

Springwell Solar Farm

Preliminary Environmental Information Report

Volume 1
Chapter 6: Biodiversity

Phase 2 consultation
Springwell Energyfarm Ltd



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6. Biodiversity

6.1. Introduction

- 6.1.1. This chapter presents the preliminary environmental information and a preliminary assessment of the likely significant environmental effects arising from the construction, operation (including maintenance) and decommissioning of the Proposed Development upon biodiversity.
- 6.1.2. This chapter is intended to be read as part of the wider Preliminary Environmental Information Report (PEIR) with particular reference to the following appendices in **Volume 3**:
- **Appendix 6.1** - Preliminary Ecological Appraisal – Report 1
 - **Appendix 6.2** - Preliminary Ecological Appraisal – Report 2 (land at Brauncewell)
 - **Appendix 6.3** – Preliminary Ecological Appraisal – Report 3 (Grid Connection Corridor)
 - **Appendix 6.4** - Breeding Bird survey report
 - **Appendix 6.5** - Bat activity survey report
- 6.1.3. Figures referred to in this chapter can be found in **Volume 2**.

6.2. Consultation, scope and study area

Consultation undertaken to date

- 6.2.1. An EIA Scoping Report, as provided in **Appendix 4.1**, setting out the proposed biodiversity scope and methodology for the Proposed Development, was submitted to the Planning Inspectorate in March 2023. A Scoping Opinion, as provided in **Appendix 4.2**, was issued by the Planning Inspectorate on behalf of the Secretary of State in May 2023. **Appendix 4.3** provides responses to comments relating to biodiversity in the Scoping Opinion and details how these have been addressed in this preliminary assessment.
- 6.2.2. **Table 6.1** provides a summary of the consultation meetings that have been undertaken in support of the preparation of this preliminary assessment, out with the EIA Scoping process.

Table 6.1 Summary of consultation undertaken

Consultee	Key matters raised	Actions in response to consultee comments
Lincolnshire Wildlife Trust	Teams call meetings on 16 th February 2023 and also on 20 th June 2023: Concerns about cumulative impacts particularly ground nesting	Discussed possibilities for a collaborative regional approach to mitigation with other solar development proposals in Lincolnshire. Discussed the potential for access

Consultee	Key matters raised	Actions in response to consultee comments
	<p>birds, from other solar projects in the area.</p> <p>Positive comments on design and protection of Local Wildlife Sites and design of habitat corridors.</p>	<p>improvements adjacent to Bloxham Woods Local Wildlife Sites (LWS) and the connection of habitats across the Site. Further consultation to be scheduled once the design has progressed.</p>
<p>Natural England</p>	<p>Teams call meeting on 20th June: No further comment on scoping of surveys. Natural England did not think wintering bird surveys would be required, however they could not confirm agreement on this. Any advice on the scope and method of surveys and licensing, if required, should be requested by the Discretionary Advice Service (DAS).</p>	<p>A project account will be set up with Natural England’s DAS to gain advice on the scope and method of surveys. Further consultation meetings are planned once further survey work has been completed and the biodiversity design is progressed.</p>
<p>North Kesteven District Council and Lincolnshire County Council</p>	<p>Consultation meetings with North Kesteven District Council and Lincolnshire County Council about ecology surveys and biodiversity design were held on 14th September 2023.</p>	<p>North Kesteven District Council and Lincolnshire County Council agreed with the revised assessment of receptors to be scoped in and those to be scoped out (as per the scope presented in Table 6.2 and Table 6.3 below) on the proviso that wintering bird surveys and notable arable (non-crop) plant surveys should be carried out to determine presence or likely absence. The number of wintering bird surveys could be curtailed if they are found to be likely absent.</p>

Scope of the assessment

- 6.2.3. Scoping is an ongoing process – the scope of the ecological impact assessment may be modified following further ecological survey/research and during impact assessment¹.

¹ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland. The Chartered Institute of Ecology and Environmental Management’s (version 1.2 updated April 2022).

- 6.2.4. This section updates the scope of assessment and confirms, and where necessary updates, the evidence base for scoping out receptors/matters following further iterative assessment and consideration of the Scoping Opinion.

Receptors/matters scoped out of further assessment

- 6.2.5. **Table 6.2** presents the receptors/matters that are scoped out of further assessment, together with appropriate justification. Where a change has occurred to the approach proposed within the EIA Scoping Report, this is clearly stated and justified. The position from the Scoping Opinion is also referenced, where appropriate.

Table 6.2 Receptor/matters scoped out of further assessment

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
<p>Statutory designated nature conservation sites</p>	<p>Construction, operation and decommissioning</p>	<p>There are no international nature conservation sites within 10km, nor any national statutory designated nature conservation sites within 2km of the Site, except Metheringham Heath SSSI, which is designated for geological interest and lies 1.9km from the Site. The only SSSI Impact Risk Zone, which covers a small part of the western edge of the Site, is for High Dyke SSSI (3.6km south west of the Site). Planning applications which are considered potentially of concern for air pollution are listed as: aviation, livestock and poultry units, slurry lagoons and digestate stores and manure stores. None of these relate to the Proposed Development. Therefore, all statutory sites have been scoped out due to distance from the Site, the nature of the Proposed Development and lack of any direct hydrological connection.</p>	<p>No change – these receptors were proposed to be scoped out to further assessment within the EIA Scoping Report and the Scoping Opinion has agreed with this approach.</p>
<p>Four non-statutory LWS which lie within the Site boundary: Blankney Brick Pit LWS; A15 Temple Road Verges, Welbourn to Brauncewell LWS; A15, Slate House Farm to Dunsby Pit Plantation</p>	<p>Construction, operation and decommissioning</p>	<p>All these LWS sites are avoided by the Proposed Development design with a minimum offset distance of 20m from any built development so they should not be directly impacted by construction works or operational impacts. Indirect effects from construction will be mitigated by control measures, as documented within and secured by the Outline Construction Environmental Management Plan. The Outline Landscape and</p>	<p>No change – these receptors were proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested they be scoped in. However, the Applicant is of the</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
LWS; and A15, Green Man Road to Cuckoo Lane LWS		<p>Ecological Management Plan will document and secure measures to enhance the LWS, where appropriate.</p> <p>The Scoping Opinion stated that as no site layout plan was available at the scoping stage, it could not be confirmed that impacts would be avoided. However, the design has now progressed, and the Zonal Masterplan in Figure 2-3 shows the offset from LWSs (shown in Figure 6-1).</p>	<p>opinion that these receptors should remain scoped out of further assessment for the reasons outlined in the ‘Justification’ column.</p>
<p>Three LWS within or immediately adjacent to the Site:</p> <p>Navenby Heath Road Verges LWS; Gorse Hill Lane LWS; and Gorse Land LWS</p>	Operation	<p>Navenby Heath Road Verges LWS, Gorse Hill Lane LWS and Gorse Lane LWS are grassland verges bordering road or farm tracks (designated for calcareous grassland) within or immediately adjacent to the Site. These sites, like all other LWS within the Site, will be retained.</p> <p>It is not anticipated that these LWS will be affected during the operational phase as the solar farm is a passive development and any operational works will be small scale and localised. No works traffic will use the tracks through these LWS.</p> <p>However, these three sites have been scoped into further assessment with regards to the construction and decommissioning phases (shown in Table 6.3 below) as it is not yet known what distance of works buffer can be maintained. Further design work will confirm the distance of the buffer to be implemented.</p>	<p>No change – these receptors were proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested they be scoped in. However, the Applicant is of the opinion that these receptors should remain scoped out of further assessment for the reasons outlined in the ‘Justification’ column.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
<p>One LWS immediately adjacent to the Site: Bloxholm Wood LWS</p>	<p>Construction, operation and decommissioning</p>	<p>Bloxham Wood LWS is adjacent to the Site. It will be protected by 20m buffer zone from built development and will be protected from indirect impacts during construction works by control measures documented within and secured by the Outline Construction Environmental Management Plan. As per above, it is not anticipated that this LWS will be affected during the operational phase.</p> <p>The Scoping Opinion stated that as no site layout plan was available at the scoping stage, it could not be confirmed that impacts would be avoided. However, a Zonal Masterplan is provided in Figure 2-3 to show the offset from LWSs (shown in Figure 6-1).</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the ‘Justification’ column.</p>
<p>One ancient woodland (Long Wood) and 17 No. LWS within 2km of Site: Blankney Dyke 2 LWS; Long Wood LWS; Blankney LWS; Blankney Dyke 1 LWS; Longwood Quarry, Blankney LWS; St John the Baptist Churchyard LWS; Temple Bruer LWS; Brauncewell</p>	<p>Construction, operation and decommissioning</p>	<p>There are 17 other LWS and one area of ancient woodland within a 2km radius of the Site boundary (details are provided in Appendix 6.1 and Appendix 6.2). They have been scoped out due to the distance of these sites from the Site and a lack of relevant links or impact pathways.</p> <p>The Scoping Opinion stated that as no site layout plan was available at the scoping stage, it could not be confirmed that impacts would be avoided. However, a Zonal Masterplan is provided in Figure 2-3 to show how they interact with the LWSs (shown in Figure 6.1).</p>	<p>No change – these receptors were proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested they be scoped in. However, the Applicant is of the opinion that these receptors should remain</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
<p>Quarry LWS; Scopwick Heath Old Quarry LWS; Green Man Lane 3 LWS; Wellingore Heath Road Verges 2 LWS; Navenby, Green Man Road Verges LWS; High Dyke Long Lane to Navenby Verges LWS; Boothby Graffoe Road Verges LWS; Green Man Lane 2 LWS; Wellingore Heath Road Verges 1 LWS; Gorse Lane 2 LWS</p>			<p>scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
<p>Hedgerows and trees</p>	<p>Construction, operation and decommissioning</p>	<p>As detailed in Chapter 4, Table 4.4, there will be a minimum 10m offset from built development to all existing hedgerows and trees, where practicable. Control measures will be documented within and secured by the Outline Construction Environmental Management Plan and Outline Operational Environmental Management Plan to protect roots and branches during construction and operational works respectively. No veteran trees have been identified on Site.</p> <p>The Scoping Opinion stated that as no site layout plan was available at the scoping stage, it could not be</p>	<p>No change – these receptors were proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested they be scoped in. However, the Applicant is of the opinion that these receptors should remain scoped out of further</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>confirmed that impacts would be avoided. However, a Zonal Masterplan is provided in Figure 2.3 which details the offset from field boundaries.</p> <p>Hedgerow re-planting and compensation for hedgerow or tree loss will be documented within and secured by the Outline Landscape and Ecological Management Plan.</p>	<p>assessment for the reasons outlined in the ‘Justification’ column.</p>
Ponds	Construction, operation and decommissioning	<p>No ponds will be lost as a result of the Proposed Development and suitable buffers will be maintained to safeguard ponds. Control measures will be documented within and secured by the Outline Construction Environmental Management Plan to prevent indirect impacts from construction such as air and water pollution. This will include any measures required to safeguard ponds from any impacts from battery storage areas.</p> <p>The Scoping Opinion stated that as no site layout plan was available at the scoping stage, it could not be confirmed that impacts would be avoided. However, the indicative green infrastructure parameters plan (Figure 2.5) shows the location of ponds, within the Site boundary, in areas which are to be retained for mitigation, enhancement and/or retained agricultural land and are all therefore outside of the indicative area of proposed Solar PV development.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the ‘Justification’ column.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
Good quality semi-improved grassland	Construction, operation and decommissioning	<p>There was one area of good quality semi-improved grassland within the Site. A review of the information available on Magic² identified that it does not qualify as priority habitat Lowland Meadow (land parcel Bk17 near Scopwick); however, it had moderate species richness and was considered of Local importance. This grassland has been excluded from the area of Solar PV development.</p> <p>Note: this was changed from lowland meadow to semi-improved grassland. The Scoping Opinion stated that as no site layout plan was available at the scoping stage, it could not be confirmed that impacts would be avoided. However, an indicative green infrastructure parameters plan is now provided to show that this area will be avoided (Figure 2.5).</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the ‘Justification’ column.</p>
Other semi-improved grassland	Construction, operation and decommissioning	<p>There were four other areas of semi-improved grassland within the Site (shown in UKHab (habitat) plan in Appendix 6.1 and Appendix 6.2). All the semi-improved grassland areas have been included in the biodiversity design for enhancement. Mitigation measures to protect the grassland will be documented within and secured by the Outline Construction Environmental Management Plan.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor</p>

² Defra: ‘Magic’ interactive map. Website: [Magic Map Application \(defra.gov.uk\)](https://defra.gov.uk/magic)

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>The grassland was assessed during the PEA survey and all the semi-improved grassland is to be protected and enhanced as part of the biodiversity design.</p>	<p>should remain scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
<p>Rare or notable arable (non-crop) plants</p>	<p>Operation</p>	<p>Rare or notable arable (non-crop) plant surveys are proposed to be carried out in 2024. If found to be present, they are not anticipated to be affected by the operation of the Proposed Development as field margins will be protected by buffer zones and land under the Solar PV modules or retained/enhanced (for ground nesting birds) will largely be managed as farmland similar to before development.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
<p>Invasive species</p>	<p>Construction, operation and decommissioning</p>	<p>No invasive species were identified during PEA survey and have not been subsequently identified during further surveys. Notwithstanding, biosecurity measures will be documented within and secured by the Outline Construction Environmental Management Plan to avoid accidental introduction.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report and the Scoping</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>The Scoping Opinion agrees that invasive species can be scoped out if no invasive species are identified during further surveys.</p>	<p>Opinion has agreed with this approach.</p>
Invertebrates	Construction, operation and decommissioning	<p>Due to a lack of records of Schedule 5 species (protected under the Wildlife and Countryside Act 1981 (as amended)) and a lack of high-quality habitat within the Site that could support an important invertebrate assemblage.</p> <p>The Scoping Opinion states that invertebrates can be scoped out if it can be demonstrated that no protected species or high-quality habitat are observed following completion of all the surveys. The PEA surveys have all now been completed and no high-quality invertebrate habitat have been recorded.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the ‘Justification’ column.</p>
European eel	Construction, operation and decommissioning	<p>No ponds or watercourses will be lost as a result of the Proposed Development. If small sections of watercourses are affected, then mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan.</p> <p>The Scoping Opinion states that if there is potential for waterbodies to be affected, and due to the lack of detail regarding the proposed mitigation measures, this receptor could not be scoped out at this time. No direct</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>or indirect impacts on waterbodies are anticipated as mitigation measures, if required, will be implemented and discussed in the ES and documented within and secured by the Outline Construction Environmental Management Plan. Measures may include, for example, implementation of erosion and silt controls (e.g., silt traps) to prevent run-off sedimentation of watercourses.</p>	<p>opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
Reptiles	Construction, operation and decommissioning	<p>The four semi-improved grassland areas which were considered potentially suitable for reptiles will be excluded from development. The method of works to avoid harm to any low numbers of reptiles which may be present in field margins will be documented within and secured by the Outline Construction Environmental Management Plan.</p> <p>The Scoping Opinion considers that further reptile surveys should be undertaken in any of the areas of suitable habitat identified in the PEA.</p> <p>However, as the areas considered potentially suitable for reptiles will be excluded from the area of Solar PV development, no reptile surveys are proposed.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
Great crested newts (GCN)	Construction, operation and decommissioning	<p>GCN are considered likely to be absent from the Site. There are no records of GCN within 2km of the Site boundary, and out of the 13 suitable ponds on Site which were eDNA analysed, 11 were negative and 2 were</p>	<p>Change - this receptor was proposed to be scoped into further assessment within the EIA Scoping Report, but</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report	
		<p>indeterminate (details of the surveys are presented in Appendix 6.1 and Appendix 6.2).</p> <p>No ponds outside of the Site boundary have been surveyed. However, due to the lack of suitable mapped ponds within 50m of the Site, lack of GCN records within 2km and negative eDNA results of ponds on Site, it is considered that GCN are likely absent from the Site and no further surveys, or surveys of ponds outside of the Site boundary, are necessary.</p> <p>GCN were previously scoped in within the EIA Scoping Report as one pond near Brauncewell had not been eDNA surveyed at the time of scoping. This pond was surveyed in late April 2023 with negative results.</p> <p>All suitable ponds on Site have now been surveyed and there is no likely presence.</p>	<p>due to additional information having been obtained since the EIA Scoping Report was submitted, this receptor is now scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>	
Non-ground birds	nesting	Construction, operation and decommissioning	<p>In accordance with the project principles of the Proposed Development, boundary hedgerows and trees will be enhanced and 10m buffers from built development will sufficiently safeguard nests during construction, operation and decommissioning. No disturbance effects are anticipated during operation.</p> <p>The Scoping Opinion noted that no site layout plan was available at the scoping stage and no detail was provided regarding mitigation measures. However, mitigation will be documented within and secured by the Outline Construction Environmental Management Plan.</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
Wintering birds	Operation	<p>The Scoping Opinion stated that as no specific wintering bird surveys have been carried out, the scoping out of wintering birds has not been evidenced.</p> <p>Following consultation with North Kesteven District Council and Lincolnshire County Council on 15th September 2023, it was agreed that wintering bird surveys will be carried out to determine presence or likely absence. If wintering birds are found to present, then they are not anticipated to be disturbed during operation as it is a passive development. Operational works are expected to be small scale and localised.</p>	<p>assessment for the reasons outlined in the 'Justification' column.</p> <p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the operational phase for the reasons outlined in the 'Justification' column.</p>
Barn owl	Construction, operation and decommissioning	<p>Barn owl (two pairs) have been found to be nesting on Site. If nesting adjacent to works, they may be disturbed by construction and decommissioning works. However, this will be mitigated by buffer zones between the solar panels and boundary features. There is not anticipated to be loss of foraging habitat as boundary features and grass margins will be enhanced and other habitat creation and enhancement works will be documented</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However,</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>within and secured by the Outline Landscape and Ecological Management Plan.</p> <p>Careful management of buffer zones plus habitat retained and enhanced (for ground nesting birds) should ensure sufficient hunting habitat for barn owls. Pre-construction and pre-decommissioning surveys will be carried out to ensure no nesting barn owls are disturbed by construction or decommissioning works. As construction is in daylight hours there should not be disturbance to hunting birds.</p> <p>The Scoping Opinion noted that no site layout plan was available at the scoping stage and no detail was provided regarding mitigation measures. However, there is not anticipated to be any significant effects from habitat loss, disturbance or lighting. Mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan.</p>	<p>the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
Marsh harrier	Construction, operation and decommissioning	<p>No marsh harrier were observed nesting on Site and they are considered unlikely to be using the Site for nesting. There is not anticipated to be a loss of foraging habitat as a result of the Proposed Development as marsh harriers mostly hunt along field margins which will be maintained and enhanced and documented within and secured by the Outline Landscape and Ecological Management Plan.</p> <p>The Scoping Opinion noted that no site layout plan was available at the scoping stage and no detail was</p>	<p>No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>provided regarding mitigation measures. However, there is not anticipated to be any significant effects from habitat loss or disturbance (as shown in the Green Parameter plan Figure 2-5). Mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan.</p>	<p>should remain scoped out of further assessment for the reasons outlined in the 'Justification' column.</p>
Bats	Operation and decommissioning	<p>There is not anticipated to be any significant effect on bats during operation or decommissioning. There will be no permanent lighting for the Proposed Development. Manually operated lighting would only be used infrequently in welfare or compound areas when needed to work during the hours of darkness or in an emergency. Lighting would be directed downwards and away from hedgerows, woodland and watercourses so bats which are sensitive to light would not be affected. The infrequency and short-term use of any lighting should also not cause significant loss of invertebrate prey from hedgerows (i.e., by being attracted to the light).</p> <p>A lighting scheme will be designed to reduce light spill and any effects to human and ecological receptors and secured through the DCO.</p> <p>Therefore, there is predicted to be no significant effect from lighting.</p> <p>The design objectives for biodiversity enhancement and buffer zones would ensure that woodlands, watercourses, hedgerows and trees will be protected</p>	<p>No change (for operation or decommissioning) – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. However, the Applicant is of the opinion that this receptor should remain scoped out of further assessment for the operational and decommissioning phases for the reasons outlined in the 'Justification' column.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>from operational works traffic and any maintenance works.</p> <p>The effects of Solar PV development on foraging/commuting bats is still poorly understood. The presence of Solar PV modules could have an adverse effect on bats (as some species may be less inclined to forage over them³) and there is evidence that smooth surfaces may confuse bats by reflecting calls away from them, so these solid surfaces may not be detectable, causing collision⁴. However, other research undertaken has indicated that bats were able to quickly learn the difference between water and smooth surfaces in the wild and modify their behaviour⁵. Overall, the current, albeit limited, research indicates that although bats may confuse smooth flat surfaces with water bodies, it seems unlikely that this would have direct detrimental effects on bat populations and therefore the installation of Solar PV modules is not anticipated likely to significantly affect the conservation status of the local bat population.</p> <p>Operational works will be small scale and localised so should not cause disturbance.</p>	

³ Tinsley E., Froidevaux J. S. P., Zsebók S., Szabadi K. L., Jones G. (2023). Renewable energies and biodiversity: Impact of ground-mounted solar photovoltaic sites on bat activity. *Journal of Applied Ecology*. Published by John Wiley & Sons Ltd on behalf of British Ecological Society.

⁴Grief et al. (2017). Acoustic mirrors as sensory traps for bats. *SCIENCE*; 357(6355): 1045-1047

⁵ Russo, D., Cistrone, L., and Jones, G. (2012) Sensory ecology of water detection by bats: a field experiment. *PLoS ONE*. 7(10): e48144

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
Badger	Construction, operation and decommissioning	<p>All known setts will be retained with an appropriate buffer to avoid disturbance or damage to setts. Field margins will remain as open corridors for animals to disperse and mammal gates are anticipated to be installed within the fences to allow badgers access into panel fields for foraging. As badgers are highly mobile, further surveys will be carried out prior to construction and decommissioning as required.</p> <p>Mitigation measures to ensure safeguarding badgers and their setts will be documented within and secured by the Outline Construction Environmental Management Plan.</p>	No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report and the Scoping Opinion has agreed with this approach.
Brown hare, deer and hedgehogs	Construction, operation and decommissioning	<p>Field margins will remain as open corridors for animals to disperse across the Site and small gaps will be created at the base of fences to allow hares and hedgehogs access into panel fields for foraging.</p> <p>The Scoping Opinion states that the ES should consider effects on these species and be supported by robust survey data, unless otherwise agreed with relevant consultation bodies. Mitigation measures to ensure there is no impact on dispersal and foraging for brown hare and hedgehogs will be documented within and secured by the Outline Construction Environmental Management Plan, the Outline Operational Environmental Management Plan and the Outline Decommissioning Environmental Management Plan respectively.</p>	No change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report and the Scoping Opinion has agreed with this approach.

Receptors/matters scoped into further assessment

6.2.6. **Table 6.3** presents the receptors/matters that are scoped into further assessment, together with appropriate justification. Where a change has occurred to the approach proposed within the EIA Scoping Report, this is clearly stated and justified. The position from the Scoping Opinion is also referenced where appropriate.

Table 6.3 Receptor/matters scoped into further assessment

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
<p>Three Wildlife Sites (LWS) within or immediately adjacent to the Site:</p> <p>Navenby Heath Road Verges LWS; Gorse Hill Lane LWS and Gorse Land LWS</p>	Construction and decommissioning	<p>Navenby Heath Road Verges LWS; Gorse Hill Lane LWS and Gorse Lane LWS are calcareous grassland road verges which lie within the Site or immediately adjacent to the Site boundary of Springwell West (locations shown in Figure 6.1). Based on the current design of the Proposed Development upon which this preliminary assessment is based, these sites have been scoped into further assessment due to their proximity to construction works which could directly impact upon them. The design and further mitigation measures to safeguard the LWS are under review and will be documented within and secured by the Outline Construction Environmental Management Plan.</p>	<p>Change - these receptors were proposed to be scoped out of further assessment within the EIA Scoping Report, but due to additional information having been obtained since the EIA Scoping Report was submitted, these receptors are now scoped in.</p>
<p>Hedgerows and trees:</p> <p>Only those which may need to be permanently removed for internal access tracks</p>	Construction	<p>All other hedgerows and trees have been scoped out (see Table 6.2 above). However, the hedgerows which have been scoped into further assessment are only those hedgerows which may need to be removed, during the construction phase, for internal access tracks (all potential access tracks are shown in Figure 2.6). The defined location of any new internal accesses and cabling locations have not yet been confirmed. It is anticipated that avoidance, mitigation or compensation will offset hedgerow removal effects.</p>	<p>Change - these receptors were proposed to be scoped out of further assessment within the EIA Scoping Report, but due to additional information having been obtained since the EIA Scoping Report was submitted, these receptors are now scoped in.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
Rare or notable arable (non-crop) plants	Construction and decommissioning	<p>The Scoping Opinion stated that as no specific arable (non-crop) plant surveys have been carried out, the scoping out of arable (non-crop) plants has not been evidenced. Following consultation with North Kesteven District Council and Lincolnshire County Council on 15th September 2023, it was agreed that notable arable (non-crop) plant surveys will be carried out to determine presence or likely absence. If any rare or notable arable plants are identified, then suitable mitigation measures will be documented within and secured by the Outline Landscape and Ecological Management Plan.</p>	<p>Change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. Following further consideration, the Applicant agrees with this opinion.</p>
Ground nesting birds	Construction, operation and decommissioning	<p>Construction and operation would cause loss of breeding habitat. Construction and decommissioning could also cause noise and visual disturbance, although mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan. Surveys have been carried out in 2023 and have identified a farmland bird assemblage including ground nesting species of some importance. This information will be used to inform the design and mitigation of the Proposed Development to provide continued open space for ground nesting birds and food supply during breeding periods. The biodiversity design and habitat creation and enhancement during the operational phase should enhance the Site for ground nesting birds.</p>	<p>No change – this receptor was proposed to be scoped into further assessment within the EIA Scoping Report and the Scoping Opinion has agreed with this approach.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
Wintering birds	Construction and decommissioning	<p>The Scoping Opinion stated that as no specific wintering bird surveys have been carried out, the scoping out of wintering birds has not been evidenced.</p> <p>As stated previously (in Table 6.1 and Table 6.2 above), it has been agreed with North Kesteven District Council and Lincolnshire County Council that wintering bird surveys will be carried out to determine presence or likely absence. If wintering birds are present, construction would cause temporary loss of foraging habitat. Construction and decommissioning could also cause noise and visual disturbance. However, mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan and the Outline Decommissioning Environmental Management Plan.</p>	<p>Change – this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but the Scoping Opinion has requested it be scoped in. Following further consideration, the Applicant agrees with this opinion.</p>
Bats	Construction	<p>It was previously assumed that there would be no likely significant effect on bats during construction as it was assumed that hedgerows would not be significantly affected by the Proposed Development.</p> <p>However, a few sections of hedgerow may need to be cleared for access or be temporarily removed for underground cable installation. Therefore, at this stage, further assessment on bats usage of the Site and potential impacts from permanent hedgerow removal will be undertaken in the ES. The design has not yet confirmed which sections of hedgerow will need to be removed for internal access tracks. Hedgerow removal could disrupt bats foraging and commuting flight paths.</p>	<p>Change - this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but due to changes in the design of the Proposed Development since the EIA Scoping Report was submitted, this receptor is now scoped in.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
		<p>Roosting bats could be disturbed by construction activity. However, this will be mitigated by measures documented within and secured by the Outline Construction Environmental Management Plan, including retention of such features, and buffer zones from work areas. There is not anticipated to be any significant loss of foraging habitat as a result of the Proposed Development (and there is anticipated to be some benefits to foraging bats from proposals to enhance habitat for ground nesting birds).</p>	
Water voles	Construction and decommissioning	<p>It was previously assumed that no watercourses would be affected by construction of the Proposed Development. However, based on the current design of the Proposed Development upon which this preliminary assessment is based, there is now the possibility that watercourses may be affected due to the potential requirement for culverts/bridges across ditches and small watercourses. It is anticipated that any potential effects on watercourses would be localised and small scale. No ponds or watercourses will be lost as a result of the Proposed Development and a 10m and 6m works buffer will be implemented from main river and ditch banks respectively. However, it is possible that bridges may need to be installed over a limited number of watercourses to serve internal access tracks, which will lead to a breach of these buffers.</p> <p>Once the design of the Proposed Development has progressed and it is confirmed that some watercourses will be affected, then further survey and appropriate mitigation</p>	<p>Change - this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but due to changes in the design of the Proposed Development since the EIA Scoping Report was submitted, this receptor is now scoped in.</p>

Receptor/matter	Phase	Justification	Change to the approach proposed in the EIA Scoping Report
Otter	Construction	<p>measures will be implemented to ensure no significant effect on the conservation status of water voles. Pollution control measures for any works near watercourses will be documented within and secured by the Outline Construction Environmental Management Plan.</p> <p>As for water voles, discussed above. Once it is confirmed if any watercourses will be affected, then appropriate mitigation measures will be implemented to ensure no significant effect on the conservation status of otters.</p>	Change - this receptor was proposed to be scoped out of further assessment within the EIA Scoping Report, but due to changes in the design of the Proposed Development since the EIA Scoping Report was submitted, this receptor is now scoped in.

Extent of the study area

6.2.7. The survey/assessment study area includes the Site (as displayed in **Figure 2.2**) and appropriate buffer zones, which varies per receptor as discussed below:

- Background data searches for statutory and non-statutory designated sites and protected species records have focused on the Site and a 2km buffer, extended to 10km for Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites. Therefore, this is considered to be the Zone of Influence.
- A Data Report from the British Trust for Ornithology (with records from 2019 to May 2023) was also included in the desk study with data spanning two 10km squares (which encompassed the entire Site, up to 10km north of the Site and up to 2km south of the Site). This is to allow placing breeding birds into a local and regional context.
- The survey study area for survey work is the entire Site. The exceptions being:
 - The survey study area for hedgerows and invasive species comprise all the proposed works areas within the Site and any of those where ancillary works will occur potentially outside of the Site boundary.
 - If any design updates to the Proposed Development determine that sections of watercourse will be impacted, e.g., culverted to allow for cable installation, then water vole and otter surveys will be carried out in, and adjacent to, the works area, for up to 100m upstream and downstream, where accessible. Adjacent waterbodies would be included to account for any effects that may extend beyond the Site boundary. Direct or indirect pathways and functionally linked effects for watercourses would also be considered.

6.3. Legislative framework, planning policy and guidance

Relevant legislation

6.3.1. The applicable legislative framework is summarised as follows (further details are provided in the PEA report, **Appendix 6.1** of **Volume 2**):

- The Birds Directive in relation to Natura 2000 sites⁶ This relates to the conservation of all species of naturally occurring birds in their wild state in the territory of the EU Member States to which the treaty applies;

⁶ Birds Directive, Available Online: <https://www.legislation.gov.uk/eudr/2009/147>

- The Habitats Directive in relation to Natura 2000 sites⁷. The Habitats Directive 1992 requires EU Member States to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed under Annex I, II, IV and/or V. Species listed under Annex IV are known as ‘European Protected Species’;
- The Conservation of Habitats and Species Regulations 2017 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019⁸;
- The Wildlife and Countryside Act 1981 (as amended)⁹;
- The Countryside and Rights of Way Act 2000¹⁰;
- The Environment Act 2021¹¹;
- The Natural Environment and Rural Communities Act (NERC) 2006¹²;
- The Hedgerows Regulations 1997¹³;
- The Protection of Badgers Act 1992¹⁴;
- The Wild Mammals (Protection) Act 1996¹⁵; and
- The Invasive Alien Species (Enforcement and Permitting) Order 2019¹⁶.

Relevant planning policy

Table 6.4 Relevant planning policy

relevant planning policy	Policy clauses
Overarching National Policy Statement for Energy (NPS EN-1) (2011) ¹⁷ provides the basis for decisions regarding nationally significant energy infrastructure.	Section 5.3 refers to the impact on biodiversity and geological conservation.

⁷ Habitats Directive. Available Online: <https://www.legislation.gov.uk/eudr/1992/43>

⁸ Conservation of Habitats and Species Regulations 2017. Available Online: <https://www.legislation.gov.uk/ukxi/2017/1012>

⁹ Wildlife and Countryside Act. Available Online: <https://www.legislation.gov.uk/ukpga/1981/69>;

¹⁰ The Countryside and Rights of Way Act 2000. Available online: <https://www.legislation.gov.uk/ukpga/2000/37>

¹¹ The Environment Act. Available online: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

¹² The Natural Environment and Rural Communities Act 2006. Available online: <https://www.legislation.gov.uk/ukpga/2006/16>

¹³ The Hedgerow Regulations 1997. Available online: <https://www.legislation.gov.uk/ukxi/1997/1160/made>

¹⁴ The Protection of Badgers Act 1992. Available online: <https://www.legislation.gov.uk/ukpga/1992/51>

¹⁵ The Wild Mammals (Protection) Act 1996. Available online: <https://www.legislation.gov.uk/ukpga/1996/3>

¹⁶ The Invasive Alien Species (Enforcement and Permitting) Order 2019. Available online: <https://www.legislation.gov.uk/ukxi/2019/527/contents/made>

¹⁷ Overarching National Policy Statement for Energy (EN-1) (2011). Available online: [National Policy Statements for energy infrastructure - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/270222/National_Policy_Statements_for_energy_infrastructure_-_GOV.UK.pdf)

relevant planning policy	Policy clauses
Draft Overarching National Policy Statement for Energy (NPS EN-1) (2023) ¹⁸	Section 5.4 refers to the impact on biodiversity and geological conservation.
National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) (2011) ¹⁹	Section 2.5 states that consent for renewable energy projects should only be granted where it can be demonstrated that the objectives of designation of the area will not be compromised by the development, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits.
Draft National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) (2023) ²⁰	Section 3.3 also makes reference to the need to consider whether the benefits of large-scale renewable projects would outweigh any loss or harm to the significance of a designated nature conservation site.
National Policy Statement for Electricity Networks Infrastructure (NPS EN-5) (2011) ²¹	Section 2.7 refers to biodiversity and consideration of overhead lines with particular consideration on feeding and hunting grounds, migration, migration corridors and breeding grounds.
Draft National Policy Statement for Electricity Networks Infrastructure (NPS EN-5) (2023) ²²	Section 2.5 makes reference to environmental and Biodiversity Net Gain opportunities to reconnect habitats and people in tandem with environmental enhancements.

¹⁸ Draft National Policy Statement for Energy (EN-1) (2023). Available online: [Planning for new energy infrastructure: revisions to National Policy Statements - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-revisions-to-national-policy-statements)

¹⁹ National Policy Statement for Renewable Energy Infrastructure (EN-3) (2011). Available online: [National Policy Statements for energy infrastructure - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/national-policy-statements-for-energy-infrastructure)

²⁰ Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (2023). Available online: [National Policy Statements for energy infrastructure - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/national-policy-statements-for-energy-infrastructure)

²¹ National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011). Available online: [1942-national-policy-statement-electricity-networks.pdf \(publishing.service.gov.uk\)](https://www.gov.uk/government/consultations/national-policy-statements-for-electricity-networks-infrastructure)

²² Draft National Policy Statement for Electricity Networks Infrastructure (EN-5) <https://www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-revisions-to-national-policy-statements>

relevant planning policy	Policy clauses
<p>National Planning Policy Framework (NPPF) (September 2023)²³: The NPPF sets out the Government’s planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF).</p>	<p>Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.</p>
<p>Government’s 25-Year Environment Plan 2018²⁴ . This sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled.</p>	<p>The plan sets out a number of policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial environments, improving resource efficiency and reducing waste and pollution.</p>
<p>The Central Lincolnshire Local Plan 2018-2040²⁵ was adopted by the Central Lincolnshire Joint Strategic Planning Committee on 13 April 2023 and it now replaces the 2017 version of the Central Lincolnshire Local Plan as the development plan for the City of Lincoln, West Lindsey and North Kesteven District Councils.</p>	<p>Section 11: ‘Natural Environment’ makes reference to the opportunities and conservation of green and blue infrastructure; biodiversity and geodiversity (Policy S60 refers to protection of designated sites, habitats and species of Principal Importance); biodiversity net gain (Policy S61 refers to Biodiversity Opportunities and Delivering Measurable Net Gain); and trees, woodlands and hedgerows (Policy S66 refers to conservation of trees, woodlands and hedgerows and mitigation).</p>

Applicable guidance

6.3.2. The following guidance document has been used during the preparation of this preliminary assessment:

6.4. The Chartered Institute of Ecology and Environmental Management’s (CIEEM) Guidelines for Ecological Impact Assessment in the UK and

²³ National Planning Policy Framework (NPPF) 2023. Available online: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

²⁴ 25-Year Environment Plan. Available online: <https://www.gov.uk/government/publications/25-year-environment-plan>

²⁵ [Adopted Local Plan 2023 | Central Lincolnshire Local Plan \(n-kesteven.gov.uk\)](https://www.n-kesteven.gov.uk/adopted-local-plan-2023)

Ireland, referred to here as ‘the CIEEM Guidelines’ (CIEEM, 2018; version 1.2 updated April 2022).

6.5. Methodology

Data sources to inform baseline characterisation

6.5.1. The preliminary assessment scope has been based on:

- A background data search was requested from Greater Lincolnshire Nature Partnership, which included a search for nationally designated sites (both statutory and non-statutory) and protected species records within 2km of the Site, extended to 10km for internationally protected SPAs, SACs and Ramsar sites.
- Data Report from the British Trust for Ornithology (with records from 2019 to May 2023) with data spanning two 10km squares (which encompassed the entire Site, up to 10km north of the Site and up to 2km south of the Site) to place breeding bird survey data into a local and regional context.

6.5.2. The assessment to be presented in the ES will be informed by further surveys undertaken in 2023/2024 (see **paragraph 6.4.8** below for further details).

Surveys to inform baseline characterisation

6.5.3. A Preliminary Ecological Appraisal (PEA) survey of the Site was carried out in April and May 2022, with additional surveys in January 2023 and July 2023 following changes to the Site boundary. The PEA surveys were undertaken to determine the habitats within the Site (following UKHab survey methodology); and to identify the potential for protected and notable species to be present.

6.5.4. Badger surveys and preliminary bat roost assessments of trees and structures (barns) on Site were also undertaken during the PEA walkover surveys detailed above.

6.5.5. Full details of all the PEA survey methodology can be found in **Appendix 6.1** and **Appendix 6.2**.

6.5.6. Further species-specific surveys of the Site which have been carried out in 2022 and 2023 comprise:

- Habitat Suitability Index (HSI) and eDNA survey of 13 ponds on Site for great crested newts (GCN) in May 2022 and April 2023. Full details of the survey methodology can be found in **Appendix 6.1** and **Appendix 6.2**.
- Breeding bird surveys of the Site in 2023. Full details of the bird survey methodology can be found in **Appendix 6.4**.
- Bat activity surveys were carried out in August 2022, October 2022, April 2023, July 2023 and September 2023. Full details of the bat survey methodology can be found in **Appendix**

6.5. N.B. the results of the September 2023 survey are not included, but will be included for the DCO application.

- No specific brown hare (*Lepus europaeus*) surveys were carried out. However, due to the abundance of brown hares seen across the Site, the numbers seen during the first breeding bird surveys in mid-April 2023 were collated to give an indicative total for the Site.

6.5.7. Further surveys planned in 2023/2024 comprise:

- A hedgerow survey along the proposed cable routes and potential access routes.
- Further bat surveys may be required once the design has progressed e.g., surveys of potential tree roosts or targeted bat activity surveys of hedgerows which may require removal for internal access tracks.
- Wintering bird surveys will involve up to four survey visits, between November 2023 and February 2024. The number of surveys may be curtailed if only low numbers of wintering birds are found in the first few visits.
- Notable arable non-crop plant surveys will be undertaken in targeted sample crop areas. This will involve survey visits in mid-May/June 2024 and August/September 2024 (to survey early and late flowering species).

6.5.8. Further surveys which may be required (depending on any updates to final design) may include:

- Bat roost surveys – including internal barn/building inspections, endoscope inspections, tree climbing and emergence surveys. These will only occur if any trees and structures could potentially be directly or indirectly impacted by the construction of the Proposed Development, although it is currently envisaged this will not occur.
- Further bat activity surveys if any significant lengths of hedgerow need to be removed.
- Barn owl surveys, if any trees or structures with barn owl nesting potential are likely to be impacted.
- Water vole and otter surveys (if required if any bridges need to be installed across watercourses).

Design assumptions

6.5.9. **Chapter 2: Description of the Proposed Development** details the preliminary design principles of the Proposed Development components as they are currently known. Preliminary parameter plans, which define the extents within which development can take place, are presented in the following figures within **Volume 2**:

- **Figure 2.3** – Zonal Masterplan;
 - **Figure 2.4** – Indicative Height Parameters Plan;
 - **Figure 2.5** – Indicative Green Infrastructure Parameters Plan; and
 - **Figure 2.6** – Indicative Operational Access & Movement Parameters Plan.
- 6.5.10. **Chapter 4: Approach to EIA** sets out those elements of the Proposed Development for which optionality is present within the current design and sets out the scenario assessed for the purpose of this PEIR.
- 6.5.11. The preliminary design principles and preliminary parameter plans set out the reasonable ‘worst case scenario’ that has been assessed within this chapter.
- 6.5.12. A precautionary approach to assessment has been carried out as baseline survey information is still continuing to be gathered. In the ES, consideration will be afforded to specific design case assumptions once more baseline data is gathered and design details are confirmed.

Embedded mitigation

- 6.5.13. This preliminary assessment has been based on the principle that measures have been ‘embedded’ into the design of the Proposed Development to remove potential significant effects as far as practicable, for example by the considered placement of infrastructure. Embedded (primary) environmental mitigation measures that are considered to be an inherent part of the Proposed Development are detailed within **Table 4.4 of Chapter 4: Approach to EIA**. Those embedded mitigation measures relevant to this preliminary biodiversity assessment comprise the following:
- Existing woodlands and tree belts will be retained as far as reasonably practicable.
 - There will be a minimum 15m offset from the built development to existing woodland, whilst noting that it is possible that individual trees may need to be removed to facilitate construction. Standing advice recommends a buffer zone of at least 15m from the boundary of ancient woodland to avoid root damage (known as the root protection area). If there are any ancient or veteran trees on the woodland boundary, the buffer zone should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the trees’ canopy if that area is larger than 15 times the trees’ diameter. This will create a minimum root protection area²⁶.

²⁶ Natural England and Forestry Commission (2022) Guidance: Ancient woodland, ancient trees and veteran trees: advice for making planning decisions. Standing Advice. [Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions)

- Existing hedgerows and trees will be retained as far as reasonably practicable.
- There will be a minimum 10m offset from the Proposed Development to all existing hedgerows and trees, where practicable. No ancient or veteran trees have yet been identified on the Site. If any are identified during further surveys, then the recommended buffer zones for veteran trees, detailed above, would apply to maintain a minimum root protection area.
- There will be a minimum 20m offset from the Proposed Development to locally designated wildlife sites, where practicable.
- Active badger setts will be retained where practicable and there will be a minimum offset of at least 30m from a badger sett. On completion of the final design and pre-construction badger surveys, it will be reviewed if any setts will require removal under licence.
- There will be a minimum offset of at least 10m either side of main rivers and 6m from ditches, where practicable.

Assessment methodology

- 6.5.14. The assessment methodology detailed in this chapter is in accordance with the CIEEM Guidelines. For this preliminary assessment, the potential likely effects on all identified receptors are reported, together with initial consideration of whether the effect is predicted to be significant or not.
- 6.5.15. The frames of reference used to describe the importance of each receptor, which are based on the CIEEM Guidelines, are as follows:
- International (i.e., Ramsar Sites, SACs and SPAs) (normally within the geographic area of Europe);
 - UK or national (Great Britain but considering the potential for certain ecological features/receptors to be more notable (of higher importance) in England, with context relative to Great Britain as a whole).
 - regional;
 - county;
 - district; and
 - local (i.e., within approximately 5km of the Site).
- 6.5.16. For each ecological feature (receptor), only those characteristics relevant to understanding the ecological effect of the Proposed Development and determining the significance are described. The determination of the significance of effects has been made based on the predicted effect on the structure and function, or conservation status, of relevant ecological features (receptors), as follows:

- not significant - no effect on structure and function, or conservation status; and
- significant - structure and function, or conservation status is affected.

6.5.17. In addition, the CIEEM Guidelines require that significant effects should be qualified with reference to an appropriate geographic scale. Where possible in the context of this preliminary assessment, the geographical scale of the significant effect has been stated.

6.6. Summary of baseline conditions

6.6.1. The following section presents a summary of the baseline conditions for those receptors scoped into further assessment (see **Table 6.3** above). Full details of the baseline conditions can be found in the following appendices;

- **Appendix 6.1** - Preliminary Ecological Appraisal – Report 1
- **Appendix 6.2** - Preliminary Ecological Appraisal – Report 2 (land at Brauncewell)
- **Appendix 6.3** – Preliminary Ecological Appraisal – Report 3 (Grid Connection Corridor)
- **Appendix 6.4** - Breeding Bird Survey Report
- **Appendix 6.5** - Bat activity report

Navenby Heath Road Verges LWS, Gorse Hill Lane LWS and Gorse Lane LWS

6.6.2. These LWS are designated for calcareous grassland verges along the edges of road and farm trackways. Details on these LWS are provided in the Preliminary Ecological Appraisal Reports in **Appendix 6.1** and **Appendix 6.3**. Their indicative location is presented in **Figure 6.1**.

Hedgerows and trees (only those which may need to be permanently removed for internal access tracks)

6.6.3. It is not yet known which hedgerows will need to be permanently removed for internal access tracks as there are several options. Hedgerow surveys of all the hedgerows proposed to be removed for access and internal cable installation were carried out in August and September 2023. Hedgerow surveys of any hedgerows that may need to be removed for the Grid Connection Corridor will be carried out in 2023/2024. Details will be provided in the ES.

Rare or notable arable (non-crop) plants

6.6.4. The presence of rare or notable arable (non-crop) plants on Site is not yet known as no surveys have been undertaken (planned for 2024).

Ground nesting birds

- 6.6.5. Five breeding bird surveys were undertaken of the whole Site between March and July 2023 (full details of the surveys and results are shown in **Appendix 6.4**).
- 6.6.6. In summary, a total of 86 bird species were recorded on Site. Of these, 61 species were confirmed as breeding or potentially breeding.
- 6.6.7. The Site is considered of at least **County** importance for the farmland bird assemblage present as it supports a range of species including skylark (*Alauda arvensis*), corn bunting (*Emberiza calandra*), quail (*Coturnix coturnix*) and grey partridge (*Perdix perdix*), all of which have undergone significant declines in recent decades. Grassland fields and hedgerows were of greatest value to breeding birds, particularly skylark and grey partridge, whilst arable fields were used by yellow wagtails.
- 6.6.8. Both barn owl (*Tyto alba*) and marsh harrier (*Circus aeruginosus*) were observed during surveys. Two pairs of barn owl have been confirmed using barns within the Site however marsh harrier was not identified to be breeding.
- 6.6.9. Three curlews (*Numenius arquata*) were seen flying over the Site to and from a probable nesting location within grassland inside the boundary of RAF Digby. Curlew (*Numenius arquata*) were not found to be breeding on Site although they may occasionally use grassland or stubble within the Site for foraging. The Site is not considered suitable habitat for breeding curlew.
- 6.6.10. The background data search returned records of 38 bird species within 2km of the Site, of which 86% were recorded in RAF Digby. The full list of species returned from the desk study can be reviewed in **Appendix 6.1** and **Appendix 6.2**.

Wintering birds

- 6.6.11. The Site's importance for wintering birds is not yet known as no surveys have been undertaken (planned for November 2023-February 2024).

Bats

- 6.6.12. Bat activity surveys, using static bat detector deployment were undertaken in 2022 and 2023, detailed results are provided in the **Appendix 6.5**.
- 6.6.13. The surveys recorded a high diversity of species across the Site; with at least 10 of the 12 species considered to be present within Lincolnshire having been positively identified.
- 6.6.14. Although the landscape is mostly intensively farmed arable, which is normally considered to offer sub-optimal foraging habitat, the hedgerows, (where bat activity was mostly recorded), are of value to bats. In an agricultural landscape with limited natural features, those that are present can have greater importance.
- 6.6.15. The majority of bat activity was from common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*).

Barbastelle (*Barbastella barbastellus*) were the third most frequently recorded species. Other species included *Myotis* spp, Leisler’s (*Nyctalus leisleri*), noctule (*Nyctalus noctule*), brown-long-eared (*Plecotus auratus*) and a small number of Nathusius’ pipistrelle calls (*Pipistrellus nathusii*).

- 6.6.16. The assemblage of species within this geographic region of the UK could be considered of **National** importance. The Site could be of **Regional** importance for barbastelle and of **Local** importance for the remaining species identified.
- 6.6.17. Significantly more calls were recorded in August 2022 (which is the bat breeding season) therefore bats could be using mature trees or buildings within the Site for breeding or at least breeding near the Site and using the Site during the breeding season for foraging and commuting.
- 6.6.18. 71 individual trees and groups of trees were identified with moderate (35 trees) to high (36 trees) suitability for supporting roosting bats. Barns on Site could also be used by roosting bats.

Water voles and otter

- 6.6.19. There were no records of water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) within 2km of the Site. Several watercourses within the Site were suitable for water voles. They were mostly too small for otter, however they may be used at night for foraging and individuals commuting as part of a much larger territory or home range. Although no specific water vole and otter surveys have been carried out it is considered likely that the watercourses on Site are potentially of **Local** importance for water voles and otter.

Sensitive receptors

- 6.6.20. In accordance with the CIEEM Guidelines, **Table 6.5** below presents the sensitive receptors that have been considered within this preliminary assessment, together with their respective geographical importance.

Table 6.5 Sensitive ecological receptors and geographical importance

Sensitive receptor	Geographical importance
Navenby Heath Road Verges LWS, Gorse Hill Lane LWS and Gorse Lane LWS	County
Hedgerows and trees (only those which may need to be	Local

Sensitive receptor	Geographical importance
permanently removed for internal access tracks)	
Rare or notable arable (non-crop) plants	Not yet known as no survey data (although considered potentially of Local importance if notable species found to be present)
Ground nesting birds	County
Wintering birds	Not yet known as no survey data (although considered likely of Local importance)
Bats	National importance
Water vole	Not yet known as no survey data (although considered likely of Local importance)
Otter	Not yet known as no survey data (although considered likely of Local importance)

Future baseline

- 6.6.21. This section considers those changes to the baseline conditions described above that might occur during the time period over which the Proposed Development will be in place. It considers changes that might occur in the absence of the Proposed Development being constructed.
- 6.6.22. The habitat within the Site is largely arable farmland, cropped on rotation, with some improved grassland and grass leys, bordered by hedgerows and arable field margins with small blocks of woodland and connecting wet and dry ditches. In the short to medium term, in the absence of the Proposed Development, these habitats will likely continue to be intensively managed as farmland, which would provide a number of species potential habitat such as arable farmland for ground-nesting breeding birds. The distribution of some species may change in response to cropping, whilst the assemblages will likely remain the same.
- 6.6.23. In the longer term, in the absence of the Proposed Development, habitats on Site will likely continue under agricultural management. The majority of existing habitats are likely to continue being present, although some changes in habitat extent, composition and structure will occur as a result of ecological succession, e.g., the gradual establishment of tree and shrub seedlings. These resultant gradual changes in habitat composition are unlikely to materially alter the ecological baseline and therefore the habitats and species present are very unlikely to undergo significant change.
- 6.6.24. Changing climatic conditions resulting from climate change may influence the resilience of certain habitats and species. Habitats

such as broad-leaved trees and scrub will be more mature but are likely to support a broadly similar species assemblage and arable farmland will also be managed accordingly, maintaining broadly similar species assemblages.

6.7. Likely effects, additional mitigation and residual effects

- 6.7.1. Mitigation measures outlined below in **Table 6.6** will be documented within and secured by the Outline Construction Environmental Management Plan and the Outline Landscape and Ecological Management Plan.

Construction phase

Table 6.6 Assessment of likely effects, additional mitigation and residual effects during construction

Receptor/Matter	Likely effects/additional mitigation/residual effects (secondary and tertiary)
<p>Navenby Heath Road Verges LWS, Gorse Hill Lane LWS and Gorse Lane LWS</p>	<p>Likely effects Preparation of the Site and construction will result in dust generation, along with noise and visual disturbance.</p> <p>Navenby Heath Road Verges LWS, Gorse Hill Lane LWS and Gorse Lane LWS are verges bordering road and farm tracks (designated for calcareous grassland) at the north-western end of the Site (of Springwell West). These sites will be retained as part of the Proposed Development design. A works buffer will be retained around the sites, where possible. Further design work will confirm the distance of the buffer to be implemented.</p> <p>Noise and visual disturbance will not impact on the integrity or the functioning of these LWS, which are designated for grassland verge habitat. Dust pollution during construction, in the absence of mitigation, could cause a temporary adverse effect.</p>
	<p>Additional (secondary and tertiary) mitigation Signage and security fencing around the works buffer zone will ensure that any works and construction traffic avoid the LWS sites. The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted and these measures will be documented within and secured by the Outline Construction Environmental Management Plan. Monitoring throughout works should ensure compliance</p>

Receptor/Matter	Likely effects/additional mitigation/residual effects	(secondary and tertiary)
	Likely residual effects	<p>and implementation of pollution prevention measures.</p> <p>The LWS should not be directly affected by works. Any pollution from construction will be mitigated and therefore should not significantly affect the structure/function or conservation status of the LWS. The residual effect is predicted to be negligible, which is deemed to be not significant.</p>
Hedgerows and trees (only those which may need to be permanently removed for internal access tracks and cable routes)	Likely effects	<p>The Proposed Development will be designed to avoid hedgerow loss where practicable. It will include a minimum 10m buffer of panels from hedgerows and trees to protect roots and branches during construction works, where practicable.</p> <p>Sections of hedgerow (up to 25m wide) will need to be removed for underground cable installation; however, these will be replanted with like-for-like species as soon as practicable after construction. Limited, relatively small sections of hedgerow may also need to be cleared to widen internal access and create visibility splays at road access junctions (to widen existing gateways by up to 20m wide). This hedgerow removal would have an adverse effect, although would be relatively small scale and would be temporary for hedgerows which are to be replanted after cable installation.</p> <p>It is possible that only removal of small sections of hedgerow may be required to provide vehicle passing places. As a reasonable worst case assumption for the purposes of the PEIR, whole lengths of hedgerows may be required for internal access tracks. However, as it is currently unknown what quantity of hedgerow would need to be removed for internal access tracks, an assessment of the likely effect of this cannot be determined at present until the access design details are confirmed.</p>
	Additional (secondary and tertiary) mitigation	Control measures documented within and secured by the Outline Construction Environmental Management Plan will safeguard protection against dust and soil

Receptor/Matter	Likely effects/additional (secondary and tertiary) mitigation/residual effects	
		<p>pollution; security fences will ensure provision of hedgerow buffers and tree protection zones during construction works. Monitoring should ensure hedgerows and trees are protected from pollution and 10m buffer is maintained during construction.</p>
	Likely residual effects	<p>It is currently not known what quantity of hedgerow would need to be removed for internal access tracks, therefore an assessment of the likely effect of this cannot be fully determined at present until the access design details are confirmed. However, it is anticipated that the effects would be not significant as mitigation and compensation planting will likely offset any hedgerow loss after construction.</p>
Rare or notable arable (non-crop) plants	Likely effects	<p>If notable arable (non-crop) plants are found to be present on Site, field margins, where certain rare or notable plants are most likely to be found, will be protected by 10m buffer from panels.</p> <p>In any areas which cannot be avoided (e.g., for Solar PV module installation or construction traffic), then there may potentially be some temporary habitat loss during construction. This is expected to have a temporary adverse effect as arable non-crop plants should re-establish from the seed bank in topsoil.</p>
	Additional (secondary and tertiary) mitigation	<p>Measures to safeguard notable non-crop plants where appropriate will be documented within and secured by the Outline Construction Environmental Management Plan (e.g., control measures to safeguard against dust and soil pollution; and storage and re-instatement of topsoil). Monitoring should ensure appropriate removal and storage of topsoil, 10m buffer from field margins and protection from pollution.</p>
	Likely residual effects	<p>The residual effect is predicted to be not significant.</p>
	Likely effects	<p>There will be loss of breeding and foraging habitat for ground nesting birds, with</p>

Receptor/Matter	Likely effects/additional (secondary and tertiary) mitigation/residual effects	
Ground nesting birds		<p>construction activities creating displacement through disturbance and due to the placement of Solar PV modules. There is a need for bespoke mitigation for ground nesting birds.</p> <p>If unmitigated the loss of breeding and foraging habitat could have a significant effect on the conservation status of ground nesting birds during the construction phase.</p>
	Additional (secondary and tertiary) mitigation	<p>Habitat creation and enhancement measures to maintain habitat for ground nesting birds and to increase the foraging habitat available will be documented within and secured by the Outline Landscape and Ecological Management Plan.</p> <p>Measures to protect areas retained for farmland birds will be documented within and secured by the Outline Construction Environmental Management Plan, including security fencing to maintain buffer zones to avoid noise and visual disturbance and signage.</p>
	Likely residual effects	<p>Although there will be some temporary loss of foraging and nesting habitat and disturbance during construction works, mitigation is considered likely to maintain the existing farmland bird assemblage and the adverse effect is considered to be temporary. The residual effect is therefore predicted to be not significant, as construction of the Proposed Development should not have a significant effect on the conservation status of ground nesting birds using the Site.</p>
Wintering birds	Likely effects	<p>If the Site is found to be important for wintering birds, there is potential for disturbance of wintering birds and loss of foraging habitat due to the placement of Solar PV modules. The potential collision impact from the provision of two new towers is anticipated to be relatively low risk (as discussed above).</p> <p>If unmitigated, the loss of foraging habitat could have a significant effect on the conservation status of wintering birds during the construction phase.</p>

Receptor/Matter	Likely effects/additional (secondary and tertiary) mitigation/residual effects	
	Additional (secondary and tertiary) mitigation	Measures to protect any areas retained for wintering birds will be documented within and secured by the Outline Construction Environmental Management Plan and the Outline Landscape and Ecological Management Plan, including security fencing to maintain buffer zones to avoid noise and visual disturbance and signage.
	Likely residual effects	It is considered mitigation will be effective to maintain the conservation status of wintering birds. The residual effect is therefore predicted to be not significant .
Bats	Likely effects	<p>Construction activities which could potentially affect bats include removal of hedgerows which may disrupt flight paths, removal of trees used as roosts, disturbance and lighting. Furthermore, changes to habitat due to the placing of Solar PV modules could affect some species of bats which may be less inclined to forage over them²⁷. However, as discussed in Table 6.2, the current, albeit limited, research indicates that although bats may confuse smooth flat surfaces with water bodies, it seems unlikely that this would have direct detrimental effects on bat populations and therefore the installation of Solar PV modules is not anticipated likely to significantly affect their conservation status.</p> <p>During the surveys, significantly more bat activity was found along hedgerows and field margins rather than in-field. Hedgerows, trees, watercourses and field margins will be protected by a 10m buffer and woodland will be protected by a 15m buffer from built development, where practicable, which should prevent significant disturbance to bats using hedgerows and trees for roosting, foraging or commuting. A substantial proportion of the Site will be enhanced for foraging and dispersing bats (i.e., will not have any Solar PV development). Therefore, the placement of Solar PV modules is not anticipated to cause a significant adverse</p>

²⁷ Tinsley E., Froidevaux J. S. P., Zsebök S., Szabadi K. L., Jones G. (2023). Renewable energies and biodiversity: Impact of ground-mounted solar photovoltaic sites on bat activity. *Journal of Applied Ecology*. Published by John Wiley & Sons Ltd on behalf of British Ecological Society.

Receptor/Matter	Likely effects/additional mitigation/residual effects (secondary and tertiary)
	<p>effect on the conservation status local bat population. However, it is not currently known what quantity of hedgerow would need to be removed to widen internal access tracks and whether this would just require temporary removal. Therefore, a full assessment of the likely effect on bat foraging/commuting cannot be currently determined at this stage.</p> <p>Any hedgerow or tree removal will be assessed for likely effects on bats and the mitigation hierarchy will be used to avoid by design, where practicable, or else mitigate/compensate effect. Further targeted bat surveys, once access design has progressed, may be required to enable an informed assessment of likely effect on bats.</p> <p>Additional (secondary and tertiary) mitigation</p> <p>If any trees with bat roost potential cannot be avoided, e.g., for the cable installation, they will be surveyed to determine presence/likely absence of a roost. Any loss of bat roosts will be mitigated and compensated under European Protected Species licensed mitigation works.</p> <p>Once the amount of hedgerow which needs to be removed is quantified, then an appropriate strategy will be documented within and secured by the Outline Construction Environmental Management Plan and the Outline Landscape and Ecological Management Plan.</p> <p>The requirement for any construction lighting to be directed away from hedgerows and trees will be documented within and secured by the Outline Construction Environmental Management Plan. Security fencing will maintain a 10m works buffer from hedgerows and trees. A monitoring programme will ensure implementation of mitigation measures, as documented within and secured by the Outline Construction Environmental Management Plan.</p>

Receptor/Matter	Likely effects/additional mitigation/residual effects	(secondary and tertiary)
	Likely residual effects	As per the 'Precautionary Principle' ²⁸ it is assumed that there could be a significant adverse effect up to District level on bats (due to the possibility of removal of hedgerow lengths for internal access tracks) until further survey and design information is provided to enable a full assessment.
Water vole	Likely effects	<p>Maintaining a minimum 10m and 6m works buffer from main rivers and ditches respectively, where practicable, should avoid harm to water voles. However, installation of any bridges across watercourses, if required, could damage water vole burrows and any pollution from works could affect water quality. If unmitigated, this could cause significant adverse effect.</p> <p>If required, further survey will determine the presence or likely absence of water vole. If present and impact from bridge installation cannot be avoided, then mitigation measures would be undertaken to displace them to avoid harm.</p> <p>Pollution prevention mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan. Signage and fencing will be used to maintain minimum 10m and 6m works buffer to protect main rivers and ditches respectively where required.</p> <p>A monitoring programme will ensure implementation of mitigation measures, as documented within and secured by the Outline Construction Environmental Management Plan.</p>
	Additional (secondary and tertiary) mitigation	Likely residual effects
	Likely residual effects	Although the design has not yet confirmed if any bridges are required, it is anticipated they would be limited in number and effect would be very localised and relatively small scale. It is considered mitigation will be effective to maintain the conservation status of water vole. The residual effect is therefore predicted to be not significant .

²⁸ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland. The Chartered Institute of Ecology and Environmental Management's (version 1.2 updated April 2022).

Receptor/Matter	Likely effects/additional mitigation/residual effects	(secondary and tertiary)
Otter	Likely effects	Maintaining a minimum 10m and 6m works buffer from main rivers and ditches respectively, where practicable, should avoid disturbance to otters, which may be using them for foraging or commuting at night. Any pollution from works could affect water quality, which if unmitigated could cause significant adverse effect.
	Additional (secondary and tertiary) mitigation	<p>Pollution prevention mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan. Signage and fencing will be used to maintain minimum 10m and 6m works buffer to protect main rivers and ditches respectively, where required.</p> <p>A monitoring programme will ensure implementation of mitigation measures, as documented within and secured by the Outline Construction Environmental Management Plan.</p>
	Likely residual effects	It is considered mitigation will be effective to maintain the conservation status of otter. The residual effect is therefore predicted to be not significant .

Operational phase

Table 6.7 Assessment of likely effects, additional mitigation and residual effects during operation

Receptor/Matter	Likely effects/additional mitigation/residual effects	(secondary and tertiary)
Ground nesting birds	Likely effects	<p>Any operational works on the solar farm would be relatively small scale and localised which should not cause significant visual or noise disturbance. Vegetation under the Solar PV modules, as well as areas created or enhanced for ground nesting birds, would be managed to avoid adverse impact to ground nesting birds (e.g., any vegetation removal would be undertaken outside of the main nesting season where appropriate).</p> <p>It is anticipated that there would be a negligible effect on ground nesting birds by ensuring sufficient areas of open ground remain as breeding and foraging habitat.</p>

Receptor/Matter	Likely effects/additional mitigation/residual effects	(secondary and tertiary)
Additional (secondary and tertiary) mitigation	Habitat creation, enhancement and a management/monitoring programme will be documented within and secured by the Outline Landscape and Ecological Management Plan.	
Likely residual effects	The residual effect is predicted to be beneficial at the Local level from an increase in invertebrate diversity and overall enhancement of foraging habitat for some bird species due to habitat creation and enhancement measures along field boundaries, field margins and the management of the land underneath the Solar PV modules. The determination of whether this effect will be significant or not will be confirmed in the ES.	

Decommissioning phase

6.7.2. The effects of decommissioning of the Proposed Development are likely to be similar to those for construction outlined above. Habitats and protected or notable species are likely to be subject to temporary loss of habitat or disturbance during decommissioning activities and appropriate measures will need to be put in place to minimise direct loss of habitat and disturbance. An Outline Decommissioning Environmental Management Plan will be submitted in support of the DCO, which will outline how such impacts will be managed.

Assessment against future baseline

6.7.3. The Proposed Development should provide an overall significant gain in biodiversity, against the future baseline of continued intensive management for agricultural production, by implementing the above biodiversity design measures for habitat creation and enhancement. Substantial net gain in biodiversity value is anticipated which will be documented within and secured by the Outline Landscape and Ecological Management Plan.

6.8. Opportunities for environmental enhancement

6.8.1. As discussed previously, the Site is mostly intensively managed arable farmland and therefore there are opportunities proposed to enhance strategic areas of the Site, which could provide a significant gain in biodiversity. Proposals that would be beneficial to wildlife, such as birds, bats and brown hare will be documented within and secured by the Outline Landscape and Ecological Management Plan, which include:

- Retain strategic areas within the Site, to be managed as suitable habitat for ground nesting birds as necessary and appropriate;

- Create large set aside areas for habitat (calcareous grassland in the west and wetter grassland to the east) which will benefit both ground nesting birds and foraging bats;
- Protection of woodlands;
- Hedgerows and trees protected, where practicable;
- New hedgerows and scrub created;
- Margins enhanced by planting winter wild bird seed mix; tussocky grass mix; and wildflower mix (10m buffer); and
- Under solar panels, three different treatments are proposed including chalk wildflower (west side), herbal leys rich in legumes and grass rich for grazing. This would provide foraging e.g., for birds, brown hares and nectar for invertebrates which in-turn will provide food for birds and bats that feed on them.

6.9. Intra-project combined effects

- 6.9.1. The effects identified already account for impacts arising from the various aspects of the Proposed Development. There are various adverse effects from construction works such as visual disturbance, dust, noise and vibration which, in-combination, increases the magnitude of effect e.g., disturbance to nesting birds. The significance of these combined affects has been accounted for in this preliminary assessment.
- 6.9.2. Similarly, planting proposed to mitigate landscape and visual effects will have a combined effect with biodiversity enhancement proposals, as landscaping works will also increase biodiversity value and will be located in areas where its addition would benefit existing habitats or designated sites through connectivity or buffering.
- 6.9.3. Inter-project effects are assessed and presented in **Chapter 15: Cumulative Effects**.

6.10. Difficulties and uncertainties

- 6.10.1. The information provided in this PEIR is preliminary and is based on the information available at the time of writing. The final assessment of likely significant effects will be reported in the ES.
- 6.10.2. The design of the Proposed Development is still evolving. Therefore, there are uncertainties about whether further surveys are required at this stage, particularly in relation to the location of the internal access tracks to inform the assessment of effect on these specific hedgerows and bats which may use them.
- 6.10.3. There have been no significant limitations with ecology surveys undertaken to date and the baseline condition surveys are considered robust.

- 6.10.4. The baseline surveys could be valid for up to three years if there have been no significant changes to habitats on the Site, although this may depend on species. An ecologist would need to review, undertake a site visit and potentially update desk study information in order to review the validity of the reports²⁹.

6.11. Further work to inform the ES

- 6.11.1. Hedgerow surveys (to assess ecological importance) of the proposed cabling routes were carried out in August 2023. Hedgerow surveys of the Grid Connection Corridor will be carried out in 2024. The results will inform the ES.
- 6.11.2. Bat surveys were completed in September 2023 for the northern fields at north-west edge and land near Brauncewell in Springwell West. The bat report will be updated with the survey data for these areas once the data have been analysed. Further bat surveys may be required once the design has progressed e.g., surveys of potential tree roosts or targeted bat activity surveys of hedgerows which may require removal for internal access tracks.
- 6.11.3. Wintering bird surveys will be carried out between November 2023 and February 2024.
- 6.11.4. Notable arable (non-crop) plant surveys will be carried out in mid-May/June 2024 and possibly also in August/September 2024 if required (depending on crop rotation).
- 6.11.5. Water vole and otter surveys may be required once the design has progressed, and it is known if any bridges are to be installed across watercourses. Water vole surveys can be undertaken between mid-April and September. Two survey visits should be undertaken: one from mid-April to June and one from July to September. Otter surveys can be undertaken throughout the year.
- 6.11.6. Further consultation with relevant stakeholders including North Kesteven District Council, Lincolnshire County Council, Natural England and Lincolnshire Wildlife Trust is proposed to be undertaken.
- 6.11.7. Once all baseline data has been gathered and design details are confirmed, then the potential effects of the Proposed Development can be reviewed and fully assessed within the ES. Appropriate avoidance or mitigation measures will be documented within and secured by the Outline Construction Environmental Management Plan and the Outline Landscape and Ecological Management Plan, detailing the management of landscape and ecological features.

²⁹ CIEEM (2019) Advice Note on the Life Span of Ecological reports and Surveys. April 2019. Chartered Institute of Ecology and Environmental Management. Hampshire. [Advice-Note.pdf \(cieem.net\)](#)



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