understorey and compaction of soil within the root protection area of trees will be avoided by the provision of a 15m buffer zone to all Ancient Woodland areas, as embedded mitigation within the Development. The 15m depth figure has widespread currency as the typical depth applied for residential development adjacent to Ancient Woodland*." As a result of this, the appellant (within the *Technical Briefing Note 03: Downlands & Fir Tree Grove – Assessment of Ancient Woodland and proposed boardwalk) considers that* NPPF para 180c is not engaged. For the reasons given above at 5.13 and below at 6.11 I do not agree with this assessment.

5.16. Veteran Tree Impact

At 7.102 the appellant states that all Veteran Trees will be retained as part of the development. At 7.104 the construction effects on habitats of importance within the site are considered to be minor, adverse and permanent, and could be significant at the local level (although uncertain). At 7.207 it is stated that effects on Veteran Trees during the operational phase are considered to be negligible and non-significant. I

do not agree with this assessment as I note below, at 6.26-6.27, impacts as a result of landscape engineering proposals and the bringing of development into closer proximity to Veteran Trees, has a high potential to cause direct and indirect impacts to Veteran Trees, In addition SuDs engineering proposals are likely to severely undermine and restrict the ability of identified potential Veteran Trees to achieve the very status that 'potential Veteran' categorisation seeks to secure.

5.17. Impact of raised cycleway/boardwalk

Technical Briefing Note 03: Downlands & Fir Tree Grove – Assessment of Ancient Woodland and proposed boardwalk) concludes that the "*there would be no harmful impacts on ancient woodland, and strongly net beneficial impacts on it from the boardwalk proposal*." Given the clearly identified impacts to Ancient Woodland ground flora and Ancient Woodland trees discussed at 6.11 below, I am unable to agree with this statement.

5.18. SuDs

7.184 Describes how the drainage proposals include trenchless technologies, such as directional drilling or laser guided auger bore for pipe insertion within ancient woodland habitat. In addition, the use of pre-fabricated headwalls is proposed "*(if necessary) where an inflow is proposed within the area of ancient woodland"* and it is stated that *"The method would not require excavation in the form of a trench, reception pit, nor for the installation of the headwall which would be pinned to the woodland floor*." 7.187 States that "*Following the implementation of these measures, no change the existing hydrology is expected such that neither loss nor deterioration of ancient woodland would occur*." Finally, 7.191 notes that "*Following the implementation of the drainage strategy (as embedded mitigation) operational effects resulting from changes in hydrology on Ancient Woodland are considered to be negligible, and not significant*." The evidence of Mr Kean has called this evidence into question and the impacts of this are largely dealt with by Ms Graham.

6 ARBORICULTURAL IMPACTS OF THE SCHEME

Tree Loss

6.1. Across the appeal site a number of areas would be subject to tree loss in order to facilitate the appeal scheme. According to the FLAC report (CD2/31) approximately 216 trees would be removed to facilitate development as proposed. Within these

numbers (using the quality assessment criteria found in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations) are one A category tree (T7070) and sixty seven B category trees. A further eighty five C category trees would also be removed along with sixty three U category trees. Trees of A and B category are regarded as trees of high or moderate quality with an estimated remaining life expectancy of 40 or 20 years, respectively. NPPF paragraph 131 states that development proposals should ensure that existing trees are retained wherever possible. Given that a large number of these trees are A & B category quality, I consider that their removal would be contrary to both NPPF paragraph 131 and Wealden saved policy EN12.

6.2. In addition to the above individual tree losses, as detailed below, the scheme would require the removal of 4613m2 of woodland to facilitate the proposed primary access. Almost all of this woodland removal is in an area of recognised Deciduous Woodland Priority Habitat.

Primary Access

6.3. The appeal scheme requires the removal of 4613m^2 of woodland (woodland groups WG7008 and WG7009) in order to create the principal vehicle access and associated visibility splay (appendix 5). Whilst the Arboricultural Submission (CD2/31) notes that these areas are not Ancient Woodland, it is important to note that almost all of woodland to be removed is identified by Natural England as Deciduous Woodland Priority Habitat. Only a small portion to the south to provide the visibility splay is not priority habitat. In addition, as long-standing woodland growing adjacent to Ancient Woodland, this removal would lead to loss of connectivity and create fragmentation of woodland, detrimental to Ancient Woodland species. Section 5 of Ms Graham's proof of evidence provides further detail regarding protected species. Whilst the NE mapping states a difference in habitat type, the reality on the ground is far more nuanced, with no discernible change in woodland tree cover or tree species (see appendix 7a below). To recognise the Ancient Woodland components only and to suggest that the remaining priority habitat is of less value fails to acknowledge the importance of the role all parts of the woodland belt play, in connectivity and the provision of established wildlife corridors. It is clear from available historic Ordnance Survey maps that there was contiguous woodland at this location as early as the 1870s (appendix 4). The woodland proposed for removal is shown on sheet 4 of plan 40-1020.02 hatched in blue and is shown alongside the Natural England mapping

showing Ancient Woodland Irreplaceable Habitat and Deciduous Woodland Priority Habitat at my appendix 5 below. I consider the loss of deciduous woodland priority habitat at this location would cause fragmentation to the adjacent woodland, including Ancient Woodland parcels.

6.4. At the very least there would be a physical separation of the woodland compartments, with an unnatural manmade structure between the two adjacent woodland parcels. Physical habitat connectivity via the woodland canopy therefore would only be available to arboreal species. Section 5 of Ms Graham's proof of evidence provides an assessment of the implications of habitat fragmentation to protected species. The appellant at 7.174 of the ES addendum argues that Forestry Commission guidance considers that woodlands over 5ha in size are of sufficient size to be self-sustaining, the conclusion being in this instance that no deterioration would therefore occur, the source of this guidance is not identified. However, the Forestry Commission's recently revised Forestry Standard (5th Edition) published on 3rd October 2023 (CD9/25) is unequivocal in its approach to habitat (woodland) fragmentation. It states that:

The loss of ecological connectivity through the fragmentation of woodland habitat poses a significant threat to woodland biodiversity. This is particularly the case where smaller woods are isolated by development or intensively managed agricultural landscapes. Smaller habitat areas and greater isolation between them increases the likelihood that priority species will become locally extinct.

Significant gains for biodiversity can arise from creating new habitats and restoring degraded ones, to help reverse the effects of habitat fragmentation.

I further note that the consultation response provided by the Forestry Commission (CD12/4) on 13th July 2023, amongst other impacts, clearly raises concerns about the likelihood of fragmentation of a woodland corridor of high ecological potential as well as the loss of woodland previously designated as Ancient Woodland. The Forestry Commission's emphasis therefore appears to be clearly focused on preserving existing Ancient Woodland Habitat and Deciduous Woodland Priority Habitat rather than removing it, regardless of whether areas retained are 'self-sustaining' or not, the removal of such important connecting woodland, which I understand may currently be subject to a request for review by Natural England as Ancient Woodland would be premature at this stage and in the longer term contrary to Wealden saved policy EN12, EN13 and 2023 NPPF para 131.

Emergency Access

6.5. The appeal scheme proposes an emergency access to the A27 to the north of the site between Shermanreed Wood and Thirty Acre Wood, both areas of Ancient Woodland. The ES addendum (CD1/14) at 7.172 acknowledges that this will result in fragmentation and separation of the contiguous woodland. It is suggested that the new access would utilise an existing gap between the inventory woodlands, 3m wide resulting in no loss of Ancient Woodland. Again, the emphasis on impact, in isolation, to Ancient Woodland alone dismisses the importance of the adjacent non Ancient Woodland and its role in providing direct connection and continuity of canopy cover. The 'gap' really only exists on the woodland mapping, it does not reflect the actual scenario on the ground, where no defined paths exist, there are worn desire lines where people using the layby have entered the woodland but these do not cause any physical separation between the woodland canopy or currently cause any fragmentation (see selection of photos at appendix 7b showing the woodland edge abutting the layby). The construction of a new emergency access at this location would cause fragmentation (for the reasons provided above and within Ms Graham's proof of evidence) and disconnection and requires facilitation tree removal of one A category tree 7070.

6.6. In addition, the inability to provide a buffer to the Ancient Woodland in line with current standing advice, due to the lack of space is considered unacceptable given that the wholly exceptional test of NPPF 180c is not met. The suggestion that the emergency access would only used 'intermittently' is not sufficient justification for failing to provide the required Ancient Woodland buffer. The fact that there is no actual loss of Ancient Woodland does not negate the need for a buffer, and in fact the primary purpose of the buffer is to avoid damage to Ancient Woodland tree roots, an impact that has been specifically identified as likely at this point given the identified (and inevitable) RPA encroachment (7.165 of the ES addendum) to the trees here. As is well understood, the default position advocated at paragraph 5.3 by BS 5837:2012 Trees in relation to design, demolition, and construction – Recommendations (CD9/8) is that structures are located outside the RPAs of trees to be retained unless there is an overriding justification with supporting technical solutions that prevent damage to the tree(s). The appellant has put forward the view that the appropriate technical solution at this point would be a 'no dig' path – in effect a path formed above ground level. Whilst the appellant maintains that this would have no effect on the underlying woodland soil, it would of course cover and suppress the functionality of the soil

beneath the access road and it would cease to be able to function as woodland soil, i.e. it would no longer host woodland species or be capable of providing a suitable environment for natural woodland regeneration. This method can be appropriate for individual trees that have their RPAs encroached upon by development, but to apply it in a woodland context overlooks the fact that the area of woodland covered by the path/track is lost as functioning woodland soil, resulting in deterioration. The importance of an emergency access would dictate that it would need to be available 24 hours a day, 364 days a year and completely free from hindrance or obstruction. In reality this would mean that frequent work would be required to cut back any encroachment (facilitative pruning) from either side and that trees in close proximity to the emergency access would need to be removed or significantly reduced. This would exacerbate the effect of the fragmentation and there would be a significant gap causing canopy separation in perpetuity where it does not currently exist. There is some uncertainty in regard to tree impacts as a result of the proposed emergency access, in that the Arboricultural submission (CD2/31) suggests only one tree is removed (7070), however the addendum notes that there would be the loss of 0.04ha (7m x 55m) within area W7, to create the proposed secondary emergency access and pedestrian link. This loss of deciduous woodland priority habitat would be contrary to Wealden saved policy EN12 and 2023 NPPF para 131.

SuDs feature

6.7. To the north west of the appeal scheme site is a proposed SuDs feature. In order to accommodate this, an area of woodland would need to be removed. This is described (in the ES addendum at 7.208) as approximately 0.54ha of secondary deciduous (non-ancient) woodland. This area is identified on the FLAC survey (CD2/31) as TG7024 and described as a B category area of woodland (mixed native deciduous species) comprised of relatively young, planted trees alongside much more mature woodland, with no apparent significant defect. This area of woodland can be seen at appendix 7c below.

6.8. The SuDs feature itself encroaches significantly into the 15m buffer zone to the adjacent Ancient Woodland at Shermanreed Wood. Given that buffer zones have a primary role in protecting Ancient Woodland tree roots, the construction necessary to form the feature would involve significant excavation, ground profile and level changes precisely within areas likely to host Ancient Woodland soils, roots and mycorrhizal networks. In the dense growing environment of the woodland, more than

one tree will share the same soil volume. Excavation or other disturbance of the soil over even a small area is therefore likely to affect more than one tree's root system. The removal of existing woodland in order to make room for the SuDs features with the justification that new woodland will be planted elsewhere on the site is counterintuitive and again fails to recognise the role that existing woodland plays on the site in providing connectivity and in this case, acting as a pre existing buffer to the adjacent Ancient Woodland and Deciduous Woodland Priority Habitat. Tree clearance and construction of the SuDs feature partly within the 15m Ancient woodland buffer is contrary to the standing advice (CD9/3) in that it is highly likely that tree RPAs will be encountered and that the presence of the SuDs feature would not be part of the green infrastructure of the area or form semi-natural habitats such as woodland or a mix of scrub, grassland, heathland and wetland. There are a number of other SuDs features that encroach Ancient Woodland buffers and cause similar impacts and these are described in further detail below. In my mind it is clear SuDs at these locations will not be able to be accommodated without direct and indirect impacts upon Ancient Woodland leading to its deterioration contrary to current standing advice and NPPF 180c.

Boardwalks

6.9. The appeal scheme relies upon a boardwalk feature to link the appeal scheme site to the proposed SANG to the north and a boardwalk feature to link the appeal scheme site with Snatts Road to the south east within Fir Tree Grove. The formation of the southeastern boardwalk requires the removal of a number of trees. This was initially assessed in the FLAC technical note of 28/01/2022 (CD2/101) as being 37 trees of low or moderate quality. The form and shape of the boardwalk has been substantially altered since then and in the iteration presented for the appeal scheme the boardwalk now meanders significantly and the exact number of trees to be removed for the Fir Tree Grove boardwalk is not specifically identified but these would form a component of the overall loss of 216 trees discussed at 6.1. Tree removal as a result of the SANG boardwalk is rather vague and the technical note provided with the ES addendum suggests that a small number of trees, fewer than 20 'might' be removed. Given the application for the SANG and the Fir Tree Grove is full rather than outline it is, in my opinion, unacceptable that the Appellant cannot apparently identify how may trees will need to be removed. Further, given the need to proactively maintain and manage the safety of the boardwalk, as with the emergency access, it is likely that frequent work would be required to cut back any encroachment or overhang

(facilitative pruning) from above and either side and that trees in close proximity to the boardwalk would need to be removed or regularly cut back to avoid any risk to users. The effect of this would be to further enlarge the open space around the structure which would be detrimental to canopy connection and noise suppression.

6.10. The removal of the trees and the installation of the boardwalk will in effect sterilise this area of Ancient Woodland. The suppression of the Ancient Woodland soils by the boardwalk will prevent any form of natural regeneration and it would of course be impossible for naturally distributed tree seeds to germinate and grow beneath the boardwalk, which would act as a physical barrier to both light and space for future growth in perpetuity. Section 5 of Ms Graham's proof of evidence discusses the impacts of overshading to Ancient Woodland ground flora in more detail. The dynamic nature of Ancient Woodlands dictates that tree establishment and growth can occur in many different ways and in any part of the woodland, seeds can be disbursed by wind and transported by water courses and seeds/nuts can be deliberately planted and/or lost by woodland birds and small mammals. The boardwalk would prevent any of this natural regeneration from occurring in the areas where it covers the Ancient Woodland floor and immediate surroundings. The current condition of this area of woodland cannot be used as justification for the proposals as has previously been noted, the standing advice is very clear on this. Having regard for the lengthy, but not exhaustive list of direct and indirect impacts to Ancient Woodland in the standing advice, it must be concluded that the boardwalk causes a direct loss of Ancient Woodland by permanently damaging the functionality and regenerative capacity of the woodland soil and habitat directly beneath the boardwalk.

6.11. The ES addendum further notes that the boardwalk may also require the translocation of a small number of hazel coppice stools from within the woodland. Translocation is a compensation method that the standing advice (CD9/3) makes clear is a last resort and the need to translocate Ancient Woodland components is a clear indication that there would be loss or deterioration as a result of the boardwalk proposal contrary to the standing advice and NPPF 180c, with the wholly exceptional test not having been met.

6.12. I note that paragraph 19. of the aforementioned appeal decision at Bird in Eye Farm, South of Bird in Eye Hill, Framfield, Uckfield TN22 5HA ref: APP/C1435/W/22/3307820 made specific reference to path upgrades within the Ancient Woodland habitat. Whilst this scheme did not involve the loss of any trees or

translocation of woodland species, the Inspector still found that the proposal would result in the loss of Ancient Woodland because of the need to clear existing ground flora/fungi and understorey to upgrade the path and deterioration of Ancient Woodland due to the suppression of regeneration caused by the installation of the path above the woodland floor.

Suds Impacts to Trees

Drilling

6.13. The drainage strategy proposes below ground drilling through much of the existing surrounding Ancient Woodlands to connect with ghyll streams located within the same parcels of Ancient Woodlands. Proposed methodology includes "*locating drainage inflows at pre-existing inflow points, installation of piped connections using trenchless methodology, and use of ground-bearing, prefabricated headwalls to prevent loss of woodland*." Mr Kean's evidence has raised concerns in relation to methodology in light of the appeal site's geology. Further, access of machinery and materials, noise and lighting during construction would cause disturbance to the habitat during the construction and this has not been fully assessed. BS 5837:2012 notes at paragraph 7.7 "*That particular care should be taken in the routeing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA*."

6.14. I am aware of a relevant appeal decision, Clear View Farm, Chiddingly Road, Horam, Heathfield TN21 0JJ ref: APP/C1435/W/23/3317468 (CD4/12) dated 15/08/2023 that has, in part, similarities to a number of Ancient Woodland matters for consideration on this scheme. In this instance the scheme proposed trenchless installation methods, with a single pipe located up to approximately 5m below ground level and installed via a chamber which would be located within the buffer zone. The Inspector in this instance identified a significantly negative feature within the woodland (a very large existing manure pile) which had led to soil beneath, in his opinion, as becoming degraded to a point where it was unable to support Ancient Woodland species, being devoid of an upper soil horizon with only a clay substrate beneath the manure pile. It is important to note that the same conditions do not apply on the appeal scheme site, in any of the proposed pipe connection locations. Whilst current standing advice (CD9/3) is very clear that the existing condition of Ancient Woodland should not be taken into account where a proposal involves the loss or deterioration of Ancient

Woodland or Ancient or Veteran Trees, however the Inspector was of the opinion that, in this instance, the existence of the manure pile was a significant factor and it's removal as a result of the drainage proposals would improve the condition of the Ancient Woodland as per the same standing advice.

6.15. The Inspector was further of the opinion, in this instance, that had the soil beneath the manure pile been capable of supporting Ancient Woodland species that the pipe proposal would have been at a sufficient depth (5m) so as not to interfere with nutrient rich soils which, in his opinion, generally lie closer to the woodland's surface. It is important to note that the Clearview Farm scheme involved one pipe connection in a degraded location, where soil analysis had taken place, the current appeal scheme site proposes eleven separate connections all within Ancient Woodland, where there is no obvious habitat degradation as there was at the Clearview Farm site.

6.16. Paragraph 4.14 of the Appellants Flood Risk Assessment Document (May 2022) states that '*The proposed outfalls would be constructed using a directional drilling technique (Appendix G) with the required cover provided for the tree roots to provide minimal disruption to the Ancient Woodland during construction. Further information and details would be provided post planning*.' No further information is provided other than the proposed installation of pre-fabricated headwalls at paragraph 4.31. A further technical note from Augst 2022 in response to the Councils Drainage Officer's comments, states that '*It should be acknowledged that the outline application provides an indicative masterplan and the drainage strategy demonstrates that a viable solution for managing surface water runoff is available within the opportunities and constraints of the Site. However, as layout is a reserved matter on this application, the location of the basins may change as part of the reserved matters application*.' Appendix G referred to above is simply an email chain between the appellant and their preferred trenchless drainage contractor and offers no additional information or reassurance that the proposal can be implemented with no loss or deterioration of the Ancient Woodland, other than a rather throw away statement that states "*We have drilled under ancient woodlands before, so this is not a problem for us*." Whilst BS 5837:2012 discusses trenchless methodology at paragraph 7.7.2 it is important to note that Ancient Woodland habitat is not mentioned at any point within BS 5837:2012 and it does not take into account the irreplaceable nature of this habitat or the highest weight that it holds in planning terms. It should also be pointed out that BS 5837:2012 was published in 2012, before the wholly exceptional test was adopted by the NPPF in 2018 and has not been updated since. At present it is not demonstrated that a

trenchless solution is deliverable without any loss or deterioration to the Ancient Woodland habitat on the appeal scheme site.

Headwalls

6.17. At 11 locations the SuDs are proposed to have outflows directionally drilled underground through Ancient Woodland, emerging in Ancient Woodland by the ghyll streams. This will cause direct damage to the habitat and species where drilled pipes emerge through Ancient Woodland soils, levelling and siting proposed headwalls and ongoing impacts through proposed permanent siting of what is described as "ground-bearing, prefabricated headwalls." Specific detail has not been provided as to the nature of these headwalls but a typical example can be found at appendix 8. Again, no further information is provided in relation to how these would be installed, other than a statement in both the Flood Risk Assessment and the addendum that the headwall would be 'pinned' to the woodland floor. It is not exactly clear how this pinning would be carried out and what measures would be in place to ensure fixings are not disrupted by fluctuations of flow and whether the installation method would be sufficiently robust. Turning again to the Clearview Farm appeal discussed above, the inspector was of the opinion that the installation of the headwall, to join with the single drilled connection, could be considered via a flexible approach which could potentially allow for the siting to avoid sensitive biodiversity features, as at the time of his site visit he acknowledged the presence of plant species along the bank. It is important to underline the fact that this was a wholly site specific decision and as previously noted, the standing advice (CD9/3) is very clear that the existing condition of Ancient Woodland should not be taken into account where a proposal involves the loss or deterioration of Ancient Woodland or Ancient or Veteran Trees. A single piped connection and associated headwall through what was described as a negative feature of the woodland is in no way a like for like situation with the proposals at Downlands.

Tree loss

6.18. The SuDs proposals result in direct tree loss as described above at 6.7 and detrimental impacts to potential Veteran Trees discussed in paragraph 6.30 below.

Buffer Zone encroachment and compaction

6.19. It has been shown above that a number of SuDs features encroach into the Ancient Woodland buffer zones. In fact the Appeal Scheme proposes 13 SuDs ponds on the site, 9 of these are proposed within the minimum 15m buffer zone for Ancient Woodland. This includes the SuDs pond on sheet 2 of the hard and soft landscape plan at 7 metres, the SuDs on sheet 3, at 4 metres and SuDs on sheet 4, at 7 metres. As noted at paragraph 6.6 above, construction of the SuDs features partly within the 15m Ancient Woodland buffer is contrary to the standing advice (CD9/3) in that it is highly likely that tree RPAs will be encountered, resulting in direct impacts from severance and compaction, and that the presence of the SuDs feature would not be part of the green infrastructure of the area or allow for the formation of semi-natural habitats. I further note that the hard and soft landscaping scheme (CD1/14) shows several proposed informal/mown paths encroaching into the 15m buffer zones. This would lead to additional recreational pressure within the buffer zones, causing root compaction and trampling. It would undermine the role of the buffers as semi natural habitats and would be contrary to the standing advice (CD9/3).

6.20. The Standing Advice (CD9/3) is clear that decision makers should only approve sustainable drainage schemes within Ancient Woodlands or buffer areas if:

- they do not affect root protection areas
- any change to the water table does not negatively affect ancient woodland or ancient and veteran trees

As I have stated above, here the SuDS basins will affect root protection areas of trees within the Ancient Woodlands. This is a clear breach of the standing advice. The potential for hydrological effects is addressed by Mr Kean and Ms Graham.

Ancient Woodland Impacts

Tree loss

6.21. Tree losses within the Ancient Woodland areas have been covered above.

Boardwalk

6.22. The implications to tree retention and future tree growth as a result of the boardwalks have been discussed above at 6.9. There are however a number of other impacts that arise as a result of the proposed boardwalk solution. Activities associated with the construction of the boardwalk are likely to cause a number of indirect impacts, as identified within the standing advice (CD9/3) including disturbance to wildlife, noise, damaging or destroying woodland soils, ground flora or fungi and damaging or compacting soil.

6.23. The proposed mechanism for supporting the boardwalks is a screw pile solution. The FLAC Technical Note, 210823 (Enclosure 4) of the ES addendum (CD1/14) makes reference to BS 5837:2012 and states that the guidance 'specifically endorses the use of piles for foundation systems in tree root protection areas, and does so with regards to the relatively large-sized piles required for building foundations.' Whilst I do not dispute this fact, it is clear that guidance of course is not referring to development within irreplaceable habitat (Ancient Woodland) and does not take account of NPPF 180c. Further the Arboricultural Method Statement suggests that ground truthing of screw pile locations within RPAs may be carried out using an air lance, this would be wholly inappropriate for the habitat and would significantly disrupt Ancient Woodland soil structure. The screw piles are described in the ES addendum as minimally invasive and specifically designed for use in tree root protection areas as they avoid harm to roots. This claimed avoidance of harm can only be achieved by the manual positioning of the screws to avoid contact with tree roots. This would of course be entirely dependent upon the diligence of the person installing the screws. There is no 'automatic' avoidance mechanism built into the system but the FLAC Technical Note, 210823 (Enclosure 4) of the ES addendum describes how there is scope for manual realignment. Here it is stated that the screws can be located to avoid high-density rooting areas by adjusting pile spacing (within the maximum). The spacing maximum dimension is not identified at this stage. It is assumed that there are limitations to the amount of onsite readjustment that can take place and that is some cases it may simply not be logistically possible to relocate piles. I also note that the plan for the Fir Tree Grove Boardwalk number 2001061-137 Rev B (CD2/19) and the plan for the SANG boardwalk number 2001061-142 Rev A (part of Amended Plan Consultation) both state that the screw piles will be placed at intervals 'to be specified by structural engineer,' suggesting a more fixed requirement in construction than the onsite flexibility suggested above. Given the fact that the boardwalks are predominantly within wooded areas where there would be dense networks of

interlinked tree roots, the task of avoiding any damage would be seriously hampered. The methodology therefore does have the potential to cause harm to Ancient Woodland tree roots and until installation commences it is not possible to say with certainty how significant the direct impacts would be.

6.24. Further, the impacts of the boardwalks upon ground-flora are addressed by Ms Graham.

Maintenance

6.25. There are large mature trees along the edges of the proposed boardwalk within Fir Tree Grove within the zone of influence in terms of tree risk management purposes. Under well-established tree risk assessment protocol of assessing frequency (presence of people) against risk (severity of potential incident), creating a boardwalk that is intended to be used frequently by people as opposed to the current situation, where the track is used rarely, will result in an immediate and ongoing requirement for removal or reduction of large mature Ancient Woodland trees along the edge of the boardwalk, and of trees within falling distance of it, widening direct Ancient Woodland impacts on the woodland. The landowner would be liable under the Occupiers Liability Act 1957 and 1984 to ensure that trees under their control did not pose a foreseeable risk (i.e. a danger due to the state of the premises or things done or omitted to be done on them) to users of the land, both invited and uninvited. It is quite normal for landowners, where other people may use their land (invited or not) to establish tree risk management programmes and it is likely that this would be a requirement on the Appeal site, or at the very least a prudent course of action by any future duty holder. A number of trees are identified within the ES addendum as being of sub-optimal health (4.4.37) including those subject to ash dieback, leaning in the ground, windblown, hung-up, providing standing deadwood/Ancient Woodland habitat and/or in natural states of decay. Such prescriptive management of the Ancient Woodland would cause direct deterioration of Ancient Woodland habitat but also increase indirect impacts as sound, light and other impacts would have the ability to travel further and have a negative influence on a greater area of Ancient Woodland. The future pressure for tree removal would, in my view, become and remain high, including perceived risks and risks from falling branches, preventing a full-sized or complete canopy formation along the length of the boardwalk, leading to Ancient Woodland habitat fragmentation and deterioration.

Veteran Tree Impacts

6.26. Across the appeal scheme site there are a number of trees that have been identified as Veteran or having Veteran potential. Veteran trees are regarded as irreplaceable habitat and have the same weight in planning terms as Ancient Woodland. The standing advice (CD9/3) states that "You should refuse planning permission *if development will result in the loss or deterioration of ancient woodland, ancient trees and veteran trees unless both of the following applies:*

- *there are wholly exceptional reasons*
- *there's a suitable compensation strategy in place (this must not be a part of considerations of wholly exceptional reasons) - see paragraphs 33 and 34 of the planning practice guidance on compensation guidance*"

The identification and distribution of Veteran Trees on the appeal scheme site is described in more detail in 4.13 above.

Sudden change to landscape around Veteran Trees

6.27. At para 7.105 of the ES addendum it is stated that '*Veteran trees are not generally susceptible to other types of effects that might arise during construction, such as those arising from dust deposition, or light pollution or changes in air quality*.' Notwithstanding this comment, Veteran Trees are highly sensitive to changes in their surrounding landscape and have limited resources for change, consequently sudden intensification of the use of the land around Veteran Trees does have the potential to cause detrimental impacts. Ancient and Other veteran Trees: Further Guidance (CD9/7) clearly states at 3.6 that "*Veteran trees have special value and are particularly vulnerable to the disturbance that inevitably results from a fundamental change of land use, such as construction*." It is noted that Veteran Trees 8036 and 8039 are in close proximity to the proposed boardwalk in Fir Tree Grove. Whilst the Veteran Tree buffers according to standing advice have been applied, I note that there are additional proposals to carry out extensive cut and fill activities adjacent to these trees. Whilst the nominal RPA and the additional Veteran Tree buffer have been applied in these cases it is well recognised that roots from Veteran Trees can extend way beyond these arbitrary calculations. By way of example, Sharon Hosegood Associates, a highly respected independent Arboricultural Consultancy have pioneered the use of ground penetrating radar to identify tree roots and recent research carried out, in the field, on a number of Veteran Trees of varying species and size, published in the Arboricultural

Association Journal Issue 180 Spring 2018, has shown in every example that their roots went beyond the capped 15m BS 5837:2012 RPA calculation. This research is appended at my appendix 9. Therefore, a reliance upon BS 5837:2012 and current standing advice does not always ensure complete avoidance of impacts to Veteran Trees. In fact, current best practice guidance in Ancient and other Veteran Trees: Further guidance on management (CD9/7) at section 3.6 notes that the minimum extent of the RPA should be formulated as per current standing advice, although should be subject to modification, if appropriate, on the basis of a thorough and expert investigation of the extent of the root system and of the soil conditions.

Increased pressure on Veteran Trees

6.28. Veteran Trees by their very nature are trees that exhibit a number of unique habitat features that in conventional arboricultural terms would be regarded as defects. Understandably therefore this often brings with it a heightened perception of risk. I note that Veteran Trees 8036 and 8039 are within the area designated for a boardwalk connection. It is further noted that Veteran tree 8039 is identified in the ES addendum as having major stem decay and being 'largely hollow.' It is likely therefore that these trees will be subject to more stringent safety management regimes which could lead to overzealous or excessive management detrimental to their long-term retention. I further note that the FLAC report (CD2/31) specifies some remedial work to 8036 in the form of '*stabilising dead wood according to occupancy levels beneath the crown*,' suggesting that there will be a new need to carry out tree safety work to avoid conflict with pedestrians/boardwalk users. When considering the management of existing or developing risks the above guidance is clear and stipulates at 3.5.2. that "*When managing risk, the target should be moved unless tree work is the best solution for the tree as well as for the target. For example, a footpath should be diverted or a car parking bay relocated in preference to carrying out potentially harmful tree work."* Given that one of the key characteristics of a Veteran Tree, as identified by the above guidance, is a large quantity of dead wood in the canopy and that the guidance states that dead branches should be retained for the habitats that they uniquely provide for many species, some of which are endangered, unless the assessed risk is unacceptable, the proposed works cannot be argued to be the best solution for the tree and are at odds with the guidance.

6.29. Rather than creating new paths in the proximity of Veteran Trees, as the appeal scheme seeks to do, current best practice guidance referred to above at 3.5.2.1.

recommends an entirely opposite approach "*Public facilities should, if possible, be located to avoid concentrating people or high value property where they could be harmed in the event of the failure of trees (veteran or otherwise). This option of "moving the target" should be preferred to tree work that might otherwise be required to mitigate the risk but would harm the trees. In particular: long-term facilities such as play areas, permanent car parks, seats and paths that already exist near veteran trees should preferably be re-located."*

Impact of SuDs on future Veteran Trees

6.30. I note that trees 7053 and 7054 located at the tip of Longwood Gill are identified in the arboricultural survey as potential future Veteran Trees. Current best practice guidance notes (CD9/7) at paragraph 3.1 that one of the most important management objectives when looking after Veteran Trees is to ensure continuity of habitat. One of the key components of this objective is to ensure that trees with Veteran potential are protected to avoid generation gaps in succession of Veteran Tree habitat. It is therefore of great concern that the proposals show a SuDs feature to be constructed both within the RPA of 7053 and within the buffer zone of the Ancient Woodland that the trees occupy. This is at odds with the *Standing Advice* which clearly says you should only approve sustainable drainage schemes [in buffer zones] if:

- they do not affect root protection areas
- any change to the water table does not negatively affect Ancient Woodland or ancient and veteran trees

The current undisturbed rooting environment of these two trees can be seen in my appendix 7d below. For these trees to fulfil their potential as Veterans, their rooting areas should be undisturbed to allow future occupation by their developing roots and to avoid soil compaction, changes in levels and potential root severance. It should be noted that as these trees are not formally recognised as Veterans per se, the Veteran Tree buffer has not been applied. Even so, at this stage the BS 5837:2012 RPA of 7053 is encroached upon by the SuDs feature and had the Veteran Tree buffer been applied (even in an illustrative context) it would be clear that there would be encroachment to both trees. Consequently, the ability to reach Veteran Status would be compromised by the works required to construct the SuDs feature at this location. Their value as potential successor Veteran Trees is significantly compromised by the loss of rooting volume and level changes that would occur. The installation of a SuDs

feature in this location does nothing to enhance their future potential as Veteran Trees and would actively prejudice it.

6.31. The impacts on the Veteran Trees and Ancient Woodland detailed above engage with section 180c of the NPPF, requiring the Appellant to demonstrate wholly exceptional reasons to justify the harm to Irreplaceable Habitat and the availability of a suitable compensation strategy. Unless the Appellant can do both of these things, paragraph 180c of the NPPF is clear that planning permission should be refused. Further, I consider that significant weight should be given to harm to potential future Veteran Trees although I acknowledge that these do not come within the definition of 'Veteran Trees' in the NPPF.

6.32. Whether or not exceptional circumstances exist will be addressed by Mr Robins in his evidence (having been raised for the first time in the Appellant's proofs of evidence). However, I would simply note that if development is likely to harm Ancient Woodland or Veteran Trees, unequivocal and credible evidence should be prepared to justify the exceptional need and benefits. Simply restating a national drive for housing, or need for new transport infrastructure, does not constitute exceptional circumstances, ref: Woodland Trust's Planner's Manual (CD9/4).

6.33. Finally, if the Appellant presents a compensation strategy as part of its proofs of evidence then I reserve the right to comment upon it. However, I would be concerned that any compensation strategy has not formed part of the ES and has not been consulted upon.

7 SUMMARY AND CONCLUSIONS

7.1. The Council refused planning permission for several reasons. One of those, putative reason for refusal 2, sets out that the proposals fail to retain important trees, Ancient Woodland and will to loss and deterioration of Irreplaceable Habitat (RfR2) (Ancient Woodland and Veteran Trees).

7.2. The Council therefore considers the scheme does not meet a number of local and national policies. Namely local policies EN12 and EN13 of the Saved Local Plan 1998 relating to trees, woodland and Ancient Woodland, and broader policies relating to biodiversity WCS12 in the Core Stagey and relating to sustainable development WCS14.

7.3. I have explained that the proposal would necessarily result in the loss of trees and woodland contrary to NPPF 131.

7.4. The presence of Ancient Woodland has been identified through the Ancient Woodland Inventory and its presence is not disputed (however the acceptability of the use of the Ancient Woodland along the route of the proposed boardwalks is disputed - see below).

7.5. The Appeal Scheme will cause loss and deterioration of Ancient Woodland. This is addressed in my proof and the evidence of Ms Graham. It will cause pressure on existing Veteran Trees and be detrimental to the development of potential Veteran trees (by allowing works and ongoing impacts within their RPAs and buffer zones). This is further supported by the evidence of Ms Graham. When arboriculture and ecology are considered together it is clear that there would be loss and deterioration of Ancient Woodland in this case and that the loss and deterioration would be significant. The Appeal Scheme does not meet the robust requirements of NPPF 180c, nor meet its exceptions.

7.6. I conclude that the Appeal Scheme is indeed – as the Council alleges – contrary to the various local and national policies cited in RfR2.

Statement of truthfulness and professional endorsement

7.7. Pursuant to Planning Inspectorate guidance 'Procedural Guide: Planning appeals – England Updated 13 June 2023), in particular Section 13 – expert witness, I confirm that the evidence and opinions which I have prepared and provide in this Proof of Evidence herein are my true and professional opinions.

David Massheder

8 APPENDICES

1 Tree & Landscape Officer Consultation Comments for Planning Application WD/2022/2198/MEA, provided on 17/10/2022

Subject: WD/2022/2198/MEA Land at Downlands Farm, Uckfield

Dear Claire,
I have the following tree & landscape comments in respect of this outline application:

Situation & location

The site is significantly constrained by ancient and semi natural woodland habitat (Ancient Woodland), areas of which project deeply into the centre of the site and influence the developable space. This habitat connects to a wider network of similar features. Current planning policy guidance stipulates that: 180c - development resulting in the loss or deterioration of irreplaceable habitats (such as Ancient Woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Ancient Woodland (AW) and Veteran Tree (VT) Impact

The proposal would result in a sudden and abrupt change leading to an intensification of the use of the site. A previously undeveloped space would become an urban edge feature to the existing adjacent woodland and Veteran Trees making them far more vulnerable to direct and indirect impacts such as those described below:

- Higher levels of noise
- Light pollution
- Disturbance to wildlife
- Vehicle noise and pollution
- Increased human activity, including trampling, creation of desire lines, fly tipping, cat predation etc
- Veteran Trees are sensitive to sudden environmental change and are particularly vulnerable to the disturbance that inevitably results from a fundamental change of land use, such as construction.

- Changes to air quality can also adversely affect organisms that contribute to the irreplaceable nature of Ancient Woodlands and veteran trees (lichens, bryophytes, mycorrhizal networks etc).

Proposed buffer zones

In line with current standing advice the application proposes a 15m buffer around all Ancient Woodland and a x15 stem diameter buffer around veteran trees. Standing advice however notes that where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone. The size and scale of the development and it's interface with the existing Ancient Woodland and VT constraints suggests that this is an appropriate case where site specific larger buffers should be considered. In the case of Thirty Acre Wood for instance, the development proposal would lead to the woodland being encased within an urban structure, the A22 to the west and the proposed built form to the north and south. Similarly, Longwood Gill would become surrounded by built form and new hard surfacing to the north, south west and east, and its current protective isolation would be lost.

SuDs

It is noted that in at least nine instances, proposed attenuation ponds encroach into the delineated 15m Ancient Woodland buffer zones. Current standing advice states that development proposals within a buffer zone should not be approved. The proposed installation of SuDs structures within Ancient Woodland buffer zones should not be encouraged as these bring with them access and maintenance requirements that would undermine the effectiveness of the buffer zone as an undisturbed protective space.

Drainage connections using trenchless methodology

The drainage strategy proposes below ground drilling through much of the existing surrounding Ancient Woodland to connect with ghyll streams located within the same parcels of Ancient Woodland. Proposed methodology includes "locating drainage inflows at pre-existing inflow points, installation of piped connections using trenchless methodology, and use of ground-bearing, prefabricated headwalls to prevent loss of woodland." I am sceptical that this engineered solution would be as straightforward and harm free as it is presented and I am unconvinced that there would be no impact, direct or indirect, to the Ancient Woodland

habitat from such a technical undertaking. Access of machinery and materials alone would cause disturbance to the habitat during the construction and this has not been fully assessed. The starting point of the standing advice is avoidance of impact to Ancient Woodland and the proposal to actually employ the Ancient Woodland habitat to make the proposal acceptable seems to be contrary to this advice. The caveat of Para 181c of 'wholly exceptional circumstances' is not met in this case.

Boardwalk connection to Uckfield Town

The application proposes the installation of a raised boardwalk through the south east corner of the site to act as a pedestrian connection to local services. The installation of an unnatural manmade feature, which incorporates lighting units, directly into Ancient Woodland habitat again raises a concern as an unwelcome and unnecessary intrusion into the Ancient Woodland habitat. The connection also encourages an intensification of use and would involve the removal of a linear swathe of woodland trees in order to accommodate the structure. The tree removals are detailed on FLAC 40-1020-02 within the AIA and shows that a number of the trees are categorised as B quality under BS 5837:2012 standards, which would presume a remaining contribution of at least 20 years. However, using the BS 5837:2012 classification method for trees within woodland overlooks their habitat importance as dead/decaying wood and this appraisal format is generally more appropriate for amenity contexts rather than habitat assessment.

Objection

I am unable to support the application in its current form as the cumulative effects and impacts to the Ancient Woodland habitat, as outlined above, are considered to be contrary to NPPF (2021) para 180c and saved WDC Policy EN13.

Kind regards,

David Massheder | BA (Hons), Dip Arb L4 (ABC) | Tree & Landscape Officer
Planning & Environmental Services, Wealden District Council

2 DEFRA Ancient Woodland Irreplaceable Habitat layer map from MAGIC



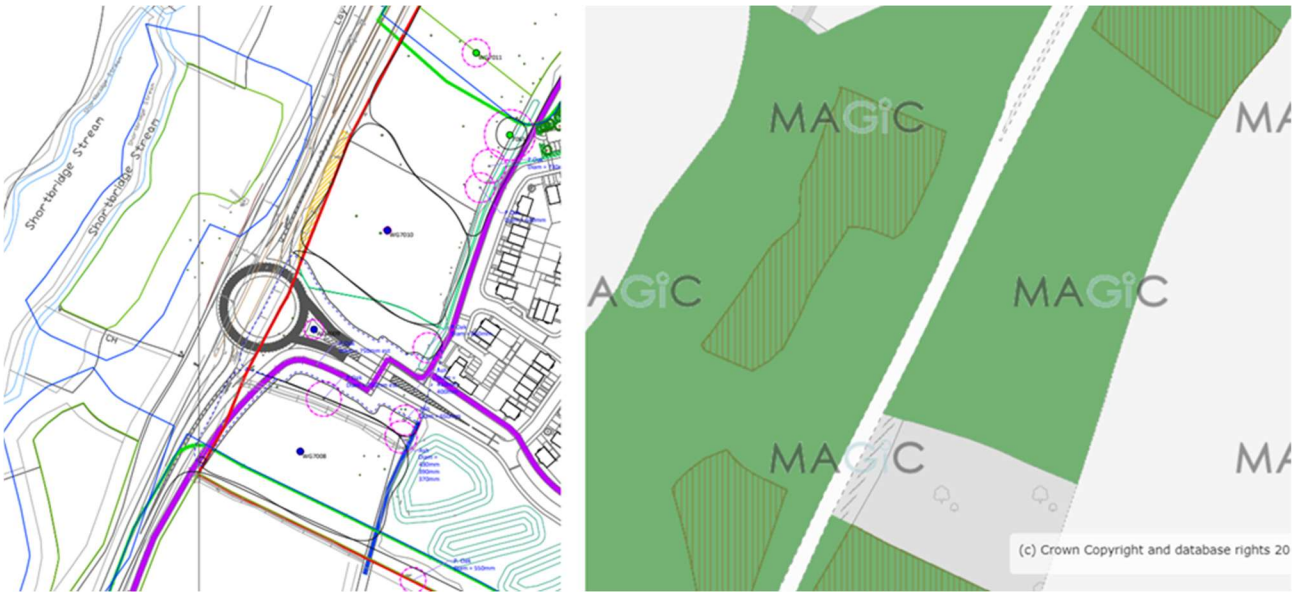
3 DEFRA Deciduous Woodland Priority Habitat layer map from MAGIC



4 Comparison of wooded areas lost since 1870s to date. Mapping from National Library of Scotland (https://maps.nls.uk/geo/find/#zoom=6.0&lat=53.39954&lon=-3.03050&layers=102&b=1&z=0&point=0,0) and MAGIC (https://magic.defra.gov.uk/MagicMap.aspx) - Sussex Sheet XL Surveyed: 1873 to 1874, Published: 1878 Size: map 61 x 92 cm (ca. 24 x 36 inches), on sheet ca. 70 x 100m (28 x 40 inches).



5 Primary access woodland removal proposals as shown on sheet 4 of plan 40-1020.02 (CD2/31) hatched in blue and alongside Natural England mapping showing Ancient Woodland Irreplaceable Habitat and Deciduous Woodland Priority Habitat.



6 6" Ordnance Survey map showing existing trackway trough Lake Wood in 1878.



National Library of Scotland
Leabharlann Nàiseanta na h-Alba

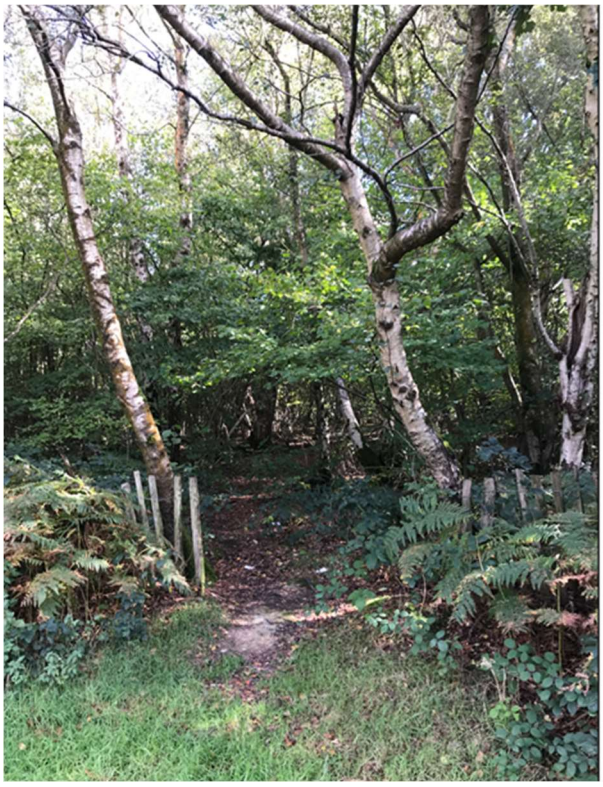
Sussex Sheet XL
Surveyed: 1873 to 1874, Published: 1878
Size: map 61 x 92 cm (ca. 24 x 36 inches), on sheet ca. 70 x 100 cm (28 x 40 inches)

7 Appeal Scheme Site Visit Photographs taken by the author on 14/10/2023.

a) Photograph taken on 14/10/23 showing woodland belt adjacent to A22 looking towards proposed primary site access.



b) Selection of photographs taken on 14/10/23 showing the woodland edge abutting the A22 layby













c) Photograph taken on 14/10/23 (looking north from eastern end of the proposed emergency access) showing external and internal views of the woodland proposed to be removed (TG7024) to accommodate the SuDs feature.





d) **Photograph taken on 14/10/23 showing the location of the two potential Veteran Trees (7053 and 7054) at the tip of Longwood Gill showing their undisturbed rooting environment.**





8 Typical example of a prefabricated ground bearing headwall (https://www.marshalls.co.uk/commercial/product/headwalls)



9 Root Protection Areas for Veteran Trees, Jim Mullholland and Sharon Hosegood, The Arboricultural Association, ARB MAGAZINE, Issue 180 Spring 2018.



Picture 1: Composite photograph illustrating the radius of the different root protection areas alongside the known minimum root spread.

Root protection areas for veteran trees

Jim Mullholland and Sharon Hosegood

A common conflict between development and veteran trees centres on the protection of the rooting environment.

Difficulties exist due to the subterranean nature of this important part of the tree, concealing it from view. The Ancient Tree Forum and the Woodland Trust have long drawn attention to this often overlooked part of the tree, emphasising the importance of healthy soil, mycorrhizae and roots and the need for appropriate management of the land around veteran trees.

In November, the Forestry Commission and Natural England updated their standing advice, *Ancient woodland and veteran trees: protecting them from development*. This document sets out the principles planning authorities should consider for developments affecting ancient woodland and veteran trees. The standing advice picks up from the National Planning Policy Framework with regards to the importance of veteran trees and the need for their protection. Together these documents state that planning permission should be refused if proposals involve the loss or deterioration of veteran trees, unless the need for, and benefit of, development in that location clearly outweigh the loss (see the note at the end of this article for more info).

The loss of a veteran tree is clear cut and easily defined; in such circumstances local planning authorities would weigh up the loss against the need for and benefit of development when determining an application. However, the deterioration of veteran trees is perhaps less black and white.

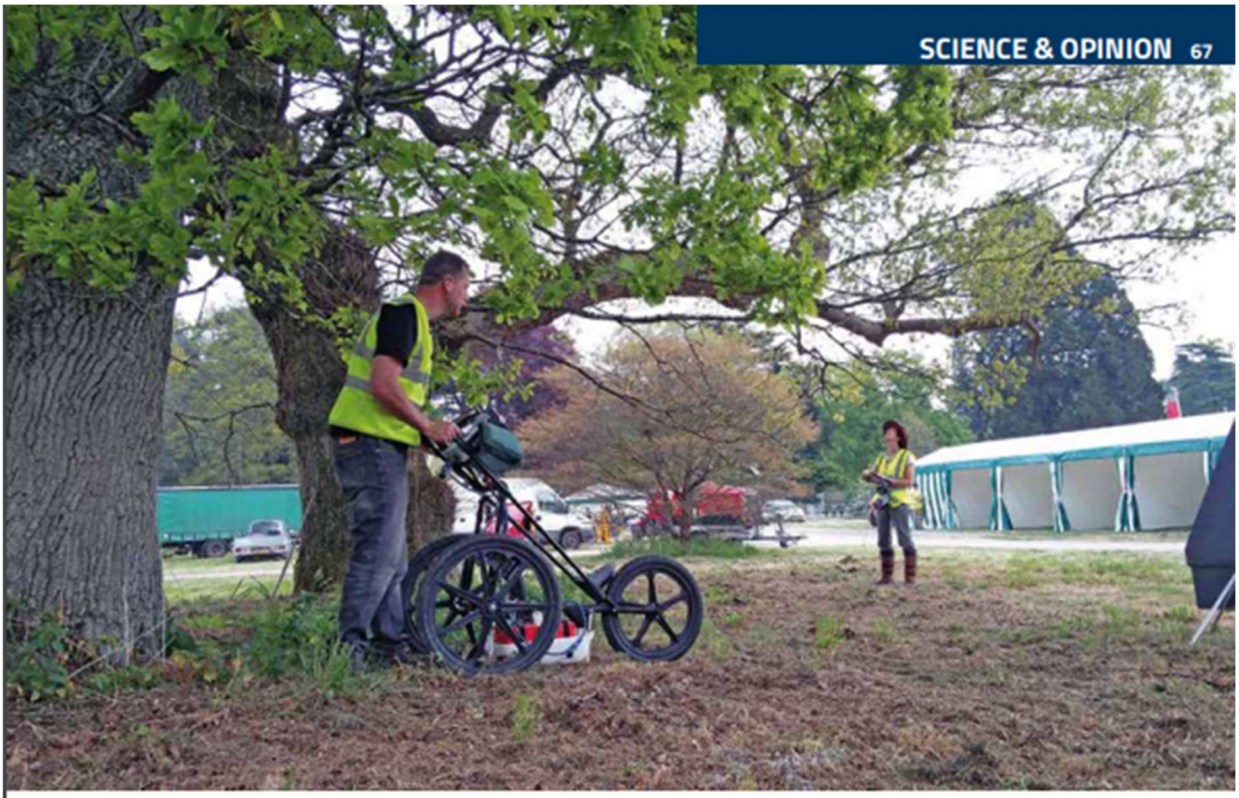
The standing advice requires developers to identify aged and veteran trees as part of tree surveys and to show different root protection areas on plans. The Ancient Tree Forum and the Woodland Trust consider that all ancient trees and mature veteran trees should be recorded in Category A3 in accordance with BS5837:2012. The standing advice also recommends a larger root protection area for veteran trees, *'at least 15 times larger than the diameter of a veteran tree'*. Previous guidance – BS5837:2012 – recommends the minimum root protection area to be a 12 times larger with a cap at 707m² (15m radius).

However, do root protection areas based on an arbitrary calculation enable an informed decision to be made regarding the retention of veteran trees without 'deterioration'?

TreeRadar at the ARB Show

In 2017 the Ancient Tree Forum attended the ARB Show with the aim of encouraging arborists to think about the rooting environment around veteran trees. A number of talks and demonstrations were held at the Ancient Tree Forum tent, which was situated adjacent to two veteran oak trees.

Sharon Hosegood, Ian Lee and Noel Durdant-Hollamby from Sharon Hosegood Associates Ltd joined the Ancient Tree Forum for the weekend. Sharon and Co. brought with them their TreeRadar. This piece of equipment is able to record live tree roots, in excess of 20mm diameter, down to a



Picture 2: TreeRadar in action.

depth of 3m, enabling the root system of a tree to be mapped without excavation.

The aim for the weekend was to investigate the extent of the root system of one of the veteran trees and share the findings with attendees of the show. In advance of the show Sharon and Ian set about scanning the land around the tree to produce a map of the tree's roots. In addition to the scan, trial holes were dug in certain sections to 'ground truth' the results. The results of the scan were consolidated and displayed on a screen ready for visitors to see.

The findings were extremely fascinating. The tree is rooting down to 2m. Interestingly, the roots are all below 15cm deep, which is not surprising as the ground is so compacted; this well-used area sees a mixture of pedestrian and vehicular traffic. It is well documented that heavily compacted soil dissuades roots from growing, and it is evident that this is the case with this tree. Figure 1 illustrates a 'virtual trench' of one of the scan lines. This compaction was confirmed by our trial pit hand digging.

A series of concentric circles, 1m apart, around the tree were scanned. Due to the presence of obstacles, this scan did not extend as far out as we would have wished. Therefore, in addition a straight line from the trunk out to 23m was also scanned. This straight-line scan found roots along its entire length.

This adds to a growing body of evidence illustrating the full extent of root systems. Previous scans undertaken by Sharon Hosegood Associates found roots from an oak at the Burghley Estate (Lincolnshire) out to 22m and, more recently, on trees in Bournemouth out to 15 × stem diameter. It is clear, based on this research on veteran trees (oaks and a yew), that the standard 12 × stem diameter is not a reflection of rooting patterns of open-grown veteran trees. TreeRadar only picks up roots with a diameter greater than 20mm (other antennae are more sensitive, but data interpretation is more complex). It should be mentioned that this is just part of the picture; tree root health is so much more than woody roots.

Root protection on development sites

If the Westonbirt veteran oak was on a development site, and the guidance for calculating the root protection area from BS5837:2012 was followed, this tree would receive a minimum root protection area of 452m² (circle with a 12m radius).

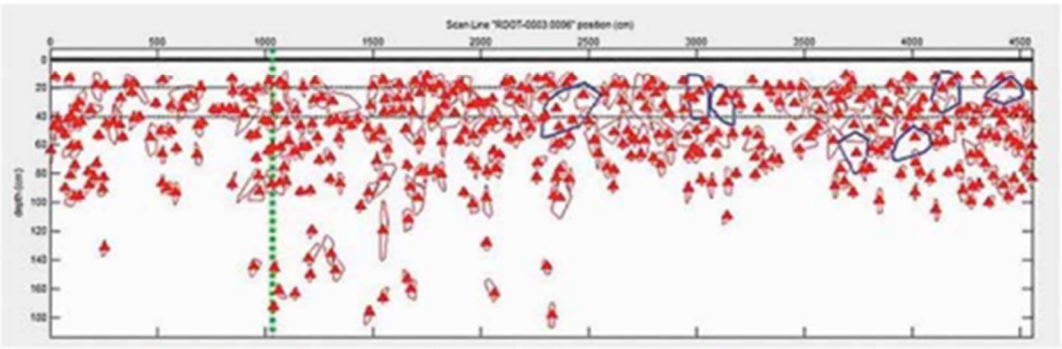


Figure 1: Cross-section of a scan line. The red triangles are roots. All roots are below 15cm deep, and generally between 15cm and 1m deep.



Picture 3: A crowd gathered at the Ancient Tree Forum tent to hear the results.

Assuming the guidance from the standing advice was followed, a **minimum** root protection area of 707m² (circle with a 15m radius) would be provided. Picture 1 illustrates the different root protection areas alongside the known minimum root spread; significant roots (>20mm) were still being detected 23m from tree.

Using this tree as an example, it is clear that part of the root and mycorrhizal system would be lost if only the roots in these root protection areas were retained. It would be considered poor practice to prescribe the same recommendation for crown management of all trees across the country based on an arbitrary calculation, but this is seen as standard practice for the rooting environment.

What is unclear is at what point the balance shifts from 'recoverable damage' to 'deterioration'. The timescales these trees operate over can span several human lifetimes, making it difficult to link cause and effect. Trees can be pushed past the tipping point, but may take tens of years for symptoms to show.

Stress means pests and diseases

Ted Green, Ancient Tree Forum founder-president, spoke at the 2017 Arboricultural Association Amenity conference emphasising five words: '*Stress means pests and diseases*'. This simple mantra should be adopted by all who are responsible for managing trees.

The importance of a healthy soil environment is highlighted by three disorders that are of increasing concern:

- Powdery mildew of oak (*Erisyphe alphitoides* and *E. quercicola*) has increased in prevalence in the past 30 years. These fungi are particularly damaging to the lammas leaves on oak, giving them a white powdery covering. Among other damaging effects these fungi have, the fungal mycelium causes constant evaporation of water that would normally be regulated by the leaves' stomata, thereby exacerbating the impacts of dry summers. Powdery mildew is most prevalent in the south-east, the area of the country with the lowest rainfall.
- Chalara dieback of ash (*Hymenoscyphus fraxineus*) has made headline news since 2012 when it was first discovered in the UK. First thought only to affect younger trees or those recently planted out from nurseries, it has subsequently been found that this fungus is not limited to these trees. Research has shown that stressed trees are more susceptible to the fungus.
- Oak decline has presented itself in various episodes during the last 100 years. The symptoms of this disorder are dieback in the canopy and stem bleeds. Until recently this disorder was little understood. However, work by Monck & Fay has presented evidence to show an increase in symptoms related to reduced soil health.

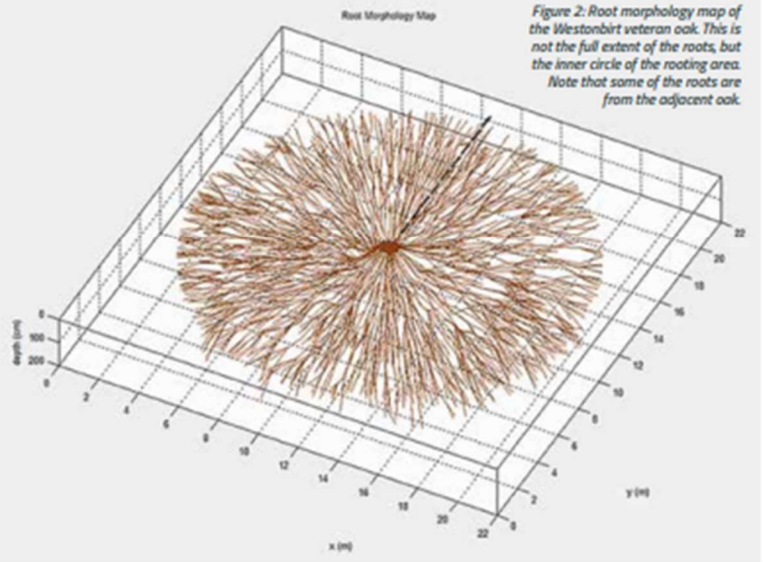


Figure 2: Root morphology map of the Westonbirt veteran oak. This is not the full extent of the roots, but the inner circle of the rooting area. Note that some of the roots are from the adjacent oak.

Whilst not a panacea, a healthy soil (and associated extensive root/mycorrhizae system) reduces the likelihood of trees succumbing to these disorders; a good supply of water from the roots can help buffer the potential impacts of powdery mildew, and healthy soils reduce the likelihood of stress, reducing potential impacts of ash dieback and oak decline.

Conclusion

More information is required to enable us to move away from an arbitrary calculation and towards an evidence-based approach, informed by individual circumstances. Only then can we determine how far roots of veteran trees grow, and how many roots can be damaged or lost before the tree deteriorates.

The building of anecdotal evidence, and increasing use of non-invasive technology such as the TreeRadar and ARBOTOM, provides the opportunity to accurately identify the location of roots for an individual tree. However, until such a time that this becomes commonplace, a precautionary principle approach is suggested. The adoption of the larger root protection area, as a minimum, to enable the retention of healthy soil and root/mycorrhizal system will provide these trees with the greatest chance for survival, not just during the next 10, 20 or 40 years but for the rest of their lifespan.

Next time

Supporters of the Ancient Tree Forum have gathered anecdotal evidence over a number of years illustrating the distances roots of veteran trees can travel; the Westonbirt oak is yet another case to add to the list. In the next edition of *The ARB Magazine* we will present some of the examples collated to date, with the aim of stimulating discussion on this topic. If readers have examples they feel would be valuable to the discussion, especially if these can be supported by photographs or written records, the Ancient Tree Forum would like to hear from you. Please email training@ancienttreeforum.co.uk.



Picture 4: Investigating one of the trial pits.

Note

Paragraph 118 of the National Planning Policy Framework (2012) states: 'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles: ... planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss ....'.

Ancient woodland and veteran trees: protecting them from development, standing advice from the Forestry Commission and Natural England, reads: '... leaving a buffer zone at least 15 times larger than the diameter of a veteran tree or 5m from the edge of its canopy, if that's greater'. In addition to recommending a larger multiplication figure, this advice does not set a maximum radius (BS5837:2012 sets this at 15m).

Acknowledgements

The Ancient Tree Forum would like to thank Sharon Hosegood Associates Ltd and Frank Rinn (RINNTECH) for attending the show to help map the veteran tree's roots with the TreeRadar and ARBOTOM. Thanks also go to Paul Melarange, Luke Steer, Luke Barley, Sally Clark, Jill Butler and Ted Green for helping deliver such a successful programme of events at the Ancient Tree Forum tent.

The articles on pages 66–69 have been provided by the Ancient Tree Forum, which champions the biological, cultural and heritage value of Britain's ancient and veteran trees.



Jim Mullholland is the Training and Technical Officer for the Ancient Tree Forum, and is responsible for delivering training on valuing and managing veteran trees. Jim has a background in ecology and arboriculture.



Sharon Hosegood FICFor FArborA is director of SHA (an arboricultural consultancy), and together with Ian Lee MICFor MArborA, has been working with TreeRadar for eight years and has carried out research on the use of the machine and its role in establishing the rooting environments of veteran trees.

News update

ANCIENT TREE FORUM

ATF at the ARB Show

The Ancient Tree Forum tent will be in the same position as last year, next to the veteran oaks at the north of the site. As always we will be delivering an action-packed schedule across the two days. Whether you want to attend one of our talks, buy a book or simply wish to say hello, make sure you stop at the Ancient Tree Forum tent.

ATF summer conference in Hereford

The Ancient Tree Forum's summer conference in 2018 will be held in Hereford on Thursday 28 June to Friday 29 June. Field visits include a trip to Kentchurch Park, where the deer park is being restored under Higher Level Stewardship. For more details and to book a place, see the 'events' section of our website.

Veteran tree training

The 2018 Valuing and Managing Veteran Trees – a three-day advanced course for trainers – is being delivered in Hereford on Wednesday 4 July to Friday 6 July. This interactive course will provide attendees with the knowledge and skills to be able to deliver their own training courses. For more information see the 'events' section of our website.

City of London self-guided trail project

The Ancient Tree Forum has received funding to produce self-guided education trails on four City of London Sites: Ashtead Common, Burnham Beeches, Epping Forest and Hampstead Heath. These self-guided trails will showcase best practice veteran tree management, allowing visitors to benefit from 20+ years of veteran tree management experience at these sites. Work is due to start in early 2018. Updates will be provided as the project progresses.

www.ancienttreeforum.co.uk

End