LIZ LAKE ASSOCIATES
LANDSCAPE ARCHITECTS

PROOF OF EVIDENCE OF SUSAN DEAKIN: ECOLOGY

ON BEHALF OF:
Bloor Homes and Sandleford Farm Partnership

IN RESPECT OF:
Section 78 1 (a) appeal against the refusal of planning permission

PINS REF:	APP/W0340/W/20/3265460
LPA:	West Berkshire Council
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1 SUMMARY

1.1.1 The following Ecology Proof of Evidence provided on behalf of West Berkshire Council, sets out the five 'core' Reasons for Refusal (RfR) of the Application on ecological grounds. It makes reference to the subsequent information provided by the Appellant in respect of a 'Wheatcroft' Consultation as it pertains to ecological matters.

1.1.2 In summary the RfRs updated to consider the Wheatcroft submission are as follows:

Reason for Refusal 8: the proposed development has potential to cause unavoidable deterioration of and harm to Ancient Woodland on the Site.

1.1.3 The 'Wheatcroft' submission provides no material reassurance on this matter and RfR 8 still stands, despite minor changes to the extent of incursion into Ancient Woodland buffer zones and uncertainty remains with respect to appropriate uses of the buffer zones.

1.1.4 The current NPPF (2019), para.175 c) (CD 8.1) states '*development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient and veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists*'. The example provided at footnote 58 does not include residential development and it appears to me that residential development is not considered to be an exceptional reason under the NPPF. The design of the Sandleford Park residential scheme results in the likely deterioration of six Ancient Woodlands.

1.1.5 Substantial fragmentation resulting from the scheme proposals adversely affects the Ancient Woodlands on the Site, through the loss of connecting habitat, the insertion of road crossings and other built environment effectively isolating Crook's Copse and severely compromising the ecological inter-relationships (including wildlife corridors) between the other Ancient Woodlands (High Wood, Slockett's Copse, Barn Copse, Dirty Ground Copse), which, together with Gorse Covert (non-Ancient Woodland),

make up the six woodland components of the High Wood Complex Local Wildlife Site (LWS). These six woodland components effectively combine to form a jointly designated and inter-dependent LWS. Ecological connections between these six woods and Waterleaze Copse, a separate partial Ancient Woodland LWS, which lies along the southern Site boundary, are not compromised to the same extent, however, there is potential for loss / adverse impacts to the northern tip of Waterleaze Copse, also Gorse Covert (both LWS woodland habitat although not categorised as Ancient Woodland) due to the proposed cycle route / potential Emergency Access (although the 'Wheatcroft' Consultation includes provision to incorporate the Emergency Access into the Main Valley Crossing 3rd Option) crossing the Country Park.

1.1.6 Indirect effects on the Ancient Woodlands can be expected to be significant and varied, due to the sheer quantity of houses to be built in close proximity to the woodlands and the number of people likely to be using the woodland setting of the Country Park. There remain uncertainties, inconsistencies and concerns regarding the impact of development measures proposed, including habitat and species severance caused by the two valley crossings, the significant encroachment of development either side of the northern valley, effectively isolating Crook's Copse from the Ancient Woodlands to the south and the proximity of SuDS installation to Ancient Woodlands flanking this northern valley and also the spatial management of recreational use of the woods themselves and the proposed buffers. The current scheme has not been able to satisfactorily deliver the necessary elements of the scheme infrastructure without compromising the retained Ancient Woodlands and the inhabiting species. Notwithstanding proposals to implement beneficial woodland management in the woodland on Site, vulnerable protected species inhabiting the woodlands and their connecting corridors, including dormice, bats, badgers, barn owls and reptiles, will likely be marginalised and population numbers decline, as a result of fragmentation of habitats and disturbance factors, including incremental deterioration of ecosystem conditions through lighting, noise, physical ingress, vehicular mortality and pollution and pet predation (see RfR 11 below).

1.1.7 Proposed buffering to the Ancient Woodlands in the development scheme is generally restricted to 15m but as stated in the Standing Advice (Natural England and Forestry Commission (2018), CD 8.31), this 15m should be taken as a minimum and where appropriate and in order to absorb indirect impacts from adjacent land uses, it should be greater than this. This principle has not been applied to the current Sandleford Park scheme. The Woodland Trust makes recommendations (CD 17.3) for a 50m+ Ancient Woodland buffer. To be effective in the context of a major housing development, buffering needs to comprise 'no-go' fenced semi-natural habitat that complements and forms an adjunct to the woodland habitat and should not include built development or amenity uses. The current scheme conversely, includes a number of incursions into the 15m buffers, which have not been significantly reduced by the 'Wheatcroft' submission, with the exception of reduced incursion of playing field proposals into the Barn Copse buffer, as a result of the 'Wheatcroft' amendments to the Park House School expansion area. Incursions relate to the buffers to each of Crook's Copse, Slockett's Copse, High Wood, Barn Copse, Dirty Ground Copse, along with Waterleaze Copse and Gorse Covert (LWS woodland but not Ancient Woodland). These incursions thereby reduce their width and protective function. They cannot always be accurately quantified, assessed or confirmed due to lack of design details but include SuDS components, hard surfaced routes and other recreational land uses including trim trails, playing field provision and amenity grass, which is contrary to the aforementioned guidance and the ethos of Ancient Woodland protection.

1.1.8 The scheme proposes public access to four of the Ancient Woodlands: Barn Copse, High Wood, Slockett's Copse and Dirty Ground Copse. This will result in incremental and, inevitably, significant harm to the integrity of the woodland habitats. Without rigorous 24/7 wardening in each of the woodlands and effective fencing of each proposed 'dedicated recreational route', disturbance and damage through abuse and/or inadvertent human and domestic pet disturbance, is likely to result in unnecessary and avoidable deterioration to the irreplaceable habitat. None of these four woodlands is more than 15m from adjacent high- density housing and in that scenario adequately managing wide ranging public access is unlikely to be possible.

1.1.9 Harm to, or loss of irreplaceable Ancient Woodland habitat, cannot, by definition, be compensated, and as such it should not be included in the Biodiversity Net Gain (BNG) calculations (CIEEM et al (2019) Biodiversity Net Gain, Good Practice Principles for Development, CD 17.13) A scheme that results in any such harm or loss cannot achieve BNG at the project level, which is contrary to NPPF (para. 170 d) (CD 8.1), which requires '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'.* Thus, the application is intrinsically unsound on ecological grounds. This guiding principle does not accord with the Appellants current BNG Assessment, which presents a positive outcome.

1.1.10 A more ecologically led design would have ensured that the biodiversity value of the Sandleford Park Ancient Woodlands and their inhabiting wildlife were fully considered from the outset. Appropriate provision could then have been made to conserve the ecological integrity of these key habitats through appropriate and generous buffering and the comprehensive retention and enhancement of connecting habitats to maintain robust and effective wildlife corridors, linking the woods and preventing isolation. Critically, for a scheme incorporating Ancient Woodlands this should include a network of substantial 'green fingers' of new and retained semi-natural habitat, extending between elements of the new built environment, without severance in the form of roads or other infra-structure and sufficiently undisturbed by residential requirements, such as lighting and play areas, to be capable of being used by vulnerable and/or characteristic populations of wildlife including bats, badgers, dormice, reptiles and breeding birds.

Reason for Refusal 9: the proposed development will cause harm to a number of other irreplaceable priority habitats, including ancient and veteran trees and other trees, without satisfactory justification and compensation or mitigation;

1.1.11 RfR 9 has been addressed in part by the 'Wheatcroft' submission, through efforts made to amend development proposals and retain some trees, including one ancient and several veteran trees that would be lost to / impacted by the original scheme.

1.1.12 The third option put forward by the Appellant as an alternative scheme for the Main Valley Crossing (as favoured on ecological grounds by the Council) results in the retention of several irreplaceable veteran, notable and other mature trees, (including T69, T77 and T78) that would have otherwise been lost to the alternative crossing proposals, although as noted in the following evidence there remains some ambiguity in this respect. The Council welcomes the retention of the only ancient tree on the Site (T34) and reduced impact on two other veteran trees (T31 and 33), now enabled by the 'Wheatcroft' submission in the Park House School expansion area (RfR 10), although disturbance factors associated with the intensive recreational use of this area and unresolved access provision are likely to harm the residual biodiversity value of these trees and the boundary hedgerow.

1.1.13 There remain, however, other unacceptable losses of, or major works to, a number of veteran, notable and other trees associated with the access to the DNH land, the western Monks Lane access, the Cycle Route / Emergency Access and the NE part of the Country Park (associated with track provision to the proposed machinery store and office). The majority of these trees also have bat and/or barn owl interests. As discussed in relation to RfR 8 (above). These losses of irreplaceable habitat cannot be justified in accordance with the NPPF and in the event of any such losses the BNG calculations cannot result in a positive outcome. In addition, several veteran / notable wildlife trees within the wider Country Park, in the SE corner of the Country Park and around the SE extremity of Dirty Ground Copse, are included in the AIA for felling / major remedial works on arboricultural / public H&S grounds. This is not considered appropriate or acceptable and does not constitute 'wholly exceptional reasons' and alternative means of safe-guarding these irreplaceable trees should be considered. In addition (and in relation to RfR 11) it might be expected that during the operational phase, due to the recreational function of the Country Park, there will be increasing pressure to remove / undertake major works to, other veteran and mature trees on H&S grounds. Such works would not likely be necessary in the 'do-nothing' situation or within a more ecologically sensitive scheme, in which case these trees would be retained and safe-guarded in a state of managed decline, without concern or need for public H&S actions.

Reason for Refusal 10: land identified for the expansion of Park House School and provision of a sports pitch results in the loss of trees and hedgerows (including an ancient tree) that could be avoided by an increase in the area proposed or an alternative proposal.

1.1.14 RfR 10 has been addressed in part by the 'Wheatcroft' submission in that the revised scheme allows for retention of ancient tree (T34) and reduced impact on / potential loss of two veteran trees (T31 and T33). Losses of associated hedgerow vegetation (with potential use by dormice) remain un-quantified but this revised scheme substantially reduces ingress into the 15m minimum Ancient Woodland buffer to Barn Copse.

1.1.15 However, it is not currently possible to fully assess the residual ecological impacts on these trees and the Ancient Woodland, due to the lack of sufficient information relating to access provision between the existing school and the extension area, requirements for spectator areas / outfield and proposed uses of the remainder of the land set aside for school use, along with detailed design / accurate cross sections to indicate any changes of level proposed and thus the extent of any ingress into the Barn Copse buffer (which immediately adjoins the playing field boundary). Due to the lack of information, the Appellant has failed to satisfy the Council on this issue.

1.1.16 T34 is a significant and ancient habitat tree: a confirmed barn owl roost, with potential for nesting, and, together with the veteran T31 and T33, are all irreplaceable ecological habitats and all have confirmed bat roost potential. Whilst the revised pitch layout respects the RPA of T34 (and the majority of the RPA of the other trees), it impinges directly into the 30m development exclusion area for barn owls by up to 5m.

1.1.17 There is concern as to whether the retained ancient and veteran trees will retain their wildlife value, during construction and/or the operational phase of the scheme. The undoubted high levels of noise and physical disturbance associated with the school

sports and social uses in this area are likely to adversely affect the ecological habitat interests of these trees, leading to abandonment of the barn owl roost and bat roosts, in the absence of appropriate safe-guarding measures, which may not be possible in the revised 'Wheatcroft' scheme. In addition, there is potential conflict between achieving the high levels of public health and safety necessary in a school environment and retaining the deadwood and other decay features conducive to optimising wildlife interests of ancient and veteran trees in the longer term, in this respect there is grave concern regarding combining tree longevity with ongoing biodiversity value.

Reason for Refusal 11: insufficient regard has been given to the potential for post-construction adverse impacts on existing retained habitats and such impacts are not adequately addressed or mitigated; Consequently, the proposed development is unacceptable in terms of ecology and biodiversity;

1.1.18 The 'Wheatcroft' submission provides no reassurance on this matter and RfR 11 still stands, with the exception of a reduction of ecological impacts associated with the 3rd Option for the Main Valley Crossing, as set out in the 'Wheatcroft' submission, which significantly reduces habitat and species fragmentation (and habitat loss) over and above the original proposal and the alterative curved 'Wheatcroft' option.

1.1.19 In addition to the likely harm to Ancient Woodland habitat set out in RfR 8 and direct impacts on ancient, veteran and other trees (RfR 9), there is scope for considerable long term adverse effects on other retained habitats throughout the Site, including the Country Park, which are currently under-assessed and lack comprehensive mitigation. The major part of the Site lies within the Greenham and Crookham Plateau Biodiversity Opportunity Area (BOA) as identified by the Berkshire Local Nature Partnership (LNP) (CD 17.27). As such the Site represents a formally identified area where conservation action is likely to have the greatest benefit to biodiversity, in terms of landscape scale conservation, to reverse existing habitat fragmentation, through expanding, linking and buffering semi-natural habitats.

1.1.20 The original scheme habitat creation proposals for the wider Country Park (with no material change provided in the 'Wheatcroft' submission) mitigate and compensate for habitat losses associated with the residential development and offer some degree of long-term benefit. However, the scheme has failed to increase the scope and positive impact of these proposals in line with the BOA objectives. It might have been possible to establish the scheme as an 'exemplar' of best practice in ecological terms, which would also have help to off-set some of the adverse impacts of the scheme, which have been under-assessed in the BNG calculations. These adverse impacts include (but are not limited to) the gradual and incremental damage to the botanical composition of sensitive habitats, such as marshy grassland and streams, caused by the pressure of substantial recreational use. There is a risk that the wet and increasingly muddy and disturbed conditions likely to develop in the two valleys will also lead to increased pressure for additional hard surfacing of routes, causing urbanisation and unassessed loss of habitat. Other habitat deterioration / loss combined with physical disturbance, including, for example, the potential for habitat degradation caused by aerial pollutants and predation of nesting birds and dormice and other small mammals, by domestic pets, will have knock on marginalisation effects on inhabiting wildlife (in addition to the fragmentation effects described for RfR 8) and in this respect a more all-encompassing strategy of mitigation and protection for skylarks and other ground nesting birds, as well as reptiles, is required.

1.1.21 Residual concern also focus on the operational impacts of the two proposed valley crossings, in terms of severance impacts on inhabiting wildlife. Whilst the 3rd Option for the Main Valley Crossing, as proposed in the 'Wheatcroft' submission, offers significant ecological advantage over the original and also the other curved option for this crossing, in terms of reduction of habitat fragmentation and reduced habitat loss, insufficient information is provided in respect of bat and barn owl activity in the area. This is needed to predict likely levels of injury and death to these species, vulnerable to severance effects of new roads / bridges. Severance effects on dormice that might use the important link between Slockett's Copse and Dirty Ground Copse (to be bisected by the proposals) have also been under-assessed.

1.1.22 The at-grade proposals for the Crook's Copse Crossing is predicted to have significantly greater adverse impacts on badgers than a bridge would have in this location, along with other impacts on bats and barn owls and loss / fragmentation of habitat. Whilst badgers are not rare or endangered, their welfare is of concern and they are afforded a high level of protection in this respect. The current alignment of the crossing lies close to the only main active badger sett on the Site, A bridged option for the Crook's Copse Crossing, similar to the Main Valley Crossing (3rd Option) would reduce severance effects and incremental decline in wildlife populations and would reduce habitat loss and the isolation of Crook's Copse.

Reason for Refusal 13: insufficient information has been provided in respect of surface water drainage and as such a full consideration of the impact of the proposed development in these terms is not possible. Accordingly, the proposed development is considered unacceptable.

1.1.23 The 'Wheatcroft' submission provides no reassurance on this matter and RfR 13 still stands.

1.1.24 There is residual concern regarding the juxta-position of proposed SuDS basins and conveyance channels, in relation to ensuring suitable protection of valued retained ecological receptors, particularly in the narrow, northern valley between Slockett's Copse and High Wood. Detailed proposals for the SuDS features and how they will physically fit into the valley (given the 15m+ Ancient Woodland buffers on each side of the valley, a 16m wide protection zone centred on the stream and the proposed insertion of the Sandleford Mile route, Foraging Trail and even a formal Play Area), have not been provided. There is a need for the SuDS basins to fulfil a nature conservation role and the added space required to create an ecologically optimum, naturalistic form has not necessarily been accounted for, neither may the loss of marshy grassland that will be required, have been accounted for in the BNG calculations. There is also concern as to whether the proposed conveyance channels will be effective in ensuring that surface water runoff does not enter the sensitive woodland habitats and whether they will affect the hydrology of either the adjacent Ancient Woodland habitats or the marshy grassland within the valleys.

1.1.25 Due to the ecological sensitivity of the valley ecosystems it is not acceptable to delay the provision of detailed engineering and ecological design of these water drainage systems until the Reserved Matters stage.

1.1.26 In more general terms, it would be expected that the development proposals for this Site, which incorporates six blocks of Ancient Woodland, ancient and veteran trees and other important habitats, with associated sensitive wildlife interests, should have been ecologically led from the outset. An altogether better and more acceptable solution would have been achieved if the evolving scheme proposals had taken full account of the inter-relationships of the various Ancient Woodlands on Site and their connecting habitat. This would have allowed unacceptable ecological losses and fragmentation of irreplaceable habitats to be minimised, along with the risk of indirect disturbance and deterioration of vulnerable habitats resulting from high levels of ongoing operational use. Sandleford Park is undoubtedly a special and ecologically sensitive site whose ecological interests are in a large part recognised and afforded protection through Local Wildlife Site (LWS) status These interests should not be subject to net loss of biodiversity in contravention of national and local planning policy.

2 INTRODUCTION

2.1 Qualification and Experience

2.1.1 My name is Susan Elizabeth Deakin, I am a Chartered Landscape Manager and Ecologist and am employed on a consultancy basis by Liz Lake Associates, Landscape Architects and Environmental Consultants. I have a degree in Natural Environmental Science with Landscape Studies (2:1) from Sheffield University and a Master's degree in Landscape Ecology, Design and Maintenance from the University of London. I am a chartered member of the Landscape Institute in the Management division.

2.1.2 Liz Lake Associates have been retained by West Berkshire Council to provide advice with respect to Ecological and Landscape matters pertaining to Sandleford Park. I have worked with Liz Lake Associates on a continuous consultancy basis since 1988. During this time I have prepared numerous ecological assessments and provided ecological management strategies for a wide range of sites, including major roads, housing schemes, urban and science park proposals, large scale recreational schemes, mineral extraction sites and other development schemes, to accompany planning applications and appeals. I have given ecological evidence at a number of public inquiries including Stowmarket Relief Road, Ketton Quarry, Kings Hill, West Malling (Phase 2 Residential and Commercial development), Ware Park and the M40 (Oxford to Birmingham).

2.1.3 I confirm that the evidence which I have prepared and provided for this Appeal is true to the best of my knowledge and belief and that the opinions expressed are my true opinions given in accord with my professional standing, qualifications and experience.

2.2 Purpose and Scope of Evidence and Procedural Matters

2.2.1 This Proof of Evidence has been prepared in response to Appeal APP/W0340/20/3265360 by Liz Lake Associates (LLA). It addresses primarily the refused scheme and also, as it pertains to ecological matters, to the updated information subsequently provided by the Appellant on 1.2.2021, by means of a 'Wheatcroft' Consultation.

2.2.2 My evidence reviews the ecological issues associated with the scheme proposals as provided by the Appellant and the actions taken by the development team to attempt comply with current policy and guidance. It addresses the concerns raised by West Berkshire Council ('the Council'), with which we agree and supports the Reasons for Refusal of the Application. I also address to what extent the concerns may have been met by the additional information.

2.3 Reasons for Refusal

2.3.1 Relevant to this Proof of Evidence, the Application was refused for the following ecological reasons, which are set out in full in the Council's Statement of Case and are (in outline) as follows:

- *Reason for Refusal 8: the proposed development does not provide acceptable indications and therefore sufficient confidence and certainty, that it will not cause unavoidable deterioration of and harm to Ancient Woodland on the Site;*
- *Reason for Refusal 9: the proposed development will cause harm to a number of irreplaceable priority habitats, comprising ancient and veteran trees and a number of other trees that are the subject of a TPO, without satisfactory justification and compensation or mitigation;*
- *Reason for Refusal 10: the area of land identified for the expansion of Park House School results in the loss of trees and hedgerows (including an ancient tree) that could be avoided by an increase in the area proposed or an alternative proposal. Accordingly, the proposal is unacceptable as it fails to make appropriate*

secondary education provision to mitigate the needs of the development and ensure the satisfactory provision of a sports pitch;

- *Reason for Refusal 11: insufficient regard has been given to post-construction adverse impacts on existing retained habitats. The proposed development has the potential to have adverse impacts on the local natural environment and such impacts are not adequately addressed or mitigated; Consequently, the proposed development is unacceptable in terms of ecology and biodiversity;*
- *Reason for Refusal 13: insufficient information has been provided in respect of surface water drainage and as such a full consideration of the impact of the proposed development in these terms is not possible. Accordingly, the proposed development is considered unacceptable.*

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3 ECOLOGY ISSUES

3.1 Scope of Evidence

3.1.1 There follows in Section 3, a review of the five 'core' Ecology Reasons for Refusal (RfR)' of the Application, setting out whether any aspects of these may have been addressed as a result of the supplementary information provided recently within the 'Wheatcroft' Consultation Documents, with a constructive critique of outstanding concerns where appropriate.

3.2 Reason for Refusal 8 – Impact on Ancient Woodlands

'The proposed development does not provide acceptable indications and therefore sufficient confidence and certainty, that it will not cause unavoidable deterioration of and harm to Ancient Woodland on the Site.'

The Council does not consider that RfR 8 has been adequately addressed, either by the Application or the subsequent 'Wheatcroft' submission, which by no significant means lessens the extent of direct or indirect harm to the areas of Ancient Woodland within Sandleford Park, despite minor adjustments to incursions into Ancient Woodland buffers.

3.3 Background

3.3.1 Protection of Ancient Woodland and maintaining the integrity of the combined woodland Local Wildlife Site, is considered to be the most important ecological issue relating to the Appeal site. It is also the one which is most difficult to solve due to the inter-relationship of the substantial development within close proximity of the adjacent woodlands. In order to fully understand the complex nature of the potential impacts of the development scheme on Ancient Woodland it is necessary to set out a resume of the interests and importance of the Ancient Woodland (considered to be irreplaceable habitat i.e. habitat whose loss cannot be readily compensated, taking

into account their age, uniqueness, species diversity or rarity, as in the NPPF 2019 Glossary (CD 8.1)and discussed in Natural England (2015) Evidence Gathering on Criteria for identifying Irreplaceable Habitats (CD 17.16), as they pertain to Sandleford Park. It is also important to note that the LWS is considered to be a locally designated site of importance for biodiversity, see Glossary NPPF 2019, (CD 8.1) and is specifically afforded protection in terms of direct or indirect harm, under the West Berkshire Council Core Strategy (2012) CS 17 Biodiversity and Geodiversity (CD 8.5).

3.3.2 Five substantial blocks of Ancient Woodland (Crook's Copse, Barn Copse, High Wood, Slockett's Copse and Dirty Ground Copse), which along with Gorse Covert, another diverse and historic woodland, constitute the six elements of the inter-linked High Wood Complex LWS (Site Code:SU46S02). The nearby Waterleaze Copse extending along the southern boundary of the Site, adjoining the River Enborne, is also in part Ancient Woodland and notified as a separate LWS (Site Code: SU 468639). The LWS status afforded to each of these woods engenders them with a higher level of ecological importance than other areas of Ancient Woodland, that have not been thus notified. The woodland is generally semi-natural in character, variably dominated by substantial, mature oak, ash, and birch, with an under-storey dominated by holly and hazel, with a variable degree of sycamore invasion and localised sweet chestnut coppice and conifer plantation. The integrated and inter-linked nature of the various individual elements of the scattered woodland LWS and the capacity for the development proposals to fragment, degrade and disconnect the woodland blocks, has not been afforded full regard in the Appellant's ecological assessment.

3.3.3 The 'Complex' nature of the LWS notification reflects the special biodiversity interests of each of the woodland ecosystems individually and more importantly, in combination with each other. The overall habitat value of the LWS is undoubtedly enhanced through the proximity of these habitats to each other and their ecological inter-dependence. The value of the woodlands is also enhanced through their off-site ecological connections (hedgerows, valley ecosystems etc,) and their generally diverse habitat setting (albeit this also includes contrasting areas of land of lower nature conservation value, including arable production). The woodlands generally lie

on higher ground flanking a converging valley system, supporting extensive areas of marshy grassland leading down to the River Enborne, with traditional parkland and low intensity farmland elements including streams, shaws and hedgerows, interspersed with a relatively high frequency of ancient veteran and notable trees (see RfR 9 below).

3.3.4 The reasons why Ancient Woodland habitat, including the ancient woodland at Sandleford Park, is considered to be such important and irreplaceable habitat (CD 17.16) and one whose loss or deterioration cannot be compensated, include:

- long established (at least 400 years, by definition) evolution of soil characteristics, including the valuable soil seed bank, structural and physical characteristics of the woodland soil and it's inter-relationship and co-dependence with the characteristic ground flora, under-storey and tree species it supports;
- varied topography and ground conditions, including bank and ditch formations, fluvial features and other micro-habitats;
- specialist plant assemblages and fungal communities, as well as mycorrhizal fungi associations with tree roots.

3.3.5 A primary focus of concern is the potential for long term and incremental damage to each of the blocks of woodland, through lack of adequate protection from disturbance and fragmentation caused by the scheme. The sheer number of new homes to be built in close proximity to and in some places, encircling, isolating and fragmenting the various elements of the combined Ancient Woodland habitat is certain to cause harmful effects on the woodland habitats, in the absence of a scheme design that fully respects the need for retaining and enhancing ecological links between the woodlands and providing adequate woodland protection and buffering from built development and the indirect adverse edge-effects resulting from residential and other operational disturbance.

Ancient Woodland Loss / Disturbance

3.3.6 Whilst it is accepted that there is no significant direct loss of Ancient Woodland, current proposals indicate minor loss / disturbance to a small part of Waterleaze Copse and also Gorse Covert, as a result of increasing the width of the existing

footpath (public RoW Gree/9/1) crossing the proposed Country Park, to accommodate a new hard surfaced cycle route (overall width 4m) and possible Emergency Access, although I understand that this may now be addressed by the 'Wheatcroft' Consultation Main Valley Crossing 3rd Option, which incorporates the Emergency Access. This would be of benefit through reducing the overall width of the proposed route, thus reducing potential loss of woodland and other habitat. Whilst neither of these woodland areas are classified as 'ancient', they nevertheless possess habitat qualities worthy of LWS status. The Illustrative Cycle Route / EA Plan, Option 3, Vectos, (October 2019), Transport Assessment, Appendix E (CD 1.5), shows the additional hard surfaced route located within woodland to the south of the existing path. There will also be the need for extension / rebuild of the existing stream culvert adjoining Waterleaze Copse, which constitutes engineering work within the buffer. The lack of proposed lighting along the route (LGIDMP ES Vol. 3, Appendix G7) (CD 1.9),is welcomed, due to the potential adverse impacts on nocturnal wildlife within the Ancient Woodland and elsewhere on the route, although this is, unfortunately, still uncertain as Table 8.1 of the submitted Transport Assessment (CD 1.5)refers to lighting on the public RoW (Gree/9/1). This contradiction in information has been highlighted to the Appellant in a separate table produced by the Council and produced to the Appellant. However, as a result, the Appellant has failed to satisfy the Council on the potential adverse impacts on nocturnal wildlife.

3.3.7 The potential habitat losses resulting from the construction of a partially hard surfaced route, also takes no account of the required 15m buffer zone adjacent to both areas of woodland and also the proposed 3m buffers to retained hedges and tree lines (4.3.3 EEMP (CD 1.9). There are unresolved concerns regarding likely deterioration and harm to Waterleaze Copse and Gorse Covert and other ecological features and this has not been acknowledged or assessed.

3.3.8 The paths which are proposed to be 2m wide gravel / bark surfaced trails, within four of the Ancient Woodlands (High Wood, Barn Copse, Slockett's Copse and Dirty Ground Copse) will, in part, cause loss of / interference with Ancient Woodland habitat. This has not been quantified or assessed (also see below).

Public Access to Ancient Woodland

3.3.9 Whilst the SLGI Plan (CD 1.21) shows public access on marked paths in four of the Ancient Woodland blocks, there is contradictory evidence relating to public access, or otherwise, to these Ancient Woodlands, throughout the documentation. This is a matter of considerable concern to the Council and needs to be clarified and that has been requested. The Council is of the opinion that any public access to woodland would generate unwanted disturbance / damage even if directed along designated footpaths. The footpaths would, in themselves, cause loss of Ancient Woodland ground flora habitat, even if utilising existing tracks and rides within the woods and this would be impossible to police adequately given the number of tracks and the scale of the woodlands.

3.3.10 The Illustrative Layout plan (Dwg. No. 14273, Boyer, December 2019, CD 1.30) shows no access provision to any of the woods, although the Strategic Landscape and Green Infrastructure Plan (SLR Figure 4.3, CD 1.21) indicates public access routes through High Wood, Slockett's Copse, Barn Copse, Dirty Ground Copse, Gorse Covert and Waterleaze Copse (access to Gorse Covert and Waterleaze Copse does not affect Ancient Woodland) The only woodland without public access is Crook's Copse which is surrounded by housing and infra-structure. The Biodiversity Net Gain (BNG) Assessment (ES Vol. 3 Appendix F21 CD 1.9) refers (3.1.1 Table 2) to the installation of boardwalks in Dirty Ground Copse and the EMMP (ES Vol.3 Appendix F18 CD 1.9) refers (3.1.1) regarding public access to woodland via footpaths states as follows: *'dead wood will be retained in-situ where practicable and where not adjacent to public footpaths ……Footpaths through the woods will largely follow existing tracks which will encourage the public to avoid walking through dense stands of bracken ….'* and goes on to refer to improving the base of existing tracks for use as paths and the possible need to translocate Ancient Woodland indicator species that may be impacted by creating footpaths. This contradicts other information in the EMMP (CD 1.9), for example, with reference to badger setts in Crook's Copse, Gorse Covert, Slockett's Copse and High Wood, it states (4.5.1) *'there are no proposed plans to implement public access into these woodland blocks'*. Whilst, regarding dormouse habitat (dormice have been recorded in Barn Copse and

Slockett's Copse), the EMMP states (4.6.2) that *'where public access is to be allowed into woodlands…. there is potential for disturbance to dormice during the construction and operational phases*' and goes on to discuss the need for public access to follow existing pathways which are to be demarcated with wood chippings and interpretation boards *'to ensure that public pressure does not impact on dormouse habitats'*. This may be well-intentioned but is unlikely to suffice.

3.3.11 There is concern that the proposed planned access to four Ancient Woodlands (High Wood, Slockett's Copse, Barn Copse and Dirty Ground Copse) will result in incremental and significant harm to the integrity of the woodland habitats. Without rigorous 24/7 wardening in each of the woodlands (estimated total area approximately 14ha) and effective fencing of each proposed 'dedicated recreational route', disturbance and damage through abuse and/or inadvertent human and domestic pet disturbance, is likely to result in unnecessary and avoidable deterioration to the irreplaceable habitat. None of these four woodlands is more than 15m from adjacent high density housing and in that scenario adequately managing wide ranging public access, straying from the appointed routes, is unlikely to be possible, if partial access is permitted. Clarity is required as to the Appellants' aspirations and proposals in this respect. It would be expected that, given the extensive nature of the open sectors of the Country Park, recreational use can and should generally be precluded from the woodlands (with the exception of educational and woodland management / monitoring visits) and this would need to be backed by a robust Access Management Plan for the site to encourage, control, restrict or exclude public access according to the location, functional objectives and ecological sensitivities present, in order to prevent gradual but significant deterioration of the special interests of the Ancient Woodlands. The Appellant has failed to satisfy the Council in relation to this aspect of harm as a result of its proposals for the Country Park.

Ancient Woodland Fragmentation, Buffering and Indirect Impacts

3.3.12 The current scheme proposals result in substantial fragmentation of habitat. adversely affecting the Ancient Woodlands on the Site through the loss of connecting habitat, the insertion of road crossings and other built environment effectively

isolating Crook's Copse and severely compromising the ecological inter-relationships (including wildlife corridors) between the other Ancient Woodlands (High Wood, Slockett's Copse, Barns Copse, Dirty Ground Copse), which together with Gorse Covert (non-Ancient Woodland), make up the six woodland components of the High Wood Complex Local Wildlife Site (LWS). These six woodland components effectively combine to form a jointly designated and inter-dependent complex LWS. Ecological connections between these six woods and Waterleaze Copse, a separate partial Ancient Woodland LWS, which lies along the southern Site boundary, are not compromised to the same extent.

3.3.13 The habitats adjacent and complementary to the Ancient Woodlands on Site currently combine to form fully functional and diverse adjuncts to the woodland blocks, enhancing their connectivity with each other and their ability to support a number of UK and European Protected and other notable species of wildlife. This is well documented in the ES Ecology Chapter and relevant appendices (CD 1.7 and 1.9). In this respect, however, it is noteworthy (and this is reflected in the successive years of specialist surveys undertaken at Sandleford Park) that these woodlands and their 'support network' of linking hedgerows and other habitats, may not support the consistency of faunal populations that might be expected. For example, the survey results indicate a rather sporadic and low population density of dormice, similarly both the reptile and badger populations may be smaller and more transitory than might be predicted and barn owl roosts / nesting sites demonstrate a lack of consistency between the various survey years.

3.3.14 This fluctuation in wildlife populations reflects both the standard unpredictability of biological dynamics and may also be influenced by existing human disturbance on the Site, including agricultural management, sporting game activities, lack of woodland management and unofficial public recreational use in this urban fringe setting. It is important to take account of the current vulnerability of the habitats and inhabiting wildlife and aim to ensure that, in the event of the development going ahead, the special biodiversity interests of the Ancient Woodland and complementary habitats on Site, are safeguarded as effectively as possible and that there is no additional deterioration in the ecological value of the woodlands.

3.3.15 Given that there is no fundamental disagreement that Ancient Woodland and their special interests need to be protected from the negative impacts expected as a result of nearby development, the Council questions how these potential negative impacts have been assessed and whether the mitigation proposed for protecting the woodland is adequate, proportionate and appropriate. The NPPF guidance (para 175c)(CD 8.1) clearly states that *'development resulting in the loss or deterioration of irreplaceable habitats such as ancient woodland or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists '*. If development is likely to harm Ancient Woodland or veteran trees, unequivocal and credible evidence is required to justify the exceptional need and benefits. As stated by the Woodland Trust *'simply restating a national drive for housing, or need for new infra-structure, does not constitute exceptional circumstances'* (CD 17.3).

3.3.16 If as a result of this Appeal it is decided that the benefits of the development are exceptional enough to outweigh the harm to the 6 ancient woodlands, the LWS and a number of ancient and veteran trees (see 3.3 below, RfR 9), then it would be appropriate to seek to vary the scheme in order to lessen the levels of potential harm, through design measures and a more robust scheme of appropriate and proportionate habitat protection than has been put forward so far. The adoption of a precautious and proactive approach to conservation of the Ancient Woodland, would be required in order to satisfactorily address RfR 8 and this would necessitate that the scheme design does not merely react to potential impacts by doing the 'minimum' in terms of ecological mitigation but rather that it aims to avoid impacts in the first place and make a properly positive contribution to ecological enhancement (CD 17.14 and CD 17.18). This Site has the potential to create an exemplar model demonstrating how the juxta-position of substantial housing development within a framework of highly valued nature conservation habitats could be achieved. A fundamental premise of a revised 'ecologically led' design (which has not been adopted thus far) would be to ensure that fragmentation of Ancient Woodland was minimised, through effective maintenance and enhancement of existing connective habitat and the creation of new 'green fingers' extending through the proposed

housing areas, to provide strong ecological corridors, allowing species movement and transfer between retained woodlands (CD 17.15). These ecological corridors would need to be unaffected by crossing roads or other infra-structure, or potentially harmful requirements of residential development such as lighting and play areas. To date such an approach is lacking and proposed new woodland / native planting appears to be concentrated in the southern part of the Country Park, extending the Waterleaze Copse woodland, rather than more effectively being used to create connecting woodland shaws and other corridors within both the housing scheme and the Country Park to better effect. To adopt this approach would require far reaching and fundamental amendments to the scheme design, far in excess of what might be rectified at Reserved Matters stage.

3.3.17 The mandating of Biodiversity Net Gain (The Chancellor's Spring Statement, 2019 and the Environment Bill (Part 6) 2020) will have significant repercussions on planning policy and, in this respect, the calculations of Biodiversity Net Gain (BNG) provided by the Appellant are welcome but fail to meet current best practice. For example, irreplaceable habitats such as Ancient Woodland and veteran trees should be excluded from the calculations, as should mitigation and compensation measures that seek to off-set damage or deterioration of these habitats. The Natural England / Forestry Commission Standing Advice CD 8.31, states that *'ancient woodland, ancient and veteran trees are irreplaceable. Consequently, you should not consider proposed compensation measures as part of your assessment of the merits of the development proposals'*. In simple terms, if development results in loss or harm to these habitats, there will always be net loss of biodiversity and it will not be possible for the project to achieve BNG, however much new habitat is created in lieu. BNG requires development to leave biodiversity in a better state than before. Thus, as in this case, if it is likely that Ancient Woodland habitat will be harmed by the development through insufficient / ineffective buffering and human disturbance, there can be no BNG attributable to the overall scheme, and there will always be net loss of biodiversity which is contrary to planning policy and thus the proposals are unsound on ecological grounds. This is corroborated in the guidance set out in CIEEM et al (2019) Biodiversity Net Gain, Good Practice Principles for development (CD 17.13).

3.3.18 It is necessary for decisions regarding the Sandleford Park scheme to comply with the obligations of national and regional Planning Policy (CD 8.1 and CD 8.5) and, with respect to avoiding negative impact on both LWSs and Ancient Woodland. Loss or damage must be avoided, and, in this respect, it is also necessary to take account of Standing Advice and to guide future responsible 'custodianship' of the woodlands. As stated in the Woodland Trust's, Planners Manual for Ancient Woodland and Veteran Trees (July 2019) CD 17.3 *'Given that ancient woodland covers less than 3% of England's land mass, there is reason to believe that the country's development needs can be delivered without negative impact on ancient woodland or veteran trees.'*

3.3.19 It is acknowledged by the Council that these woodlands would, to a variable degree, benefit from some sympathetic woodland management and monitoring and the Council welcomes the proposals set out in the EMMP (CD 1.9) in this respect. It is agreed that these management measures, along with the implementation of species-specific mitigation and habitat protection (e.g. appropriate lighting regime, measures to restrict noise and dust pollution etc) both during construction and operation of the development will help to reduce potential impacts. However, the more fundamental issues pertaining to habitat fragmentation, woodland isolation, the provision of suitable and adequate buffering and minimising damaging public access, have not been addressed sufficiently to provide any measure of satisfaction that harm will be avoided. The conflicting and somewhat confused statements in respect of some of these issues, including the issue of public access to woodland, does not help engender clarity in this respect and the scheme design and ecological ethos seem to have been put together in a somewhat piecemeal manner; reactive rather than proactive and holistic.

3.3.20 Concern regarding the ecological fragmentation and isolating effects (both in respect of the Ancient Woodland and other habitats and species), caused by the Crook's Copse Crossing could be alleviated to a significant extent by adopting a similar approach to that now proposed in the 'Wheatcroft' submission for the Main Valley Crossing (3rd Option). This would accord with the approach put forward in the Sandleford Park SPD (CD 8.14) and would allow ecological interests to flow (to a

significantly greater extent than the current at-grade proposal) beneath the bridge. This is also referred to in 3.5 below (RfR 11). Due to the proximity of the crossing's eastern approach to High Wood (in places this appears to be less than 15m from the woodland) and concerns over likely adverse impacts on the adjacent Ancient Woodland and its inhabiting wildlife, the Council would request that the Appellant re-aligns the eastern approach to the crossing, further away from the woodland edge (up to 30m), in order to achieve a more effective and appropriate buffer. This would provide a more generous undisturbed setting to the woodland, and reduce the risk of gradual degradation of the adjacent woodland edge habitat and its inhabiting wildlife, though, for example, the effects of vehicular derived particulate deposition and aerial pollutants, which remain un-assessed .

3.3.21 The general design of the built environment extending into the valley either side of the Crook's Copse Crossing, between Crook's Copse to the north and Slockett's Copse and High Wood to the south, is of residual concern. This effectively creates a 'waist' of built form, which exacerbates the fragmentation of Ancient Woodland and causes a disassociation between different elements of the High Wood Complex LWS, which is unacceptable and fails to respect ecological interests in contravention of national and regional planning policy. It is also contrary to the presumption against development in this part of the Site as set out in the SPD (CD 8.14).

3.3.22 In addition to fragmentation of habitat, the full extent of potential indirect impacts on adjacent areas of Ancient Woodland (relating to the construction period and the ongoing use of the residential development) (CD 17.18) will include:

- *noise*
- *dust (construction) and other aerial / particulate pollutants (vehicular derived)*
- *light pollution*
- *changes to the water table / drainage / runoff pollution*
- *litter, fly-tipping and alien garden plant escapes*
- *impacts from domestic pets*
- *physical ingress, trampling, recreational disturbance and habitat damage (anti-social behaviour etc.)*

- *visual disturbance caused by changes to the surrounding landscape character, affecting and restricting patterns of wildlife activity*
- *risk of death or injury to inhabiting wildlife (including nocturnal animals).*

3.3.23 It is acknowledged that current agricultural and game management land uses affecting Crook's Copse and Waterleaze Copse and to a lesser extent Dirty Ground Copse and Gorse Covert, should be given due consideration when assessing the comparative impacts of the housing development, associated road infra-structure and recreational use of the proposed Country Park. Existing impacts on the Ancient Woodland blocks are more localised and less detrimental than the potentially high levels of disturbance caused by the substantial adjacent housing development. A comparative assessment would be useful in this respect but has not been provided by the Appellant.

3.3.24 The Council has particular concerns regarding the future of Crook's Copse, this, the northern-most of the blocks of Ancient Woodland LWS has a particularly diverse ground flora and areas of sensitive wet woodland. It will effectively become isolated; an island of woodland closely encircled by a coalescence of residential development, a new school and infra-structure roads, set at close proximity to the woodland edge. The air quality assessment accepts that there is a high risk of environmental impact from dust during the enabling earthworks and construction process, to sites within 20m of such works. It is not clear whether sufficient receptors have been included in the air quality assessment to determine, for example, whether the close proximity of the adjacent roads, combined with numerous road junctions and a school (likely to generate significant and concentrated traffic), around the perimeter of the wood, will exert significant impacts on the sensitive Ancient Woodland habitat (including woodland ground flora and wetland communities). Studies (including NECR 199 (2016)The ecological effects of air pollution from road transport: an updated review (CD 17.17)), have shown that woodland habitat can be adversely affected by aerial pollutants 100m + from roads.

3.3.25 The assessment of indirect impacts on the Ancient Woodlands is lacking in detail and is not included in the BNG assessment. There appears to be scant regard to the likely

extent and range of impacts to be expected given the substantial nature of the new housing and its proximity to the woodlands. The Council is firmly of the opinion that the buffer design should emulate, as far as possible, semi-natural woodland edge habitat and should not contain any sort of amenity landscape provision and should be inaccessible to public access and the woodland fenced to deter feline predation. This can be achieved through natural extension of the woodland ground flora and under-storey species to create a diverse mosaic habitat, including some more open areas of transitional grassy habitat, boosted by the planting of genetically suitable and locally indigenous trees and shrubs, characteristic of woodland edge habitat. This will not only serve to absorb deleterious effects of the new development but will also provide complementary habitat, effectively extending the woodland habitat, helping in a small way to off-set some of the habitat fragmentation that would be caused by the pattern of built development around the woods and aiding resilience.

3.3.26 Whilst the reduction of ingress into the Barn Copse buffer zone as a result of the Wheatcroft amendment to the Park House School expansion area, in comparison to the original scheme is welcomed, there remains some uncertainty as to the extent of incursion into the buffer by the proposed revised playing field location. There is general concern that the Appellant's approach to woodland buffer zones is inappropriate in certain strategic locations. For example, the Strategic Landscape and Green Infrastructure Plan (Figure 4.3)(CD 1.21) shows the buffer zone around Crook's Copse (which is generally restricted to the minimum 15m width and may in places be even narrower, in contravention of the guidance and the SPD (CD 8.14)), as amenity grass containing trim trails and foraging trails. This is unacceptable given that buffers need to be designed to fulfil the specific requirements of their location, the particular interests and sensitivities of the woodland to be protected and their vulnerability to change, and to reflect the assessed levels and types of predicted impacts resulting from the proposed development.

3.3.27 Given the particularly vulnerable and isolated situation that the development proposals have inflicted upon Crook's Copse, in order to avoid this valuable woodland effectively becoming a 'sacrificial' element to the scheme, a much more sympathetic and far-reaching approach to woodland protection should have been designed into

the scheme. Whilst it may be desirable to allow public access within the wider vicinity of the woodland, this should at all times respect the minimum 15m fenced 'inner buffer' which has no permitted access and for example, mown grass paths / open grassy areas could have been provided in a 5-10m wide 'outer-buffer' but without any ingress of built structures or more formal recreational elements such as Trim Trails or Play Areas. This would have resulted in a two-tier buffer system, of overall minimum width say 20-25m but in some locations an overall width of 30m+, might have been more appropriate to satisfactorily protect areas of Ancient Woodland. This approach, which should also have been adopted in other vulnerable locations throughout the Site would, if to be implemented now, involve a reasonably substantial re-structuring of the built environment proposals, over and above what might be suitable to put aside for Reserved Matters consideration.

3.3.28 Whilst the Standing Advice (Natural England and Forestry Commission, 2018 CD 8.31) regarding the width of an Ancient Woodland buffer is a minimum of 15m, the Woodland Trust (CD 17.3) recommend a minimum 50m buffer, unless the applicant can demonstrate clearly how a smaller buffer would suffice. Whilst this much greater extent of buffer would undoubtedly serve to minimise both the effects of fragmentation, isolation, and indirect impacts on retained woodland, it may not always be feasible in this location. The SPD (CD 8.14) proposed 15m buffer is noted, however, this pre-dates the Standing Advice and the more recent emphasis in national policy (NPPF, CD 8.1)to impacts on biodiversity. In this regard and as a general principle, the adoption of a 20m+ buffer around the margins of Crook's Copse and other sections of Ancient Woodland abutted by development (eg the western periphery of Barn Copse, Slocketts Copse and Dirty Ground Copse), would be more effective than the 15m minimum buffer at protecting the woodland, ensuring that there are no direct or indirect impacts on the sensitive root protection area (RPA) of peripheral trees and would help prevent indirect disturbance impacts on the Ancient Woodland habitat.

3.3.29 Within the wider Country Park sector of the Site, the Council has other concerns relating to the Ancient Woodland buffer zones, in particular in the northern valley and around the margins of Barn Copse, Slockett's Copse, High Wood and Dirty Ground

Copse. These concerns relate to the proximity of built elements including SuDS basins and conveyance channels, recreational routes and other paths, the school extension playing field and a play area. These are discussed in 3.4 and 3.6 below (with reference to RfR 10 and 13). Significant ingress into the buffer zones adjoining the northern tip of Waterleaze Copse and the NE corner of Gorse Covert (LWS but not ancient woodland), caused by the proposed Emergency Access and the adjoining cycle route, is discussed in 3.3.6 - 3.3.8 above.

3.3.30 The apparent lack of regard given to the adequate safeguarding of the Ancient Woodlands, at Sandleford Park, as demonstrated in the application documents, is unfortunate, unsound on ecological grounds and demonstrates a lack of caution, care and inter-disciplinary team liaison, that might have resulted in a more ecologically sensitive scheme that respects the irreplaceable nature of the Ancient Woodland and the need to maintain strong connectivity between the various elements of the High Wood Complex LWS.

3.3.31 In summary, I consider that the Appellants have failed to:

- *establish the types and extent of likely impacts on the Ancient Woodland*
- *provide adequate and effective buffers*
- *provide adequate supporting evidence*
- *provide clear evidence that is not contradicted within the Appellants' own documents;*
- *take account of the irreplaceable nature of this habitat and thus that any harm to the woodland will always result in net loss of biodiversity.*

3.3.32 Failure to provide adequate assurance in this respect, along with a lack of detailed and appropriate assessment and proposals for a carefully considered avoidance of harm package, combine to re-affirm the RfR 8.

3.4 Reason for Refusal 9 - Impact on Ancient, Veteran and Other Trees

'The proposed development will cause harm to a number of irreplaceable priority habitats, comprising ancient and veteran trees and a number of other trees that are

the subject of a TPO, without satisfactory justification and compensation or mitigation.'

The Council considers that RfR 13 has been addressed in part by the 'Wheatcroft' submission provided subsequent to the original application, including the reduction of loss of / harm to ancient and veteran trees associated with the Park House School expansion area (also see RfR 10 below) and the Main Valley Crossing.

3.4.1 This aspect is also considered in the evidence of the Council's Senior Arboricultural Officer in terms of arboricultural issues, with the following evidence concentrating on the ecological aspects of loss or harm to ancient, veteran, and other trees. Reference to the inter-relationship between ancient and veteran trees and Ancient Woodland and the scheme proposals has also been included in the preliminary discussions in 3.2 above (RfR 8). The ecological aspects relating to T34, the only ancient oak tree on the Site, and also T31 and T33 (veteran trees) is considered in more detail in 3.4 below (RfR 10), as they pertain directly to the school playing field expansion area.

3.4.2 The Council believes that losses of / disturbance to a number of substantial mature oaks and other parkland / hedgerow trees affected by the development (some of which may be used by bats and/or barn owls), including those in the vicinity of the Main Valley Crossing, Monks Lane access, the Cycle Route / Emergency Access upgrade and also the access into the DNH land (Sandleford West development) and elsewhere, could have been avoided through adopting a more ecologically-led approach to the scheme design. The loss and/or harm to these trees is not evaluated in the BNG calculations and any such harm would result in a lack of BNG at the project level, contrary to national and regional planning policy (CD 8.1 and CD 8.5).

3.4.3 The proposed western Monks Lane access and associated works provision entails the removal of a significant length of hedgerow and trees (including T 116, a notable, over-mature /dying oak tree with moderate bat roost potential) and other off-site notable trees (this and the concept of 'notable'and trees is set out and the trees tabulated in the Council's Evidence regarding trees). This loss results (in combination with the proposed eastern Monks Lane access provision) in other adverse ecological

impacts, including connectivity issues that have not been adequately assessed. The Monks Lane hedgerow and trees therein, whilst generally unexceptional in habitat terms, is a reasonably substantial vegetation belt and does possess undoubted wildlife value and is shown on the Constraints Plan (Figure 2, EMMP CD 1.9) as having dormice potential, it is also used by commuting and foraging bats and is the only part of the site with recent reptile (grass snake in 2019) records. It also forms part of a virtually continuous peripheral wildlife corridor around the northern site boundary, linking Barn Copse, with Slockett's Copse, through to the SE corner of Crook's Copse and onto High Wood, in ecological connectivity terms. Given that other vegetated connections between these four woods within the site, will be adversely affected through severance and loss of habitat, the functionality of this secondary peripheral wildlife link including Monks Lane, to aid woodland connectivity might be expected to assume a higher level of importance.

3.4.4 In the absence of a strategic, structural planting proposal to retain, enhance and/or replace the sections of hedgerow / trees to be lost (for which the scheme has not allowed sufficient space) the proposed breaches in the hedgerow frontage to the site will result in adverse impact in terms of green-infrastructure and ecological connectivity which have not been subject to any 'Wheatcroft' amendments and which have not been fully assessed or mitigate against.

DNH Land Access

3.4.5 The Council is concerned that the selected position for the main access route between the DNH land and the Appeal Site in the original scheme (and not subject to a 'Wheatcroft' amendment) is inappropriate as it passes between 2no mature oak trees within the hedgerow itself (T46, which is a notable tree and T48) and involves the direct loss of part of G47 (identified as a maturing ash specimen). The gap between the canopies of T46 and T48 is estimated at 8-10m, which is likely to necessitate reasonably substantial pruning back to accommodate HGV and other vehicles. Enlarging gaps and hedgerow removal is not compatible with the status of this corridor as a 'hedgerow with potential for dormice' in the Constraints Plan (Figure 2, EEMP, CD 1.9), nor are the proposed provision of dormouse crossings (see

Strategic Landscape and Green Infra-structure Plan, Figure 4.3, CD 1.21), created through forming tree branches into an arch, considered sufficient or practical. Due to acknowledged presence of dormice in suitable habitat on site, more comprehensive / specialist mitigation is required to conserve and safeguard vulnerable dormice populations and maintain adequate dormouse connectivity.

3.4.6 The likely loss / major works to these particular trees has other ecological implications which are not fully assessed. Table 3 of the Bat Roost Assessment of Trees and Bat Hibernation Survey report (ES Chapter 6, Appendix F7, CD 1.9) indicates that T46 is a confirmed bat roost, G47 has moderate bat roost potential and T48 has low bat roost potential. Table 4, the Bat Hibernation Survey Results indicates that 3 ash specimens in G47 have some suitability for bat hibernation, with one of the 3 ash specimens with high suitability. It is not clear which of the 3 no. G47 ash trees this is and whether it is the one to be lost to the proposed main access. The likely requirement for lighting of the proposed access route is not compatible with retention of trees with bat roost potential.

3.4.7 There is a current lack of consistency within Appendix F7: whilst T46 and G47 are shown as bat roosts / potential bat roosts on Figure 3 (Tree Roost Assessment Plan) in the report, T48 is not shown. Furthermore, G47 is shown as moderate bat roost potential but there is no indication as to the location of the ash specimen in G47 with High suitability for hibernating bats. The plotted location of T46 and G47 on this plan is different to the locations shown on Figure 2, the Constraints Plan in the EMMP (CD 1.9), which adds to the confusion. To ensure that the proposed main access route avoids unnecessary harm to bat roosts or trees with suitability to support bat roosts, accurate plotting of the various trees within G47, along with T46 and T48 is required. Notwithstanding this lack of clarity, it is considered that this access will cause significant unassessed ecological disbenefit through the likely loss of /or harm to mature trees including a notable tree and unnecessary disturbance to bat roosts and a potential bat hibernation site.

The Main Valley Crossing

3.4.8 The Council welcomes the approach represented by the 3rd Option (SK023/ SK003) provided within the 'Wheatcroft' Consultation with regard to the main valley crossing (CD 6.3). This goes part way to addressing the criteria set out in the SPD CA7 Valley Crossing (pg. 79) (CD 8.14) as these apply to retention of mature and notable trees and the open valley ecosystem. The original proposal resulted in a substantially higher level of ecological impact in terms of loss of three notable / habitat trees (T69, T76 and T78), similarly the curved 'Wheatcroft' option results in the undesirable loss of T69 and T77. However, prior to removing our concern in this respect, some clarification is required due to inconsistencies in the documentation. The table in 3.1 of the Valley Crossing Study, indicates that this 3rd Option allows for the retention of T69, T77 and T78 (unlike the other options which would necessitate removal or significant impact on either T77 or T78), this table then goes on to indicate that T69 will be removed. Uncertainty also surrounds the retention or otherwise of T76 in this 3rd Option. It is my opinion that T76 (which is a confirmed bat roost) will be retained in this option but this is not clear and is not stated. These 4 trees are each fine mature or notable specimens, of some general habitat value, and with each one identified (ES Ecology Chapter 6, Appendix F7, Bat Roost Assessment of Trees and Bat Hibernation Survey, CD 1.9) as trees with bat roost potential (moderate, low or negligible), on account of features capable of supporting roosting bats.

Other Trees

3.4.9 The proposed track to a potential machinery store / office for the Country Park, in the NE corner of the Country Park, close to the A339, passes close to a number of mature oak trees. Several of these are veteran trees (T127, T128 and T133) with the remainder (T125, T126, T129 and T130) all notable trees, of stem diameter 90cm or greater. These trees all have potential / confirmed bat roosts and T127 also has barn owl nesting potential. T127 is proposed for felling or pollarding to make safe. The Council is not satisfied that this is justified and is of the view that alternative provision could be made for access to the proposed machinery store / office, whilst safe-guarding the tree and setting it within a fenced protection zone. We also feel that potential impacts on the RPA of T125, T126, T128, T129, T130 and T133 (and

the potential need to undertake pollarding / dead wood removal to these trees) could have been avoided by track re-alignment. As these are veteran / notable trees this is a material consideration and needs to be fully assessed at this stage.

3.4.10 Several veteran / notable and other mature trees are also located along the line of the proposed Cycle Route / Emergency Access footpath upgrade (and off-site Warren Lane access), including (but not limited to) T31 (also see RfR 10 below), T59, T143, T146 and T166 (all veteran or notable trees), although the extent of loss / damage to Root Protection Area (RPA), is currently unclear due to the lack of detailed drawings and as a consequence the Appellant has failed to satisfy the Council on this matter. The 'Wheatcroft' Consultation Main Valley Crossing 3rd Option(CD 6.3) removes the Emergency Access from the footpath upgrade and whilst the effects of this removal on trees are unclear, it has potential to alleviate impacts on the above and other trees.

3.4.11 The proposed felling / pollarding of T154 (oak) in the SE corner of the Country Park and T172 (sycamore) and T173 (ash) on the southern eastern extremity of Dirty Ground Copse, on arboricultural grounds is not considered appropriate from an ecological viewpoint. These are all notable trees with bat roost potential, with T173 having additional barn owl nesting potential and rather than felling / pollarding, could all have been safe-guarded (including minimal works to reduce risks) within a fenced protection zone, to preclude access and minimise public H&S risks and to perpetuate their wildlife value.

3.4.12 It should be noted that whilst the Amended AIA (CD 6.5) makes recommendations for the various tree felling / pollarding works as discussed above, conversely, the EMMP (Section 4.4) (CD 1.9) states that these works are not part of the current proposals. Clarification is required. Whilst extensive new planting of broad-leaved scattered trees has been proposed, this cannot be considered as compensation for loss of / harm to veteran and other notable and substantial mature trees within the park. It is not physically possible to replace the characteristics and inherent wildlife value of these trees, without the substantial passage of time.

3.4.13 Loss of, or harm to veteran trees (irreplaceable habitat) precludes BNG at project level, which is contrary to national and regional planning policy (CD 8.1 and CD 8.5).

3.5 Reason for Refusal 10 – Park House School Extension Land

'The area of land identified for the expansion of Park House School results in the loss of trees and hedgerows (including an ancient tree) that could be avoided by an increase in the area proposed or an alternative proposal. Accordingly, the proposal is unacceptable as it fails to make appropriate secondary education provision to mitigate the needs of the development and ensure the satisfactory provision of a sports pitch.'

The Council considers that RfR 10 has been addressed in part by the 'Wheatcroft' submission provided subsequent to the original application.

3.5.1 The original proposals for sports pitch provision in the expansion land required the loss of T34, an ancient oak specimen, with the additional impact on the RPA (Root Protection Area) of T31 and T33 (with potential for tree loss due to the extent of likely RPA damage), two veteran oak trees, the loss of a section of adjacent hedgerow (of potential use by dormice) and T35. It also resulted in ingress of the proposed sports pitch scheme into the 15m buffer to Barn Copse Ancient Woodland. This loss of an ancient tree, substantial impacts on two veteran trees and significant ingress into the 15m buffer to Barn Copse would result in unacceptable and unjustifiable loss of / harm to irreplaceable habitat.

3.5.2 The alternative approach to the Park House School playing field expansion land, as provided in the 'Wheatcroft' Consultation (CD 6.4) and Statement of Case 6.27 and Appendix 5 CD 5.2), offers some degree of ecological benefit in comparison to the original proposal. However, there is insufficient information in order to fully assess the ecological impacts of the alternative approach and this includes lack of detail regarding access provision between the school and the expansion area, to determine whether any trees and/or hedge sections (with potential for use by dormice) will be lost (including a number of trees with confirmed bat potential), requirements for

spectator areas / outfield and proposed uses of the remainder of the land set aside for school use, along with cross sections to indicate any changes of level proposed.

3.5.3 The Council welcomes the efforts made to retain T34, which is a significant and ancient habitat tree: it is a confirmed barn owl roost (with potential for nesting) and it also has confirmed bat roost potential. Whilst the revised pitch location does not impinge on the RPA of the tree (19.5m radius), it does impinge into the 30m development exclusion area for barn owls (Figure 3 EMMP, CD 1.9) by up to 5m. This is critical and depending on outstanding details regarding tree protection, along with information about the use of land around the pitch, it would then be possible to determine whether T34 is likely to retain any of its wildlife value, during construction and/or the operational phase of the scheme. I consider it highly unlikely that any use of the tree by barn owls will occur either during the construction period or the ongoing operation of the playing field and use of the surrounding land, due to the disturbance caused. The intensive recreational / social function proposed will result in noise and physical disturbance, as well as potential damage to the tree itself caused by trampling, possible compaction, changes to the water table and damage to the soils etc. Any future use by bats may also be compromised. Thus, whilst the tree itself will be retained, along with residual biodiversity interests (including invertebrates, fungi etc.), its value as habitat for protected species of bats and barn owl is most likely to be lost or severely diminished.

3.5.4 The impact of the original scheme on the RPA of T31 and T33 is likely to be substantial. It is unclear and needs to be clarified through the provision of detailed drawings but indications are that the location of the playing field and associated engineering works, will severely impact the RPA of T33, with further potential impacts on the RPA of T31, such that their long-term survival is likely to be jeopardised. The proposed realignment of the pitch as set out in the 'Wheatcroft' submission has a substantially reduced level of impact on the RPAs of T31 and T33: the revised western boundary of the playing field immediately adjoins the 15m RPA of T33, which has confirmed low bat roost potential. In addition, there is a small incursion into the RPA of nearby T31, which also has confirmed low bat roost potential and likely additional incursion into the RPA of Tree 31 and unquantified loss of hedgerow, to

enable a southern school access point in this area. Further, unquantified loss of hedgerow is also likely to be required elsewhere along the western boundary to link the existing school premises with the expansion area.

3.5.5 Similar concerns (as relate to T34) persist concerning any future use of T31 and T33 by bats. Future recreational (noise and physical disturbance by spectators etc) impacts / ground compaction within the rooting area of these three important trees could also compromise the wildlife value and /or long-term health of these trees and this has Health & Safety implications to users of the school site, which in turn may result in pre-mature tree removal / need for remedial tree works / deadwood and decay removal. This would be to the detriment of wildlife interests of the trees, with the likely result that micro-habitats suitable for use by bats and hole nesting / roosting barn owls and other birds would be severely compromised. There is therefore residual concern with respect to the long-term well-being and habitat function of these important and irreplaceable habitats as a result of incremental deterioration / arboricultural maintenance.

3.5.6 The Council is concerned that whilst the alternative approach set out in the 'Wheatcroft' Consultation appears to respect the 15m buffer zone around the adjacent Barn Copse (Ancient Woodland) and in this respect is preferable to the original scheme, there is no leeway whatsoever and as the NE corner of the pitch immediately abuts the 15m buffer zone, there may be potential for earth works to encroach to some, as yet, unconfirmed extent into the buffer. In order to satisfactorily protect the special interests and integrity of the woodland from recreational disturbance impacts associated with the playing field, the level of protection offered by the buffer should be maximised ie. it should be fenced and strictly out-of-bounds and be designed as dense semi-natural woodland edge. This may not be compatible with playing field / spectator / access / other education requirements. Further assessment, including detailed engineering drawings showing access requirements and protection measures to be afforded to the adjacent Ancient Woodland (and also to T31, T33 and T34), would be required to determine feasibility and to ascertain whether the suggested pitch arrangement can be achieved without either

compromising playability and educational functionality and/or causing undue harm to the nature conservation interests of the area.

3.5.7 Whilst the 'Wheatcroft' submission offers substantially less ecological harm compared to the original school expansion scheme, significant concerns remain and there has been no acknowledgement of the extent and degree of potential ecological harm arising from either the original school expansion scheme or the 'Wheatcroft' revised proposal.

3.5.8 Loss of, or harm to veteran trees (irreplaceable habitat) precludes BNG at project level and is contrary to national and regional planning policy (CD 8.1 and CD 8.5).

3.6 Reason for Refusal 11 – Post Construction Impacts on Ecology

'*Insufficient regard has been given to post-construction adverse impacts on existing retained habitats. The proposed development has the potential to have adverse impacts on the local natural environment and such impacts are not adequately addressed or mitigated; Consequently, the proposed development is unacceptable in terms of ecology and biodiversity.'*

The Council does not consider that RfR 11 has been adequately addressed, either by the Application or the subsequent 'Wheatcroft' submission. However, the 3rd Option

for the Main Valley Crossing as set out in the 'Wheatcroft' submission offers benefits with regard to operational impacts of the scheme in terms of habitat connectivity and reduction of fragmentation between Ancient Woodland and other habitats in the main valley setting.

General Post-construction Impacts

3.6.1 Post-construction impacts on Ancient Woodland have been considered in section 3.2 (RfR8) above, with residual uncertainty regarding the levels of decline and habitat deterioration that might be expected during the operational period of the proposed development.

3.6.2 In addition the Council considers that there is significant scope for incremental damage and decline in the habitat quality of other retained habitats, as a result of post-construction impacts, including those habitats close to the proposed housing scheme and others within the wider Country Park. Of particular concern are disturbance impacts on areas of vulnerable wetland habitat including Purple Moor Grass and other marshy grassland, streams and ponds, along with secondary woodland and hedgerows. There are also significant concerns regarding the sustainability of a number of protected and other notable species on the site (and in this respect particular regard is paid to bats, badgers, dormice, barn owls, skylarks and lapwings) as a response to habitat fragmentation and reduction in ecological connectivity between woodlands and the long-term impacts of anthropogenic pressures on the Site causing habitat deterioration and loss, compromising the viability of populations.

3.6.3 In general terms, the special habitat setting of Sandleford Park, straddling two converging valleys engenders it with special ecological attributes, reinforced and enhanced by the adjacent woodland blocks. As discussed in more detail in section 3.2 above, the ecological viability of the Ancient Woodland is expected to be adversely affected by fragmentation and failure of the design to respect and/or build upon existing hedgerows and other wildlife corridors, offering strong connectivity between the scattered elements of the High Wood Complex LWS. Given this situation, and the increasing isolation of the woodlands, maintaining and enhancing the ecological integrity of the open links between the woodlands and in particular, the mosaic of habitats within the two converging valleys, is necessary, both to conserve the value of the marshy grassland and other habitats as functional complementary habitat to the woodlands and as habitats of intrinsic ecological value in their own right.

3.6.4 Unfortunately the scheme proposals fail to respect the ecological interests of the two valleys (especially the narrow northern valley), which are subject to built development proposals including encroaching housing in the northern part (in contravention of the presumption against development in this part of the Site), the two main valley crossings, other secondary stream crossings, SuDS basins and channels (explored in

more detail in RfR 13, 3.6 below), hard surfaced and other routes (including the Sandleford Mile, trim trails and foraging routes) and a play area. There is uncertainty as to how much of this habitat loss is accounted for in the BNG calculations (due to lack of detailed drawings and inconsistencies in the calculations). It is certain, however, that retained habitat space in the northern valley is very limited and is likely to consist mainly of the Ancient Woodland buffers either side of the narrow valley (total width 30m minimum) which will be unavailable to public access or built development and a 16m no-development corridor centred on the stream. Given the wet conditions prevailing in the valleys (including flooded conditions in the winter) and as demonstrated by the dominant marshy grassland communities, these areas are very vulnerable to trampling / poaching, causing erosion, compaction, changes in the botanical composition of plant communities, recreational disturbance to the streams and ponds and other destruction of habitat. This narrow northern valley is likely to become a recreational 'hot-spot' forming one of the main gateways between the housing development and the main southern part of the Country Park. There is therefore concern that considerable recreational pressure will not only physically destroy habitats in the valleys and reduce opportunities for wildlife, but will also in time lead to additional pressure to formalise the informal paths to facilitate recreational access and increase the level of urbanisation and incur further un-assessed habitat loss.

3.6.5 Given that the proposed development will contain up to 1000 new dwellings (with a likely new population of 2500+ new residents and their pets), along with several new and existing schools and considerable existing housing development in close vicinity of the proposed Country Park, its primary function will be one of recreational use and indeed a recognised aim is to absorb recreational pressure and deflect use away from the nearby Greenham Common SSSI. The scheme fails to demonstrate how this substantial public access function can be effectively combined with suitable protection of nature conservation interests as befits the LWS status of the structurally dominant Ancient (and other) Woodlands and the recognised habitat and wildlife interests of the other habitats making up the Country Park.

Trees / Public Safety

3.6.6 Initial losses and other impacts on ancient, veteran and other trees are discussed elsewhere in this evidence (RfR 9) but in terms of longer-term impacts on retained trees there is a potential conflict of views between those expressed in the Amended Arboricultural Assessment (CD 6.5) and an Ecologist's viewpoint. A tree that possesses features suitable for bats and barn owls etc., might be assessed in arboricultural terms, as one with limited viability, posing a health and safety risk within a residential development or a well-used Country Park. This can result in conflicts of interest when future decisions need to be made about tree retention / premature felling / pollarding / other major works, in these circumstances, many of which would not apply in the 'do-nothing' ie. no development, situation. In my experience, in areas open for public access, it is more generally the case that human safety is put above wildlife interest, leading to premature felling or major tree works to trees that may already have, or have the potential to develop bat roosts and / or barn owl roosting or nesting habitat. This leads to incremental and unplanned (and un-assessed) reduction in the number of irreplaceable veteran and other 'wildlife trees' and the Council fears that this is likely to occur at Sandleford Park.

Rush Pasture

3.6.7 With respect to Purple Moor Grass and Rush Pasture HPI (Habitat of Principal Importance), there is concern that the proposed alignment of the Sandleford Mile, close to the southern end of High Wood, at a bridging / junction point with another 2m wide main footpath route, appears to dissect one of the two narrow strips of rush pasture on the Site. This is poor design and causes unnecessary habitat loss and it is unclear whether this loss / severance effect has been assessed in the BNG calculations and mitigated. It is recognised that the Appellant proposes a 14% increase in this habitat, and this is welcomed. However, the opportunity should have been taken to further increase this scarce habitat type (by say up to 30%), given the suitable hydrological conditions that exist within the wider site and to provide substantially greater BNG in this respect.

Reptile and Skylark Mitigation

3.6.8 The Council agrees that the proposed Country Park offers significant scope for reptile mitigation including extensive areas of meadow enhancement. However, there is concern that these extensive areas, which are also areas of unrestricted public access will not necessarily fully safeguard reptiles and other wildlife populations and allow them to flourish in the long term. In this respect the scheme has failed to provide a sufficiently far reaching and pro-active approach to habitat and species conservation, particularly considering that the type of habitat provision / management regime that is optimal for reptiles, is also to a substantial extent, also suitable for skylarks, lapwings, small mammals, invertebrates and hunting territory for barn owl (and other birds of prey). The opportunity has been missed to achieve landscape scale conservation management, restoration and habitat enhancement, including heathland provision, to fulfil objectives compliant with the Greenham and Crookham Plateau Biodiversity Opportunity Area (BOA) 8, as identified by the Berkshire Local Nature Partnership (LNP) and within which the major part of the Site lies (CD 17.27). As such, the Site represents a formally identified area where substantial scope exists to make positive changes for biodiversity, to reverse existing habitat fragmentation, through expanding, linking and buffering semi-natural habitats.

3.6.9 The Country Park proposals fail to optimise the ecological enhancement potential of new habitats in line with the BOA objectives and also the West Berkshire Living Landscape project targets. In line with the BOA objectives for Greenham and Crookham Plateau, (BOS 8), there is scope to adopt a more positive, pro-active approach to habitat creation through reinstating heathland / acid heathy grassland on appropriate dry acidic soils, to buffer existing woodlands and create / reinforce wildlife links, thus increasing their resilience to degradation.

Main Valley Crossing Operational Impacts

3.6.10 The Council welcomes the review of options for the Main Valley Crossing as set out in the 'Wheatcroft' Consultation documentation (Appendix 4 Valley Crossing Study, CD 6.3), which presents the approach for two other alternative crossings. From an

ecological perspective the approach represented by the 3rd Option (SK023/ SK003) goes part way to addressing the criteria set out in the SPD CA7 Valley Crossing (pg. 79)(CD 8.14) as these apply to retention of mature and veteran trees (as discussed in RfR 9, 3.3 above) and the open valley ecosystem. It also goes part way to addressing the ecological connectivity concerns associated with the original proposals. The original crossing proposals (and also the curved 'Wheatcroft' option), in contrast, resulted in unacceptable habitat loss, including unnecessary loss of veteran trees and also loss of marshy grassland and substantial ecological severance effects, caused in part by proposed embankments, increasing ecological fragmentation during and post-construction. The large-scale embankments also have potential for hydrological change to the sensitive marshy grassland habitats in the longer term.

3.6.11 The table in 3.1 of the Valley Crossing Study (with reference to the 3rd Option) in the *'Wheatcroft' Consultation* (CD 8.14) states *'There is no loss of connectivity with wildlife able to freely pass beneath'.* Whilst this is true for badgers, deer and non-flying small mammals, reptiles, amphibians and many invertebrates, there is still potential loss of connectivity and harm to bats, barn owls and other bird species and flying insects etc., vulnerable to severance effects of new roads and bridges. This requires further assessment with respect to patterns of wildlife activity in the area of the bridge and further attention to species specific mitigation requirements, to prevent unacceptable levels of death or injury to protected and other species of wildlife. For example, there is potential for bats that may inhabit any of the retained trees in the vicinity, including the confirmed bat roost in the nearby T67 (and any bats that may in time occupy the bat boxes to be installed within the 3 woodlands close to the proposed valley crossing), to be lost or injured by vehicular impact. There is known bat foraging activity in this area and whilst mitigation measures proposed include planting 'hop-over' trees to a height of 3m+ (ES Ecology Chapter 6, Appendix F9)(CD 1.9), it is difficult to envisage with any conviction how this would be effective in preventing foraging and commuting bats colliding with vehicles on the long and elevated bridge structure, or conversely directing them under the bridge. We estimate the below structure clearance to be up to 4m, although the submitted plans do not

enable accurate measure in this respect and unfortunately the Appellant has failed to satisfy the Council on the basis of current plans.

3.6.12 Whilst it is accepted that low flying species of bats may fly under the proposed bridge there is still scope for severance effects on bats attempting to cross the route for foraging / commuting purposes. Up to 13 species of bats have been recorded on the site (CD 1.9), with differing flight patterns, including a significant variation in typical height of flight. This potential severance effect and the reasonable likelihood of death or injury to some bats when attempting to cross the bridge as a result of vehicular collision, is as yet un-assessed and additional bat activity survey is required in the vicinity of the bridge in order to address this material consideration.

3.6.13 The use of low -level bollard lighting on the bridge structure as stated in the Lighting Assessment submitted as part of the ES (CD 1.9) with the application is welcomed (ES Vol. 3 Appendix F20) but there is residual concern that the combination of even low-level lighting along with vehicular illumination may exacerbate potential harmful effects of the bridge. This could result in an increase in the potential severance effect of the bridge and risk of death / injury to bats in these circumstances.

3.6.14 Although this bridge design is favoured in ecological terms compared to the previous proposal, a significant degree of uncertainty remains regarding potential harm to European Protected Species of bats and incremental decline in bat populations on Site due to severance effects and the risk of death and injury.

3.6.15 The marshy grassland habitat that will be crossed by the proposed bridge has also been identified as 'optimal foraging habitat' for barn owls (ES Ecology Chapter 6, Appendix F5, CD 1.9). Barn owls tend to fly at low levels, the optimal foraging height being 3m or so above ground vegetation ie more or less the same clearance height as the bridge structure (to be confirmed by the Appellant), therefore whilst it might be expected that owls would fly under the bridge , this is not certain. As for bats, the bridge structure has potential to cause an obstruction to flight paths / foraging patterns, effectively causing severance of barn owl activity and/or vehicular collision and risk of injury / mortality. Further assessment to quantify likely impacts and

mitigation measures to ameliorate potential impacts on this Schedule 1 protected species is required.

3.6.16 Additionally, the bisection and loss of hedgerow linkage between Barn Copse and Dirty Ground Copse, will prevent dormouse connectivity between Barn Copse and other woodland. The EMMP (4.6.2), (CD 1.9) states *'it will be necessary to create a continuous vegetation arch over the proposed road, between Barns Copse and Dirty Ground Copse. Alternatively, if the level of the valley crossing is high enough, with enough light getting through, to sustain a hedgerow, a vegetation corridor beneath the bridge may be possible'*. I question the feasibility of either of these options given the nature and width of the bridge and its use by HGV and other high sided vehicles and suggest that alternative solutions be designed into the scheme, for example, the use of dormouse gantries or pulling back of the western bridge abutment (see below). Loss of dormouse connectivity is also a significant potential issue elsewhere on the Site, for example, at the Monks Lane access points, the eastern access from the A339 (already created), the Cycle route / Emergency Access crossing of Waterleaze Copse and the access into the DNH land, which will need to be similarly addressed.

3.6.17 The Council's favoured 3rd Option will (in comparison to the other proposals) significantly reduce the loss of marshy grassland and specifically the linear area of purple moor-grass and rush pastures Habitat of Principal Importance (HPI) within the valley and the adjacent habitats on the valley sides and this is to be commended. However, the western 'bridge abutment' still encroaches to some extent into the valley side, resulting in habitat loss / fragmentation of the important existing hedgerow / shaw connecting Barn Copse with Dirty Ground Copse. There is risk that Barn Copse may become almost as isolated and adversely affected by adjacent development as Crook's Copse, further reducing the integrity of the High Wood Complex LWS.

3.6.18 The appraisal provided in the table in 3.1 of the Main Valley Crossing Link text (CD 6.3), does not acknowledge the extent, type and degree of potential ecological harm arising.

Crook's Copse Link Operational Impacts

3.6.19 We welcome the clarity provided in the Wheatcroft proposal for the Crook's Copse Link, over and above that provided in the original scheme. However, the revised scheme for the Crook's Copse link (Dwg. No. VD17562-SK21 B, CD 6.3), has substantial potential for severing ecological connectivity between Crook's Copse and the other woodlands and open space to the south. Notwithstanding that this link was requested by the Council (highways team), to address their concerns regarding the distribution of traffic throughout the whole of the allocated site, ecological impacts of the revised Crook's Copse link remain of concern and it is considered that operational impacts on biodiversity would be alleviated by adopting a bridged approach, similar to the Main Valley Crossing.

3.6.20 The link as proposed will effectively (in combination with associated built housing development encroaching on the valley sides) isolate Crook's Copse (Ancient Woodland) from High Wood Copse and Slockett's Copse and the other areas of Ancient Woodland to the south, which in combination comprise the High Wood Complex Local Wildlife Site (LWS). This potential for habitat fragmentation and ecosystem isolation is likely to cause long term decline in the Ancient Woodland characteristics of Crook's Copse (which is currently one of the most biodiverse of the woodlands on site). Habitat isolation is known to adversely affect the survivability of characteristic Ancient Woodland indicator species (plant species that provide a good indication of ancient woodland status), reduce the effectiveness of wildlife links and cause genetic deterioration of species groups due to in-breeding. The isolation of Crook's Copse is exacerbated by the encroachment of built form on the valley sides (as highlighted in the landscape response and discussed in RfR 8, 3.2 above), with operational impacts set out below.

3.6.21 The design approach for this valley crossing differs significantly from that put forward for the Main Valley Crossing, in that an at-grade solution is proposed, with a small culvert enclosing the stream, as opposed to a bridge. However, much of the area crossed by the Crook's Copse Crossing is similarly, marshy grassland habitat providing optimal barn owl foraging habitat (albeit existing records relate to land

mainly to the south of the proposed link) and is also used by foraging bats (albeit this area is at further distance from trees with recorded bat roost potential than the Main Valley Crossing). There is scope for severance effects / risk of vehicular injury or death to these low flying protected species likely in excess of a bridged proposal and this may be exacerbated by the proposed lighting along the southern side of the route.

3.6.22 The current proposal put forward to mitigate against the ecological impacts of the Crook's Copse link include planting a north-south wooded belt to help link Crook's Copse with the remainder of the valley, with a 3m+ 'hop-over' to guide bats over the road. This approach would help reduce bat and barn owl mortality to some extent but would not eliminate this risk. There are practical issues of fitting this belt into the valley which at this point is reduced to a narrow corridor by the proposed encroaching development on the eastern and western flanks and also by the construction of a SuDS basin.

3.6.23 This proposal would also cause loss or damage to the swathes of marshy grassland wetland habitat in the vicinity of the link road and would significantly reduce the open character of the valley. Planting possibilities thus appear to be restricted to the eastern side of the stream / wetland habitat and whilst this is possible and would in due course provide a foraging / commuting route suitable for bats, bats will not necessarily seek out this route and may well continue to use the wider stream corridor / combined with the new SuDS basin, as a route to and from Crook's Copse. In this respect bat activity patterns can be difficult to accurately predict. Given that planting would not be possible (or ecologically desirable) along both sides of the entire length of the link and the connecting road infra-structure, there would be scope for low flying bat species and barn owls to suffer harm at times, as they attempt to cross the road. Further bat and barn owl activity survey is required in order to fully assess this material consideration.

3.6.24 The only active main badger sett recorded at Sandleford Park is located at a distance of approximately 40m to the closest part of the proposed Crook's Copse link. Badger surveys undertaken to date do not include activity/ population surveys, which are

required in order to determine badger movement patterns in this area, to assess operational impacts of the proposed crossing and determine specific mitigation requirements to ensure badger welfare. Whilst badgers are not rare or threatened their welfare is an issue and the Protection of Badgers Act (1992) ensures that badgers and their setts are afforded suitable levels of protection in relation to development. They are highly vulnerable to the severance effects of new roads and bridges.

3.6.25 There is current and historic evidence of badger activity in Crook's Copse and its environs and thus a strong likelihood that badgers from the High Wood main sett cross the Crook's Copse link area habitually as part of their territorial area. Whilst the proposed inclusion of lateral mammal shelves at the culvert in the current scheme might help encourage safe passage by badgers, but in themselves would not be sufficient to prevent likely death and/ or injury to badgers and a subsequent incremental reduction in population numbers of the nearby badger colony. Badgers currently have free rein over this part of the valley and the adjacent eastern area of grassland and would not necessarily travel to the culvert (some 100m from the sett) to cross the road using the proposed mammal shelves, and thereby access Crook's Copse and the northern section of valley. They would more likely cross the road risking vehicular mortality, unless the road was fenced, which would detrimentally impact on human movement and further reduce ecological connectivity. In the winter months the shelves may well be flooded, which would prevent use. This concern needs to be addressed through further survey and a more comprehensive strategy of badger protection.

3.6.26 Furthermore, there are concerns that if the main badger sett in High Wood becomes untenable due to anthropogenic disturbance impacts (including a proposed Play Area within approximately 30m of the main sett, which is considered inappropriate, given the considerable opportunities elsewhere on the Site for a less ecologically sensitive position for the Play Area), any new sett location selected by the badger clan may be compromised by wet ground conditions prevailing in many of the woodlands in the southern part of the site and/or an inappropriate situation, affected or potentially affected by human disturbance. In order to help protect the existing badger sett and

its occupants from untenable disturbance, the Council require that the 15m+ Ancient Woodland buffer is extended to 30m+ around the NW corner of High Wood and the fenced buffer is planted with 'defensive' planting to protect and screen the sett from unwelcome human attention and disturbance by dogs.

3.6.27 As far as the Council is aware there has been no assessment of the potential for aerial pollutants and particulate contaminants to affect habitat or species receptors in relation to the proposed infra-structure network of roads and valley crossings in this area. In this respect, it might be expected that settling of such contaminants in narrow, enclosed valleys could cause adverse impact on retained habitats and this remains unassessed.

3.6.28 The explanations provided in 4.8 and 4.9 of the Crook's Copse Link text (CD 6.3), do not acknowledge the extent, degree and unpredictability of ecological harm arising and we consider it appropriate for the Appellant to provide alterative options (in particular, a bridged option similar to the Main Valley Crossing) and compare the likely ecological impacts and opportunities for mitigation.

3.6.29 The Biodiversity Net Gain calculations (ES Chapter 6, Appendix F21, CD 1.9) provide a useful initial indicator of extent of new habitat creation and mitigation measures proposed. I disagree with the Appellant with respect to the likelihood or otherwise, of habitat and species degradation and/or decline, as a result of development of the site. I consider that intensification of recreational and domestic disturbance, fragmentation and isolation of priority and irreplaceable habitats and severance effects on key protected and other species of wildlife have been significantly under-assessed and, in some cases, ignored altogether. Careful consideration should have been given to all of these potential indirect impacts, which may be incremental and time dependant, on all ecological receptors, within the BNG calculations (as opposed to limiting the assessment to direct habitat losses and gains). This would have resulted in a more realistic recognition of potentially adverse residual factors on the biodiversity interests of Sandleford Park for the original scheme and a re-assessment incorporating the 'Wheatcroft' proposals would be welcome. It is also necessary to acknowledge that the loss of, or harm to irreplaceable habitat precludes BNG at

project level, contrary to national and regional planning policy (CD 8.1 and CD 8.5).

3.7 Reason for Refusal 13 – Drainage / Sustainable Drainage Systems

'*Insufficient information has been provided in respect of surface water drainage and as such a full consideration of the impact of the proposed development in these terms is not possible. Accordingly, the proposed development is considered unacceptable.'*

The Council does not consider that RfR 13 has been adequately addressed, either by the Application or the subsequent 'Wheatcroft' submission. The 'Wheatcroft' submission re-confirms our concerns with respect to the practicalities of installing the necessary SuDS components within the narrow northern valley, potential for adverse hydrological effects on retained habitats including Ancient Woodland and residual surface water runoff effects.

3.7.1 Concerns and uncertainties with regard to the surface water drainage proposals as provided by the Application have not been fully addressed by the further hydrological information provided in the 'Wheatcroft' Consultation. In particular, concerns remain regarding the installation of two engineered SuDS basins, along with conveyance channels to be constructed in the narrow valley between High Wood and Slockett's Copse (as shown on the Illustrative Surface Water Drainage Strategy, Appendix 2 Response to Comments for Consultees) (CD 6.2).

3.7.2 The Council believes that it is essential that the SuDS basins and channels are designed to fulfil a positive ecological role that also has regard to ecological services, in terms of public enjoyment of nature. This is due in part to their proposed location, sited within the core of a series of sensitive ecosystems, including Ancient Woodlands and marshy grassland, and because the opportunity exists for these features to complement rather than detract from the environment, in wildlife terms and this opportunity should be taken. The SPD (CD 8.14) refers to SuDS provision at H2 (p.43) that they *"…must have regard to the existing springs and woodland areas".* H3 (p.44) also emphasises that they are *"a place for people to enjoy nature and relax"*. 6.29 of

the amended Flood Risk Assessment and Drainage Strategy (FRA) (CD 6.2), submitted as part of the 'Wheatcroft' proposals, states that SuDS should *'promote biodiversity'* and Table 6.1 of the amended FRA refers to swales and ponds potentially being permanently wet features. This is also referred to in the EEMP (ES Vol 3 Appendix F18 CD 1.9). In order that the SuDS basins achieve optimal biodiversity potential (e.g. incorporating reedbed, wet and ephemeral habitats, suitable for amphibians, aquatic bird-life and invertebrates), a more expansive, naturalistic design, with a variety of edge features including gentle shelving slopes and terraced 'beaches', might be required than that currently depicted and which may not physically fit in the valley.

3.7.3 It is unclear whether any of the SuDS provisions are included in the Biodiversity Net Gain (BNG) calculations (CD 1.9), which in themselves are inconsistent in their content. Table 9 of the BNG includes 0.25ha of new standing water provision, whereas Table 14 and Section 5.1 of the BNG, refer to 0.15ha of new standing water. It is also unclear whether the conveyance channels are included in the new habitat provision or whether the habitat losses set out in the BNG report take account of the reasonably substantial losses of marshy grassland (4 of the 5 proposed SuDS basins are located in areas of existing marshy / semi-improved grassland) required for the SuDS and conveyance channels. The BNG (Table 5) refers only to loss of 0.056ha of marshy grassland to accommodate the valley crossing (it is not clear if this is both valley crossings or only the Crook's Copse Crossing) and does not refer to losses to accommodate SuDS basins or channels. It also refers (Section 5.2) to the creation of 0.83km of running water enhancement, This is confusing because we understand that this is taken to mean removal of Himalayan balsam on the River Enborne (i.e. management of existing habitat, rather than any new areas of running water), however, in the same section it refers to 2.32km of hedgerow enhancement, which in Table 12,refers to new / gapping up of hedges, although this is not included in Table 14 the Summary of Habitat Creation. There should be clarity on this matter in order to understand whether the proposed conveyance channels are to be designed as new areas of running water, semi-natural in character and capable of sustaining aquatic wildlife, or conversely as engineered and unsuitable habitat.

3.7.4 The conveyance channels appear to be designed to collect water collected as run-off within the development areas, to the basins, however, there remains uncertainty as to whether they will effectively deflect surface water runoff away from Ancient Woodland (including Dirty Ground Copse and Slockett's Copse) and prevent any residual risk of potentially contaminated road and other surface water runoff entering the Ancient Woodlands and causing damage to the sensitive communities. Similarly, we also require assurance with respect to any impacts of the conveyance channels on ground water levels and any deleterious effects (including potential for overflow) on the existing streams / fluvial conditions in the central and northern valleys. Where the proposed conveyance channels are close to High Wood and Dirty Ground Copse, in particular, the impact on the hydrology of the woodland habitats (including tree rooting zones) in the immediate area is unknown. The excavation of new channels of unknown depth, could provide an easier route for ground water, thus resulting in an artificial lowering of the natural ground water level locally. Any such impacts could damage / change the extent and composition of the marshy grassland habitats including the areas of Purple Moor Grass Rush Pasture, one of which lies adjacent to a proposed conveyance channel.

3.7.5 There is no clarity provided as to the exact location or dimensions of the SuDS habitat creations. In this respect (and generally) the lack of detailed drawings to back up the BNG calculations is unhelpful and should have been provided and now need to be provided without delay for scrutiny. The Appellant has failed to clearly demonstrate this at the time of writing and has failed to satisfy the Council in this regard.

3.7.6 It is also not clear whether the two SuDS basins to be located within the narrow northern valley between High Wood and Slockett's Copse and the associated conveyance channels, comply with the D&A (CD 1.10) (p. 55) statement relating to "retention of ancient, semi natural woodland areas and trees within a 15m buffer of grassland and scattered native scrub'. The two basins appear to have been sited on sloping and/or marshy ground on the valley sides in between and close to the Ancient Woodlands (possibly within the 15m buffers). The woodlands tend to be bordered by substantial trees, some of which may have rooting zones extending to the full extent of the 15m buffer zone or beyond. At its narrowest point this valley corridor is only of

width 30-40m and it is already occupied by an existing watercourse, which runs through the valley to the River Enborne. As a result of this lack of clarity, the Appellant has failed to satisfy the Council as to the adequace of the SuDS proposals in relation to ecology.

3.7.7 The need for the existing stream to be buffered on each side by an 8m wide protection zone ie overall width 16m, in which built development is not permitted, except for bridging structures (as set out in 4.9.1 in the EMMP CD 1.9 and draft condition 28), exceeds Environment Agency requirements for a 10m wide protected zone but accords with the recommendations of the Lead Local Flood Authority (LLFA) in their response to the application and provides welcome safeguarding of the natural character of the riparian habitat. This is a further constraint, as is the proposed inclusion of recreational routes including the Sandleford Mile and associated trails, which together increase the pressure for new proposed infra-structure features to be installed close to or within the Ancient Woodland buffer.

3.7.8 I do not believe that it is currently possible for either the Appellant or the Council or the decision maker, to fully assess the potential impacts of the proposed drainage basins and associated conveyance channels on the integrity of the Ancient Woodland buffers, nor to determine whether it is physically feasible to install these components of the surface water drainage system within this sensitive valley ecosystem, in the absence of accurate layout plans, scheme design and cross-sections of the proposals. The detailed arrangements should be based on topographical survey, to demonstrate how the basins and conveyance channels will fit into the existing unspoilt landform and habitats, with specific proposals for optimising the ecological potential of the new wetland features, including the necessary biodiverse micro-habitat proposals. Reassurance should also be given regarding any impacts of the proposed basins and channels on ground water levels and micro-topography within the valley environment. The potential for the SuDS provisions to impact on irreplaceable Ancient Woodland buffer zones is of fundamental significance and therefore needs to be addressed at this stage rather than at Reserved Matters. This is, again, another example of how the Appellant, through lack of clarity, has failed to satisfy the Council that the proposal does not cause harm.

3.7.9 The Council considers that the full extent and degree of potential ecological harm arising from the SuDS installation in this sensitive and constrained valley setting, flanked by substantial areas of Ancient Wood land, has not been acknowledged to date. The likely impacts and opportunities for mitigation have not been fully assessed , neither has it been determined whether it is feasible to fit these engineered features into the valley without impinging on the 15m minimum Ancient Woodland buffer width. In this respect we refer to the Council's position, which accords with Natural England / Forestry Commission's Standing Advice (CD 8.31), who set out the minimum standards for Ancient Woodland protection, including adequate buffers.

3.7.10 Despite the 'Wheatcroft' Consultation response there remain concerns as to the potential impacts of the SuDS provision on ground water levels and valley topography and in general terms, regarding the aggregation and accumulation of engineered/ man-made features within the narrow northern valley landscape, which forms useful adjunct habitat to the surrounding LWS Ancient Woodlands. The semi-natural habitats present help to maintain functional connectivity between the woods and thus the Council fear harm to ecological integrity of the LWS as a result. A planning condition may be an option to be explored in tandem with other disciplines, to optimise the protective function of the buffers; furthermore, it may be necessary to agree wider buffer widths in more detail (so that they exceed 15m as appropriate to the sensitivity of the location and the magnitude of likely disturbance). This needs to be determined at this stage in order to ensure that adequate space is available for all the built features being proposed, without unacceptable harm to irreplaceable habitats.

4 CONCLUDING REMARKS

4.1.1 A major development proposal such as this, on a Site incorporating a network of Ancient Woodland, ancient and veteran trees (all irreplaceable habitats) and other important semi-natural habitats, with protected and other notable wildlife interests, should have been ecologically led from the outset. This would have enabled evolving scheme proposals to take full account of the connections between and incorporating the irreplaceable habitats on site, thus minimising ecological losses and habitat fragmentation and the risk of indirect impacts associated with ongoing operational use. This approach would have allowed a pro-active 'green' design to emerge, building upon the existing network of retained habitats both within the development (in the form of fully functional and unrestricted 'green finger' wildlife corridors) and peripheral to the built environment and maximising opportunities for ecological gain. Sandleford Park is undoubtedly a special site whose ecological interests are in part afforded protection through Local Wildlife Site (LWS) status. The Appellant has plainly failed to approach master-planning of the Site in this way.

4.1.2 Whilst the Council welcomes the opportunities for biodiversity mitigation / enhancement measures associated with the current Country Park proposals, including those set out in the EMMP (CD 1.9), the scheme fails to implement a more fundamental and far-reaching strategy of landscape scale conservation appropriate to the Biodiversity Opportunity Area (BOA)(CD 17.27) status of the Site. This would have helped meet the stated BOA objective of reversing habitat fragmentation through expanding, linking and buffering semi-natural habitat.

4.1.3 There also remain lack of design and engineering detail, uncertainties, inconsistencies, and concerns regarding a number of the infrastructure proposals, including the two valley crossings, footpath upgrade, playing field installation and SuDS implementation, along with concern over the spatial management of recreational use.

4.1.4 In the current scheme it has not been possible to deliver the development scheme without compromising habitat connectivity or providing adequate protection of the retained Ancient Woodland LWS and other important habitats and inhabiting species, let alone reversing any existing habitat fragmentation and this has not been materially improved by the 'Wheatcroft' proposals.

4.1.5 There can thus be no overall benefit to biodiversity as a result of the scheme proposals as harm or loss of irreplaceable habitats such as Ancient Woodland, ancient and veteran trees, by definition, cannot be compensated, and as such should not be included in the Biodiversity Net Gain (BNG) calculations. A scheme which results in such harm or loss, to irreplaceable habitats cannot achieve BNG at the project level. This is contrary to the NPPF (CD 8.1).

4.1.6 The Ancient Woodlands and other existing substantial nature conservation interests connected with the Site, have been significantly compromised in an attempt to fit the over-riding functional requirements of the scheme too closely to these habitats, resulting in unacceptable habitat fragmentation, losses and incremental deterioration and species decline, as a result.

4.1.7 Harm to a range of ecological habitats and species will result from this scheme, contrary to the NPPF (CD 8.1); Core Strategy Policies S3, CS14, CS17 and CS18 (CD 8.5); HSA DPD Policies GS1 and C1 (CD 8.6); Local Plan Review Emerging Draft Policies SP10, SP11 and SP16 (CD 8.13) and Sandleford Park SPD Development Principles L4 and E1 (CD 8.14).

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