EAST PARK ENERGY

East Park Energy

EN010141

Preliminary Environmental Information Report
Volume 1 – Main Report

Chapter 7: Ecology and Nature Conservation

September 2024

Version 01

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Version	Date	Status
01	September 2024	PEIR

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7.0 ECOLOGY AND NATURE CONSERVATION

7.1 Introduction

7.1.1 This Chapter of the PEIR provides a preliminary assessment of the likely effects of the Scheme on ecological features during the construction, operation and decommissioning phases of the Scheme.

7.1.2 It should be noted that only common species names are referred to throughout this Chapter. Full biological nomenclature is provided within the relevant technical appendices submitted, including common and scientific species names, together with species conservation status and legislative protection where relevant.

7.1.3 This chapter is supported by the following Appendices in ***PEIR Volume 2***:

- Appendix 7-1: Ecological Baseline Report;
- Appendix 7-2: Breeding Bird Survey Report;
- Appendix 7-3: Wintering Bird survey Report;
- Appendix 7-4: Confidential Badger Report; and
- Appendix 7-5: Great Crested Newt Survey Report.

7.1.4 This chapter is supported by the following Figures in ***PEIR Volume 3***:

- Figure 7-1a: Statutory Designated Sites – Nationally Designated Sites within 5km;
- Figure 7-1b: Statutory Designated Sites – Internationally Designated Sites within 10km;
- Figure 7-1c: Statutory Designated Sites – Internationally Designated Sites with bat interest within 30km;
- Figure 7-2: Non-statutory Designated Sites;
- Figure 7-3: Habitat Survey;
- Figure 7-4: Breeding Bird Survey;
- Figure 7-5: Wintering Bird Survey;

- Figure 7-6: Bat Survey;
- Figure 7-7: Great Crested Newt Survey; and
- Figure 7-8: Badger Survey (confidential).

Statement of Competence

7.1.5 This assessment has been prepared by Avian Ecology Ltd. Lead author: Mr J. Stevens BSc (Hons) Principal Ecologist supported by Mr H. Fearn MSc MCIEEM Director. Mr Stevens and Mr Fearn have over 8 years and 20 years' experience respectively as ecological consultants. During this time they have written and contributed to numerous PEIR/ ES report chapters for ecological or ornithological interest, including at several solar PV array and other renewable energy developments.

7.2 Legislation, Policy and Guidance

Legislation

7.2.1 Statutory legislation with regards to Ecology and Nature Conservation is presented as follows:

- The Conservation of Habitats and Species Regulations 2017[1];
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[2];
- The Wildlife and Countryside Act 1981[3];
- The Environment Act 2021[4];
- Countryside and Rights of Way Act 2000[5];
- Protection of Badgers Act 1992[6];
- Hedgerow Regulations 1997[7];
- Management of Hedgerow Regulations 2024[8];
- The Invasive Alien Species (Enforcement and Permitting) Order 2019[9]; and
- Natural Environment and Rural Communities (NERC) Act 2006[10].

7.2.2 The 'UK Post-2010 Biodiversity Framework'[11] succeeds the UK Biodiversity Action Plan ('UK BAP') and 'Conserving Biodiversity – the UK Approach'. The lists of priority species and habitats agreed under UK BAP still form the basis of much biodiversity work and are therefore considered within this report in the context of the objectives of the Biodiversity Framework. BAPs identify 120 habitats and species of nature conservation priority on a UK ('UK BAP') and Local ('LBAP') scale. UK BAPs formed the basis for statutory lists of priority species and habitats in England under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006, and so are also relevant in the context of this legislation.

Policy

National Policy

7.2.3 The Overarching National Policy Statement ('NPS') for Energy (EN-1)[12] includes policies regarding Biodiversity (Section 5.4.42), which requires developments to;

> *'in line with the mitigation hierarchy, aim to avoid significant harm to biodiversity and geological conservation interests, including through consideration of reasonable alternatives …where significant harm cannot be avoided, impacts should be mitigated and as a last resort, appropriate compensation measures should be sought'.*

7.2.4 In addition, the Overarching NPS for Energy (EN-1) (Section 5.4.48) states that;

> *'in taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity…interests within the wider environment'*

7.2.5 The NPS for Renewable Energy Infrastructure (EN 3)[13] together with the Overarching National Policy Statement for Energy (EN-1) (above), provides the decision-making basis on applications for nationally significant renewable energy infrastructure. Therefore, applications and accompanying supporting documents and information should be consistent with the instructions and guidance in this policy statement and corresponding biodiversity information provided within the EN-1 document.

7.2.6 The Overarching NPS for Energy (EN-1) includes further information regarding biodiversity. The document states:

> *'In England applicants for onshore elements of any development are encouraged to use the most current version of the Defra biodiversity*

metric to calculate their biodiversity baseline and present planned biodiversity net gain outcomes (paragraph 4.5.5)

...

where the development is subject to EIA, the applicant should ensure that the ES clearly sets out any effects on internationally, nationally, and locally designated sites of ecological or geological conservation importance…, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity, including irreplaceable habitats (paragraph 5.4.17)

…

The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests (paragraph 5.4.19)

…

the design process should embed opportunities for nature inclusive design. Energy infrastructure projects have the potential to deliver significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains' (paragraph 5.4.21).'

7.2.7 The NPS for Renewable Energy Infrastructure (EN-3) also includes further information regarding biodiversity. The document states:

The applicant should .... ensure that adverse impacts are avoided, minimised or mitigated in line with the mitigation hierarchy, and biodiversity enhancements are maximised (paragraph 2.1.78)

...

Solar farms have the potential to increase the biodiversity value of a site, especially if the land was previously intensively managed. In

some instances, this can result in significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains which is encouraged (paragraph 2.10.89)

...

In England, proposed enhancements should ... aim to achieve environmental and biodiversity net gain in line with the ambition set out in the Environmental Improvement Plan and any relevant measures and targets, including statutory targets set under the Environment Act' (paragraph 2.10.128).'

7.2.8 The NPS for Electricity Networks Infrastructure (EN-5)[14] includes the following information regarding biodiversity (paragraph 2.1.5):

When planning and evaluating the proposed development's contribution to environmental and biodiversity net gain, it will be important – for both the applicant and the Secretary of State – to supplement the generic guidance set out in EN-1 (Section 4.5) with recognition that the linear nature of electricity networks infrastructure can allow for excellent opportunities to:

i) reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows; and/or

ii) connect people to the environment, for instance via footpaths and cycleways constructed in tandem with environmental enhancements.

Local Policy

7.2.9 Consideration has been given to the following Local Planning Policy Documents:

Bedford Borough Local Plan 2030[15]

7.2.10 Policy 40: Hedgerows

Any hedgerows should be retained on development sites, unless there are overriding benefits that justify their removal. Where removal is deemed necessary, details addressing the criteria under the Hedgerow Regulations 1997 (as amended) shall be submitted to demonstrate the validity for removal and details of the replacement hedgerows. Replacement hedgerows shall be of an equal scale, native and species- rich and should be provided where possible, elsewhere on the development site. Where there are gaps in the existing hedgerows on the site, the development should provide for additional hedgerow planting.

7.2.11 Policy 42S: Protecting Biodiversity and Geodiversity

Planning applications for development are required to assess the impact of the proposal on the biodiversity and geodiversity value of the site and its surroundings. This should be carried out by a suitably qualified professional in accordance with industry standards.

A proposal which is likely to have an adverse effect on a Site of Special Scientific Interest (SSSI) or Natura 2000 site will not be permitted unless there are exceptional reasons that outweigh the harm to the site.

Development should be designed to prevent any adverse impact on locally important sites, species and habitats of principal importance contained within the Natural Environment and Rural Communities (NERC) Act 2006. However in these circumstances where an adverse impact is unavoidable, the application shall demonstrate how the harm will be reduced through appropriate mitigation.

Where protected species or priority habitats of principal importance are adversely affected, the application will need to demonstrate how the proposed mitigation will reduce the adverse effects. If adequate mitigation is not possible, the application will need to demonstrate that the overriding reasons outweigh the impacts on the biodiversity

and geodiversity of the borough otherwise the development will be refused.

Developments with potential to have an adverse impact, either alone or in-combination, on the integrity of a European Designated Site will be assessed in accordance with the requirements of the Habitats Regulations.

7.2.12 Policy 43: Enhancing Biodiversity

Development proposals should provide a net increase in biodiversity through the following:

i. Enhancement of the existing features on the site; or

ii. The creation of additional habitats on the site; or

iii. The linking of existing habitats to create links between ecological networks and where possible, with adjoining features

Bedford Interim Guidance on Achieving Biodiversity Net Gain[16]

7.2.13 The Interim Guidance on Achieving Biodiversity Net Gain supports Bedford Borough Local Plan Policy 43 and is intended to provide interim guidance prior to biodiversity net gain (BNG) becoming mandatory. While BNG is now stipulated for most developments under the Environment Act (2021) Nationally Significant Infrastructure Projects are exempt until an anticipated date of November 2025, and so this guidance is considered relevant to the Scheme.

Huntingdonshire Local Plan to 2036[17]

7.2.14 Policy LP 30: Biodiversity and Geodiversity

A proposal will be required to demonstrate that all potential adverse impacts on biodiversity and geodiversity have been investigated.

A proposal that is likely to have an impact, either direct or indirect, on biodiversity or geodiversity will need to be accompanied by an appropriate appraisal, such as a Preliminary Ecological Appraisal, identifying all individual and cumulative potential impacts on biodiversity and geodiversity. Any further research that is identified as necessary by this appraisal will need to have been carried out and submitted with the proposal. Where a proposal has potential to affect an internationally important site an 'appropriate assessment' in

accordance with the Habitats Directive will be required and sufficient information to enable such an assessment to be completed must be submitted with the proposal.

All possible efforts must be taken to avoid adverse impacts. If it is demonstrated that adverse impacts are unavoidable they must be minimised as far as possible and then mitigated. Only where this process of avoidance, minimisation and then mitigation is insufficient to fully address adverse impacts will consideration be given to compensation measures. Following this process a proposal will only be supported subject to a hierarchy where:

a. *a site of international importance, being a Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar site would be affected there has to be exceptional overriding reasons of human health, public safety or environmental benefit;*

b. *a site of national importance, such as a Site of Special Scientific Interest (SSSI) or National Nature Reserve (NNR) would be affected there has to be exceptional circumstances where the need for, and the benefits of, the proposal significantly outweigh both the potential impacts on the features of the site that make it of national importance and any broader impacts on the national network of such sites;*

c. *a protected species, a priority habitat or species, a site of local or regional importance, the achievement of water body good ecological potential, or the biodiversity value of the proposed development site as part of the wider network would be affected, the need for and the benefits of the proposal must clearly outweigh the assessed impacts.*

A proposal will not be supported if potential impacts would lead to the deterioration of water body ecological status/ potential.

A proposal will ensure no net loss in biodiversity and provide a net gain where possible, through the planned retention, enhancement and creation of habitats and wildlife features, appropriate to the scale, type and location of development. Large scale development proposals should provide an audit of losses and gains in biodiversity produced according to a recognised methodology. In seeking to provide net gains for biodiversity reference should be had to the Natural Cambridgeshire publication 'Developing with Nature Toolkit' and the proposal should prioritise measures that:

d. *complement or enhance existing features of biodiversity value within the design and layout of development;*

e. *provide new biodiversity features within the development;*

f. *help reverse the decline of species;*

g. *assist in achieving local targets for priority habitats and species including those set out in Habitat Action Plans;*

h. *improve public access to nature;*

i. *ensure the effective management of biodiversity or geological features;*

j. contribute to the provision of multi-functional green infrastructure to enhance ecological networks and the Green Infrastructure Priority Areas

k. contribute towards the achievement of good ecological status in water bodies (or not compromise achievement of good ecological potential) in accordance with the Anglian River Basin Management Plan (RBMP) and accompanying catchment action plans; or

l. will help species adapt to climate change.

7.2.15 Policy LP 31: Trees, Woodland, Hedges and Hedgerows

A proposal will be required to demonstrate that the potential for adverse impacts on trees, woodland, hedges and hedgerows has been investigated. Where investigations show that such adverse impacts are possible a statement will be required that:

a. assesses all trees, woodland, hedges and hedgerows that would be affected by the proposal, describing and assessing their value;

b. sets out how the details of the proposal have been decided upon in terms of their impact on the value of trees, woodland, hedges and hedgerows and how adverse impacts will be avoided as far as possible, or if unavoidable how they will be minimised as far as possible.

A proposal will only be supported where it seeks to conserve and enhance any existing tree, woodland, hedge or hedgerow of value that would be affected by the proposed development. In such cases the proposal will be expected to make reference to and follow the guidance contained in the Council's A Tree Strategy for Huntingdonshire (2015) or successor documents.

Loss, threat or damage to any tree, woodland, hedge or hedgerow of visual, heritage or nature conservation value will only be acceptable where:

c. *it is addressed firstly by seeking to avoid the impact, then to minimise the impact and finally where appropriate to include mitigation measures; or*

d. *there are sound arboricultural reasons to support the proposal.*

Where impacts remain the need for, and benefits of, the development in that location must clearly outweigh the loss, threat or damage.

Where loss, threat or damage cannot be fully addressed through minimisation and/ or mitigation measures the proposal may be supported if alternative measures such as reinstatement of features, additional landscaping, habitat creation or tree planting will compensate for the harm and can be implemented and established before development starts.

A proposal for major scale development will be required to include additional new trees to form part of landscaping for the proposal, the form of which will be determined by negotiation.

7.3 Assessment Methodology

7.3.1 The assessment presented within this Chapter has been undertaken with reference to applicable wildlife and countryside legislation, national and local planning policy and the Chartered Institute of Ecology and Environmental Management ('CIEEM') (2018) guidance[18]. The assessment methodology also reflects the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') and focuses on those activities that could potentially generate significant effects on ecological and ornithological features.

7.3.2 Ecological Impact Assessment ('EcIA') is defined with the CIEEM guidelines as:

> *'…a process of identifying, quantifying and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems'.*

7.3.3 The assessment presented within this chapter and associated technical appendices therefore includes:

- A description of baseline ecological and ornithological conditions;
- An evaluation of identified important ecological and ornithological features;
- A description and evaluation of the potential effects of the Scheme;
- Mitigation measures implemented to address any identified significant adverse effects;
- An assessment of cumulative effects;
- Identification of any residual effects after mitigation; and
- Identification of opportunities for biodiversity enhancement.

7.3.4 For the purpose of the assessment, the terms 'impacts' and 'effects' are referred to in accordance with the definitions set out in CIEEM guidance as follows:

Impact: Actions resulting in changes to an ecological feature, for example, removing a hedgerow; and

Effect: Outcome to an ecological feature from an impact, for example, the changes experienced by the local population of a species arising from the loss of the hedgerow.

Zones of Influence

7.3.5 The 'zone of influence' for a development is the area over which ecological and ornithological features may be affected by biophysical changes as a result of the development and associated activities.

7.3.6 The zones of influence for the Scheme are acknowledged to extend beyond direct land-take required and have been identified in view of the nature of the Scheme as described in ***PEIR Volume 1 Chapter 2***, the consultation and Scoping process, and the current CIEEM and Natural England (NE) guidance as applicable and available.

7.3.7 The zone of influence will therefore vary for different ecological and ornithological features depending on their sensitivity to environmental change.

7.3.8 Zones of influence for the Scheme and within which baseline information has been established have therefore been identified on the basis of proximity to the Site as follows:

- Statutory designated sites – searches made for information on statutory designated sites (internationally and nationally important sites for ecology) within 5 km of the Scheme Boundary, extended to 10 km for Ramsar sites, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), or 30km for SAC with bat qualifying features;
- Non-statutory designated sites – Searches for sites within 2 km of the Scheme Boundary;

- Protected and priority habitats and species - (e.g., Natural Environment and Rural Communities Act 2006 Section 41 Species of Principal Importance and Priority Habitats). Searches for biological records within 2km of the Scheme Boundary;
- Habitats - Land within the Site and immediately surrounding habitats;
- Breeding Birds - Land within the Site and up to 100m for potential disturbance of sensitive species;
- Wintering Birds - the Site and surrounding fields up to 600m from the Site;
- Water vole and Otter - Ditches and watercourses within and adjacent to the Site, extended to suitable aquatic and terrestrial habitat within 200m up/ downstream for otter;
- Badger - Land within the Site and immediately surrounding habitats;
- Great Crested Newt – the Site and suitable terrestrial and aquatic habitats up to 500m from the Scheme Boundary;
- Reptiles - Land within the Site and immediately surrounding habitats; and,
- Invertebrates – Land within the Site and immediately surrounding habitats.

Assessment of Significance

7.3.9 The EIA Regulations[2] require the PEIR to include information that 'is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development) (Regulation 12(2)(b)).

7.3.10 To determine the overall significance of each ecological effect, judgements on the sensitivity of the receptor(s) and the magnitude of impact from the Scheme are considered together in order to determine whether or not an effect is likely to be significant. This involves a combination of quantitative and qualitative assessment and the application of professional judgement.

7.3.11 For the purposes of the PEIR, effects will be categorised as 'significant' or 'not significant', in line with the EIA Regulations. The assessment considers effects at different geographic scales i.e. where effects may be discernible at a local scale but are not considered significant in the context of the EIA

Regulations. For the purpose of the assessment, moderate and major effects are deemed to be 'significant' in EIA terms unless stated otherwise.

7.3.12 A 'significant effect' is considered to be one that either supports or undermines biodiversity conservation objectives for 'important ecological features', or for biodiversity in general.

7.3.13 CIEEM guidelines on ecological impact assessment note that:

> *'A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures.'*

7.3.14 For ease of reference, Table 7.1 sets out the adapted CIEEM terminology, which also shows the equivalent EIA terms to be used in this Biodiversity Chapter.

Table 7.1: Summary of significance Levels

Effect (Standard EIA-related terminology and associated assigned significance)		**Equivalent CIEEM terminology adapted for Ecological Assessment**
Negligible Effects	Neutral	No discernible or significant effects on ecological integrity or conservation status (e.g. species or habitat).
Minor Effects	Not Significant	Adverse or beneficial effects on ecological integrity or conservation status, discernible/significant in ecological terms at a Local geographic scale only.
Moderate and Major Effects	Significant	Adverse or beneficial effects on ecological integrity or conservation status at a County, National or International geographic scale.

7.3.15 The Scheme has been assessed as having an operational lifespan of up to 40 years for the purpose of the assessment. Ecological effects will be described in terms of their duration as short, medium term and long-term as follows:

- Short term effects are defined as 0 - 3 years;
- Medium term effects are defined as 3 - 10 years; and
- Long term effects are defined as > 10 years.

7.3.16 For the purposes of the assessment the importance or sensitivity of an ecological feature will be considered within the context of a defined geographical area, ranging from International (high value) to Site (low/negligible), as detailed in Table 7.2.

Table 7.2: Sensitivity of Receptors

Value or Sensitivity of Receptor / Geographic Scale of Importance	Definition Examples
High - International / European	Greater than a UK scale, typically valued at a European level such as internationally designated sites (Special Protection Areas (SPA), Special Areas of Conservation (SAC) and/ or Ramsar sites) or proposed/candidate site (pSPA or cSAC), large area of a habitats listed in Annex I of the Habitats Directive[19] or smaller areas of such habitat which are essential to maintain the viability of the larger whole, large population of an internationally important species or site supporting such a species (or supplying a critical element of their habitat requirement) or species listed in Annex IV of the Habitats Directive.
High - National (England/UK)	England/UK: A nationally designated site (e.g., Site of Special Scientific Interest) or a discrete area which meets the selection criteria for national designation. An area of a priority habitat listed under the Section 41 of the NERC Act 2006 which constitutes a significant proportion of the resource of that habitat in England or the UK as a whole. A regularly occurring, regionally significant population of any nationally important species listed as a UK BAP / Biodiversity List and priority species listed under the Section 41 of the NERC Act 2006 , and Species listed under Schedule 1 or Schedule 5 of the Wildlife and Countryside Act 1981 or Annex II or Annex IV of the Habitats Directive.
Medium - Regional / County (Cambridgeshire and Bedfordshire	Locally designated sites (Local Nature Reserves, County or Local Wildlife Sites). Areas of priority habitat, which constitute a significant proportion of the County's resource of that habitat. A regularly occurring, locally significant population of any nationally important species listed as a UK BAP / priority species and priority species listed under Section 41 of the NERC Act 2006 , and Species

Value or Sensitivity of Receptor / Geographic Scale of Importance	Definition Examples
	listed under Schedule 5 of the Wildlife and Countryside Act 1981 or Annex II or Annex IV of the Habitats Directive.
Low - Local	Local area around the Site. For example, areas of priority habitat which are not large enough to meet the criteria for County value, or small but sustainable populations of a protected or notable species.
Low/Negligible - Site	Within the Site. Features present but of value in relation to the Site only.

7.3.17 Effects on ecological features will be assessed based upon the interaction between the importance, or sensitivity, of the feature and the magnitude of change it is likely to experience. In accordance with the CIEEM guidelines (2018), an EcIA need only assess in detail, impacts upon important ecological features i.e., those that are considered important and potentially affected. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable. Where ecological features are not considered important enough to warrant further consideration, or where they will not be significantly affected (adversely or beneficially), these are scoped out of the assessment process, and justification for exclusion is provided.

7.3.18 Relevant European, national and local guidance from governments and specialist organisations will be referred to in order to determine the importance (or 'sensitivity') of ecological features. Importance will also be determined using professional judgement and taking account of the results of baseline surveys and the functional role of features within the context of the geographical area.

7.3.19 Importance does not necessarily relate solely to the level of legal protection that a feature receives, and ecological features may be important for a variety of reasons, such as their connectivity to a designated site and the rarity of species or the geographical location of species relative to their known range.

7.3.20 Once identified, potential impacts are described making reference to the following characteristics as appropriate: positive or negative, extent, magnitude, duration, timing, frequency and reversibility. The judgements on magnitude may need to be adjusted (either up or down) to reflect the duration of the change (i.e. short, medium or long term) and whether it is potentially reversible. The assessment also identifies areas where no change is anticipated, and the resulting effect is described as 'not discernible' or 'none'.

7.3.21 Ecological effects are described, as far as possible, in terms of the parameters detailed in Table 7.3, where available information allows.

7.3.22 Magnitude of impact, based on the effects that the Scheme would have upon the resource/receptor, is considered within the range of high, medium, low, negligible. Consideration is given to scale, duration of impact (and extent of Scheme with reference to the definitions in Table 7.3). The assessment will consider how existing baseline conditions may change over time, as for example the baseline conditions could alter through operational land use, in the form of differing management and natural growth or succession of habitats.

Table 7.3: Characterising Ecological Impacts

Parameter	Definition
Magnitude	The 'size' or amount of the effect is referred to as the magnitude and is determined on a quantitative basis where possible supported by professional judgement.
Extent	The area over which an effect occurs. The magnitude and extent of an effect may be synonymous
Duration	The time over which an effect is expected to last prior to the recovery or replacement of the ecological receptor. This can be considered in terms of life cycles of species or regeneration of habitats. The duration may be longer than the duration of an activity.
Reversibility	Reversible (or temporary) effects are those that occur during the lifetime of the development and where spontaneous recovery, or mitigation allows recovery within a reasonable timescale.

Parameter	Definition
	Permanent effects are those which cannot be recreated within the proposed development or there is no reasonable chance that actions can be undertaken to reverse it.
Timing and Frequency	The timing of effects in relation to important seasonal and/or life cycle constraints. The frequency with which activities and simultaneous effects would take place can be an important determinant.

7.3.23 The assessment of effects is based upon the assessments of magnitude of impacts and sensitivity of the resource/receptor to come to a professional judgement of how important the effect is. The magnitude of change effected on ecological receptors is described as set out in Table 7.4. The likelihood or probability that an effect will occur is addressed as far as possible based on available information. Whilst it is reasonably straightforward to identify effects that are certain to occur, or conversely will not occur, it is generally more difficult to assign a quantified level to occurrences defined as likely, unlikely or highly unlikely. In these circumstances, professional judgement has been used, with reasoning supported by available evidence.

Table 7.4: Magnitude of Impact

Magnitude	Criteria
High	The change may negatively or positively affect the conservation status of a site or species population, in terms of the coherence of its ecological structure and function, that sustains the habitat, complex of habitats and/or the population levels of species of interest.
Moderate	Conservation status of a site or species population will not be negatively or positively affected, but some element of the functioning of the site or population might be affected and the change to the site/ population is likely to be significant in terms of its ability to sustain some part of itself in the long term.
Low	Neither of the above applies, but some minor negative or positive change is evident on a temporary basis, or the change affects extent of habitat or individuals of a species abundant in the local area.
Negligible	No observable effect in either direction

7.3.24 For an effect to be significant, the ecological integrity or conservation status of a sensitive feature must be influenced in some way (negatively or

positively). It may be that the effect is substantial in magnitude or scale, irreversible, has a long-term effect, or coincides with a critical period in a species' lifecycle. Where uncertainty or limitations exist, this is acknowledged.

7.3.25 It is recognised that discernible effects can also occur at a local geographic scale which are not sufficiently severe to be assessed as 'significant' in accordance with the EIA approach, and do not require specific mitigation, but nonetheless merit discussion. In the interest of completeness these effects have been discussed within this Chapter in relation to general construction good practices to be adopted to avoid or minimise low-level or minor disruption to local features, including for example standard pollution prevention and control measures.

Determining Features to be Scoped-In for Detailed Assessment

7.3.26 In accordance with the CIEEM guidance (2018), the assessment only assesses in detail, impacts upon important ecological features i.e., those that are considered important and potentially affected (as set out in Section 7.3 Methodology). It is not considered necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened, and resilient to project impacts and will remain viable and sustainable, unless there is potential for a significant beneficial or adverse effect as a consequence of the Scheme.

7.3.27 Where ecological features are not considered important enough to warrant further consideration, or where they will not be significantly affected, these can be scoped out of the assessment process, and justification for exclusion is provided. Where a feature has been scoped out of the detailed assessment, due to a lack of significant effects, measures to protect, enhance or ensure legislative compliance are included in the ‘mitigation’ section.

7.3.28 Table 7.5 presents the evaluation of identified ecological features and provides the rationale as to why individual features have been included or ‘scoped out’ of the detailed assessment, with reference to comments received during the EIA Scoping presented in Table 7.6.

Table 7.5: Scoping of Ecological Features

Receptor	Geographic Scale of Importance	Potential Effect Pathway and Rationale for Selection of Features for Detailed Assessment
Statutory Designated Sites for Nature Conservation	Up to international	Mobile qualifying features of designated sites within the ZoI could be affected by habitat changes Eversen and Wimpole Woods SAC **Scoped in** to detailed assessment. Mobile features associated with Grafham Water SSSI are waterbirds assocaited with open water, which is not present within the site and as such this site has been s**coped out** of detailed assessment All other sites are considered sufficiently distanced for no impacts to occur and as such are **scoped out** of detailed assessment
Non-Statutory Designated Sites for Nature Conservation	Up to county	Non-statutory designated sites are located immediately adjacent to the Site boundary and will be protected in line with embedded avoidance and mitigation measures Due to proximity to the Site, Kangaroo Meadows CWS and Huntingdon Wood CWS are **scoped in** to detailed assessment for construction only All other sites are considered sufficiently distanced for no impacts to occur and as such are **scoped out** of detailed assessment
Priority and Irreplaceable Habitats	Up to county	Priority habitats are located within the Site. The extent and distribution of priority habitats could be affected through direct and indirect construction impacts and through the embedded landscaped design. **Scoped in** to detailed assessment.

Receptor	Geographic Scale of Importance	Potential Effect Pathway and Rationale for Selection of Features for Detailed Assessment
Other On-Site Habitats	Site	Habitats located within the Site and which will be impacted by the Scheme are all common and widespread habitats locally and regionally however may support other receptors of greater importance. **Scoped in** to detailed assessment.
Ground Nesting Birds	Up to county	Ground nesting bird species may be disturbed during construction, displaced by the presence of solar arrays and affected by habitat changes. **Scoped in** to detailed assessment.
Breeding Bird Assemblage	Up to county	The breeding bird assemblage may be disturbed during construction and affected by habitat changes. **Scoped in** to detailed assessment.
Non-breeding Birds	Up to Local	Non-breeding bird species may be displaced by the presence of solar panels and affected by habitat changes. Surveys indicated no regular use of the site by significant flocks of non-breeding bird species and therefore any effects are considered unlikely to be significant (refer to ***PEIR Volume 2 Appendix 7-3***). **Scoped out** of detailed assessment.
Roosting Bats	Up to county	Trees that offer bat roosting potential will be retained and protected in line with embedded avoidance and mitigation measures (tree retention) and no buildings with bat roosting potential are anticipated to be affected by the Scheme. Valued by following UK Bat Mitigation Guidelines[20] based on a precautionary basis assuming presence of barbastelle roosts.

Receptor	Geographic Scale of Importance	Potential Effect Pathway and Rationale for Selection of Features for Detailed Assessment
		Scoped out of detailed assessment.
Foraging and Commuting Bats	Up to county	Bats may be disturbed during construction and behaviourally affected by the presence of solar panels and affected by habitat changes. Valued by following UK Bat Mitigation Guidelines[Error! Bookmark not defined.] **Scoped in** to detailed assessment
Badger	Site	Badger is a common and widespread species both locally and nationally, and therefore any effects are unlikely to be assessed as significant **Scoped out** of detailed assessment. Considered with regards to legislative compliance and best practice mitigation measures only.
Otter	County	Otter are likely present on watercourses adjacent to the Site and they may be subject to disturbance during construction. **Scoped in** to detailed assessment (construction only).
Water Vole	Up to County	Habitats within the Site are suitable to support water vole, if present the species may be affected by new watercourse crossings and habitat changes. **Scoped in** to detailed assessment.

Receptor	Geographic Scale of Importance	Potential Effect Pathway and Rationale for Selection of Features for Detailed Assessment
Amphibians	Up to County	Great crested newts are present within 250m of the Site. In addition priority amphibians (toad) may be present within the Site. Amphibians may be affected by changes to habitats during construction and operation. **Scoped in** to detailed assessment.
Reptiles	Local	The Site may support common species of reptile which could be impacted through changes to habitats during construction and operation. While impacts to a local value receptors are unlikely to be significant, given the scale of the Site and potential for benefits to increase the receptor value, reptiles are **Scoped in** to detailed assessment.
Notable flora	Local	The Site is likely to support an assemblage of common flora typical of lowland agricultural landscapes which may be affected by changes to habitats during construction and operation. Any impact is unlikely to be significant. **Scoped out** of detailed assessment.
Invertebrates	Local	The Site is likely to support an assemblage of common invertebrates typical of lowland agricultural landscapes which may be affected by changes to habitats during construction and operation. While impacts to a local value receptors are unlikely to be significant, given the scale of the Site and potential for benefits to increase the receptor value, invertebrates are **Scoped in** to detailed assessment.

Receptor	Geographic Scale of Importance	Potential Effect Pathway and Rationale for Selection of Features for Detailed Assessment
Other notable mammals	Local	Hare, hedgehog and other notable mammal species are common and widespread locally and nationally but may be affected by changes to habitats during construction and operation. While impacts to a local value receptors are unlikely to be significant, given the scale of the Site and potential for benefits to increase the receptor value, other notable mammals are **Scoped in** to detailed assessment.
Fish	Local	Watercourses are likely to support a typical assemblage of fish species, however will be largely unaffected due to embedded design measures. Any impact is unlikely to be significant **Scoped out** of detailed assessment.

Baseline Data Gathering

7.3.29 Detailed survey methodologies and limitations are presented in the following appendices in ***PEIR Volume 2***:

- Appendix 7-1: Ecological Baseline Report;
- Appendix 7-2: Breeding Bird Survey Report;
- Appendix 7-3: Wintering Bird survey Report;
- Appendix 7-4: Confidential Badger Report; and
- Appendix 7-5 Great Crested Newt Survey Report.

Desk Study

7.3.30 A desk study was undertaken to identify existing information on the presence of designated sites for nature conservation, protected and notable species and habitats within proximity to the Site as follows:

- Statutory designated sites for nature conservation, within 5km of the Site, extending to 10km for internationally protected sites, or 30km for internationally protected sites with bat qualifying features;
- Non-statutory designated sites for nature conservation within 2km of the Site; and,
- Existing records of priority habitats and protected and notable faunal species (dated within the last 10 years), within 2km of the Site.

7.3.31 The following key sources were consulted:

- Natural England and Joint Nature Conservation Committee (JNCC) websites;
- The Multi Agency Geographic Information for the Countryside (MAGIC) website;
- District Level Licencing Data;
- The Natural England Open Data Geoportal;
- The Woodland Trust Ancient Tree Inventory website;

- Bedfordshire and Luton Biodiversity Recording and Monitoring Centre (BLBRMC); and,
- Cambridgeshire and Peterborough Environmental Records Centre (CPERC).

7.3.32 Full details of the desk study methodology are provided in ***PEIR Volume 2 Appendix 7-1***: Ecological Baseline.

Habitat Survey

7.3.33 Habitat Surveys have been undertaken between April 2022 and are ongoing. Surveys have comprised a preliminary ecological appraisal undertaken in April 2022 using the JNCC Phase 1 habitat survey methodology and habitat surveys using the Habitat Survey methodology. All surveys were extended to record the presence, or potential of, protected or notable species through the use of target notes.

7.3.34 All surveys have been undertaken by suitably competent and qualified ecologists in accordance with industry standard guidance.

7.3.35 Full details of the desk study methodology are provided in ***PEIR Volume 2 Appendix 7-1: Ecological Baseline***.

Species Surveys

7.3.36 The following detailed field surveys have been undertaken to date, to establish the protected species baseline within the Site:

- Wintering Bird surveys (November 2021-March 2022 and November 2023 - March 2024);
- Breeding bird surveys (April 2022- June 2022, May 2023 - July 2023, April 2023 – June 2024);
- Great crested newt eDNA survey (June 2022);
- Badger survey (March 2023 – present); and
- Bat activity surveys (October 2023 to September 2024).

7.3.37 Protected species survey methodologies are described in ***PEIR Volume 2 Appendix 7-2 to 7-5***.

7.4 Assumptions and Limitations

7.4.1 Surveys in relation to bats are still ongoing, due to be concluded September 2024 and therefore any results presented here are preliminary only.

7.4.2 Otter and water vole surveys have not yet been undertaken, however will be completed with baseline information and assessment included within the final Scheme ES to be submitted with the DCO application.

7.4.3 Due to access restrictions, detailed survey of the Cable Corridors and the 400 kV Grid Connection have not yet been undertaken. Surveys will be completed with baseline information and assessment included within the final Scheme ES to be submitted with the DCO application

7.4.4 There are no further substantive limitations to the ecological assessment process recorded at this stage and there should be no identified substantive limitations to the final ES Ecology and Nature Conservation Chapter.

7.5 Stakeholder Engagement

7.5.1 Consultation undertaken to date in relation to Ecology and Nature Conservation is summarised in Table 7.6 below. Table 7.6 presents matters raised within the EIA Scoping Opinion and following non-statutory consultation, and how these have been addressed through this chapter.

Table 7.6: Summary of Consultation

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
EIA Scoping Report			
PINS	Scoping Opinion 8th December 2024	Scoping Report explains that an Ecological Impact Assessment (EcIA) and a Biodiversity Net Gain (BNG) assessment will be submitted with the DCO application. These documents should clearly differentiate between measures proposed to mitigate significant effects of the Proposed Development and measures proposed to support BNG.	Mitigation measures have been outlined within Section 7.7 and 7.9 of this document. BNG assessment will be provided with the final Scheme ES.
PINS	Scoping Opinion 8th December 2024	The ES should provide an assessment of likely significant effects on international statutory designated sites, including the potential for the Proposed Development site to provide functionally linked land for species which are qualifying features of European sites or provide the evidence referred to above, demonstrating an absence of Likely Significant Effects (LSE[1]).	Statutory designated sites (Eversden and Wimpole Woods SAC) scoped into assessment. Assessment provided in Section 7.8.
PINS	Scoping Opinion 8th December 2024	In the absence of information detailing the avoidance and mitigation measures proposed, the Inspectorate considers that the ES should provide an assessment of the potential effects of the	ZoI includes all nationally designated sites within 5km of the Scheme.

[1] The term likely significant effects is used here in the context of both the EIA Regulations and also the Habitat Regulations

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		Proposed Development on all national designated sites located within 5km of the DCO boundary or provide a justification as to the absence of LSE including evidence of agreement with relevant consultation bodies.	Embedded mitigation measures outlined in Section 7.7 and further justification provided in Section 7.8 Consultation has been undertaken with Natural England agreeing the application presents a low risk to designated sites
PINS	Scoping Opinion 8th December 2024	In the absence of information detailing the avoidance and mitigation measures proposed, the ES should provide an assessment of the potential effects of the Proposed Development on all non-statutory designated sites located within 2km of the site or provide evidence to demonstrate the absence of LSE including agreement with relevant consultation bodies.	ZoI includes all non-statutory designated sites within 2km of the Scheme. Embedded mitigation measures outlined in Section 7.7 and further justification provided in Section 7.8
PINS	Scoping Opinion 8th December 2024	The ES should provide an assessment of the potential effects of the Proposed Development on ancient woodland, veteran trees and other irreplaceable habitats located within 2km of the entire site boundary, including the PV area and grid connection route, or provide evidence to demonstrate the absence of LSE including agreement with relevant consultation bodies.	ZoI includes all ancient and irreplaceable habitats within 2km of the Scheme. Assessment undertaken in section 7.7
PINS	Scoping Opinion 8th December 2024	The Inspectorate is content to scope priority habitats out as an assessment of construction impacts is proposed and will assess the potential long term or permanent effects of habitat loss, severance and disturbance of priority and other on-site habitats through the operation and decommissioning phases of the Proposed Development.	None required

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
PINS	Scoping Opinion 8th December 2024	In the absence of a comprehensive set of non-breeding bird survey results covering the entirety of the site, the Inspectorate considers that the ES should include an assessment of non-breeding birds or provide evidence to demonstrate the absence of LSE including agreement with relevant consultation bodies.	Further survey undertaken presented in ***PEIR Volume 1 Appendix 7-3*** and scoping justification provided in Table 7.5.
PINS	Scoping Opinion 8th December 2024	Provided relevant mitigation measures are secured through the DCO, the Inspectorate agrees to scope this matter (roosting bats) out of further assessment.	Embedded mitigation measures include avoidance of tree works. Further details provided as Section 7.7
PINS	Scoping Opinion 8th December 2024	The Inspectorate considers that decommissioning effects are unlikely to give rise to materially greater effects than construction and is content to scope this matter out of further assessment.	None required
PINS	Scoping Opinion 8th December 2024	the ES should include an assessment of amphibians during operation and decommissioning or provide information demonstrating agreement with the relevant consultation bodies and the absence of LSE.	Assessment undertaken as section 7.8
PINS	Scoping Opinion 8th December 2024	ES should include an assessment of effects on reptiles, badgers, water vole, otter and invertebrates or provide information demonstrating agreement with the relevant consultation bodies and the absence of LSE.	Badger scoped out of assessment as of Site value only and any effects would not be significant, as agreed with Cambridgeshire County Council.
PINS	Scoping Opinion 8th December 2024	In relation to internationally designated sites, the ES should consider the potential for effects to occur beyond 10km	ZoI increased to 30km for internationally designated sites with bats as a qualifying feature. Eversden and Wimpole Woods SAC now scoped in to assessment

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
PINS	Scoping Opinion 8th December 2024	The ES must report the full survey findings and list all receptors identified as potentially present on site and assess significant effects where they are likely to occur.	Details of surveys completed to date provided as Appendices 7-1 to 7-5, unless these are ongoing
PINS	Scoping Opinion 8th December 2024	The Scoping Report cites two varying sources of data regarding the number of CWS within the study area	CWS data provided in ***PEIR Volume 2 Appendix 7-1***
PINS	Scoping Opinion 8th December 2024	Appropriate buffer zone distances between elements of the Proposed Development and sensitive habitat types, including watercourses, hedgerows, ancient woodland and veteran trees, should be defined in the ES, with reference to how this is secured through the DCO	Buffer zones defined in Section 7.7
PINS	Scoping Opinion 8th December 2024	No fish or aquatic invertebrate surveys have been or are noted as being undertaken on the Pertenhall Brook. Details of the surveys should be provided within the ES, or it should be demonstrated why LSE on fish and aquatic invertebrates are not expected to arise.	Watercourse impacts, including to fish and aquatic invertebrates, have been scoped out with reference to embedded mitigation in Section 7.7
PINS	Scoping Opinion 8th December 2024	The ES should assess potential impacts from Invasive non-native species (INNS) where significant effects are likely to occur	Measures to address invasive species are included in the OCEMP and outlined in Section 7.7
PINS	Scoping Opinion 8th December 2024	Detailed breeding bird, wintering bird and bat activity surveys should be conducted for the Proposed Development site, including the access and cable routes, or the ES should provide evidence of agreement from relevant consultation bodies that such surveys are not required.	Surveys have been undertaken as presented in ***PEIR Volume 2 Appendix 7-1 to 7-5*** Survey effort within cable routes has been discussed with relevant consultees (Cambridgeshire County council and Natural England)

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
PINS	Scoping Opinion 8th December 2024	Information relating to sensitive/ vulnerable ecological features should be provided in a confidential annex/ appendix	None required
Bedford Borough Council	Scoping Opinion 8th December 2024	while BBC's Local Plan 2030 does not set the % of BNG to be attained, Policy 43 does require a 'net increase in biodiversity'. This matter is addressed by the Applicant. However, we refer the Applicant to the DRAFT BBC Local Plan 2040, Policy DM7 which requires 'securing a minimum of 10% BNG'; and further §6.62 'the environmental agenda has moved on and it is now suggested we should go further than biodiversity net gain and adopt an environmental net gain approach in planning and development	BNG to be included in ES as outlined in Section 7.7
Bedford Borough Council	Scoping Opinion 8th December 2024	Note CIEEM guidance in relation to lifespan of ecological surveys and reporting	None required, guidance has been noted
Bedford Borough Council	Scoping Opinion 8th December 2024	1. Priority Habitats - operation and decommissioning scoped out: the Applicant will need to assess and evidence how during these two stage the scheme will manage, maintain, and restore these habitats as required by the Act; suggest stages to be scoped in. 2. Other on-site habitats - operation scoped out: suggest stages to be scoped in. 3. Amphibians - operation scoped out: suggest stages to be scoped in. Further, see attached submission by NatureSpace which concludes 'We are in agreement that great crested newt should be scoped into the Environmental Statement. In line with guidance from Natural England (Great crested newts: District Level	Priority habitats have been scoped into assessment at construction and operation. Decommissioning impacts are considered comparable with those experienced during construction On site habitats and amphibians are scoped in to operation. Roosting bats are scoped out with reference to embedded avoidance of suitable roost features

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		Licensing for development projects, Natural England, March 2021), there is a reasonable likelihood that great crested newts would be impacted by the development proposals. It is therefore considered likely that a licence would be required to implement the proposal' (NatureSpace comment sheet; 24/11/2023). 4. Bats (roosting) - all stages scoped out. In light of the fact that 'Bats (Foraging and commuting)' for construction and operation are scoped in, to allow for a consistent assessment, Bats (roosting) should be scoped in. 5. Badgers - all stages scoped out. In light of the fact that badgers are territorial and maintain main, annex and outlying setts, collectively this will need to be surveyed, assessed, and possible mitigation proposed. Construction and operation should be scoped in	Badgers are scoped out of assessment as any effects would not be significant. The species is considered with regards to legal compliance and best practice. Scoping of ecological features detailed in Table 7.5 with justifications. This response has been considered with regards to scoping of ecological features.
Cambridgeshire County Council	Scoping Opinion 8th December 2024	Insufficient detail has been provided for the decommissioning phase for the Council to agree scoping out of any ecological features. The Council would expect priority habitats, habitats of local-county importance or those supporting notable species created / managed during the operational phase to be retained during decommissioning and long-term management secured. We recommend the Application include an Outline Decommissioning Environment Management Plan	Decommissioning has been scoped out of the assessment Further information on decommissioning phase provided within ***PEIR Volume 1 Chapter 2***. An outline Decommissioning Environmental Management Plan is available at ***PEIR Volume 2 Appendix 2-5***.
Cambridgeshire County Council		The Council does not agree with the proposed Zone of Influence (ZoI) for ecological features - ZoI for European Sites designated for bats should be expanded to 30km (including Eversden and	ZoI expanded to 30km for European sites with bat qualifying features and now includes Eversden and Wimpole Woods

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		Wimpole Woods Special Area of Conservation). - ZoI for Water Vole / Otter should be expanded to land within the Site and immediately surround habitat (including 500m section of watercourses downstream of the site, watercourses within 10m of development, and other suitable aquatic and terrestrial habitats). - ZoI for arable field margins / arable flora should be included for land within the Site and immediately surrounding habitat (impacted by shading / hydrological links).	ZoI for otter and water vole expanded to watercourses within and adjacent the Site, and suitable habitat up to 200m up/ downstream for otter. ZoI for habitats includes land immediately adjacent to the Site. Study areas for each receptor area are outlined in Section 7.3, and have been selected with consideration of this response
Cambridgeshire County Council		The additional targeted / update ecological surveys of the Site should be expanded to address the above concerns regarding ZoI, including detailed botanical surveys for arable flora and priority habitats, barbastelle bats and water vole / otter. Surveys /assessment should be based on the latest guidelines (e.g. bats, badgers, breeding birds and Biodiversity Net Gain)	See above in relation to ZoI Study areas for each receptor area are outlined in Section 7.3, and have been selected with consideration of this response Best Practice guidance has been followed as referenced in Appendices 7-1 to 7-5. Survey data collected to date is presented in Appendices 7-1 to 7-5.
Cambridgeshire County Council		a Habitats Regulations Assessment screening with Natural England would be beneficial given the site is located within 30km of Eversden and Wimpole Woods Special Area of Conservation.	HRA to be undertaken and submitted alongside the Development Consent Application
Environment Agency		Clarification of extent of water vole and otter surveys (general or targeted)	Survey and mitigation in relation to otter and water vole are outlined

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
			in Section 7.7 including details of further and pre-commencement surveys
Hail Weston Parish Council		Invertebrates should be scoped in. Rare moths (e.g., small eggar moth) could be affected during construction	Invertebrates have been considered within the baseline (Section 7.6) and impact assessment (Section 7.8)
Stakeholder Consultation			
Natural England	Discretionary Advice Service 8th February 2024	It is considered likely that you will be able to screen out adverse impacts on the following Sites of Scientific Interest ('SSSI's) identified in the submitted Environmental Impact Assessment due to immobile notified features, distances involved and lack of emission pathways both during the operational and construction phases with regard to standard construction practices: • Little Paxton Wood SSSI; • Swineshead wood SSSI; • Perry Wood SSSI; • St Neots Common SSSI;	Scoped out of assessment
Natural England	Discretionary Advice Service 8th February 2024	The following sites are designated for mobile species which therefore increases the potential for an impact pathway: • Grafham Water SSSI; • Little Paxton Pits SSSI The development does not appear to trigger any of Natural England's Impact Risk Zones ('IRZ's) for any of the sites listed above. Our IRZs give a strong indication of where we anticipate impacts from various different types of development, and we therefore consider the application to be of relatively low risk to designated sites. Note,	Wintering bird surveys have been undertaken to assess impact pathways on mobile wintering bird features assocaited with Grafham Water SSSI and Little Paxton Pits SSSI Both Sites have been scoped out of assessment

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		however, that our IRZs are indicative only and should not be considered proof of the absence of an effect where evidence indicates to the contrary, particular given the scale of development proposed.	
Natural England	Discretionary Advice Service 8th February 2024	It is welcomed that RNA Energy are proposing a 10% Biodiversity Net Gain target ahead of the mandatory November 2025 start date for NSIPs (paragraph 8.4.58). Due to the size and nature of the development we encourage a more ambitious goal and recommend discussions take place with other environmental bodies to achieve local and national habitat creation/management objectives. Natural England will comment on the outcomes of the BNG metric but will not comment on the BNG calculations themselves.	BNG to be included as outlined in Section 7.7
Cambridgeshire County Council	Virtual meeting 15th March 2024	Biodiversity net gain should consider relevant nature recovery strategies and local strategies in determining strategic significance	BNG to be included as outlined in Section 7 and will consider relevant guidance and strategies applicable at the time.
Cambridgeshire County Council	Virtual meeting 15th March 2024	If protected species licencing is required, then would want to see any required mitigation/ compensation requirements referenced in the application documents	Measures to address legislative compliance are outlined in Section 7.7. Where this is required, relevant measures have also been included in the oCEMP (***PEIR Volume 2 Appendix 2-3***) and oLEMP (***PEIR Volume 2 Appendix 2-2***).
Cambridgeshire County Council	Virtual meeting 15th March 2024	Survey work should be undertaken to determine impacts upon Grafham Water. Impacts on woodland not anticipated, however the application	Graham water is designated for wintering bird populations. Results of wintering bird surveys have been presented in ***PEIR***

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		needs to show air quality impacts are considered. Impact of lighting on adjacent designated sites (e.g., Huntingdon woods) needs to be considered)	***Volume 2 Appendix 7-3*** and impacts discussed in Section 7.8
Cambridgeshire County Council	Virtual meeting 15th March 2024	Construction methods should be included to allow for assessment of construction impacts (e.g., dust and vibration)	Construction methods are outlined in ***PEIR Volume 1 Chapter 2*** and mitigation measures provided in the Outline Construction Ecological Management Plan (oCEMP) (***PEIR Volume 2 Appendix 2-5***).
Cambridgeshire County Council	Virtual meeting 15th March 2024	Notable arable flora may be present in field margins and should be assessed. This could be undertaken pre-construction	The baseline habitat assessment includes notable arable flora. The oCEMP includes for pre-construction surveys
Cambridgeshire County Council	Virtual meeting 15th March 2024	Consider otter and water vole zone of influence of 500m, depending on level of impacts	Otter zone of influence expanded to 200m. Study areas have been selected based on likelihood of impacts as outlined in Section 7.2
Cambridgeshire County Council	Virtual meeting 15th March 2024	Further consultation may be necessary following completion of breeding bird surveys, with compensation preferred to be in larger areas. Compensation should consider farmland birds as an assemblage.	Assessment of breeding birds provided in Section 7.8
Cambridgeshire County Council	Virtual meeting 15th March 2024	Breeding bird survey should justify any deviated from guidance	Survey methods and limitations are provided as ***PEIR Volume 2 Appendix 7-2***.
Cambridgeshire County Council	Virtual meeting 15th March 2024	Impacts associated with cable routes (e.g., tree removal) should be considered. If surveys left to pre-commencement need to be	Cable route impacts are discussed in Section 7.8. An oCEMP has been provided at ***PEIR***

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		included within a Construction Ecological Management Plan	***Volume 2 Appendix 2-3***.
Cambridgeshire County Council	Virtual meeting 15th March 2024	Localised mitigation measures to be provided for works within suitable reptile habitats	An oCEMP (***PEIR Volume 2 Appendix 2-3***) has been provided including reasonable avoidance measures.
Cambridgeshire County Council	Virtual meeting 15th March 2024	Content to scope out roosting bats and badger, provided adequate survey effort can be demonstrated and measures to ensure legislative compliance are included	Scoping of receptors provided as Table 7.5 and best practice mitigation measures included as section 7.8

7.6 Baseline Conditions

7.6.1 This section provides a summary of the baseline conditions of the Site and study areas, baseline conditions are described in full in ***PEIR Volume 2 Appendix 7-1 to 7-5***.

Desk Study

Statutory Designated Sites for Nature Conservation

7.6.2 No international statutory designated sites for nature conservation were identified within 10km of the Scheme Boundary, however Eversden and Wimpole Woods Special Area of Conservation (SAC), which features barbastelle bat *Barbastella barbastellus* as a qualifying feature is located within 30km of the Site.

7.6.3 Eighteen national statutory designated sites for nature conservation are located within 5km of the Site, the closest being Swineshead Wood Site of Special Scientific Interest (SSSI), located approximately 925m north-west. A summary of statutory designated sites is given in Table 7.7 and shown on ***PEIR Volume 3 Figure 7-1a to 7-1c***.

Table 7.7: Statutory designated Sites for Nature Conservation

SSSI: Site of Special Scientific Interest; LNR: Local Nature Reserve; SAC: Special Area of Conservation.

Site Name	Approximate Distance and Direction from Site	Description
Swineshead Wood SSSI	925m north	An ancient ash/maple woodland with structural and biological diversity. Historically managed as coppice with standards. Contains a rich flora.[2]
St. Neot's Common SSSI	1.57km east	A riverside common with alluvial grassland and associated ponds, ditches and willow carr. The grassland remains under the traditional management and has a species-rich sward.

[2] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1001520&SiteName=swine&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

Site Name	Approximate Distance and Direction from Site	Description
		Contains diverse invertebrate and amphibian populations. [3]
Little Paxton Wood SSSI	1.58km north-east	A wet ash-maple woodland, which have undergone a significant national decline. Historically managed as a coppice-with-standards. Has extremely diverse flora which includes one nationally restricted species (spiked star-of-Bethlehem *Ornithogalum pyrenaicum*), as well as a number of species which are of very local occurrence in Cambridgeshire. [4]
Perry Woods SSSI	1.84km north	An ash-maple ancient woodland. Supports diverse floral and invertebrate diversity. [5]
Grafham Water SSSI	2.83km -north	An extensive reservoir that can support nationally important numbers of summer moulting mute swan and wintering great crested grebe, tufted duck and coot. It is also an important site for passage migrants, wintering and breeding birds. A small pond also supports GCN. [6]
Little Paxton Pits LNR	3.11km -north-east	An extensive area of flooded gravel workings, with a diverse vegetation structure. The pits are of national importance for wintering wildfowl and an important stopping point for migrants. Notable use by wintering gadwall with over 1% of the British wintering population. The invertebrate fauna is extremely rich and includes a number of national rarities including a number of flies (Diptera) (*Spilogona scutulata, Limnophora scrupulosa, Dolichopus andulusiacus* and *Lispocephala falculata*) and the leaf-hopper (Homoptera) *Idiocerus herrichi*. Other notable species present include common spotted-orchid, bee orchid, blue fleabane, hare's-foot clover and knotted clover.[7]

3
https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002239&SiteName=st.%20neot&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=
4
https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1000864&SiteName=little%20paxton&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=
5
https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002166&SiteName=perry%20wood&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=
6
https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002330&SiteName=grafham&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=
7
https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009006&SiteName=Little%20Paxton%20Pits%20&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

Site Name	Approximate Distance and Direction from Site	Description
Little Paxton Pits SSSI	3.12km north-east	An extensive area of flooded gravel workings, with a diverse vegetation structure. The pits are of national importance for wintering wildfowl and an important stopping point for migrants. Notable use by wintering gadwall with over 1% of the British wintering population. The invertebrate fauna is extremely rich and includes a number of national rarities including a number of flies (Diptera) (*Spilogona scutulata, Limnophora scrupulosa, Dolichopus andulusiacus* and *Lispocephala falculata*) and the leaf-hopper (Homoptera) *Idiocerus herrichi*. Other notable species present include common spotted-orchid, bee orchid, blue fleabane, hare's-foot clover and knotted clover.[8]
Eversen and Wimpole Woods SAC	17.4km south-east	Annex II species that are a primary reason for selection of this site: 1308 Barbastelle *Barbastella barbastellus* The site comprises a mixture of ancient coppice woodland (Eversden Wood) and high forest woods likely to be of more recent origin (Wimpole Woods). A colony of barbastelle *Barbastella barbastellus* is associated with the trees in Wimpole Woods. These trees are used as a summer maternity roost where the female bats gather to give birth and rear their young. Most of the roost sites are within tree crevices. The bats also use the site as a foraging area. Some of the woodland is also used as a flight path when bats forage outside the site.

Non-Statutory designated Sites for Nature Conservation

7.6.4 Data provided by CPERC and BLBRMC identified 26 non-statutory designated sites for nature conservation within 2km of the Site. A total of 13 CWS were located within Cambridgeshire, with 12 CWS Roadside Nature Reserve (RNR) within Bedfordshire. Of these, Kangaroo Meadow County Wildlife Site (CWS) and Huntingdon Wood CWS are located adjacent to the Site. All other non-statutory designated sites for nature conservation are

8 *https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002350&SiteName=Little%20Paxton%20Pits%20&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=*

located over 100m from the Site. A summary of non-statutory designated site is given in Table 7.8 and shown on ***PEIR Volume 3 Figure 7-2***.

Table 7.8: Non-statutory designated Sites for Nature Conservation

Designated Site Name	Distance and Direction from Site	Description
Huntingdon Wood CWS	Adjacent Site	The site is a woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Kangaroo Meadow CWS	Adjacent Site	Recognised for the presence of neutral grassland. A small triangular area of unimproved neutral grassland which can be inundated in winter.
High Wood CWS	115m south	The site is a woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Moor Road Marshy Fields CWS	255m south	The site supports at least 0.5ha of NVC community S7 Lesser Pond-sedge swamp.
The Elms Paddock CWS	315m north-east	The site supports frequent numbers of at least 8 neutral grassland indicator species,
Staploe and Honeydon RNR	355m south-west	Recognised for supporting nationally scarce Spiked Star of Bethlehem or Bath Asparagus (*Ornithogalum pyrenaicum*), Sulphur Clover (*Trifolium ochroleucon*) and Crested Cow-wheat (*Melampyrum cristatum*)
Cemetery North of Churchyard CWS	375m north	The site supports frequent numbers of at least 8 neutral grassland indicators, at least 3 of these are strong indicators.
Willow Pollards West of Sharps Barn CWS	465m east	The site supports at least 5 mature pollard willows in association with other semi-natural habitat.
Meagre Wood CWS	565m north-east	The site is a woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Swineshead Wood CWS	900m north-west	Recognised for the presence of ancient semi-natural woodland. The northern and western areas of the woodland comprise mixed plantation with open areas. The remainder of the site, designated also as a SSSI, is previously managed structurally and species diverse ancient semi-natural woodland on wet soils.

Designated Site Name	Distance and Direction from Site	Description
Sandye Lane CWS	910m north-west	Recognised for the presence of neutral grassland. A green lane linking Spanoak Wood and Tilbrook Bushes CWS with Swineshead CWS
River Great Ouse CWS (Cambridgeshire)	995m west	major river not grossly modified by canalisation or poor water quality; supports >0.5ha NVC S6 swamp; >0.5ha S4 swamp; >0.05ha MG13 grassland; a nationally scarce vascular plant (*Nymphoides peltata*); breeding populations of a nationally rare dragonfly (*Libellula fulva*)
Wyboston Pits CWS	1.03km west	The Site comprises a series of flooded disused gravel pits surrounded largely by amenity grassland with scattered trees and shrubs but with smaller areas of neutral and marshy grasslands and broadleaved plantation.
Agdengreen Wood CWS	1.07km north	The site is a woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Tilbrook Bushes and Sandy Lane CWS	1.13km North-west	The site supports a population of a vascular plant species which is rare in the county and because it supports as least 500m of hedgerow of the requisite dimensions and species diversity that is allowed to flower and fruit.
Hook and Home Woods CWS	1.14km south	Recognised for the presence of ancient semi-natural woodland. The CWS comprises two discrete areas of woodland; Hook Wood semi-natural broadleaved woodland and the northern section of Home Wood, containing semi-natural broadleaved woodland, conifer plantation at the eastern end and a central area of dense scrub.
Midloe Woods CWS	1.20km north-east	The site is a woodland listed in the Cambridgeshire Inventory of Ancient Woodland which retains more than 25% semi-natural cover.
Spanoak Wood and Tilbrook Bushes CWS	1.25km north-west	Recognised for the presence of ancient semi-natural woodland and marsh. An ancient woodland site, consisting mostly of young mixed planation of spruce and oak with a field layer of tall grasses and herbs. To the east of the site is an area of marshy neutral grassland.
Honeyhill Wood CWS	1.27km north	The site is a woodland listed in the Cambridgeshire Inventory of Ancient

Designated Site Name	Distance and Direction from Site	Description
		Woodland which retains more than 25% semi-natural cover.
Keysoepark Wood CWS	1.47km south	Recognised for the presence of ancient semi-natural woodland. A block of semi-natural broadleaved woodland with a mature canopy underplanted with conifers.
Melchbourne Woods CWS	1.58km west	Recognised for the presence of ancient semi-natural woodland. A large area of semi-natural broadleaved woodland and plantation, most of which is ancient woodland.
River Great Ouse CWS (Bedfordshire)	1.61km south-east	Designated for river habitats and adjacent habitats and features which are considered part of the river system
Horse Close CWS	1.63km north-east	The site supports frequent numbers of at least 8 neutral grassland indicator species, at least 3 of these are strong indicators. Additionally it supports a population of a Nationally Scarce vascular plant species.
Little Barford CWS	1.65km south-east	A complex of two semi-improved pastures to the east, an area of swamp vegetation in a poplar plantation to the west (not surveyed), a churchyard and the neighbouring section of the River Great Ouse.
Bushmead Meadows CWS	1.71km south	Recognised for the presence of neutral grassland. One of the largest and most species rich areas of CWS grassland (in Bedfordshire) north of Bedford.
Begwary Brook Pits CWS	1.87km south-east	Contains a diversity of habitats including marsh, neutral grassland, ponds, lakes, ditches and woodland. The River Great Ouse forms the eastern and northern boundaries of the County Wildlife Site.

Irreplaceable Habitats

7.6.5 Three ancient woodland parcels are located within 500m of the Site boundary, with a further fourteen within 2km of the Site. The closest ancient woodland is Huntingdon Wood, which is located directly adjacent to the proposed cable

route Site boundary. Ancient woodland locations are shown on ***PEIR Volume 3 Figure 1-3***.

Existing Records of Priority Habitats

7.6.6 Priority habitats recorded within the Site through the desk-based review and extended habitat surveys includes hedgerows, deciduous woodland and ponds. Additionally, a review of Magic identifies the following habitats within 2km of the Site: coastal and floodplain grazing marsh, traditional orchards, lowland fen, lowland meadow, wet woodland and reedbed.

Habitats

7.6.7 Detailed baseline information in relation to habitats is provided in ***PEIR Volulme 2 Appendix 7-1***. Habitats are shown on ***PEIR Volume 3 Figure 7-3***.

East Park Site A

7.6.8 East Park Site A, west of B660 Kimbolton road and B660 Pertenhall Road, predominantly consists of large arable fields planted with cereal crops at the time of survey. Fields are typically bounded by species-poor hedgerows dominated by hawthorn and blackthorn, but also variously including field maple, ash, oak, dog rose, sycamore, hazel.

7.6.9 Within the north of Site A lies the Pertenhall Brook, a watercourse of approximately 1.5-2m width and 0.5m depth and with a slow flow. The watercourse has been subject to modifications including the deepening of the channel, which is now lies within steep banks of approximately 2m.

7.6.10 Habitats immediately beyond the Site A boundary include further arable fields, blocks of plantation broadleaved woodland, as well as the existing Manor Farm solar array.

East Park Site B

7.6.11 East Park Site B, east of B660 Pertenhall Road, similarly comprises agricultural habitats consisting of cereal crops and non-cereal (legume) crops. Fields typically have modified grassland margins consisting of common species typical of agricultural landscapes.

7.6.12 Fields are bounded by hedgerows, typically species-poor and dominated by hawthorn and blackthorn but variously also containing oak, ash, willow, elder and sycamore. Ditches are also present, as well as some small streams that are tributaries of the Pertenhall Brook.

7.6.13 A few small areas of broadleaved woodland are located within the Site.

7.6.14 Habitats immediately beyond the Site B boundary include further arable fields, with the village of Little Staughton to the South.

East Park Site C

7.6.15 East Park Site C surrounding New Wood consists predominantly of arable fields bounded by ditches and with modified grassland margins.

7.6.16 New Wood is located centrally in the parcel, which is an oak dominated woodland with evidence of use for gamebird rearing.

7.6.17 The River Kym bounds Site C to the north, a river approximately 5m wide and with banks modified by reprofiling. The river is lined with trees including ash and willow.

7.6.18 Habitats immediately beyond the Site C boundary include further arable fields, with the village of Staughton Highway to the north.

East Park Site D

7.6.19 East Park Site D comprises predominantly arable fields with small blocks of woodland and scrub on the western boundary, as well as recent hedgerow planting. Field boundaries are less well established in this Site.

7.6.20 Habitats immediately beyond the Site D boundary include further arable fields.

Cable Corridors

7.6.21 Cable routes located between Site B and Site C, between Site C and Site D and between Site D and the Eaton Socon Substation are located predominantly within arable fields bounded by hedgerows. Between Site D and the Eaton Socon Substation, the route crosses the South Brook and Duloe Brook. The Site also encompasses land surrounding the Eaton Socon Substation. Cable routes have not yet been surveyed in detail.

7.6.22 Habitats adjacent to the cable route consist predominantly of further arable land, but also includes Huntingdon Wood (ancient woodland).

Species

Birds

Desk study

7.6.23 The desk study returned 5,903 recent bird records comprising 129 species within 2km of the Site boundary during the last ten years. This included 23 Schedule 1 species, 14 Annexe 1 species, 27 Section 41 Priority species. 37 BoCC red list species and 47 BoCC amber list species.

Breeding Birds

7.6.24 Habitats within the Site are suitable to support a range of widespread breeding birds, including ground nesting species within more open arable land and a wide range of species typical of lowland arable landscapes (e.g., passerines, corvids, owls, raptors) within boundary woodlands, hedgerows and trees.

7.6.25 During habitat surveys a barn owl box was noted within East Park Site B offering a potential nest site, but usage of the box is unknown. Additionally a tree with a suitable cavity for owl nesting and signs of whitewash was identified also in East Park Site B.

7.6.26 Further, a log storage building with owl pellets (species unknown) and white wash was identified in East Park Site B suitable for roosting owls and two barns suitable for breeding or roosting owls identified in East Park Site A, but not accessed for detailed inspection.

7.6.27 Breeding bird surveys identified an assemblage typical of lowland agricultural landscapes, with a total of 17 Notable Species (as defined in ***PEIR Volume 2 Appendix 7-2***) recorded breeding within the Site.

7.6.28 Notable Species recorded within the study area included eight Red List species (grey partridge, lapwing, cuckoo, skylark, linnet, yellowhammer, corn bunting and yellow wagtail) and nine Amber List species (quail, stock dove, woodpigeon, willow warbler, whitethroat, wren, dunnock, song thrush and reed bunting). Seven species are as Priority Species under S41 of the NERC act (grey partridge, lapwing, cuckoo, skylark, dunnock, song thrush, linnet, reed bunting, corn bunting, yellowhammer and yellow wagtail).

7.6.29 The Schedule 1 species quail was recorded with up to four territories, all within arable crops.

7.6.30 Breeding territories of Notable Species were typically associated with vegetation along field boundaries, which principally comprises of field-margins, hedgerows, scrub, tree-lines and woodland habitats within and adjacent to the Site.

7.6.31 Ground-nesting Notable Species breeding within the Site comprises of grey partridge, quail, lapwing, corn bunting, yellow wagtail and skylark. Grey partridge, corn bunting and yellow wagtail typically nest on the ground within field margins or hedgerow bases. Lapwing, skylark and quail nest within arable and grassland fields. Breeding territories of notable species are shown in Table 7.9, with ground-nesting species highlighted in bold. Breeding bird territories are shown on ***PEIR Volume 3 Figure 7-4***.

7.6.32 Full details of the breeding bird baseline are provided in ***PEIR Volume 2 Appendix 7-2***.

Table 7.9: Notable Breeding Bird Territories Recorded Within the Site.

Species	Estimated Territories	Comments
Grey partridge	**4**	**Associated with arable field margins.**
Quail	**0-4**	**Associated within arable fields.**
Lapwing	**5**	**Within unsown fields.**
Woodpigeon	5	Within trees and hedgerows along field boundaries.
Stock dove	4	Within trees and hedgerows along field boundaries.
Cuckoo	2	Within hedgerows along field boundaries.
Skylark	**104**	**Associated within arable fields.**
Dunnock	5	Within hedgerows along field boundaries.
Wren	33	Within trees and hedgerows along field boundaries.
Song thrush	6	Within trees and hedgerows along field boundaries.
Willow warbler	1	Within hedgerows along field boundaries.
Whitethroat	30	Within hedgerows along field boundaries.
Linnet	13	Within trees and hedgerows along field boundaries.
Reed bunting	8	Within hedgerows along field boundaries.
Corn bunting	**5**	**Within trees and hedgerows along field boundaries.**
Yellowhammer	36	Associated with arable field margins.
Yellow wagtail	**18**	**Associated with arable field margins.**

Non-Breeding Birds

7.6.33 Habitats within the Site are suitable to support a range of non-breeding bird species, including gulls, waders and other waterbirds, as well as notable species including passerine flocks and raptors.

7.6.34 Typically only small numbers were recorded regularly within the Site and wider survey area (as defined in ***PEIR Volume 2 Appendix 7-3***), however there were occasional larger flocks. Usage was considered to be typical of the habitats and region, and unremarkable.

7.6.35 Full details of the non-breeding bird baseline are provided in ***PEIR Volume 2 Appendix 7-3***.

Bats

7.6.36 Full details of the bat baseline gathered to date are provided in ***PEIR Volume 2 Appendix 7-1***.

Desk Study

7.6.37 The desk study returned 18 recent records of bat comprising 12 species, all of which are located outside of the Site. One NE protected species licence for the destruction of a common pipistrelle and brown long-eared bat roost site bats was located outside of the Site, but within the desk study area.

Roosting

7.6.38 During the extended habitat survey eight trees were identified as possessing potential roost features (PRF) of up to PRF-M[21], including woodpecker holes, rot holes and limb cracks. Several trees within the Site and immediately adjacent land possessed features offering PRF-I[21].

7.6.39 In addition, a log storage building in East Park Site B was assessed as offering moderate bat roost potential and two barns adjacent to East Park Site A were assessed as offering high bat roost potential.

Foraging and Commuting

7.6.40 Habitats within the Site as a whole are considered to fit the description most closely for land of 'moderate' interest for foraging bats in accordance with Bat Conservation Trust (BCT) guidance[21], with continuous habitat connected to the wider landscape that could be used for commuting and foraging. However, the arable habitats, which the Site is dominated by, offer poor quality habitat for foraging and commuting bats.

7.6.41 Linear features within and around the Site such as tree lines, hedgerows, field margins, ditches, woodland edges and watercourses are considered to offer the most favourable habitats for foraging/commuting bats, particularly the Pertenhall Brook and the River Kym.

7.6.42 Bat activity surveys to date have identified the following species utilising the Site (and predominantly the field boundary features): common pipistrelle, soprano pipistrelle, Nathusius' Pipistrelle brown long-eared bat, barbastelle, noctule and Myotis sp.

Amphibians

7.6.43 The data search returned 27 records of amphibians, comprised of seventeen GCN, six common toad, two common frog and two smooth newt. A review of MAGIC identified no granted NE licences for GCN within 2km of the Site.

7.6.44 Further review of MAGIC identified five GCN Class Survey Licence Returns in three locations, all of which had confirmed presence of GCN in 2015.

7.6.45 A total of three ponds are located within the Site with a further 23 ponds located within 250m of the Site. Of these, two ponds within the Site and seven within 250m were accessed for great crested newt eDNA survey in 2022.

7.6.46 Great crested newt is shown to be absent from all surveyed ponds within the Site, but present within four ponds within 250m (P8, PP13, P17, P29). Desk study records identified historical presence at another pond within 250m of the boundary (P44). Great crested Newt Survey Results are shown on ***PEIR Volume 3 Figure 7-7*** and provided in ***PEIR Volume 2 Appendix 7-5***.

7.6.47 In addition, it is likely that ponds support other common species of amphibian, including common toad.

Reptiles

7.6.48 The data search returned three records of grass snake within 2km of the Site during the last ten years. No records were returned within the Site itself, with the closest recording located in Little Staughton; c.245m east of East Park Site B.

7.6.49 Habitats within the site are predominantly sub-optimal for reptiles, comprising predominantly arable land, however discrete aeras of the Site, including field margins and hedgerow bases offer more suitable habitat.

Badgers

7.6.50 Baseline information relating to badgers is provided within the confidential badger survey report in ***PEIR Volume 2 Appendix 7-4***.

Otters

7.6.51 The data search returned 21 recent records of otter, the closest of which was located immediately north of Site C on the River Kym. Records including sightings, spraints and prints are located along the length of the River Kym. Recent camera trap records were also provided within the data search located on the Riseley Brook, which connects directly to the Pertenhall Brook. Records primarily centre on the River Great Ouse.

7.6.52 Watercourses, including the Pertenhall Brook, River Kym, South Brook and Duloe Brook, as well as their smaller tributaries, offer suitable habitat to support foraging and commuting otters. Taken together with desk study records and considering the extensive home range and recent population increases of otters, it is considered likely that otters are utilising watercourses located within and adjacent to the Site, including the River Kym, Pertenhall Brook and Duloe Brook, and may occasionally utilise smaller tributaries of these watercourses.

Water Vole

7.6.53 The data search returned nine recent records of water vole, with the closest located 1.1km north-west of Site C along the River Kym.

7.6.54 While few ditches within the Site were considered to offer optimal habitat for water vole, watercourse and ditches present within and immediately adjacent to the Site do offer suitable habitat for the species and their presence cannot be precluded.

Hazel Dormouse

7.6.55 The data search returned no recent records of hazel dormouse within 2km of the Site.

7.6.56 Arable habitats within the Site offer negligible suitable habitat for the species, however hedgerows offer habitat of greater suitability, particularly where connected to larger woodland blocks.

7.6.57 Areas of ancient woodland located outside of the Site likely offer suitable habitat to support this species, however such woodlands are small in size and sparsely located within the landscape scale reducing the likelihood of hazel dormouse presence.

7.6.58 Given the absence of recent records of the species, and largely suboptimal habitats within the Site and wider landscape hazel dormouse are considered likely to be absent from the Site.

White-clawed Crayfish

7.6.59 The combined data search returned no records of white-clawed crayfish during the previous ten years.

7.6.60 During the extended habitat survey, several watercourses within and adjacent to the Site were considered suitable to support this species. Watercourses considered to be suitable include the River Kym, Pertenhall Brook and an unnamed stream located within East Park Site B.

7.6.61 Given the absence of any recent records of the species and the rarity of white clawed crayfish it is considered reasonably unlikely that the species is present within the Site and immediately adjacent areas.

Other Notable Species

Notable Flora

7.6.62 Of the plant species returned in the combined data search, the only species listed under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) with records returned was bluebell; thirteen records were returned in the data search, with one from within the Site itself. This included bluebells in a parcel of woodland situated in the centre of East Park Site A.

7.6.63 Bluebells were identified directly adjacent to the Site during the extended habitat surveys with the species recorded in woodlands neighbouring East Park Sites B and C.

7.6.64 Habitats within the Site are typical of lowland agricultural landscapes and are common and widespread both locally and nationally, and it is therefore considered likely that the Site supports a similarly common and widespread flora, although it is acknowledged this may include some notable species. Arable fields, which dominate the Site, are unlikely to support notable flora and no evidence was found during habitat surveys.

Fish

7.6.65 The data search returned no recent records of notable fish species.

7.6.66 Watercourses located within and immediately adjacent to the Site may support notable fish species, and field ditches may offer suitable habitat for eels. Fish surveys are not proposed due to the nature of the Scheme and negligible potential for significant effects.

Notable Invertebrates

7.6.67 The desk study returned 606 records of 37 invertebrate species listed as priority species under S41 of the NERC act. Desk study records also included 30 records of Norfolk hawker, one record of purple emperor and four records

of white-letter hairstreak, all of which are listed under Schedule 5 of the Wildlife and Countryside Act.

7.6.68 Two records of white-letter hairstreak were located immediately south of Site B along an elm rich hedgerow which continues northwards, forming the Site boundary. Additionally four records of the priority species small heath butterfly were located within Site A and Site B.

7.6.69 Habitats within the Site are typical of lowland agricultural landscapes and are common and widespread both locally and nationally, and it is therefore considered likely that the Site supports a similarly common and widespread invertebrate assemblage, although it is acknowledged this may include some notable species.

Other Notable Mammals

7.6.70 The data search returned records of other notable mammal species including hedgehog and brown hare within 2km of the Site during the last ten years. Of these, none were identified within the Site itself.

7.6.71 The hedgerows, woodland, tree lines and grassland field margins within the Site provide the greatest opportunities for breeding, foraging and sheltering brown hare and hedgehog.

7.6.72 Brown hares were frequently noted within the Site incidentally during surveys.

Future Baseline

7.6.73 In the absence of the Scheme, it is likely that the Site would continue in similar agricultural use and retain much the same baseline habitat characteristics as are observed presently.

7.6.74 A degree of natural variation in the distribution and size of species populations is likely to occur as a result of natural process and is to be expected regardless of the Scheme; however, the baseline conditions outlined above

are considered to represent a realistic ecological baseline for the foreseeable future.

7.6.75 It is possible that that anthropogenic climate change may result in the recording of species previously unrecorded as species from continental Europe migrate northwards. Further, the spread of invasive non-native species (e.g., Asian hornet) could result in changes to native species distributions on site. Such variations over time would occur independently of the Scheme.

7.6.76 No substantive changes to the management of the Site, or the distribution of ecological features are anticipated prior to construction, and the ecological baseline as assessed is considered to suitably represent the conditions present at the point of construction of the Scheme.

7.7 Design, Embedded Mitigation and Enhancement Measures

Design

Illustrative Environmental Masterplan

7.7.1 The Illustrative Environmental Masterplan accompanying this PEIR is provided on ***PEIR Volume 3 Figure 2-2*** and illustrates the likely proposed mitigation of the Scheme.

7.7.2 The Illustrative Environmental Masterplan on ***PEIR Volume 3 Figure 2-2*** is annotated to set out the purpose of the landscape proposals to meet the design objectives and mitigate for the impacts of the Scheme, these include:

- Retention of existing woodland, hedgerows, individual trees, ditches and watercourses across the Site as far as practicable;
- Creation of 'Green Lanes' through the Site where public rights of way are retained within open 20m wide corridors bounded by hedgerows and woodland blocks for visual screening, landscape integration and habitat connectivity purposes;
- Enhancement of waterside meadows along the Pertenhall Brook and an unnamed watercourse through Site B by creating riparian woodland blocks, meadows, hedgerows and intermittent riparian tree groups for ecosystem benefits, habitat connectivity, and to reduce visual impact on public rights of way alongside watercourses;
- Proposed hedgerows with trees for landscape integration, visual screening and habitat connectivity. In parts of the Site these have been provided to restore historic field boundaries;
- Creation of species-diverse grassland meadows and corridors as buffers to existing landscape elements (such as hedgerows and woodland), as buffers to residential properties, and for ecological mitigation and benefits; and
- Inclusion of mammal gates within all fencelines to solar areas.

7.7.3 The Illustrative Environmental Masterplan will continue to evolve in advance of submission of the application for development consent, and whilst the detailed layout of specific landscape elements may be subject to changes, the principle of the proposals as shown on the illustrative masterplan will eventually be secured by the provisions of the DCO via the oLEMP (***PEIR Volume 2 Appendix 2-2***).

Embedded Mitigation

Site Selection

7.7.4 A consideration of alternative sites was undertaken from the outset of the project through the site selection process which is considered part of the embedded mitigation as a first step in avoiding significant effects. The site selection process followed two broad stages:

- The first stage, set out in the Site Identification Report in ***PEIR Volume 2 Appendix 3-1*** identified a 'Search Zone' for the most appropriate location for a large-scale solar NSIP capable of utilising the available grid capacity within the Eaton Socon Substation.
- The second stage, set out in the Land Identification Report (LIR) in ***PEIR Volume 2 Appendix 3-2*** follows on from the first stage and comprised a high-level review of the land offered to BSSL to establish constraints to development of the Scheme and refine the overall landholding to be taken forward. This second stage considered the design principles set out above to determine the Site location.

7.7.5 The Site location benefits from detailed work to avoid or reduce the most significant potential effects on sites for nature conservation and habitats, and this embedded mitigation is the first stage in following the mitigation hierarchy.

Construction Phase

7.7.6 An outline Construction Environmental Management Plan (oCEMP) and outline Landscape and Ecological Management Plan (oLEMP) are available

at ***PEIR Volume 2 Appendix 2-3*** and ***2-2*** respectively. Both are considered an embedded part of the Scheme mitigation.

Outline Construction Environmental Management Plan

7.7.7 The oCEMP describes measures to be implemented during the construction process and will include commitments to:

- Species and Habitat Protection Plans;
- Protected Species derogation licenses (if required);
- Reasonable Avoidance Measures (RAMs);
- Designated Site Protection Measures (fencing/ signage)
- Pre-construction surveys;
- Pollution control including runoff and dust;
- Managed construction lighting; and,
- Noise / traffic management measures.

Operational Phase

7.7.8 The oLEMP (***PEIR Volume 2 Appendix 2-2***) has been prepared to set the principles by which the proposed landscape and habitats across the Scheme will be implemented and managed to ensure successful establishment.

Enhancement

Biodiversity Net Gain

7.7.9 A Biodiversity Net Gain (BNG) Assessment will be undertaken for the Scheme. This considers land take, habitat creation and any biodiversity enhancements that will accompany the Scheme, assessed using the Defra statutory biodiversity metric. The Scheme commits to a minimum of 10% net gain in habitat and hedgerow units and no net loss in watercourse units.

Species Enhancement Measures

7.7.10 In addition to the embedded habitat creation and enhancement measures provided through the Illustrative Environmental Masterplan, the following measures will be included as part of the Scheme to provide ecological enhancement, and will be secured via the oLEMP (***PEIR Volume 2 Appendix 2-2***):

- 40 no. General purpose bird boxes;
- 6 no. barn owl boxes;
- 3 no. raptor boxes;
- 60 no. bat boxes, including minimum;
    a. 5 no. hibernation boxes;
    b. 5 no. colony boxes;
- 10 no. reptile/ amphibian refugia; and
- 10 no. hedgehog boxes.

7.8 Assessment of Likely Significant Effects

Construction Phase

7.8.1 Potential construction phase ecological impacts associated with the Scheme are considered to relate to:

- Direct land take (habitat loss) to accommodate the Scheme;
- Temporary disturbance and land take for construction, laydown areas and construction compounds (land restored thereafter);
- Disturbance to, fragmentation or severance of connecting habitat or potential commuting routes within and adjacent to the Site; and
- Disturbance and pollution (indirect effects such as noise and vibration, dust, pollution from surface water run-off) resulting from enabling works and construction, plant and vehicles movements and site workers' activities.

Statutory Designated Sites for Nature Conservation

7.8.2 All statutory designated sites for nature conservation are sufficiently distanced that no direct impacts are anticipated. Similarly, due to the separation distances involved and given the implementation of standard pollution control measures within the embedded oCEMP (***PEIR Volume 2 Appendix 2-3***) and Outline Surface Water Management Plan (oSWMP) (***PEIR Volume 2 Appendix 8-2***), no indirect impacts are anticipated due to pollution from runoff or dust generated during construction.

7.8.3 Eversden and Wimpole Woods SAC is located approximately 17.5km south-east of the Scheme, and is designated for maternity colonies of barbastelle bat, as well as for offering a foraging and commuting area for the species. The Site is sufficiently distanced as to lie outside the core sustenance zone of barbastelle bats roosting within Eversden and Wimpole Woods SAC, which is taken to be approximately 6km from a roost site[21].

7.8.4 Barbastelle bats are known to migrate up to 40km between summer and winter roosts[22] and therefore it is feasible that construction of the Scheme could disrupt summer-winter migration routes of bats roosting within Eversden and Wimpole Woods SAC. The species has been recorded within the Site, although it is not known if individuals using the Site are associated with the Eversden and Wimpole Woods SAC.

7.8.5 With regards to foraging, the barbastelle is associated with broadleaved woodland habitats, and particularly ancient woodlands. When traveling between foraging areas, the species tends to stick to wooded linear features, with open areas not preferred and therefore it is considered likely that the species would also utilise boundary features when migrating between summer and winter roosts. Any loss of hedgerow could disrupt such routes.

7.8.6 Hedgerow habitats will be almost entirely retained and protected with buffer zones of at least 6m, with the exception of small-scale removal/ widening required to permit Site access at ten locations and totalling 54m with no individual length of removal greater than 6m. Post-construction seven crossing points, totalling 37m, will be reinstated. Implementation of the landscape design is discussed in relation to operational impacts.

7.8.7 Through the embedded oCEMP (***PEIR Volume 2 Appendix 2-3***), measures will be implemented to ensure any lighting, if required, is directed away from boundary habitats including hedgerows, woodland edge and watercourses to ensure no disruption to bat commuting routes. All work would be undertaken within typical daylight hours of 08:00 and 18:00.

7.8.8 Taking into account the small scale of hedgerow removal, embedded stand-off zones and light spill prevention measures embedded within the oCEMP it is concluded that the construction of the Scheme will have no discernible effect on mobile bat qualifying features associated with Eversden and Wimpole Woods SAC.

7.8.9 Minor hedgerow removal will result in no measurable (negligible/ neutral) impacts upon Eversden and Wimpole Woods SAC, a receptor of high sensitivity. Effects are therefore not significant.

7.8.10 A Habitats Regulations Assessment (HRA) will be undertaken as part of the ES and submitted with the application for development consent.

Non-statutory Designated Sites for Nature Conservation

7.8.11 No non-statutory designated sites for nature conservation are located within the Site, and so given all works will be confined to the Site boundary no direct impacts are anticipated on any such site.

7.8.12 Kangaroo meadows CWS is located immediately adjacent to East Park Site B, while Huntingdon Woods CWS is located immediately adjacent to the Grid Connection route.

7.8.13 Both sites will be clearly demarcated through the use of suitable fencing and signage to be specified in the embedded oCEMP (***PEIR Volume 2 Appendix 2-3***) to ensure no accidental encroachment. With regards to Huntingdon Woods CWS, designated for the presence of ancient woodland, Natural England and Forestry Commission Standing advice will be followed at all times, including adhering to buffer zones of at least 15m.

7.8.14 Potential indirect impacts relate to disturbance associated with construction noise and vibration, lighting, and pollution resulting from the deposition of dust or runoff. Standard best practice measures to control pollution have been included within the embedded oCEMP (***PEIR Volume 2 Appendix 2-3***), which will also stipulate that any lighting used during construction is to be task specific and directed away from boundary habitats.

7.8.15 Works in proximity to Huntingdon Woods CWS and Kangaroo Meadows CWS will be short term and temporary. Given the implementation of embedded best practice mitigation and avoidance measures construction of the Scheme is unlikely to have any discernible effect on Huntingdon Woods CWS or Kangaroo Meadows CWS.

7.8.16 All other non-statutory sites for nature conservation are located over 100m from the Site and so are considered sufficiently distanced from the Scheme that no impacts are anticipated.

7.8.17 The Scheme is anticipated to result in negligible impacts on non-statutory designated sites.

7.8.18 There will be no direct or indirect impacts on Huntingdon Woods CWS and Kangaroo Meadows CWS, resulting in negligible impacts upon non-statutory designated sites for nature conservation receptors of medium sensitivity. Effects are therefore not significant.

Habitats

Priority and Irreplaceable Habitats

7.8.19 All ancient woodland and ancient or veteran trees will be retained and protected in line with NE and Forestry Commission standing advice, including buffer zones of at least 15m for ancient woodland and either 15 times the tree diameter or 5m from the canopy edge (whichever is larger) for ancient or veteran trees. These embedded avoidance measures will be outlined in the oCEMP.

7.8.20 A detailed assessment as to the priority status of ponds has not been undertaken, however following a precautionary approach it is assumed that all ponds present within the Site may achieve priority status. All ponds within the Site will be retained and protected throughout construction of the Scheme, with embedded best practice pollution prevention measures outlined within the oCEMP and oSWMP.

7.8.21 Hedgerow habitats within the Site will be retained and protected with buffer zones of at least 6m, with the exception of small-scale removal/ widening required to permit Site access at ten locations and totalling 54m with no individual length of removal greater than 6m. Post-construction seven crossing points, totalling 37m, will be reinstated.

7.8.22 Given the retention of priority habitats, and small scale, largely temporary, hedgerow removal consistent with existing accesses the Scheme is anticipated to result in negligible impacts to priority habitats.

7.8.23 Minor hedgerow removal will result in negligible impacts upon priority habitat receptors of medium sensitivity. Effects are therefore not significant.

7.8.24 Implementation of the landscape proposals is discussed in relation to operational effects.

Other On-Site Habitats

7.8.25 Habitats within the Site generally comprise arable land with grassland margins typical of the region. Arable habitats are common and widespread both locally and nationally and provide negligible value for biodiversity, however grassland field margins offer value for a range of species and can form important networks of habitat to enable a wide range of species to traverse the landscape. Additionally, the Site also encompasses areas of scrub, non-priority ponds and woodland of higher value to biodiversity.

7.8.26 Higher value habitats such as woodland and scrub, as well as field margin habitats will be retained and protected throughout construction with the implementation of buffer zones of at least 6m around retained boundary habitats including hedgerows and watercourses (i.e., other than the minor removal discussed above) embedded in the oCEMP.

7.8.27 The oCEMP will also include best practice pollution prevention measures to protect watercourses, ditches and ponds within the Site.

7.8.28 Outside of these buffer zones, the majority of arable habitats and some areas of grassland field margins will be subject to permanent loss and/ or subject to temporary disturbance during construction.

7.8.29 A total of 20 new proposed watercourse and ditch crossings are required, including two temporary (only for the duration of construction) bailey bridges of the Duloe Brook and an unnamed watercourse in Site B, seven trenches

through field ditches, three temporary (for the duration of construction) culverts affecting field ditches, and eight permanent culverts.

7.8.30 Given the retention of high value habitats, and the Scheme location within mostly low value arable land, the construction of the Scheme, which is temporary and expected to last approximately 2 to 3 years, is anticipated to result in a minor adverse effect to on-site habitats that is not significant.

7.8.31 Temporary removal of non-priority on-Site habitats will result in minor adverse impacts upon on-site habitat receptors of low sensitivity which are not significant.

7.8.32 Implementation of the landscape proposals is discussed in relation to operational effects.

Birds

Ground Nesting Birds

7.8.33 Hedgerows will be retained and protected throughout construction with the exception of 54m total of hedgerow, the removal of which will be undertaken following best practice measures outlined within the embedded CEMP which includes pre-construction checks (if within the nesting bird season). As such, any species which nest at the base of hedgerows will not be directly impacted by the Scheme.

7.8.34 Ground-nesting birds which nest in open farmland habitats, such as skylark (see Table 7.9), are likely to be displaced by construction of the Scheme.

7.8.35 Measures outlined within the oCEMP (***PEIR Volume 2 Appendix 2-3***), including works to be undertaken outside of the bird breeding season where reasonably practicable and the requirement for pre-works checks for nesting birds will ensure no direct impacts. Species afforded protection from disturbance through Schedule 1 of the Wildlife and Countryside Act 1981[3] will be further protected under supervision from an Ecological Clerk of Works.

This may include, for example, appropriate disturbance free buffers around an active nest.

7.8.36 Construction of the Scheme could result in the temporary (for the duration of construction) disturbance to ground nesting birds located within and in close proximity to the Site where construction is undertaken within the breeding season. As the Scheme will be implemented in phases, lasting approximately 30 months in total, not all of the Site would be subject to disturbance effects at the same time, reducing the overall extent of disturbance impacts at any given time.

7.8.37 Given the phased and temporary nature of the construction process, the disturbance of ground nesting bird species is anticipated to result in a minor adverse effect upon receptors of medium sensitivity, which is not significant.

7.8.38 Displacement of ground nesting species may last for the duration of the Scheme and therefore displacement of ground-nesting bird species is discussed further under Operational Effects.

Other Breeding Birds

7.8.39 The most suitable nesting habitat, including hedgerows and woodland, will be protected and retained through construction, with the exception of minor removal as discussed above. Further measures outlined within the oCEMP (***PEIR Volume 2 Appendix 2-3***) including timing works outside of the bird breeding season where reasonably practicable and the requirement for pre-works checks where small-scale removal of suitable habitat is required will ensure no direct impacts occur.

7.8.40 If present, species listed on Schedule 1 of the Wildlife and Countryside Act (as amended) and so afforded protection from disturbance will be further protected under supervision from an ECoW. This may include, for example, appropriate disturbance free buffers around an active nest.

7.8.41 As discussed in relation to ground nesting species above, construction of the Scheme could result in the temporary (for the duration of construction)

disturbance to birds located within the Site and immediately adjacent habitats where construction is undertaken within the breeding season.

7.8.42 The disturbance of breeding bird species resulting from construction activities is anticipated to result in a minor adverse effect on receptors of medium sensitivity, which is not significant.

Bats

Foraging and Commuting

7.8.43 The most important habitats within the Site for foraging and commuting bats, including hedgerow and watercourses will be retained and protected with buffer zones of at least 6m, with the exception of small-scale removal/ widening totalling 54m (maximum 6m in any one location) required to permit Site access, which would not be of a sufficient scale to disrupt or fragment bat flight patterns. Of the hedgerow loss, 37m of this would be temporary and restored post-construction.

7.8.44 The embedded oCEMP (***PEIR Volume 2 Appendix 2-3***) includes commitments on lighting, which will ensure that features of value for foraging and commuting bats are not subject to excessive additional lighting during construction of the Scheme.

7.8.45 Given the implementation of embedded best practice avoidance and mitigation measures, construction of the Scheme is unlikely to have any discernible effect and will result in negligible impacts upon foraging and commuting bats of medium sensitivity. Effects are therefore not significant.

Amphibian

7.8.46 No ponds within the Site or 50m of the Site were shown to support great crested newt following eDNA survey, however the species was found to be present in ponds beyond the Site boundary and therefore the species as well as other common amphibians may utilise the Site.

7.8.47 Potential impacts to amphibians relate to the temporary loss of habitat during construction, incidental harm during Site clearance activities and pollution to aquatic habitat because of contaminant runoff.

7.8.48 While no ponds present within the Site supported great crested newts, they may support other common amphibian species. A total of five ponds (P14, 25, 31, 39 and 43) are located within the Site boundary, with two further ponds (P20 and 45) located immediately adjacent, as shown on ***PEIR Volume 3 Figure 7-7***. All ponds will be retained and protected throughout construction of the Scheme. In order to safeguard aquatic habitats against contaminated runoff, best practice pollution control measures will be implemented as outlined within the embedded oCEMP (***PEIR Volume 2 Appendix 2-3***).

7.8.49 Habitats within the Site primarily comprise arable land of negligible value for amphibians, however boundary habitats of hedgerows and rough grassland provide more favourable habitats. With the exception of minor removal/ widening required for access, hedgerows will be retained and protected through the embedded design with minimum buffer distances of 6m.

7.8.50 The final CEMP will include species protection plans and RAMs in order to safeguard amphibians which will serve to minimise any risk of incidental harm to individual amphibians.

7.8.51 Given the implementation of embedded best practice avoidance and mitigation measures, construction of the Scheme is unlikely to have any discernible effect and result in negligible impacts upon on amphibians of medium sensitivity. Effects are therefore not significant.

Reptiles

7.8.52 Potential impacts to reptiles relate to the temporary loss of habitat during construction and incidental harm during Site clearance activities.

7.8.53 Habitats within the Site primarily comprise arable land of negligible value for reptiles, however boundary habitats of hedgerows and rough grassland provide more favourable habitats. With the exception of minor removal/

widening required for access, hedgerows will be retained and protected through the embedded design with minimum buffer distances of 6m.

7.8.54 The final CEMP will include species protection plans and RAMs in order to safeguard reptiles which will serve to minimise any risk of incidental harm to individual amphibians.

7.8.55 Given the implementation of embedded best practice avoidance and mitigation measures, construction of the Scheme is unlikely to have any discernible effect and result in negligible impacts upon on reptiles of low sensitivity. Effects are therefore not significant.

Otter

7.8.56 Previous records of otters are known on the River Kym, with several watercourses within and immediately adjacent to the Site considered to offer suitable habitat for the species, including the Duloe Brook, an unnamed watercourse in Site B and field ditches.

7.8.57 The embedded design includes buffers of at least 8m from all watercourses and ditches, with the exception of two temporary (for the duration of construction) bailey bridges of the Duloe Brook and an unnamed watercourse in Site B, seven trenches through field ditches, three temporary (for the duration of construction) culverts affecting field ditches, and eight permanent culverts.

7.8.58 Any otters present in the immediate vicinity of the Site may be subject to disturbance as a result of construction noise. No works other than landscaping is proposed in proximity to the River Kym.

7.8.59 The Duloe Brook will be crossed by the cable and temporary access route (bailey bridge) while the Pertenhall Brook is located between fields containing solar arrays. It is not considered that the culverts or bridges are of a sufficient scale or form to result in fragmentation of otter foraging and commuting habitats. Otter would readily pass through proposed structures, or utilise adjacent, unimpeded terrestrial habitats.

7.8.60 While otters are reclusive, they can be relatively tolerant to human presence, as indicated by their presence within urban areas (including nearby St Neots), and so are likely to habituate to human activity[23] associated with Construction of the scheme, including regular vehicle movements. Sudden startling noises may however result in disturbance.

7.8.61 Works will be phased, and therefore works in any one location are likely to be relatively short in duration. As otter utilise a network of several holts and above ground resting sites within a large home range, it is considered likely that otter would relocate elsewhere within their territory for the duration of works in one area. Works will not be undertaken outside of typical daytime hours (08:00 to 18:00) and so be unlikely to affect nighttime foraging. Further, the oCEMP (***PEIR Volume 2 Appendix 2-3***) includes for pre-construction surveys in relation to otter.

7.8.62 Temporary disturbance to otters for the duration of construction is considered to result in a minor adverse effect on otters of a medium sensitivity, which is not significant.

7.8.63 Permanent culverts remaining in place for the lifetime of the Scheme are discussed further in relation to operational effects.

Water Vole

7.8.64 As discussed in relation to otter, the embedded design includes otters of at least 8m from all watercourses and ditches, with the exception two temporary (for the duration of construction) bailey bridges of the Duloe Brook and an unnamed watercourse in Site B, seven trenches through field ditches, three temporary (for the duration of construction) culverts affecting field ditches, and eight permanent culverts.

7.8.65 Works will be highly localised and will be undertaken following RAMs outlined within the embedded oCEMP to ensure no direct impacts to water vole.

7.8.66 Given the small scale and localised nature of the works construction of the Scheme will have negligible impacts upon water voles of medium sensitivity, which is not significant.

Other Notable Species

7.8.67 Construction of the Scheme has the potential to impact upon other notable species including invertebrates and priority mammals. All such species are associated with margin and boundary habitats including hedgerows, ditches and watercourses.

7.8.68 Boundary habitats will be largely retained and protected throughout construction with the embedded design including buffers of at least 6m, other than localised crossing and access locations. Any such localised works would be undertaken under RAMs outlined in the embedded oCEMP.

7.8.69 Post-construction seven crossing points, totalling 37m, will be reinstated.

7.8.70 Given the small scale and localised nature of the works, construction of the Scheme will have negligible impacts upon other notable species of medium sensitivity. Effects are therefore not significant.

Operational Phase

7.8.71 Operational effects are defined as effects following the construction of the Scheme. Effects may be for the entire duration of the operational lifetime or be temporary and short-term in nature. Some effects may reduce with habituation or remain for the lifetime of the Scheme.

7.8.72 Potential operational phase impacts associated with the Scheme are considered to relate to:

- Implementation of landscaping and habitat creation as part of the Illustrative Environmental Masterplan;
- Displacement of ground nesting bird species;
- Behavioural changes associated with the presence of panels;

- Disturbance and incidental impacts associated with routine maintenance (e.g., grass and hedgerow cutting); and
- Noise emissions from inverters, transformers, and the East Park BESS.

7.8.73 There are no additional operational impacts relating to land take other than those already addressed under Construction.

7.8.74 Maintenance of a solar farm is generally limited to routine cleaning using a soft brush and water and ongoing maintenance of landscaping, habitats and green infrastructure. Occasional repairs and/ or replacements may also be required in the event of faulty or damaged equipment.

Statutory Designated Sites for Nature Conservation

7.8.75 The Site is sufficiently distanced from any Statutory Designated Sites for Nature Conservation that no direct impacts are anticipated as a result of the operation of the Scheme. Similarly, the distances are sufficient to ensure no impact as a result of runoff (e.g., associated with panel cleaning fluid).

7.8.76 As discussed in relation to construction above, Eversden and Wimpole Woods SAC is located approximately 17.5km from the Scheme and so within the range in which barbastelle may migrate between summer roosts at Eversden and Wimpole Woods SAC and winter roosts. Once operational, the cable route, which lies closest to Eversden and Wimpole Woods SAC will have no discernible long-term impact. East Park Sites A to D are located approximately 20.5km from Eversden and Wimpole woods SAC at their closest point, which is within the summer-winter migration distance of 40km.

7.8.77 Emerging evidence (Tinsley *et al*, 2023[24]) suggests that the presence of solar arrays may affect bat activity in some species, and therefore the presence of panels through operation could disrupt summer-winter migration routes of barbastelle associated with Eversden and Wimpole Woods SAC.

7.8.78 While studies into the effects of solar arrays on bats activity are at this time limited, with regards to barbastelle, Tinsley *et al* (2023) found no statistically

significant beneficial or adverse effect resulting from the presence of solar panels on barbastelle bats, and therefore it is concluded that the operation of the Scheme is unlikely to have any discernible effect on mobile bat qualifying features associated Eversden and Wimpole Woods SAC.

7.8.79 Further, bat flightline routes will be retained and protected through operation including the implementation of buffer zones of at least 6m in which no development will be located, which was given as a key mitigation consideration within Tinsley *et al* (2023).

7.8.80 The operation of the Scheme is considered to have negligible impacts upon statutory designated sites.

7.8.81 A HRA will be undertaken as part of the ES and submitted with the application for development consent.

Habitats

Priority and Irreplaceable Habitats

7.8.82 The illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2*** include the planting of over 17km of native species hedgerow.

7.8.83 Hedgerow removal during construction totals 54m with seven crossing points, totalling 37m, directly reinstated following completion of construction works. The remaining 17m would be replaced elsewhere within the Site, ensuring no net loss of hedgerow priority habitat. The remainder of hedgerow creation would be an enhancement.

7.8.84 In addition, the embedded oLEMP (***PEIR Volume 2 Appendix 2-2***) includes for the management of both created and retained hedgerow for the lifetime of the Scheme.

7.8.85 Overall it is considered through the implementation of the landscape proposals and oLEMP that the extent and quality of priority habitats within the Site will be enhanced, resulting in a significant beneficial effect.

Other On-Site Habitats

7.8.86 The footprint of a solar development is small, with infrastructure (e.g., frames) typically taking up less than 5% of the Site area, with the land surrounding and underneath panels available for habitat creation, and therefore habitat loss through operation will be negligible, particularly in the context of baseline low ecological value agricultural habitats.

7.8.87 The illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2*** include the seeding of approximately 197 ha of species-diverse grassland and 464 ha of grazing pasture, and the planting of 13 ha of woodland and 352 trees.

7.8.88 Such habitats will increase the intrinsic biodiversity value of the Site. Further, habitats will be relatively undisturbed beyond routine maintenance and necessary habitat management as outlined within the embedded oLEMP (***PEIR Volume 2 Appendix 2-2***).

7.8.89 Additionally, during operation of the Scheme there will be a cessation of spraying of herbicides, pesticides and nutrient enrichment associated with arable farming.

7.8.90 Operation of the Scheme will have a minor beneficial effect on on-site habitats of low value, which is not significant.

Birds

Ground Nesting Birds

7.8.91 The presence of solar panels is likely to cause displacement of ground nesting bird species that favour open landscapes for nest locations, principally skylark and lapwing.

7.8.92 Embedded mitigation measures have been incorporated into the Illustrative Environmental Masterplan through the creation of large areas of open grassland that will be managed through the oLEMP (***PEIR Volume 2***

Appendix 2-2) to be of benefit for skylark and lapwing and to encourage nesting attempts within these areas.

7.8.93 While it is generally acknowledged that ground nesting birds of open spaces, including skylark and lapwing, are unlikely to nest within solar arrays, those skylarks within adjacent land will continue to use land under and around solar arrays as a foraging resource[25], and may also use solar sites as a nursery area[26]. In support of this, a comparative study by Montag et al (2016)[27] found no statistical difference in the number of territories between solar and control plots. As such, the presence of the Scheme does not render the Site unsuitable for use by Skylarks, but will reduce and potentially remove nesting opportunities.

7.8.94 While nesting opportunities with the array areas may be removed, it is expected that the presence of the solar farm and associated landscaping is likely to increase the productivity of ground nesting birds continuing to nest in the surrounding area, including both open areas retained within the Site and adjacent farmland. It is expected that productivity would be increased through permitting multiple nesting attempts in any given year (in contrast to many agricultural crops) as well through increases in invertebrate prey.

7.8.95 During operation of the Scheme, the Site will offer a high value foraging resource for ground nesting birds that is guaranteed to persist for the lifetime of the solar development and that will not vary with cropping patterns, themselves influenced by market forces. Coupled with maintained areas of open grassland within the Site and agricultural land in proximity to the Scheme continuing to offer suitable nesting habitats, it is likely that the presence of the Scheme will contribute to negligible overall change in ground nesting bird productivity at a population level.

7.8.96 Overall, displacement of ground nesting species as a result of panels will result in minor adverse effects to ground nesting birds of medium value, which is not significant.

Other Breeding Birds

7.8.97 Hedgerow removal during construction totals 54m with seven crossing points, totalling 37m, directly reinstated following completion of construction works. The remaining 17m would be replaced elsewhere within the Site, ensuring no net loss of hedgerow nesting habitat. The remainder of hedgerow creation would be an enhancement.

7.8.98 The illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2*** include the planting of over 17km of native species hedgerow, 13 ha of woodland planting and 352 trees. Creating hedgerows, woodland and trees will offer increased nesting habitat for a range of notable and non-notable breeding bird species.

7.8.99 In addition, foraging habitat for breeding birds will be enhanced through the creation of approximately 197 ha of species-diverse grassland which will increase insect prey resource and the planting of fruit bearing species within hedgerows.

7.8.100 The embedded oLEMP (***PEIR Volume 2 Appendix 2-2***) includes for the management of both created and retained hedgerow for the lifetime of the Scheme.

7.8.101 Increased nesting and foraging habitat will result in a significant beneficial effect on the breeding bird assemblage within the Site and immediate surrounds.

Bats

Foraging and Commuting

7.8.102 As discussed in relation to statutory designated sites, emerging evidence (Tinsley *et al, 2023)* has suggested that foraging and commuting bats may be affected by the presence of solar arrays. Measures outlined in Tinsley *et al*, including maintaining boundary habitats and including planting to improve

foraging resources have been incorporated into the landscape proposals of the Scheme.

7.8.103 Hedgerow removal during construction totals 54m with seven crossing points, totalling 37m, directly reinstated following completion of construction works. Residual minor gaps of maximum 6m are consistent with existing farm access (for example) not considered to present a barrier that would obstruct existing bat foraging and commuting routes.

7.8.104 The remaining 17m lost during construction and not directly replaced would be compensated for elsewhere within the Site, ensuring no net loss of bat foraging and commuting habitat. The remainder of the 17km hedgerow creation would be an enhancement.

7.8.105 It is considered that the illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2***, including over 197 ha of species diverse grassland, hedgerow planting and woodland planting will enhance the landscape for both foraging and commuting bats. This will be achieved by providing greater connectivity at a landscape scale through linear features and increasing the invertebrate prey resource through increased habitat quality and diversity of a previously homogenous landscape.

7.8.106 Given the embedded mitigation in the landscape proposals and the oLEMP (***PEIR Volume 2 Appendix 2-2***), namely hedgerow and grassland creation, the Scheme will result in moderate beneficial effect on the foraging and commuting bat assemblage of moderate value which is significant.

Amphibian

7.8.107 During operation of the Scheme the habitats within the Site will be enhanced for amphibians through the illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2***, including over 197 ha species diverse grassland and 17km of hedgerow. which will offer enhanced foraging and refuge opportunities.

7.8.108 Given the embedded implementation in the landscape proposals and the oLEMP, the Scheme will have a minor beneficial effect on amphibian species of medium value for the lifetime of the Scheme which is not-significant.

Reptiles

7.8.109 During operation of the Scheme the habitats within the Site will be enhanced for reptiles through the illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2***, including over 197 ha of species diverse grassland and 17km of hedgerow. which will offer enhanced foraging and refuge opportunities.

7.8.110 Given the embedded implementation of the landscape proposals and the oLEMP the Scheme will have a minor beneficial effect on reptiles of low value for the lifetime of the Scheme which is not-significant.

Otter

7.8.111 Routine management of the Scheme will result in minimal disturbance, with only routine cleaning, maintenance (e.g., in case of equipment failure) and landscaping required. It is considered that such activities are comparable with existing agricultural practices and would not result in additional disturbance to otter.

7.8.112 Eight new culverts will remain in place for the lifetime of the scheme, all located along field ditches which offer less suitable habitat for otter, and likely to be used only infrequently. While detailed design has not been undertaken, culverts will be limited in width, consistent with those already present across the Site and are unlikely to present a barrier to otter, if the species is present within the Scheme.

7.8.113 Overall it is considered the operation of the Scheme will result in negligible impacts to otter of medium value.

Water Vole

7.8.114 Eight new culverts will remain in place for the lifetime of the scheme. While detailed design has not been undertaken, culverts will be limited in width, consistent with those already present across the Site and are unlikely to present a barrier to water vole, if the species is present within the Scheme.

7.8.115 The illustrative landscape proposals will enhance ditch top habitats for water vole, offering greater foraging and sheltering habitat for this species.

7.8.116 Overall it is considered the operation of the Scheme will result in negligible impacts to water vole of medium value.

Other Notable Species

7.8.117 During operation of the Scheme the habitats within the Site will be enhanced for invertebrates and notable mammals through the illustrative landscape proposals on ***PEIR Volume 3 Figure 2-2***, including over 197 ha of species diverse grassland and 17km of hedgerow which will offer enhanced foraging and refuge opportunities through increased habitat diversity and quality.

7.8.118 Further, the operation of the Scheme will not require the application of herbicide and pesticide treatments as are frequently used as part of arable farmland systems, and that would likely continue to be used in the absence of the Scheme, and so benefit the floristic and insect diversity on Site.

7.8.119 Given the implementation of the landscape proposals and the oLEMP (***PEIR Volume 2 Appendix 2-2***), as well as the reduction in chemical insecticide use, the Scheme will have a minor beneficial effect on other notable species of low value for the lifetime of the Scheme, which is not significant.

Decommissioning

7.8.120 The application for development consent is predicated on the development being decommissioned 40 years, or less, after it has been commissioned.

Following decommissioning, it is considered likely that the land would revert to its baseline conditions.

7.8.121 Impacts arising for decommissioning are considered to be commensurate with those experienced during construction and are therefore not assessed in detail. Any impacts arising from decommissioning are likely to be considered capable of being reversed within a very short period of time following cessation of decommissioning activities.

7.9 Additional Mitigation and Monitoring

Mitigation

7.9.1 Additional mitigation measures to reduce potentially significant adverse effects upon ecological features resulting from the Scheme, and/ or to ensure legislative compliance are detailed below.

Construction Mitigation

7.9.2 Following construction of the Scheme, 37m of hedgerow will be reinstated in locations utilised as vehicle crossing points.

7.9.3 Beyond the reinstatement of hedgerows, no additional mitigation is considered necessary during construction of the Scheme to mitigate for any impacts on ecological receptors Embedded construction mitigation will be delivered via the oCEMP (***PEIR Volume 2 Appendix 2-3***).

7.9.4 The oCEMP also includes good practice measures to be adopted during the construction of the Scheme to reduce potentially adverse, but not significant, effects upon protected species and enable legislative compliance, such as the protection of badgers. These are summarised below.

Roosting Bats

7.9.5 Trees present within the Site will be retained, protected during construction, and incorporated into the overall design. Should any felling as part of The Scheme (for instance to aid access requirements or for health and safety purposes) trees/building will be subject a preliminary roost assessment (PRA) prior to removal in accordance with BCT guidelines.

7.9.6 Trees with PRF-I will be felled using RAMs, including sectional felling in line with BCT guidance. Should a bat be found during this process then works will cease immediately and an ecologist contacted immediately for advice.

7.9.7 Trees with PRF-M will be subject to a detailed climbing inspection and/or emergence/re-entry surveys in the appropriate season. If bats are confirmed

roosting, no works will take place until a European Protected Species Mitigation Licence (EPSML) licence (issued by Natural England) has been issued and necessary mitigation measures set in place under the supervision of a licensed ecologist. This will ensure there are no adverse impacts on roosting bats and will maintain the favourable conservation status of the roosting bat species in the wider environment.

Badger

7.9.8 The Scheme layout has been designed to avoid impacting habitats potentially used by badgers for foraging and commuting (predominantly field boundary features and woodland). These habitats will be retained and protected. As the solar panels are raised off the ground, and the perimeter security fence will incorporate suitable gaps/badger gates at the base to allow free movement of badgers, no habitat loss or severance effects will result. Habitat interest for badgers is likely to increase across the Site due to enhanced foraging opportunities and lack of disturbance.

7.9.9 Badger activity can show seasonal variation and badgers can quickly establish new setts. Considering the highly mobile nature of badgers and the seasonality of their activity, a pre-construction badger survey (within 30m of the Site, where access allows) will be completed by a suitably qualified ecologist immediately prior to the commencement of development/clearance works to determine levels of badger activity and to check for any newly constructed setts in and surrounding the Site.

7.9.10 If baseline conditions have altered and significant disturbance to badgers or their setts cannot be avoided, one or both of the following options will be implemented:

- The development design will be further amended to avoid works which may impacts on the sett; and/ or
- A disturbance/mitigation licence will be obtained from NE before construction commences.

Birds

7.9.11 A pre-construction survey for birds listed on Schedule 1 of the Wildlife and countryside Act (1981), with a focus on disturbance sensitive species such as barn owl, will be undertaken prior to work commencing in any new location within the Site. Should a nest be located, a suitable buffer will be implemented (species specific) and no potentially disturbing works undertaken in that area until chicks have fledged or the bird has otherwise ceased nesting.

7.9.12 To avoid damage to active birds nests, any vegetation clearance within the nesting bird season (March to August inclusive) will be avoided where reasonably practicable.

7.9.13 Any vegetation to be cleared during the nesting bird season must first be checked by a suitably qualified ecologist. If a nest is located an appropriate buffer zone (species specific) will be enforced until chicks have fledged or the bird has otherwise ceased nesting.

Otter and Water Vole

7.9.14 A pre-construction survey for otter and water vole will be undertaken at all locations where ditch/ watercourse crossings are proposed. If a water vole burrow or otter holt is located, further survey may be required with works only able to be proceed under an appropriate licence issued by Natural England.

7.9.15 Additionally, A pre-construction survey for otter holts will be undertaken within suitable aquatic and terrestrial holt creation habitat prior to work commencing within 200m of a watercourse. In the event a resting site is located, works will only proceed once one or both of the following options are implemented:

- The development design will be further amended to avoid works which may impacts on the sett; and/or,
- A disturbance/mitigation licence will be obtained from NE before construction commences.

Operational Mitigation

7.9.16 No additional mitigation is considered necessary during the operation of the Scheme to mitigate for any impacts on ecological receptors. Impacts have been addressed as far as reasonably practicable through avoidance and the embedded design of the Scheme.

7.9.17 A suitably qualified ecologist will be employed for the duration of the Scheme to advise on legislative compliance, for example in the event maintenance works are required and/ or additional features (e.g., newly excavated badger setts) become present in the intervening period. The oLEMP (***PEIR Volume 2 Appendix 2-2***) includes measures to minimise harm to biodiversity from routine management operations, including the timing of vegetation works outside the nesting bird season where reasonably practicable.

Monitoring

7.9.18 Monitoring will be undertaken in years 1,2, and 5, then every 5 years thereafter until at least year 30 following implementation of the landscape design in line BNG requirements.

7.9.19 Monitoring will involve a habitat survey (between May and September) following the industry standard UK Habitat Survey (UKHab) methodology[28] as used for BNG, and also including a condition assessment using the relevant condition criteria contained within Defra statutory Metric. This monitoring would inform any adjustments or remedial measures to be implemented, if required.

7.9.20 Monitoring would also include an assessment of species enhancement measures as outlined in Section 7.7, including an assessment of the integrity of such features. Where appropriate usage of such features will also be assessed. Monitoring will inform the requirement for repair or replacement, as required.

7.10 Residual Effects

7.10.1 Residual effects are summarised in Table 7.10.

Significant Effects

7.10.2 The scheme will not result in any significant residual adverse effects upon ecological receptors, including statutory or non-statutory sites designated for nature conservation.

7.10.3 Throughout operation, the Scheme will result in a significant beneficial effect on priority habitats, due to extensive creation of hedgerow as part of the landscape proposals.

7.10.4 Throughout operation, the Scheme will also result in a significant beneficial effect on foraging and commuting bats due to the provision of high-quality habitats as part of the landscape proposals.

Non-significant Effects

7.10.5 During construction, the Scheme may result in short term and temporary minor adverse effects on ground nesting birds, the wider breeding bird assemblage and otter as a result of construction related disturbance.

7.10.6 Through operation, the scheme will result in a minor adverse effect on ground nesting birds due to displacement of skylark, partially mitigated for by the embedded landscape design. There will be no additional residual adverse effects upon ecological receptors.

7.10.7 During operation of the Scheme, taking into account embedded and adopted measures, as well as additional mitigation and enhancement measures, the Scheme will result in non-significant beneficial effects for the following receptors for the duration of the Scheme's operational lifespan:

- On-site habitats;
- Breeding bird assemblage;

- Roosting bats;
- Amphibians;
- Reptiles; and
- Other notable species (including flora, invertebrates, mammals and fish).

Table 7.10: Summary of Residual Effects

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
Construction								
Statutory designated Sites	Retention and buffering of boundary features Lighting strategy via the OCEMP	Disruption of flightline of mobile bat qualifying features due to hedgerow removal and construction lighting	Indirect, temporary	Moderate	International	Minor	Reinstatement of hedgerows following completion of construction	Neutral
Non-statutory Designated Site (Kangaroo Meadows CWS and Huntingdon woods CWS)	Best practice pollution control via the OCEMP Lighting strategy via the OCEMP	Pollution	Indirect, temporary	Low	County	Neutral	None	Neutral

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
Priority and irreplaceable habitats	Retention and buffering of features Best practice pollution control within the OCEMP	Hedgerow removal (54m total)	Direct, permanent	Medium	County	Minor	Reinstatement of hedgerows following completion of construction	Neutral
Other on-Site habitats	Retention and buffering of features Best practice pollution control within the OCEMP	Habitat loss (including arable land and field ditches)	Direct, permanent	Low	Site	Minor	None	Minor adverse, not significant
		Pollution	Indirect, temporary	Low				
Ground Nesting Birds	Pre-construction check within the OCEMP Phased construction Timing of works	Damage to nests	Direct, permanent	Low	County	Minor	None	Minor adverse, not significant
		Disturbance	Indirect, temporary	Low				
		Displacement	Indirect, permanent	Medium				

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
Breeding Bird Assemblage	Retention and buffering of boundary features Pre-construction check within the OCEMP Phased construction Timing of works	Damage to nests during vegetation clearance (54m of hedgerow)	Direct, permanent	Low	County	Moderate	Reinstatement of hedgerows following completion of construction	Minor adverse, not significant.
		Habitat loss (up to 54m of hedgerow)	Direct, temporary	Low				
		Disturbance (e.g., noise, lighting)	Indirect, temporary	Medium				
Foraging and Commuting Bats	Retention and buffering of boundary features Lighting strategy within the OCEMP Working hours	Habitat loss (up to 54m of hedgerow)	Indirect, temporary (37m reinstated crossing points) Indirect, permanent (17m)	Low	County	Minor	Reinstatement of hedgerows following completion of construction	Negligible

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
		Disturbance (e.g., noise, lighting)	Indirect, temporary	Medium				
Amphibians	Retention and buffering of pond and boundary features RAMs within the OCEMP Pre-construction check within the OCEMP Phased construction	Habitat loss	Indirect, permanent	Low	County	Minor	Reinstatement of hedgerows following completion of construction	Negligible
		Incidental killing/ injury	Direct, permanent	Low				
		Pollution of aquatic habitats	Indirect, temporary	Low				
Reptiles	Retention and buffering of boundary features (embedded)	Habitat loss	Indirect, permanent	Low	Local	Minor	Reinstatement of hedgerows following completion of construction	Negligible
		Incidental killing/ injury	Direct, permanent	Low				

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
	RAMs within the OCEMP (embedded) Pre-construction check within the OCEMP (embedded) Phased construction (embedded)							
Otter	Retention and buffering of watercourse boundary features Pre-construction check within the OCEMP Lighting strategy within the OCEMP Working hours	Disturbance (noise and lighting)	Indirect, temporary	Medium	County	Minor	None	Minor adverse, not significant
		Fragmentation (watercourse crossing points)	Indirect, temporary (2x bailey bridges, 7x trenches, 3x culverts) Indirect, Permanent	Low				

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
	Phased construction		(8 x culverts)					
Water Vole	RAMs within the OCEMP Retention and buffering of boundary features Pre-construction check within the OCEMP	Direct mortality	Direct, permanent	Low	County	Negligible	None	Negligible
		Habitat loss	Indirect, temporary (2x bailey bridges, 7x trenches, 3x culverts) Indirect, Permanent (8 x culverts)	Low				
		Fragmentation (watercourse crossing points)	Indirect, temporary (2x bailey bridges, 7x trenches, 3x culverts)	Low				

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
			Indirect, Permanent (8 x culverts)					
Other notable species	RAMs within the OCEMP Retention and buffering of boundary features Pre-construction check within the OCEMP	Direct mortality	Direct, permanent	Low	Local	Minor	Reinstatement of hedgerows following completion of construction	Negligible
		Habitat loss	Indirect, Permanent	Low				
Operation								
Statutory designated Sites	Retention and buffering of boundary features	Disrupted flightlines of mobile bat qualifying features due to presence of panels	Indirect, permanent	Low	International	Negligible	None	Negligible

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
Priority and irreplaceable habitats	Implementation of the Landscape Design	Habitat creation and management	Direct, permanent	Medium	County	Moderate	None	Moderate beneficial, significant
Other on-Site habitats	Implementation of the Landscape Design	Habitat creation and management	Direct, permanent	Medium	Site	Minor	None	Minor beneficial, not significant
		Cessation of agricultural inputs, including fertiliser herbicide use	Direct, permanent	Low				
Ground Nesting Birds	Implementation of the Landscape Design	Displacement	Indirect, permanent	Medium	County	Minor adverse	None	Minor adverse, not significant
		Habitat creation and management	Indirect, permanent	Medium				
		Cessation of agricultural inputs, including pesticides	Indirect, permanent	Low				

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
		leading to improved foraging habitat						
Breeding Bird Assemblage	Retention and buffering of boundary features Implementation of the Landscape Design	Habitat creation and management (including (40 no. general purpose bird boxes, 6 no. barn owl boxes and 3 no. raptor boxes)	Indirect, permanent	Medium	County	Moderate	None	Moderate beneficial, significant
		Cessation of agricultural inputs, including pesticides leading to improved foraging habitat	Indirect, permanent	Low				
Foraging and Commuting Bats	Retention and buffering of boundary features	Habitat creation and management	Indirect, permanent	Medium	County	Moderate	None	Moderate beneficial, significant

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
	Implementation of the Landscape Design	Cessation of agricultural inputs, including pesticides leading to improved foraging habitat	Indirect, permanent	Low				
Amphibians	Retention and buffering of boundary features Implementation of the Landscape Design	Habitat creation and management (including 10 no. refugia)	Indirect, permanent	Low	County	Minor	None	Minor beneficial, not significant
		Cessation of agricultural inputs, including pesticides leading to improved foraging habitat	Indirect, permanent	Low				
Reptiles	Retention and buffering of boundary features Implementation of the Landscape Design	Habitat creation and management (including 10 no. refugia)	Indirect, permanent	Low	Local	Minor	None	Minor beneficial, not significant
		Cessation of agricultural inputs, including pesticides	Indirect, permanent	Low				

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
		leading to improved foraging habitat						
Otter	Retention and buffering of boundary features	Fragmentation	Indirect, permanent	Low	County	Negligible	None	Negligible
Water Vole	Retention and buffering of boundary features Implementation of the Landscape Design	Fragmentation	Indirect, permanent	Low	County	Negligible	None	Negligible
		Habitat creation and management	Indirect, permanent	High				
Other notable species	Fencing to include mammal gaps (design parameter)	Habitat creation and management (including hedgehog boxes)	Indirect, permanent	Low	Local	Minor	None	Minor beneficial, not significant

Feature/ Receiving Environment	Embedded Mitigation/ Enhancement Measures	Description of Impact	Nature of Impact	Magnitude of Impact	Geographical Importance	Significance of Effects	Additional Mitigation / Enhancement Measures	Residual Effects
	Retention and buffering of boundary features Implementation of the Landscape Design	Cessation of agricultural inputs, including pesticides	Indirect, permanent	Low				

7.11 Conclusions

7.11.1 The Scheme will not result in any significant residual adverse effects upon ecological receptors.

7.11.2 During the Construction Phase the Scheme would result in short term and temporary minor adverse effects on ground nesting birds, the wider breeding bird assemblage, and otter.

7.11.3 During the Operational Phase the Scheme will result in a significant beneficial effect on priority habitats and on foraging and commuting bats and will result in beneficial (not significant) effects for other ecological receptors.

Further Work

7.11.4 This chapter presents preliminary environmental information on the assessment of the Scheme's impacts on Ecology and Nature Conservation. Further assessment will be completed prior to submission of the application for development consent, and will include:

- Updated extended habitat surveys;
- Bat activity surveys and assessment;
- Biodiversity Net Gain assessment;
- Riparian mammal surveys and assessment;
- Habitat Regulations Assessment; and
- Cumulative Impact assessment

7.12 References

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