Berkshire Buckinghamshire & Oxfordshire Wildlife Trust

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22/03763/SCOP

Location: Begbroke Science Park Begbroke Hill Begbroke Kidlington OX5 1PF

Proposal: Scoping Opinion with respect to the scope and methodology of the Environmental Impact Assessment (EIA) in relation to re-development proposals of approximately 170 hectares (Ha) land at the existing Begbroke Science Park and surrounding land.

In relation to the above scoping opinion request we have the following comments on behalf of the Berks, Bucks and Oxon Wildlife Trust. As a wildlife conservation focused organisation, our comments refer specifically to impacts on species and their habitats which may occur as a result of the proposed development.

Cumulative Impacts

The EIA should evaluate potential negative impacts on features of nature conservation importance that may arise as a result of other plans and projects either existing, in development or proposed. Appropriate measures to avoid, mitigation or compensate for these negative impacts should be specified within the EIA.

Avoidance of impact on designated nature conservation sites

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment of the Cherwell Local Plan states:

> *"Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity"*

The proposed development has the potential for adverse effects on a number of designated sites as set out below:

Rushy Meadows SSSI, is located within approximately 10m of the north eastern Site boundary. The SSSI citation for Rushy Meadows states:

> *"This site consists of a series of unimproved alluvial grasslands alongside the Oxford Canal, in which low-intensity, traditional management has produced rich meadow and fen communities containing several uncommon species. Meadow habitats of this type are now both rare and under threat in Britain. Rushy Meadows represents one of the few surviving sites in a district where such grasslands have declined in area following agricultural improvement and urban development. "*

Oxford Meadows Special Area of Conservation and Pixey and Yarnton Meads SSSI are located approximately 1.8km south of the Site. Oxford Meadows includes vegetation communities that are perhaps unique in the world in reflecting the influence of long-term grazing and hay-cutting on lowland hay meadows. Pixey and Yarton Meads SSSI are unimproved flood meadows on the bank of the river Thames. They have been grazed and cut for hay for more than a thousand years, with the result that they are botanically rich, with more than 150 species. In addition, there are 17 other non-statutory designated sites and three areas of Ancient Woodland within a 2 km radius of the Site.

Given the ecological sensitivity of this area it is essential that the EIA should include results of appropriate surveys, and an assessment of impact on each designated site. These must deal with potential impacts on both nationally and locally designated sites and how these will be avoided and if they cannot be avoided how the benefits of the development in the location proposed outweigh both its likely impact on the features of the designated site, and how the impacts will be mitigated.

Avoidance of impact on water channel, priority habitat and protected and priority species

NPPF paragraph 179 states (our underlining):

> *"To protect and enhance biodiversity and geodiversity, plans should:*
>
> *a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
>
> *b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for* biodiversity.

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment of the Cherwell Local Plan states:

> *"Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for*

biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity"

Rowel Brook runs through the north of the site feeding into the Oxford Canal which runs along the eastern boundary of the site. The EIA must fully assess whether the proposed development is likely to have any adverse impact on these water channels. This will need to include an assessment of possible impacts, and a detailed description of mitigation measures that will be carried out and how they will ensure there will be no impact.

The site also contains hedgerows, areas of semi-improved grassland, woodland corridors and a pond with great crested newts, all of which are considered Habitats of Principle Importance. The EIA must fully demonstrate the measures which will be taken to ensure that there is no negative impact on these habitats (including hedgerows see below) and any other priority habitats nearby.

Paragraph 11.4 of the applicant's scoping report notes that bat roosts are present in Begbroke Hill Farmhouse and an adjacent building within Begbroke Science Park, and a range of bat species use the hedgerow network within the Site for foraging and commuting. The pond within the Begbroke Science Park contains a small breeding population of GCN and other protected species identified on-site include water vole, breeding birds (including Species of Principal Importance ('SPIs') such as skylark, red kite, and house sparrow), and reptiles. In addition, brown hairstreak butterfly (a SPI) was found to breed at the site.

The EIA should include results of appropriate surveys, an assessment of impact, and details of mitigation, compensation and enhancement measures. These must deal with impacts on priority species (including breeding birds see below) on site and any priority species nearby.

Hedgerows

Hedgerows should be retained and enhanced. In exceptional circumstances if proposals involve removal of small sections of hedgerow for access purposes then a substantially longer section of hedgerow should be planted elsewhere on site to provide compensation. A management regime should be put in place for hedgerows across the site including a three-year rotation for trimming and allowing some stretches of hedgerow to remain untrimmed for longer.

There should also be at least a 15m buffer between any development and the hedgerows. These buffers should be maintained as dark corridors and should be of appropriate semi-natural priority habitat such as a mosaic of scrub and species-rich grassland.

Breeding birds

DEFRA has provided guidance to competent authorities (including local authorities) on how to comply with the legal requirements of the Conservation of Habitats and Species Regulations 2017 (as amended). The guidance is available at: https://www.gov.uk/guidance/providing-and-protecting-habitat-for-wild-birds

The guidance states that:

> *"As a competent authority, you must help to provide, protect and restore habitats for wild birds. This will help to make sure there are healthy populations of wild birds in their natural habitats across England and Wales…*
>
> *…You must take appropriate steps to help:*
> - *preserve, manage and re-establish habitat that is large and varied enough for wild birds to support and maintain their populations in the long term*
> - *avoid any pollution or deterioration of wild bird habitat as far as possible*
>
> *Your duty to provide and protect wild bird habitats applies when you carry out your functions, for example, when you:*
> *…*
> - *make plans or strategies to decide where activities or development should take place*
> - *take decisions that might affect wild bird habitats, such as giving permissions or consents*
>
> *…When you carry out your duties you should aim to provide or protect habitat that allows wild bird populations to maintain their numbers in the areas where they naturally live.*
>
> *You should consider habitats used by wild bird species that are in decline and also habitats supporting wild birds with healthy populations."*

The EIA should set out the steps that will be taken to "*preserve, manage and re-establish habitat that is large and varied enough for wild birds to support their population in the long term"* in relation both to "*wild birds that are in decline"* and to "*wild birds with healthy populations"*

With respect to any priority species impacted, the developer must show that the habitats provided on site will be sufficient to maintain or enhance the same populations of these species. Skylark and some other priority species will require large areas of undisturbed habitat.

Conservation Target Area

The Lower Cherwell Valley Conservation Target Area ('CTA') extends into the north-eastern corner of the site. Oxfordshire Biodiversity Action Plan Targets associated with this CTA are lowland meadow – management, restoration and creation, floodplain grazing marsh – management, restoration and creation, lowland Fen (including swamp) – management and restoration, reedbed – management and creation, rivers – management and restoration (including management for water vole). We would therefore recommend that habitats to be created should include lowland meadow, wet grassland, and if possible, reedbed and lowland fen. BBOWT has developed proposals for a restoration project with bankside habitat improvements along the canal to support water vole and the Rowel Brook is regularly surveyed by the BBOWT Water Vole Project and has good potential itself.

Achieving a net gain in biodiversity

NPPF paragraph 174 states:

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by……*
>
> *d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

NPPF paragraph 180 states:

> *When determining planning applications, local planning authorities should apply the following principles:*
>
> *a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; ……*
>
> *d) …. opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment of the Cherwell Local Plan states:

> *"Protection and enhancement of biodiversity and the natural environment will be achieved by the following:*
> *In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources"*

We note that paragraph 11.7of the applicant's scoping opinion states:

> *"Landscaping and ecological habitat creation and enhancement will be implemented to achieve an overall biodiversity net gain on the Site, including creation of a new LNR and area for nature conservation. The Proposed Development will enhance retained habitats and create new habitats of higher ecological value including wetlands, ponds, species-rich grasslands, woodlands, orchards, native scrub and species-rich hedgerows."*

The biodiversity net gain should be calculated using the latest biodiversity accounting metric published by Natural England and all calculations should be provided with the documentation available to consultees as part of any planning application.

If it is not possible to provide a net gain in biodiversity as required by planning policy then off-site compensation will be required. TOE https://www.trustforoxfordshire.org.uk/ is an independent

charity with strong relationships with local planning authorities, developers and landowners across the county which may be able to assist the applicant in meeting its net gain obligations.

Access vs. undisturbed areas

It is essential that the development ensures appropriate mitigation and creation for biodiversity and green space for recreation. Policy PR8 - Land East of the A44 and the accompanying policies map of **The Cherwell Local Plan 2011 - 2031 (Part1) Partial Review** Key Delivery Requirements 8, 9, 10 and 11 set out what is required in relation to the Local Nature Reserve, nature conservation area, other public open green spaces and retained agricultural land.

The management of these areas should be geared first and foremost towards wildlife conservation and detailed management plans should be submitted with any planning application, showing how the land will be managed for the duration of the time that the land is built on (e.g. in perpetuity). The application should also specify which organisation/s will carry out this management and these should be experienced in the management of land for the benefit of wildlife.

Whilst some form of public access can be permitted in order to allow residents to enjoy the natural green spaces, in order to provide the substantial benefits for wildlife that will be needed to achieve a net gain in biodiversity that is focused primarily on site, then there should not be public access across the entire area of the green infrastructure.

Zoning, and a 'hierarchy' of access levels of the combination of all green areas should be carefully planned, including consideration of main paths/cycle routes (with an appreciation of the most obvious routes that people are likely to want to follow: 'desire lines').There should be informal recreation along a network of paths and openly accessible spaces included within a mosaic of areas that are closed off by appropriate use of hedgerows, screens, fencing and ditches. Broad zones might help keep some larger restricted access nature conservation blocks 'quiet' rather than fragmenting areas too much. This would be simpler for residents and visitors to understand and will allow wildlife to thrive and be observed from paths. The need to have some areas without direct public access is supported by a research report published by Natural England 'Is the management of Local Wildlife Sites affected by the urban fringe?'

(NERR063) http://publications.naturalengland.org.uk/publication/6134796821463040

Proposals for wildlife management and maintenance

Our view is that the GI including habitats for wildlife should be managed in perpetuity (e.g. forever) and proposals should recognise this. To ensure management lasts for as long as the built environment is built up (e.g. likely to be forever) then an endowment fund will be needed to ensure that management costs can be covered.

Ideally, there would be a funded officer-role to coordinate and oversee this. This could be alongside or sharing a role as a community engagement officer. This role could for example be delivered by an officer in an external organisation with appropriate experience.

Lighting

The introduction of lighting into this rural-edge area could potentially impact upon a wide range of species, in particular on bats and birds. We note that paragraph 17.8 of the applicant's scoping report states:

> *"An outline external Lighting Strategy will be developed for the completed Proposed Development having regard to existing and future sensitive to allow for the safe use of the external areas within the Site, as well as minimising impacts on existing and future sensitive receptors. The Lighting Strategy will provide a modern, efficient and controlled lighting scheme which incorporates best practice design principles, adhering to recommendations and criteria noted within publication by the Institute of Lighting Professional ('ILP') document 'The Reduction of Obtrusive Light' GN01:21 and other relevant lighting design guidance which is current at the time that reserved matters applications come forward. The Lighting Strategy will form an appendix to the ES and will consider highway, human, ecological and aviation receptors."*

We believe It is essential that proposals include a lighting management plan to demonstrate how lighting will be avoided or otherwise minimised during both the construction and operational phases. It should cover at least the following points:

Most importantly the need for lighting should be assessed, with a presumption against wherever possible. If lighting of walkways is needed for winter then low height and light level bollard lighting would be preferable. Bright security style type lighting would be of very serious concern in terms of impact on wildlife, particularly bats.

Lighting must be directed away from the hedgerows and woodlands, and light spill into these areas should be avoided through use of cowls or equivalent. In addition, the choice of lighting type is critically important, as there are wide variations in wildlife impact depending on the spectra of lighting. The choice of lighting type will impact on whether invertebrates are attracted to lights, with negative impacts on them, and also on the impact upon bats, birds and other wildlife. Conditions/covenants that control the type/power/direction of security/outside lighting that can be installed on houses are also suggested.

For more details on this, see the recommendations of:

"A Review of the Impact of Artificial Lighting on Invertebrates, Charlotte Bruce-White and Matt Shardlow (2011)" https://cdn.buglife.org.uk/2019/08/A-Review-of-the-Impact-of-Artificial-Light-on-Invertebrates-docx_0.pdf and

"Artificial Light in the Environment - Royal Commission on Environmental Pollution (2009)" https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228832/9780108508547.pdf.pdf

and

Artificial Lighting and Wildlife, Bat Conservation Trust (2014) – downloadable from: http://www.bats.org.uk/pages/bats_and_lighting.html

We note that paragraph 17.9 of the scoping report states:

> *"Due to the Site location, constraints and proposed design mitigation it is professionally judged that significant light pollution effects can be avoided through good design which would be achieved through implementation of the Lighting Strategy. Further details of lighting within the Proposed Development and illumination impact profiles (if necessary) would be provided at reserved matters stages or through planning conditions. It is therefore considered unlikely that new lighting installations at the Proposed Development would result in significant adverse effects to sensitive receptors and it is proposed that an ES chapter on light pollution be scoped out of the ES."*

However, given the ecological sensitivity of this area we consider that it is essential that the impact of lighting, and measures to minimise this impact should be included in the EIA.

Biodiversity in built development

The scale of development proposed is such that any scheme should be exemplary in terms of integrating biodiversity features. The Wildlife Trusts have published 'Homes for people and Wildlife: How to build housing in a nature-friendly way' which sets out what a good, nature-rich housing development looks like.

See: https://www.wildlifetrusts.org/sites/default/files/2018-05/homes_for_people_and_wildlife_lr_-_spreads.pdf.

According to this, '*All housing developments must result in:*

- *A measurable improvement for wild species and habitats, which means*
  - *Avoiding any loss or damage of wildlife sites*
  - *Designing in existing habitats*
  - *Creating new habitat*
  - *More than compensating for any habitat that is lost*
- *All residents having lasting access to nearby nature*"

Research shows that green roofs can provide valuable habitats for wildlife https://livingroofs.org/biodiversity-and-wildlife/).

Any application should maximise the provision of such rooves, and install solar panels on rooves which are not green rooves. The extent of biodiversity will depend on the type of green roof installed. Sedum roofs benefit a limited range of invertebrates and provide foraging for pollinators when in flower. Ecologically designed extensive green roofs can provide good habitat for wildlife, but there are limitations in terms of replicating habitat at ground level due to shallow depth of soils and the drying effect of wind and sun. According to www.livingroofs.org, a good green roof designed for biodiversity should include a varied substrate depth planted with a wide range of wildflowers suitable for dry meadows.

Wildlife connectivity between gardens can be achieved by allowing gaps in fencing and walls for hedgehogs and other small animals to roam, e.g. hedgehog streets in Kirtlington. This can be used to raise awareness of wildlife within the community.

Additional information on appropriate enhancements within the built environment can also be found in 'Biodiversity Positive: Eco-Towns Biodiversity Worksheet, produced by Town and Country Planning Association, Communities and Local Government, and Natural England', downloadable from: https://www.tcpa.org.uk/Handlers/Download.ashx?IDMF=2e0ffaf8-24b1-45fe-a02f-505a06d72ff2

The table below (prepared by BBOWT) sets out features in developments to encourage biodiversity, and their associated benefits for people:

	Biodiversity benefits	Reduces urban heat island effect	Reduces air pollution	Reduces water run-off
Houses and Gardens:				
Gardens: Fruit trees in each back garden; Wildflower turf making up part of lawn in each garden; Log piles; Hedgerows making up at least one boundary; Garden walls with overwintering shelter for insects	✓	✓	✓	✓
Green roofs on garages and public buildings	✓	✓	✓	✓
Green walls	✓	✓	✓	✓
Built in bird boxes including swift bricks, swallow and house martin and garden birds.	✓			
Built in bat boxes, bricks and lofts – suitable for crevice dwellers and roof void dwellers.	✓			
Street network and small green spaces:				
Street trees – tree lined streets; woodland copses.	✓	✓	✓	✓
Wildflower rich road verges and green corners etc. with loggeries, hibernacula, bug hotels	✓	✓		✓
Climbing plants on fences and walls	✓	✓	✓	✓
Any shrubs chosen to maximise: berries for winter bird food; flowers for pollen and nectar.	✓			
SUDS schemes including biodiversity	✓	✓	✓	✓
Green Spaces (In addition to large scale habitat creation and management above):				
Wildflower edging / shrubs around sports pitches, play equipment, kick-about areas.	✓	✓		✓
Hedgerows and buffers: management for wildlife	✓	✓	✓	✓
Long grass / bare ground / rockeries / hibernacula for reptiles	✓	✓		✓
Clean-water wetlands / ponds / ditches with surrounding wildlife grass habitat for amphibians – can be part of SUDS and independent of SUDS.	✓	✓		✓
Woodland	✓	✓	✓	✓
Network of green and blue corridors without lighting	✓	✓	✓	✓
Allotments	✓	✓		✓

We request that the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT) be consulted on subsequent applications on the site further to this scoping opinion request.

Please contact us if you have any queries on this response.

Yours sincerely,

Nicky Warden

Public Affairs and Planning Officer