

Flaxlands Solar Farm

Ecological Impact Assessment (EclA)

Ampyr Solar Europe

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Prepared for:

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Prepared by:

AECOM Limited

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Acronyms and Definitions

Acronym	Definition
ACO	Artificial Cover Object
BCT	Bat Conservation Trust
BESS	Battery Energy Storage System
BNG	Biodiversity Net Gain
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CWS	County Wildlife Site
DLL	District Level Licence
EclA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
EMEP	Ecology Mitigation and Enhancement Plan
EPSML	European Protected Species Mitigation Licence
GLTA	Ground Level Tree Assessment
HoPI	Habitat of Principal Importance
HSI	Habitat Suitability Index
INNPS	Invasive Non-Native Plant Species
LEMP	Landscape and Ecology Management Plan
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAGIC	The Multi-Agency Geographic Information for the Countryside
MV	Medium Voltage
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
NVC	National Vegetation Classification
PEA	Preliminary Ecological Appraisal
PRA	Preliminary Roost Appraisal
PWMS	Precautionary Working Method Statement
SAC	Special area of Conservation
SoPI	Species of Principal Importance
SSSI	Site of Special Scientific Interest
WSBRC	Wiltshire and Swindon Biological Records Centre

1. Introduction

AECOM have been instructed by Ampyr Solar Europe ('Ampyr') to carry out an Ecological Impact Assessment (EcIA) to support the proposed installation of a solar photovoltaic (PV) array and Battery Energy Storage System (BESS), hereafter referred to as the 'Proposed Development'. This will be located within land north of Royal Wootton Bassett, Wiltshire. The boundary of the Proposed Development has altered as the design has progressed, and the area subject to assessment for ecological impacts at the onset of the project in May 2024 is hereafter referred to as the 'Ecological Assessment Boundary'. The area of the Proposed Development is hereafter referred to as the 'Development Area' and will primarily be occupied by solar panels and associated infrastructure upon completion of the construction phase. Additional areas have been incorporated for the purposes of Biodiversity Net Gain (BNG), which is combined with the Development Area to form the 'Site'. These boundaries are illustrated on Figure 1 (Appendix A).

This EcIA has been commissioned to identify, quantify and evaluate the potential effects of the Proposed Development on ecological features present within the Ecological Assessment Boundary and associated Zone of Influence (ZoI). Several ecological surveys have been conducted to inform this EcIA, including a Preliminary Ecological Appraisal (PEA)¹ and surveys for protected plants, reptiles, bats, otter *Lutra lutra* and water vole *Arvicola amphibius*. Full details regarding these surveys, including the results and subsequent recommendations for avoidance and mitigation are provided in Appendix B.

1.1 Site Location and Description

The Site is approximately 1.7 km north of the town of Royal Wootton Bassett in Wiltshire, and approximately 150 m north of the M4. The central grid reference of the Development Area is SU 06910 85466. The Site is comprised of two land parcels, joined by Flaxlands Lane which runs south-west to north-east. Both parcels of land consist of agricultural fields bounded by hedgerows and broadleaved trees. Existing farm tracks and wet ditches, associated with field drainage systems, are present in several locations and standing bodies of water are also present throughout the Site.

The Site is largely surrounded by agricultural grassland fields which are common in the wider landscape. The urban developed area of Royal Wootton Bassett lies to the south and is separated from the Site by the M4 which runs east to west, approximately 150 m south of the Site.

1.2 Proposed Development

The Proposed Development includes the installation of a 49.9 MW solar array and associated BESS. Solar PV arrays will be situated in both land parcels, and the BESS located in the north of the Development Area. The concept design for this EcIA was provided to AECOM in March 2025 and is provided in Appendix C. A detailed description of all works required to facilitate the Proposed Development is provided in Section 5.

It is understood that the Proposed Development will require clearance of vegetation, creation of access tracks and widening of gaps within hedgerows to accommodate vehicles and machinery access to working areas. No permanent gaps greater than 20 m will be created within hedgerows, and existing gaps will be utilised for access as far as possible. Two forms of tracks will be constructed, access tracks will be formed of composite material and be utilised by large vehicles delivering heavy/bulky materials, and secondary perimeter tracks will be formed of compressed earth and will be utilised by smaller vehicles only. The access tracks will not require artificial lighting and construction works will take place during the day time only (working times 08:00-18:00). The tracks will remain in place for the construction and operation of the Proposed Development and it is assumed that these will also be utilised for the decommissioning of the Proposed Development. The tracks are therefore considered a permanent feature of the Proposed Development. Six temporary passing places along Flaxlands Lane are proposed in order to allow two articulated vehicles to pass each other during construction. These are understood to likely consist of protective matting (Trak Mats, or similar) pinned into position.

A construction compound will be located within the north of the Development Area. It is assumed that all vegetation will be cleared under the footprint of the compound, though this will not require the removal of any hedgerows or trees. No artificial lighting will be required at the construction compound. This compound will be present for the

¹ AECOM (2024) Flaxlands Solar Farm Preliminary Ecological Appraisal Report. Provided in Section B.1 (Appendix B).

duration of construction only, appropriate grass species will be seeded in this area prior to the construction of solar panels which will be present for the lifetime of the Proposed Development.

Areas to be considered for ecological enhancement and BNG have been set aside from the outset of the project, though the exact location of this has altered during the progression of the project. Efforts to achieve BNG will be focussed within the south/west of the Site, in the area labelled 'BNG area' on Figure 1 (Appendix A). The Applicant has committed to achieve a 10% gain in biodiversity units as required by the Environment Act 2021.

1.2.1 Export Cable

The point of connection and anticipated cable route is not yet confirmed. It is understood that construction of the export cable will be subject to a different consents process outside of the planning application associated with the Proposed Development. As such, the area to be impacted by the export cable has not been subject to ecological assessment. The assessment of impact and effect of construction, operation and decommissioning of the export cable is not included within this report.

1.3 Zone of Influence

The Zol of a project refers to the area where ecological features could be impacted by biophysical changes caused by the Proposed Development and its associated activities. This area often extends beyond the project site itself, particularly in cases where ecological or hydrological connections exist beyond the site boundaries. The Zol can vary across ecological features based on their sensitivity to environmental changes. For example, the great crested newt *Triturus cristatus* Zol includes terrestrial habitat within 250 m of breeding ponds and therefore should be considered at that scale. However, bats are highly mobile and should be considered at a landscape scale. For example, the core foraging habitat of greater horseshoe bat *Rhinolophus ferrumequinum* is considered to be 3 km, and they may also make seasonal movement of 30 km between summer and winter roosts. The Zol considered for the purpose of this assessment is summarised in Table 1.1; this has been identified utilising professional judgement, given the context of the Proposed Development and potential impacts associated with the required works.

Table 1.1 Summary of Zol Considered

Ecological Receptor	Proposed Development Zol
Designated sites	2 km
Ancient woodland	50 m
Aquatic habitats	Hydrological connections to 100 m from the Site boundary
Plants	The Development Area
Terrestrial invertebrates	The Development Area
Aquatic invertebrates	Hydrological connections to 100 m from the Site boundary
Common reptiles	The Development Area
Amphibians	250 m
Breeding birds	200 m
Foraging and commuting bats	6 km ²
Roosting bats	30 m
Hazel dormouse	Suitable habitat adjacent to the Site boundary, approximately 500 m
Otter	Hydrological connections to 100 m from the Site boundary
Water vole	Hydrological connections to 100 m from the Site boundary
Badger	30 m
INNPS	10 m

² Maximum core sustenance zone identified within best practice guidelines: Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

1.4 Objectives

This EclA has been undertaken in accordance with best practice guidelines produced by the Chartered Institute of Ecology and Environmental Management (CIEEM)³. The objectives are to:

- identify and categorise all habitats present within the Ecological Assessment Boundary and any areas immediately adjacent where there may be potential for direct or indirect effects;
- evaluate the importance of ecological features identified during surveys undertaken by AECOM in 2024 (Appendix B);
- characterise the potential impacts, considering their extent, magnitude, duration, location and frequency;
- assess the impact of the Proposed Development on the ecological features, detailing incorporated measures for avoidance and mitigation, identify any residual significant effects and any compensation required; and,
- consider the cumulative impact of the Proposed Development in the context of separate developments in the local area and wider landscape.

³ CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine Version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

2. Wildlife Legislation and Planning Policy

2.1 Wildlife Legislation

The following legislation has been considered when conducting this EclA:

- Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Natural Environment and Rural Communities (NERC) Act 2006;
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- Protection of Badgers Act 1992;
- The Hedgerow Regulations 1997;
- The Management of Hedgerows (England) Regulations 2024; and,
- Environment Act 2021.

This legislation is summarised in Appendix D.

2.2 National Planning Policy

2.2.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was first published in March 2012 and has been updated several times since, most recently in December 2024⁴. This states the commitment of the UK Government to minimising impacts on biodiversity and providing net gains where possible to halt the overall decline in biodiversity. Obligations of local authorities and the UK government are laid out with regard to statutory designated sites and protected species, confirming that these should be a material consideration in planning decisions. Chapter 15 of the NPPF 'Conserving and enhancing the natural environment' sets out the requirements for biodiversity considerations in planning decisions, further detail regarding this is provided in Appendix D though the full document should be consulted for the full and original text.

2.3 Local Planning Policy

Relevant local planning policies in Wiltshire are detailed in the Wiltshire Core Strategy⁵, specifically Policies 50, 52 and 57 which relate to biodiversity, green infrastructure and design. A summary of the relevant planning policies is provided in Appendix D. This has been considered when assessing potential ecological constraints and opportunities and when assessing requirements for design options and ecological mitigation.

2.3.1 The Wiltshire Solar PV Farm Advice Note⁶

An advice note, published by Wiltshire Council, is in place to identify requirements to support planning applications for solar farms. This includes recommendations for ecology surveys, landscape and ecological mitigation and enhancement, construction management plans and long term monitoring up to 40 years.

2.3.2 Biodiversity Action Plans

The UK Biodiversity Action Plan was launched in 1994 with the main aim "*To conserve and enhance biological diversity within the UK, and to contribute to the conservation of global biodiversity through all appropriate mechanisms*". This has since been superseded by the UK Biodiversity Framework and NERC Act though provides a useful resource to identify species and habitats of value. The plan comprises a series of 'priority' habitats and species, determined by the fact that they are either globally threatened or are rapidly declining in the UK. The action plans outline measures required to conserve these priority habitats and species. Terminology has since progressed

⁴ Ministry of Housing, Communities & Local Government (2023) National Planning Policy Framework. Available online at https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF_December_2023.pdf

⁵ Wiltshire Council (2015) Wiltshire Core Strategy. Available online at <https://www.wiltshire.gov.uk/media/372/Wiltshire-Core-Strategy-adopted-2015/pdf/Wcs.pdf?m=1574343137353>

⁶ Wiltshire Council (2021) Solar PV Farms and Ecology: Developer Advice Note. Available online at <https://www.wiltshire.gov.uk/media/6812/Solar-PV-Farm-Ecology-Advice-Note-July-2021/pdf/SolarPVFarmEcologyAdviceNoteJuly2021.pdf?m=1721293847483> [Accessed 20/12/2024].

since the implementation of Biodiversity Action Plans, and 'priority' species and habitats are now referred to as Habitats of Principal Importance (HoPIs) and Species of Principal Importance (SoPIs).

The national strategy for biodiversity is delivered at local level via Local Biodiversity Action Plans. The Development Area is covered by the Wiltshire Biodiversity Action Plan. As well as taking account of national priorities detailed local action plans also take account of knowledge of local experts to devise what habitats and species are relevant at a local level.

3. Methodology

3.1 Scope of Assessment and Consultation

A screening letter was sent to Wiltshire Council in July 2024 to establish the required approach and methods to be followed to assess the impact of the Proposed Development. The letter⁷ identifies the findings of the PEA¹ and the need for further surveys to assess the impact of the Proposed Development on the identified ecological receptors.

Pre-application advice⁸ was provided by Wiltshire Council in December 2024, the ecology section of this concluded that *'while the proposed development has the potential to generate some localised biodiversity effects, it is considered that these are not likely to be significant harmful effects'*. The conclusion identifies the need for the development to comply with the NPPF and Wiltshire Core Policy 50, demonstrate no net loss of functional habitat for biodiversity and deliver a minimum of 10 % BNG. Specific comments relating to the EclA and how they have been addressed is provided in Table 3.1.

Table 3.1 Ecology and Biodiversity Scoping

Proposed Matter	Summary of Wiltshire Council Response	How the Matter has been Addressed
Designated sites	The pre-application advice identifies that the Development Area is within the outer 9.4 km recreational zone of influence around the North Meadow and Clattinger Farm Special Area of Conservation (SAC). Further information regarding the SAC states that the proposals set out are unlikely to increase recreational pressure on the SAC and it is unlikely that the proposals would have a significant impact on the SAC.	No action – the Proposed Development is considered unlikely to result in an increase in recreational pressure to the SAC due to its distance from the Development Area and the nature of the Proposed Development.
Designated sites	The Site is within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ). Consultation with Natural England would be required for a development of this type in this zone due to the need for underground cables.	Natural England were consulted via email on 16 January 2025. The IRZ for SSSIs was highlighted as this related to impacts associated with the digging for underground cables, it was confirmed that the nearest SSSI to the Site is Restrop Farm and Brockhurst Wood SSSI, approximately 550 m north of the Site. Natural England response was received in March 2025 which confirmed that no likely significant effects are anticipated and no further ecological input was required in this regard.
Designated sites	The pre-application advice confirms that the Flaxlands Manor County Wildlife Site (CWS) is within the north and south of the Development Area. The document states that the survey effort must be in line with the requirements of the Wiltshire Solar PV Farm advice note and other guidance documents. The proposal must also meet NPPF and Wiltshire Core Policy 50 and the habitats must be protected. If the habitats cannot be protected, suitable mitigation or compensation must be provided.	The Wiltshire Solar PV Farm advice note ⁶ has been consulted and further survey of the habitats within the CWS have been completed. Where habitats designated within the CWS are present within the Site, impacts upon these have been avoided as far as possible. Mitigation and compensation measures have been incorporated to the design of the Proposed Development to account for unavoidable losses. An assessment of the impact on the CWS is provided in Section 6.1.
Ancient woodland	The pre-application advice confirms that a buffer of 15 m would be required around all ancient woodland designations adjacent to the Site in which no works should take place.	A buffer of 30 m has been applied to ancient woodland designations in which no work will take place.
Grasslands	The screening opinion states that the grasslands identified during the PEA ¹ may be considered HoPI and sufficient survey to confirm their presence will be required.	The grasslands have been subject to further survey, including National Vegetation Classification to confirm their condition and extent within the Development Area, as outlined in Table 3.2.

Wiltshire Council were emailed on 10 September 2024 regarding the presence of HoPI grasslands within the Site. It was explained that solar PV arrays would be constructed within areas of grasslands meeting the definition of HoPI and the CWS. The implementation of a habitat management plan was proposed to maintain the grasslands as HoPI beneath and around solar PV panels and to monitor the habitats to ensure their retention during operation. Comment was requested, including the identification of further requirements for ecological assessment and

⁷ AECOM (2024) Letter to Wiltshire Council. Flaxlands Solar Farm, Wiltshire - Request for an EIA Screening Opinion under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

⁸ Wiltshire Council Development Services (2024) Letter to AECOM. Pre-application enquiry response.

consideration, though a response was not received. In March 2025, the design of the Proposed Development was subsequently altered to avoid the construction of solar panels on grasslands identified as HoPI thus avoiding all direct impacts on the habitat.

3.2 Establishing the Baseline

A combination of desk and field-based studies were undertaken by AECOM between May 2024 and December 2024 to establish the current ecological baseline within the Ecological Assessment Boundary and land immediately adjacent. The methodology followed at each stage is summarised below, refer to the survey reports provided in Appendix B for further details.

Table 3.2 Summary of Desk and Field-Based Survey Methodologies

Survey	Date Conducted	Methodology Followed
Designated sites	May 2024	The Multi-Agency Geographic Information for the Countryside (MAGIC) website ⁹ was reviewed to identify designated sites for nature conservation importance (statutory sites) within 2 km of the Ecological Assessment Boundary, this was extended to 10 km for sites that cite bats as the main reason for their designation. Wiltshire and Swindon Biological Records Centre (WSBRC) was contacted to obtain information regarding non-statutory designated sites within 2 km of the Ecological Assessment Boundary to inform the PEA ¹ .
Preliminary Ecological Assessment and habitat mapping	15-17 May 2024	A field survey was undertaken to inform the PEA ¹ which included a walkover survey of all land within the Ecological Assessment Boundary to record and map all habitat types within the Ecological Assessment Boundary and provide an assessment of suitability for protected species. Invasive Non-Native Plant Species (INNPS) were noted. Habitats were mapped following the UK Habitat Classification methodology ¹⁰ to Level 4 where possible. Habitats were assessed for their condition in accordance with the Statutory Biodiversity Metric Condition Assessments ¹¹ .
Arboriculture assessment	22 October 2024 11 March 2025	Results of the arboriculture survey carried out by AECOM in July and August 2024 were consulted to confirm the presence and location of veteran trees within the Ecological Assessment Boundary.
River habitats	25 October 2024	A Modular River Physical (MoPRh) survey was undertaken at a single watercourse in the north of the Ecological Assessment Area in October 2024 by an accredited surveyor.
National Vegetation Classification (NVC) and protected plants ¹²	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary.
	9-10 July 2024	An NVC survey was carried out on fields with potential to support HoPI, as identified by the field survey undertaken during the PEA ¹ and associated desk-based assessment. Grassland habitats were classified using the NVC system ¹³ in accordance with NVC survey guidelines ¹⁴ .
Terrestrial invertebrates, including marsh fritillary <i>Euphydryas aurinia</i>	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary.
	15-17 May 2024	An assessment of habitat suitability for invertebrates was undertaken during the PEA ¹ .
	9-10 July 2024	During the NVC survey ¹² , a targeted search for the food plants of marsh fritillary butterfly was undertaken. This included devil's-bit scabious <i>Succisa pratensis</i> , field scabious <i>Knautia arvensis</i> and small scabious <i>Scabiosa columbaria</i> .
Aquatic invertebrates	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary.

⁹ Defra (2024) <https://magic.defra.gov.uk/MagicMap.aspx>

¹⁰ UKHabs Ltd (2023) The UK Habitat Classification Version 2.0.

¹¹ Defra (2024) Statutory Biodiversity Metric condition assessments. Available online at https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides?fbclid=IwAR3t_S8djN97HZsb8H9ISdfVqDiUZJcSR7pp4Kz5zHRFK5KWolJPBImRcw

¹² AECOM (2024) Flaxlands Solar Farm National Vegetation Classification Survey Report. Provided in Section B.2 (Appendix B)

¹³ Rodwell, J.S. (Ed) et al. (1991-2000) British Plant Communities (5 volumes). Cambridge, Cambridge University Press.

¹⁴ Rodwell, J.S. (2006) NVC Users' Handbook. ISBN 978 1 86107 574 1.

Survey	Date Conducted	Methodology Followed
		No targeted survey was conducted due to the agreed no-works buffers applied to aquatic habitats.
Amphibians, including great crested newt ¹⁵	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary. Aerial imagery and OS mapping was consulted to identify habitats within the Ecological Assessment Boundary and surrounding landscape. This included a search for waterbodies within 250 m of the Ecological Assessment Boundary to identify suitable habitats for amphibians. The MAGIC website ⁹ was also consulted to identify the presence of European Protected Species Mitigation Licences (EPSMLs) in place for great crested newt within 2 km of the Ecological Assessment Boundary.
	15-17 May 2024	An assessment of habitat suitability for amphibians, including great crested newt, was undertaken during the PEA ¹ . This included an appraisal of waterbodies and terrestrial habitat within the Ecological Assessment Boundary paying due regard to English Nature ¹⁶ and Froglife ¹⁷ guidance.
	17 June 2024	Where accessible, waterbodies within 250 m of the Ecological Assessment Boundary were assigned a Habitat Suitability Index (HSI) for great crested newt in accordance with standard practice guidance ¹⁸ and subsequent advice ¹⁹ . All suitable waterbodies suitable for great crested newt within the Ecological Assessment Boundary were subject to water sample collection for eDNA analysis for the presence of great crested newt following standard advice ²⁰ .
Common reptiles ²¹	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary.
	15-17 May 2024	An assessment of habitat suitability for common reptiles was undertaken during the PEA ¹ . This included a search for suitable habitat paying due regard to Froglife guidance ²² .
	August-September 2024	Artificial Cover Object (ACO) surveys were undertaken in August and September 2024 paying due regard to best practice guidance ^{23, 24, 25} with seven visits conducted to identify the presence of common reptiles.
Breeding birds ²⁶	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary.
	15-17 May 2024	An assessment of habitat suitability for breeding, wintering or migrating birds was undertaken during the PEA ¹ . Structures within and adjacent to the Ecological Assessment Boundary were appraised for their suitability to support nesting barn owl <i>Tyto alba</i> .
	April-August 2024	Territory mapping for breeding birds was undertaken paying due regard to standard guidance ^{27, 28} to identify territories of birds identified during six visits spread between 22 April 2024 and 07

¹⁵ AECOM (2024) Flaxlands Solar Farm Great Crested Newt Habitat Suitability Index Assessment and eDNA Survey Report. Provided in Section B.3 (Appendix B)

¹⁶ English Nature (2001) *The Great Crested Newt Mitigation Guidelines*.

¹⁷ Froglife (2001) *The Great Crested Newt Conservation Handbook*.

¹⁸ Oldham, R. S., Keeble, J., Swan, M. J. S., & Jeffcote, M. (2000)

¹⁹ Amphibian And Reptile Groups of the United Kingdom (2010) ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index.

²⁰ Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P., & Dunn, F. (2014) Analytical and methodological development for improved surveillance of the great crested newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environment DNA. Freshwater Habitats Trust, Oxford.

²¹ AECOM (2024) Flaxlands Solar Farm Reptile Survey Report. Provided in Section B.4 (Appendix B)

²² Froglife (1999) *Reptile Survey: An Introduction to planning, conducting and interpreting surveys for snake and lizard conservation*.

²³ Sewell, D., Griffiths, R.A., Beebee, R.J.C., Foster, J. & Wilkinson, J.W. (2013) Survey protocols for the British herpetofauna.

²⁴ Froglife (1999) Froglife Advice Sheet 10: reptile survey – an introduction to planning, conducting and interpreting surveys for snakes and lizard conservation. Froglife, Halesworth.

²⁵ Gent, T. & Gibson, S. (1998) Herpetofauna Workers' Manual. JNCC, Peterborough.

²⁶ AECOM (2024) Flaxlands Solar Farm Breeding Bird Survey Report. Provided in Section B.5 (Appendix B)

²⁷ Gilbert, G., Gibbons, D.W., Evans, J (1998) Bird Monitoring Methods: A manual of techniques for key UK species. RSPB, Bedfordshire.

²⁸ Bibby, C.J. Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000) Bird Census Techniques: 2nd edition. Academic Press, London.

Survey	Date Conducted	Methodology Followed
		August 2024. An assessment of the importance of the Ecological Assessment Area was conducted paying due regard to criteria ²⁹ and comparison to national population estimates ³⁰ .
Bats	May 2024	WSBRC was contacted to obtain records of bats within 10 km of the Ecological Assessment Boundary. The MAGIC website⁹ was reviewed for statutory sites that cite bats as a reason for designation within 10 km of the Ecological Assessment Boundary. Aerial imagery and OS mapping was consulted to identify habitats with suitability for bats within the Ecological Assessment Boundary and surrounding landscape. This included a search for woodland, watercourses, waterbodies and railways in the landscape surrounding the Ecological Assessment Boundary. A search was conducted to identify features which may pose a constraint to bat movement throughout the surrounding landscape, including significant urban infrastructure. The MAGIC website⁹ was consulted to identify the presence of EPSMLs in place for bats within 2 km of the Ecological Assessment Boundary.
Roosting bats ³¹	27-28 June 2024	A Preliminary Roost Appraisal (PRA) of buildings and structures within and adjacent to the Ecological Assessment Boundary was undertaken paying due regard to the methodology set out in the Bat Conservation Trust (BCT) Guidelines³². Where possible, buildings were accessed for an internal inspection to identify field signs indicative of the presence of roosting bats. A Ground Level Tree Assessment (GLTA) was conducted to identify trees within and adjacent to the Ecological Assessment Boundary with suitability for roosting bats. Along Flaxlands Lane, one tree (T78) with Potential Roost Features will be felled to accommodate the Proposed Development. Further assessment is required to determine if bats are present. For this EclA a worst-case scenario that tree might support a low-conservation roost (equivalent to PRF-I) has been adopted in the absence of a survey based on professional judgment of the location and context of the tree and the suitability of the potential roost features. The assessment (comprising inspection and/or emergence survey) will be completed post determination secured in the Framework LEMP, and any mitigation would be secured in the detailed LEMP which will be subject to approval by the Local Planning Authority (LPA).
	12 August 2024	Tree 3 was subject to a single emergence survey paying due regard to best practice guidelines ³² to determine the presence or likely absence of roosting bats following identification of features suitable for roosting bats.
	13 & 27 August, 10 September 2024	Tree 62 was subject to three dusk emergence surveys paying due regard to best practice guidelines ³² to determine the presence or likely absence of roosting bats following identification of features suitable for roosting bats.
	15-16 August 2024	Aerial tree inspection surveys with endoscopic inspections were completed on trees which were concluded to have features suitable for roosting bats and were within 30 m of works required to facilitate the Proposed Development to determine the presence/likely absence of bat roosts with potential to be impacted by the Proposed Development. Trees subject to survey: Tree 1, Tree 83, Tree 84, Tree 88, Tree 20, Tree 21, Tree 22, Tree 25, Tree 26, Tree 27, Tree 53, Tree 54, Tree 60, Tree 61.
	29 August and 11 September	Tree 60 was subject to two additional endoscopic inspections to determine the presence or likely absence of roosting bats paying due regard to best practice guidelines ³² .
	15-17 May 2024	An assessment of habitat suitability for foraging and commuting bats was undertaken during the PEA ¹ .

²⁹ Fuller, R.J. (1980) A Method for Assessing the Ornithological Interest of Sites for Conservation. Biological Conservation 17, 229-239.

³⁰ Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A., Noble, D. (2020) Population estimates of birds in Great Britain and the United Kingdom. British Birds 113: 69-104.

³¹ AECOM (2024) Flaxlands Solar Farm Roosting Bats Report. Provided in Section B.6 (Appendix B)

³² Bat Conservation Trust (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines

Survey	Date Conducted	Methodology Followed
Foraging and commuting bats ³³	May-October 2024	The Ecological Assessment Boundary was concluded to be of Moderate³² suitability for foraging and commuting bats, therefore it was subject to one Night-time Bat Walkover (NBW) survey each season (spring, summer and autumn). Two transect routes were included to provide coverage of land within the Ecological Assessment Boundary. In addition, static bat detectors were deployed for five consecutive nights each month May-October, inclusive (see Limitations section of the report³³). Six static bat detectors were deployed in May to provide coverage of the Ecological Assessment Boundary. In accordance with best practice guidelines³², survey effort was increased to the deployment of nine static bat detectors following the identification of lesser horseshoe bat during the first deployment.
Bats ³³	October 2024	Following the completion of the surveys for roosting, foraging and commuting bats, the Bat Mitigation Guidelines³⁴ were consulted to determine the importance of the bat assemblage identified within the Ecological Assessment Boundary.
Hazel dormouse <i>Muscardinus avellanarius</i>	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary. Aerial imagery and OS mapping was consulted to identify habitats within the Ecological Assessment Boundary and surrounding landscape. This included a search for woodland and hedgerow features which may provide suitable habitat for hazel dormouse and ecological connectivity to the Ecological Assessment Boundary. The MAGIC website⁹ was also consulted to identify the presence of EPSMLs in place for hazel dormouse within 2 km of the Ecological Assessment Boundary.
	15-17 May 2024	The suitability of habitat within and adjacent to the Ecological Assessment Boundary for hazel dormouse was appraised during the PEA¹. This included the identification of hedgerows with suitability for commuting and sheltering as well as the recording of plant species known to provide foraging resource for hazel dormouse. No presence / absence survey, in the form of nest box/tube or footprint tunnel survey, was undertaken for hazel dormouse due to a subsequent change in the Ecological Assessment Boundary which resulted in no impact pathways.
Otter ³⁵	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary. Aerial imagery and OS mapping was consulted to identify habitats within the Ecological Assessment Boundary and surrounding landscape. This included a search for watercourses and waterbodies within 500 m of the Ecological Assessment Boundary to identify suitable habitat for otter.
	15-17 May 2024	An assessment of habitat suitability for otter was undertaken during the PEA¹. This included an appraisal of habitat within the Ecological Assessment Boundary to support otter paying due regard to standard accepted guidelines³⁶.
	03 July 2024 24 September 2024	Surveys for otter were conducted on all watercourses and waterbodies within the Ecological Assessment Boundary paying due regard to standard accepted guidelines³⁶. Two visits were undertaken to identify field signs indicative of the presence of otter.
Water vole ³⁵	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary. Aerial imagery and OS mapping was consulted to identify habitats within the Ecological Assessment Boundary and surrounding landscape. This included a search for watercourses and waterbodies within 500 m of the Ecological Assessment Boundary to identify suitable habitat for water vole.
	15-17 May 2024	An assessment of habitat suitability for water vole was undertaken during the PEA¹. This included an appraisal of watercourses and waterbodies within the Ecological Assessment Boundary to support

³³ AECOM (2024) Flaxlands Solar Farm Bat Activity Report. Provided in Section B.7 (Appendix B)

³⁴ Reason, P.F. & Wray, S. (2023) UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1. Chartered Institute of Ecology and Environmental Management, Ampfield.

³⁵ AECOM (2024) Flaxlands Solar Farm Otter and Water Vole Survey Report. Provided in Section B.8 (Appendix B)

³⁶ Chanin, P. (2003) *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough.

Survey	Date Conducted	Methodology Followed
		water vole paying due regard to guidance provided by the Mammal Society ³⁷ .
	03 July 2024 24 September 2024	Surveys for water vole were conducted on all watercourses and waterbodies within the Ecological Assessment Boundary paying due regard to standard accepted guidelines ³⁷ . Two visits were undertaken to identify field signs indicative of the presence of water vole.
Badger <i>Meles meles</i>	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary. Aerial imagery and OS mapping was consulted to identify habitats within the Ecological Assessment Boundary and surrounding landscape. This included a search for woodland and hedgerow features which may provide suitable habitat for badger sett creation and connecting habitat to the Ecological Assessment Boundary.
	15-17 May 2024	An assessment of habitat suitability for badger and recording of field signs indicative of their presence was undertaken during the PEA ¹ . No targeted surveys for badger were conducted. However, incidental recordings have been made during subsequent visits to the Ecological Assessment Boundary while undertaking other ecological surveys.
Invasive Non-Native Plant Species (INNPS)	May 2024	WSBRC was contacted to obtain records of legally protected and notable species within 2 km of the Ecological Assessment Boundary.
	15-17 May 2024	A walkover was conducted during the PEA ¹ in which all visible signs of INNPS were recorded. No INNPS were recorded during the PEA therefore, no further survey has been undertaken.

3.3 Evaluating the Importance of Ecological Features

The importance of ecological features (designated sites, habitats, species assemblages and populations of species) is evaluated as part of this EclA. The importance of a feature is assessed with reference to their conservation status (rarity and threat status), conservation value (the need to conserve representative areas of habitats and genetic diversity of species) and legal status. A review of the legislation, policy and sensitivity of ecological features has been undertaken and the importance of the ecological features was determined in a geographical context according to the following categorisation:

- International;
- National (England);
- Regional (south-west England);
- County (Wiltshire);
- Local (district, borough or parish);
- Site; and,
- Less than Site.

A number of characteristics are considered to contribute to the importance of an ecological feature, including for example:

- representativeness, (naturalness) typical assemblages characteristic of natural / semi-natural habitat;
- rarity and distinctiveness, unique species or habitat assemblage or distinct geographical population or habitat. For example, endemic species or irreplaceable habitat;
- patterns and trends, change in conservation trends, such as declining habitats or species abundance or range, often caused by anthropogenic impacts;
- ecological context connectivity, habitats and populations of species that are functionally connected;
- diversity, areas with rich assemblage of species and genetic diversity;

³⁷ Dean, M., Strachan, R., Gow, D., Andrews, R. (2016) *The Water Vole Mitigation Handbook (The Mammal Society Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

- size and shape, intactness viable habitats or populations of rare or threatened species; and,
- critical features, habitat for important life stages such as, migration, feeding, roosting or breeding.

The identification and assessment of impacts on ecological features takes into account embedded mitigation. Where detailed assessment of specific receptors is considered appropriate, the potential impacts on these receptors are described and characterised in accordance with CIEEM guidance³.

3.4 Impact Assessment and Identification of Significant Effects

CIEEM guidance³ describes a significant effect as *'an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features'... or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local. A significant effect is an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. In broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).'*

For the purpose of this EclA, impacts are characterised by their significance, taking into consideration the following aspects, where appropriate:

- Positive or negative: in accordance with nature conservation objectives and policy, positive change would improve the quality of the environment e.g. increased biodiversity or expanding or improving habitat. Negative change would reduce the quality of the environment e.g. loss of habitat, habitat fragmentation or pollution.
- Direct and indirect: a direct impact is directly attributable to a defined action such as the physical loss of a habitat or immediate mortality of an individual. Indirect impacts are those attributable to an action, but which affect ecological resources through intermediary ecosystem, process or receptor. An example of an indirect effect would be the loss of an important prey species for a predator.
- Extent: spatial/geographical area over which the impact or associated effect may occur.
- Magnitude: the level of severity of the impact varying as a result of the relative size, amount, intensity or volume. This should be determined on a quantitative basis where possible.
- Duration: the time over which an impact is expected to last prior to recovery or replacement of the resource or feature. This should be assessed in ecological terms, relevant to the life cycle of the species or feature. Impacts and effects may be described as short, medium or long-term and permanent or temporary.
- Timing and frequency: the number of times an activity occurs will influence the resulting effect, e.g. regular or occasional disturbance to wading birds. The timing of an activity or change may only cause an effect if it coincides with a seasonally critical life stage.
- Reversibility: consideration of whether an impact can be recovered from within a reasonable time or is unlikely to be reversed through action. A temporary effect is one that can recover naturally or be fixed with mitigation.

Effects are described with respect to the geographic scale at which they may be regarded as significant. The significance of the effect on ecological receptors is determined by correlating the magnitude of the impact and the sensitivity of the receptor. In terms of protected species and habitats, it should be noted that irrespective of the significance of the ecological effect, mitigation would be required to ensure that the law is not contravened.

For the purposes of this assessment, any effects with a significance level of minor or less have been concluded to be not significant. The determination of the significance of effects will be made based on the predicted effect on the structure and function, or conservation status, of relevant ecological features, as follows:

- Not significant - no effect on structure and function, or conservation status.
- Significant - structure and function, or conservation status is affected.

Significant effects (both adverse and beneficial) will be qualified with reference to the geographic scale at which the effect is significant (e.g., an adverse effect significant at a national level). The method employed for this assessment is presented in Table 3.3.

Table 3.3 Effect Classification

Effect Classification	Magnitude	Justification
Significant (beneficial)	Major beneficial	Beneficial effect on structure/function or conservation status at regional, national or international level.
	Moderate beneficial	Beneficial effect on structure/function or conservation status at District or County level.
Not significant	Minor beneficial	Beneficial effect on structure/function or conservation status at a Local level.
	Negligible	No effect on structure/function or conservation status.
	Minor adverse	Adverse effect on structure/function or conservation status at a Local level.
Significant (adverse)	Moderate adverse	Adverse effect on structure/function or conservation status at District or County level. Contravention of wildlife legislation.
	Major adverse	Adverse effect on structure/function or conservation status at Regional, National or International level. Contravention of wildlife legislation.

Any significant adverse effects should be mitigated or compensated for, whilst ecological enhancements may be recommended where appropriate to meet planning policy objectives. Following the implementation of any mitigation and compensation, as appropriate, any residual effects on ecological features will be identified.

3.5 Limitations and Assumptions

The surveys undertaken to inform the baseline assessment were subject to constraints, though given that survey methodology has been adapted to overcome these where appropriate, they are not considered to impact the conclusions of the surveys. Therefore, no survey constraints are considered to have impact upon the assessment within this EclA. For full detail regarding the limitation of each survey undertaken to establish the baseline of the Ecological Assessment Boundary, please see the relevant survey report (Appendix B).

The minimum recommended number of repeat bat activity surveys within Moderately suitable habitat is five consecutive nights per month (April to October). However, due to the timing of the project commencement, static bat detectors were not deployed in April 2024, as would usually be required to satisfy best practice guidelines for assessing a site of Moderate suitability for foraging and commuting bats³². As such, no data was obtained to identify species present within the Ecological Assessment Boundary at this time. Given the increased survey effort for the remainder of the survey season (May-October, inclusive), it is considered unlikely that species present have gone unidentified, though the lack of survey data available for April means it is not possible to provide an assessment of the use of the Ecological Assessment Boundary by bats in early spring time. This is not considered to pose a constraint to the assessment of potential impacts associated with the Proposed Development within this EclA as it is assumed that the sensitive species identified during the completed surveys are present within the Site during the whole active bat season.

A GLTA was undertaken on all trees within the Ecological Assessment Boundary, including those on the perimeter. Aerial endoscopic inspection and emergence surveys were carried out only on those trees likely to be subject to works, or those within 30 m of works likely to cause disturbance to roosting bats. Trees located at least 30 m from such works were not subject to further inspection in addition to the GLTA as potential roosts within these trees were concluded not to be impacted by the Proposed Development.

Following a change in access design in April 2024 along Flaxlands Lane, it became apparent that one tree (T78) with Potential Roost Features will be felled to accommodate the Proposed Development. Further assessment is required to determine if bats are present. For this EclA a worst-case scenario that tree might support a low-conservation roost (equivalent to PRF-I) has been adopted in the absence of a survey based on professional judgment of the location and context of the tree and the suitability of the potential roost features. The assessment (comprising inspection and/or emergence survey) would be completed post determination secured in the Framework LEMP, and any mitigation would be secured in the detailed LEMP which will be subject to approval by the council. Should a bat roost be identified a European Protected Species Licence from Natural England to destroy

or disturb a roost (fell the tree) will be required and working methods may include restricting the removal of this tree to a time of year when the bats are not roosting in the tree and compensation bat boxes. Bats are a mobile species and even if a bat survey of this tree, completed pre-determination, confirmed absence of bats, there remains a residual risk that bats could take up roosting in the tree between now and the pre-construction checks.

During the field survey undertaken to inform the PEA¹, no field signs indicative of the presence of badger were recorded and no access constraints were encountered. No targeted survey was therefore conducted to map field signs and features associated with badger. During subsequent visits to the Ecological Assessment Boundary for unrelated survey, field signs including a latrine and outlier sett were recorded. For the purpose of this EclA, it is assumed that badger may be present within the Ecological Assessment Boundary, though this is likely foraging habitat utilised infrequently.

The EclA considers potential direct and indirect impacts of the Proposed Development on habitats and species within the Ecological Assessment Boundary and Zol. BNG assessments, on the other hand, are relatively narrow quantitative assessments of direct impacts on habitats on the Site plus any known off-site habitat creation or enhancement. These key differences are important and mean that the BNG assessment does not fit appropriately in the technical assessment of an EclA. It is important to note that both types of assessment are useful and important and that the differences in their scope and methodology are reflective of their purposes. As such, reference is made to BNG where appropriate, though no values related to biodiversity units and credits, losses or gains are included in this report.

4. Baseline Ecological Conditions

This section describes the results of the surveys undertaken within the Ecological Assessment Boundary, which informs the baseline ecological conditions. For the detailed results of each survey, see the relevant report in Appendix B.

4.1 Designated Sites

Table 4.1 details the nature conservation designations identified during the desk-based study undertaken to inform the PEA¹. See Figures 1 and 2 within the PEA for the location of each designation.

Table 4.1 Baseline Ecological Conditions: Sites Designated for Nature Conservation within 2 km of the Site

Designation	Reason(s) for the Designation	Relation to the Development Area	Importance
International Statutory Designations			
None	-	-	-
National Statutory Designations			
Restrop Farm and Brockhurst Wood SSSI	Unimproved hay meadows and permanent pasture with mature hedgerows, scrub and mixed and yew woodland.	Approximately 550 m north, connected by agricultural land and associated hedgerows.	National
Jubilee Lake Local Nature Reserve (LNR)	An area of ancient woodland with flower-rich meadows.	Approximately 800 m south of the Ecological Assessment Boundary, separated by the M4.	National
Local (Non-Statutory) Designations			
Flaxlands Manor County Wildlife Site (CWS)	Neutral pasture and hay meadows.	Within the Ecological Assessment Boundary in the south and north.	County
Flaxlands Wood Local Wildlife Site (LWS)	Ancient semi-natural broadleaved woodland.	Directly adjacent to the Ecological Assessment Boundary in the west.	County
Cowleaze Copse LWS	Ancient semi-natural broadleaved woodland.	Directly adjacent to the Ecological Assessment Boundary in the north.	County
Frith Copse LWS	Ancient semi-natural broadleaved woodland.	Directly adjacent to the Ecological Assessment Boundary in the east.	County
Morris's Copse LWS	Ancient semi-natural broadleaved woodland.	Directly adjacent to the Ecological Assessment Boundary in the east.	County
Midgehall Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 200 m south of the Ecological Assessment Boundary.	County
Bridge House Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 230 m west of the Ecological Assessment Boundary.	County
Plain Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 260 m west of the Ecological Assessment Boundary.	County
Brickkiln Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 390 m north of the Ecological Assessment Boundary.	County
Folly Wood, Wootton Bassett LWS	Ancient semi-natural broadleaved woodland.	Approximately 500 m south of the Ecological Assessment Boundary.	County

Designation	Reason(s) for the Designation	Relation to the Development Area	Importance
Parley Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 650 m north of the Ecological Assessment Boundary.	County
Webbs Wood LWS	Ancient semi-natural broadleaved woodland and replanted ancient woodland.	Approximately 740 m west of the Ecological Assessment Boundary.	County
Jubilee Lake Fields LWS	Wetland, grassland, scrub and woodland in an unmanaged valley.	Approximately 780 m south of the Ecological Assessment Boundary.	County
Jubilee Lake Wood LWS	Ancient woodland associated with a small lake.	Approximately 800 m south of the Ecological Assessment Boundary.	County
Park Copse Lydiard Tregoze LWS	Ancient semi-natural broadleaved woodland.	Approximately 1 km east of the Ecological Assessment Boundary.	County
Drill Farm Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 1 km west of the Ecological Assessment Boundary.	County
Withybed, Royal Wootton Bassett LWS	Ash and oak woodland.	Approximately 1.5 km south of the Ecological Assessment Boundary.	County
The Firs Wiltshire Wildlife Trust (WWT) Reserve	Woodland.	Approximately 1.5 km west of the Ecological Assessment Boundary.	County
Echo Lodge Farm Meadows and Wood WWT Reserve	Neutral meadows with damp grassland and a small stand of ancient woodland.	Approximately 1.6 km west of the Ecological Assessment Boundary.	County
Alder Plantation LWS	Wet woodland.	Approximately 1.6 km east of the Ecological Assessment Boundary.	County
Letterage Copse LWS	Ancient semi-natural broadleaved woodland.	Approximately 1.6 km east of the Ecological Assessment Boundary.	County
South Pavenhill Farm Meadow, Purton LWS	Species-rich, unimproved neutral grassland.	Approximately 1.7 km north of the Ecological Assessment Boundary.	County
Hooker's Gate Farm Meadow LWS	Species-rich grassland.	Approximately 1.85 km south west of the Ecological Assessment Boundary, on the far side of the M4.	County
Bagbury Green Farm Meadow LWS	Damp meadow with hedges and a woodland strip.	Approximately 1.9 km north east of the Ecological Assessment Boundary.	County
Callow Hill Farm Meadow LWS	Damp meadows with a stream and species-rich grassland.	Approximately 1.9 km south west of the Ecological Assessment Boundary.	County

4.2 Habitats

The habitats recorded within the Ecological Assessment Boundary during the PEA are summarised in Table 4.2 along with an assessment of their importance.

The PEA identified the presence of HoPI lowland meadows within the Ecological Assessment Boundary, and HoPI calcareous grassland directly adjacent to the Ecological Assessment Boundary on consultation of the MAGIC website⁹. This overlapped with the Flaxlands Manor LWS which is designated for its grassland habitats, including neutral pastures and hay meadows. As such, an NVC survey was undertaken and identified the presence of MG5 *Cynosurus cristatus* – *Centaurea nigra* grassland¹² within the Ecological Assessment Boundary. This grassland is included in Table 4.2.

The location of each habitat within the Ecological Assessment Boundary is illustrated on Figure 1. For a full description of the habitats and illustrative photographs, see the PEA¹ and the NVC report¹².

Table 4.2 Baseline Ecological Conditions: Habitats within the Site Boundary

Area Habitat Features	Approximate Area (ha) within Site	Broad Description	Justification of Importance	Importance
Other neutral grassland (g3c)	39.7	Other neutral grassland occupies a large amount of the Ecological Assessment Boundary, particularly in the south. The majority does not appear to have been recently grazed by livestock and is relatively species-rich with at least nine species recorded in several locations. In some areas, this habitat includes rushes <i>Juncus</i> spp. and sedges <i>Carex</i> spp. indicative of wet ground.	Though this habitat is likely to be relatively common in the wider landscape, it is relatively species-rich due to the lack of recent intense grazing.	Local
Modified grassland (g4)	46.2	Modified grassland is present throughout the Ecological Assessment Boundary and is frequently grazed by sheep and horses. Species richness is relatively low and perennial rye grass <i>Lolium perenne</i> is the dominant grass type. Two fields of modified grassland are present in the south of the Site, forming the main 'BNG Area' within the design of the Proposed Development.	This habitat is considered to provide minimal value for biodiversity given the low sward height and continuous grazing. It appears to be widespread in the landscape surrounding the Ecological Assessment Boundary.	Site
Lowland meadow (g3a6)	<0.01	The NVC survey ¹² identified MG5 <i>Cynosurus cristatus</i> – <i>Centaurea nigra</i> grassland consistent with HoPI lowland meadows in three fields within the Ecological Assessment Boundary. In the north of the Ecological Assessment Boundary, this is characteristic of MG5b <i>Cynosurus cristatus</i> – <i>Centaurea nigra</i> grassland <i>Galium verum</i> sub-community with a total of 15 grass species. Two fields within the south of the Ecological Assessment Boundary contain grasslands consistent with MG5c <i>Cynosurus cristatus</i> – <i>Centaurea nigra</i> grassland <i>Danthonia decumbens</i> sub-community due to an abundance of common knapweed (<i>Centaurea nigra</i>) and betony (<i>Stachys officinalis</i>).	The lowland meadow habitat within the Ecological Assessment Boundary is consistent with the HoPI description ³⁸ and also listed on the Wiltshire Biodiversity Action Plan ³⁹ .	County
Other broadleaved woodland (w1g)	0.09	Two small pockets of broadleaved woodland are present on the northern boundary of the Ecological Assessment Boundary. One is likely to have previously been managed as a hedgerow and has now grown to over 5 m wide, this includes species such as	The woodland within the Ecological Assessment Boundary matches the description for that of the HoPI mixed deciduous woodland ³⁸ though it is small and localised in nature. The assessment identified the	Local

³⁸ Maddock, A. (2008) UK Biodiversity Action Plan: Priority Habitat Descriptions. Available online at <https://data.jncc.gov.uk/data/2728792c-c8c6-4b8c-9ccd-a908cb0f1432/UKBAP-PriorityHabitatDescriptions-Rev-2011.pdf>

³⁹ Wiltshire Biodiversity Partnership (2008) Wiltshire Biodiversity Action Plan 2008. Available online at <https://www.wiltshirewildlife.org/sites/default/files/2022-08/wiltshirebap2008%281%29.pdf>

Area Habitat Features	Approximate Area (ha) within Site	Broad Description	Justification of Importance	Importance
		hawthorn <i>Crataegus monogyna</i> and hazel <i>Corylus avellana</i>. A second area of woodland is associated with running water in the north of the Ecological Assessment Boundary and includes species such as pedunculate oak <i>Quercus robur</i>, elder <i>Sambucus niger</i> and field maple <i>Acer campestre</i>.	woodland to be in Moderate condition.	
Mixed scrub with scattered trees (h3h 32)	0.4	A small area of mixed scrub is present in the south of the Ecological Assessment Boundary, species include bramble, blackthorn <i>Prunus spinosa</i> and hawthorn.	This area of scrub is small and likely to be common in the landscape surrounding the Ecological Assessment Boundary. Scrub is not listed on the local biodiversity action plan for the area ³⁹ .	Site
Buildings (u1b5)	<0.01	Two buildings are present within the Ecological Assessment Boundary, both are in good condition and in active use.	This habitat is small in nature and considered to provide minimal value for biodiversity.	Less than Site
Hardstanding (u1b)	0.4	Hardstanding is associated with urban infrastructure within the Ecological Assessment Boundary.	This habitat is small in nature and considered to provide minimal value for biodiversity.	Less than Site
Priority habitat ponds (r1g 40)	0.2	Eight ponds were identified within the Ecological Assessment Boundary. They are generally surrounded by emergent vegetation including rushes, willow <i>Salix</i> sp. and yellow flag iris <i>Iris pseudacorus</i> . The ponds appear to be in generally moderate-good condition, with no obvious evidence of excess poaching or injurious weeds.	Each of these identified ponds meet the criteria to be classified as a HoPI due to their potential to support species of high conservation importance ³⁸ , including great crested newt.	Regional
Non-priority habitat ponds (r1g 41)	0.01	One pond within the Ecological Assessment Boundary does not meet the criteria for a HoPI, this is in the centre of the Ecological Assessment Boundary and completely surrounded by dense vegetation. It was also observed to have low water quality, with iron oxide precipitates and oily sheen.	Given the water quality issue within the pond, it is considered unlikely to support species of high conservation importance	Local
Line Habitat Features	Approximate Length (km) within Site	Broad Description	Justification of Importance	Importance
Species-rich native hedgerows with trees (h2a5 32)	2.1	There are several mature, native species-rich hedgerows within the Ecological Assessment Boundary. In some instances, these include mature trees. Species present include hawthorn, elder, blackthorn, cleavers <i>Galium aparine</i> , herb Robert <i>Geranium robertianum</i> and red campion <i>Silene dioica</i> .	The hedgerows do not contain seven native woody species within an average 30 m transect and are therefore unlikely to be considered important under the hedgerow regulations. However, they do meet the criteria of HoPI ³⁸ and are listed on the Wiltshire biodiversity action plan ³⁹ .	County
Native hedgerow (h2a6)	3.7	Several hedgerows within the Ecological Assessment Boundary are species-poor, dominated by hawthorn and subject to heavy regular management.	These hedgerows meet the criteria for HoPI ³⁸ due to being dominated by native species and are listed on the Wiltshire biodiversity action plan ³⁹ . However, they are uniform in nature and subject to significant regular management.	Local
Other standing water (r1g)	0.5	Several ditches were recorded during the survey which included standing water.	These ditches are small and likely subject to regular management and potential agricultural run-off.	Less than Site
Point Habitat Features		Broad Description	Justification of Importance	Importance
Veteran trees -		Nine veteran trees were identified within the Ecological Assessment Boundary: eight pedunculate oak <i>Quercus robur</i> and one ash <i>Fraxinus excelsior</i> . These are primarily	Given the size and structure of these trees, they are likely to provide significant biodiversity value. Veteran and ancient trees are considered to be irreplaceable	Regional

Area Habitat Features	Approximate Area (ha) within Site	Broad Description	Justification of Importance	Importance
		located in the south and associated with hedgerows.	habitats ⁴⁰ and are listed on the Wiltshire biodiversity action plan ³⁹ .	
Individual trees	-	There are several large, single pedunculate oak trees within the Ecological Assessment Boundary. These are an average of 10 m tall with a diameter at breast height of 50 cm. The arboriculture assessment identified 117 trees within the Ecological Assessment Boundary as being of high quality and value (category A) ^{Error! Bookmark not defined.} .	The individual trees are likely to provide habitat connectivity within the wider landscape. Due to their maturity, they also hold great potential to develop into veteran trees and the potential to provide valuable bat roosting and bird nesting habitats in the future.	Local

4.3 Protected Species

The suitability of the Ecological Assessment Boundary to support protected and notable species, and the results of species-specific surveys, are outlined in Table 4.3.

Table 4.3 Baseline Ecological Conditions: Protected and Notable Species

Species/ Group	Summary of the Baseline	Justification of Importance	Importance
Protected and notable plant species	No protected or notable plant species were recorded during the PEA ¹ field survey or NVC survey ¹² .	No species subject to legal protection or listed as Species of Principal Importance on the NERC Act have been identified during field surveys or desk study.	Less than Site
Terrestrial invertebrates, including marsh fritillary	The field survey and desk-based study undertaken to inform the PEA¹ identified the potential for the Ecological Assessment Boundary to support protected terrestrial invertebrates including marsh fritillary, brown hairstreak <i>Thecla betulae</i>, small heath <i>Ceiononympha pamphilus</i>, cinnabar <i>Tyria jacobaeae</i>, forester <i>Adscita statice</i>, green-brindled crescent <i>Allophyas oxyacanthae</i>, shaded broad bar <i>Scotopteryx chenopodiata</i> and hornet robberfly <i>Asilus crabroniformis</i>. White admiral <i>Limenitis camilla</i> and purple emperor <i>Apatura iris</i> are considered likely to be present in the wider landscape, though not within the Ecological Assessment Boundary due to the lack of suitable woodland. These species are likely to be present in the woodlands directly adjacent to the Ecological Assessment Boundary. During the NVC survey¹², a targeted search for the main foodplant for marsh fritillary butterfly, devil's-bit scabious <i>Succisa pratensis</i>, was undertaken. No plants were recorded. As the Site is known to support small numbers of field scabious <i>Knautia arvensis</i>, which is an occasional food source for marsh fritillary, there is potential for marsh fritillary to be present within the Ecological Assessment Boundary. In the absence of its main food plant, devil's-bit scabious, there is unlikely to be a significant population present within the Site.	These identified species are listed on Section 41 of the NERC Act. They are generally reliant on habitats that are likely to be widespread in the surrounding landscape, such as woodland edges, grasslands and hedgerows. Given that the habitats within the Ecological Assessment Boundary are not especially diverse, it is unlikely to be supportive of a terrestrial invertebrate assemblage greater than that which is widespread in the surrounding landscape. Based on potentially suitable habitat and the conservation status of species identified, the importance of terrestrial invertebrates is considered to be Local.	Local
Aquatic invertebrates	The desk-based study undertaken to inform the PEA ¹ did not identify the presence of any records of protected aquatic invertebrates within 2 km of the	No species subject to legal protection have been identified during field surveys or desk study.	Less than Site

⁴⁰ Natural England (2022) Ancient woodland, ancient trees and veteran trees: advice for making planning decisions. Available online at <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions#ancient-and-veteran-trees> [accessed 27/09/2024].

Species/ Group	Summary of the Baseline	Justification of Importance	Importance
	Development Area, including white-clawed crayfish <i>Austropotamobius pallipes</i>. Aquatic habitat, including running water and standing water is present within the Ecological Assessment Boundary. However, no targeted survey has been undertaken for aquatic invertebrates due to the agreed no-works buffers to be applied to aquatic habitats.		
Great crested newt (<i>Triturus cristatus</i>)	The desk-based study undertaken to inform the PEA¹ identified nine ponds within the Ecological Assessment Boundary and a further 22 ponds within 250 m of the Ecological Assessment Boundary. Nine records for great crested newt were returned by WSBRC within 2 km of the Ecological Assessment Boundary, these were all on the distant side of barriers to movement such as the M4. A single EPSML for great crested newt was identified on MAGIC⁹ approximately 1.7 km east of the Ecological Assessment Boundary in 2010. Ponds within the Ecological Assessment Boundary were concluded to have HSI scores ranging from 0.52 (Below Average) up to 0.83 (Excellent), eDNA analysis confirmed the presence of great crested newt in five of seven ponds sampled within the Ecological Assessment Boundary¹⁵. A further two ponds outside of the Ecological Assessment Boundary were also confirmed to support great crested newt through eDNA analysis. Terrestrial habitat within the Ecological Assessment Boundary provides suitable habitat for foraging and hibernating great crested newt, in the tussocky grassland and hedgerows.	Great crested newt are afforded protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife and Countryside Act. They are also listed on Section 41 of the NERC Act. Great crested newt are confirmed to be present within five ponds within the Ecological Assessment Boundary, though it is not possible to draw conclusions regarding population size, as population class assessment was not carried out. Using a precautionary approach in the absence of population class size assessments and based on their confirmed presence within the Site and their conservation status, the importance of great crested newts is considered to be Regional.	Regional
Common toad (<i>Bufo bufo</i>)	The desk-based study undertaken to inform the PEA¹ identified nine ponds within the Ecological Assessment Boundary and a further 22 ponds within 250 m of the Ecological Assessment Boundary. No records were returned from WSBRC for common toad. During the field survey undertaken to inform the PEA¹, a common toad was incidentally recorded adjacent to Flaxlands Lane in the centre of the Ecological Assessment Boundary.	Common toad are listed on Section 41 of the NERC Act. An individual was confirmed to be present within the Ecological Assessment Boundary, though no thorough survey has been undertaken. Based on potentially suitable habitat and their conservation status, the importance of toads is considered to be Local.	Local
Common reptiles	The PEA¹ identified the potential for the Ecological Assessment Boundary to support slow worm <i>Anguis fragilis</i>, common lizard <i>Zootoca vivipara</i>, grass snake <i>Natrix helvetica</i> and adder <i>Vipera berus</i>. Artificial cover object surveys were therefore undertaken in suitable habitat in September 2024 which identified no reptiles within the suitable habitats²¹. Since the Ecological Assessment Boundary continues to provide suitable habitat for common reptiles, and there are records for slow worm within 2 km of the Ecological Assessment Boundary, there is potential for the area to be colonised in the relatively near future. Given the geographic location of the Ecological Assessment Boundary, it is considered highly unlikely that smooth snake <i>Coronella austriaca</i> and sand lizard <i>Lacerta agilis</i> are present.	Common reptiles are afforded protection under Schedule 5 of the Wildlife and Countryside Act. Common reptiles were not recorded during site survey. However, due to local records and presence of suitable habitat, their presence within the Ecological Assessment Boundary cannot be ruled out. Based on the presence of suitable habitat and the conservation status of common reptiles, their importance within the Site is considered to be Local.	Local

Species/ Group	Summary of the Baseline	Justification of Importance	Importance
Breeding birds ²⁶	The PEA¹ identified records of 36 notable bird species within 2 km of the Ecological Assessment Boundary. This includes barn owl <i>Tyto alba</i>, brambling <i>Fringilla montifringilla</i>, crossbill <i>Loxia curvirostra</i>, fieldfare <i>Turdus pilaris</i>, hobby <i>Falco subbuteo</i>, kingfisher <i>Alcedo atthis</i>, marsh harrier <i>Circus aeruginosus</i>, osprey <i>Pandion haliaetus</i>, peregrine <i>Falco peregrinus</i>, red kite <i>Milvus milvus</i> and redwing <i>Turdus iliacus</i> which are listed on Schedule 1 of the Wildlife and Countryside Act. The field-based survey undertaken to inform the PEA¹ identified no suitable structures or tree cavities for nesting barn owl within or directly adjacent to the Ecological Assessment Boundary. The grasslands within the Ecological Assessment Boundary were confirmed to provide suitable habitat for foraging birds of prey, including barn owl. The grassland identified as other neutral grassland are deemed Type 2 habitat quality for foraging barn owl⁴¹. This is due to grazing and or regular cutting for hay which has limited thatch accumulation (sub-optimal habitat for field vole <i>Microtus agrestis</i>. The modified grassland within the Ecological Assessment Boundary is generally tightly sheep-grazed, uniform and short in nature, classified as Type 3 Habitat. Breeding bird surveys conducted within the Ecological Assessment Boundary identified the presence of 48 species, 25 of which were confirmed to be breeding and a further five were considered probably or possibly breeding. Birds listed as SoPI, or of conservation concern, and identified as breeding within the Ecological Assessment Boundary are moorhen <i>Callinula chloropus</i>, stock dove <i>Columba oenas</i>, woodpigeon <i>Columba palumbus</i>, skylark <i>Alauda arvensis</i>, willow warbler <i>Phylloscopus trochilus</i>, wren <i>Troglodytes troglodytes</i>, song thrush <i>Turdus philomelos</i>, house sparrow <i>Passer domesticus</i>, dunnoek <i>Prunella modularis</i> and greenfinch <i>Chloris chloris</i>. An individual barn owl was noted flying from the woodland directly adjacent to the northern boundary of the Ecological Assessment Boundary and into the grassland near T3 (see Figure 1 of the roosting bats report³¹) on 12 August 2024 at 21:12. Additionally, an individual was recorded flying across grassland in the north of the Ecological Assessment Boundary during the reptile ACO deployment on 13 August 2024.	The Ecological Assessment Boundary is known to support bird species of conservation concern and listed on Section 41 of the NERC Act. The number of territories and species recorded within the Ecological Assessment Boundary does not represent significant portions. Barn owls are protected under Schedule 1 of the Wildlife and Countryside Act and they are listed as a SoPI on the Wiltshire Biodiversity Action Plan³⁹. The Ecological Assessment Boundary is considered to provide suitable habitat for foraging barn owl only, though likely in small numbers given that the majority of the grassland sub-optimal, and due to the likely limiting effect of the M4 motorway (300 m to the south) on breeding success. Based on habitat suitability and the conservation status of species identified, the importance of breeding birds is considered to be Local.	Local
Roosting bats ³¹	The PRA and GLTA identified several trees and buildings with potential to support roosting bats within and adjacent to the Ecological Assessment Boundary. Surveys to determine the presence or likely absence of roosting bats were completed on trees and buildings within 30 m of the footprint of the Proposed Development only. Only trees with potential to be impacted by the Project have been surveyed. As such, not all potential roosts	All bat species are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife and Countryside Act and are listed as a SoPI on Section 41 of the NERC Act. All bat species known to be present within Wiltshire are listed as a SoPI on the Wiltshire Biodiversity Action Plan³⁹. Although not identified, there is potential for roosting bats to be present within the Ecological Assessment Boundary.	County

⁴¹ Shawyer, C.R. (2011) Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. CIEEM, Winchester.

Species/ Group	Summary of the Baseline	Justification of Importance	Importance
	within the Ecological Assessment Boundary have been fully assessed. Following a change in design along Flaxlands Lane, one tree (T78) with Potential Roost Features will be felled to accommodate the Proposed Development. Further assessment is required to determine if bats are present. For this EclA a worst-case scenario that tree might support a low-conservation roost (equivalent to PRF-I) has been adopted in the absence of a survey based on professional judgment of the location and context of the tree and the suitability of the potential roost features. The assessment (comprising inspection and/or emergence survey) would be completed post determination secured in the Framework LEMP, and any mitigation would be secured in the detailed LEMP which will be subject to approval by the LPA.	Based on potentially suitable roosting habitat and the conservation status of species identified, the importance of roosting bats is considered to be County.	
Foraging and commuting bats ³³	Surveys for foraging and commuting bats identified at least ten bat species within the Ecological Assessment Boundary, including barbastelle <i>Barbastella barbastellus</i> and lesser horseshoe bat <i>Rhinolophus hipposideros</i>. Species frequently identified on NBW, and static bat detector deployments include common pipistrelle <i>Pipistrellus pipistrellus</i>, soprano pipistrelle <i>Pipistrellus pygmaeus</i>, serotine <i>Eptesicus serotinus</i>, noctule <i>Nyctalus noctula</i>, long-eared bat <i>Plecotus</i> sp. and myotis bats <i>Myotis</i> spp.. Due to the lack of bat trapping surveys, the presence of Bechstein's bat <i>Myotis bechsteinii</i> and grey long-eared bat <i>Plecotus austriacus</i> could not be confirmed. Greater horseshoe bat was not identified within the Ecological Assessment Boundary.	All bat species are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife and Countryside Act and are listed as a SoPI on Section 41 of the NERC Act. All bat species known to be present within Wiltshire are listed as a SoPI on the Wiltshire Biodiversity Action Plan³⁹. Barbastelle bat and lesser horseshoe bat are also listed on Annex II of the Habitats and Species (Amendment) (EU Exit) Regulations 2019. Activity surveys completed have identified a range of species present within the Ecological Assessment Boundary, including the presence of barbastelle and lesser horseshoe bat. In the context of south west England, the Ecological Assessment Boundary is concluded to support a bat species assemblage of National importance³⁴.	National
Hazel dormouse	The desk-based study undertaken to inform the PEA¹ identified no records or EPSMLs for hazel dormouse within 2 km of the Ecological Assessment Boundary. The field survey undertaken to inform the PEA¹ identified suitable habitat for hazel dormouse in the form of a large, unmanaged hedgerow in the north of the Ecological Assessment Boundary. This is directly connected to a block of ancient semi-natural woodland adjacent to the Ecological Assessment Boundary in the north-east which is considered likely to provide suitable habitat for hazel dormouse. Negligible suitability habitat for commuting hazel dormouse is present within the Ecological Assessment Boundary in the form of heavily managed hedgerows, these are only likely to be utilised by opportunistic individuals. Targeted surveys to determine the presence of hazel dormouse were not carried out due to a subsequent change in the redline boundary, details regarding this are provided below.	Hazel dormouse are afforded protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, Schedule 5 of the Wildlife and Countryside Act and are listed as a SoPI on Section 41 of the NERC Act. They are also listed as a SoPI on the Wiltshire Biodiversity Action Plan³⁹. Should hazel dormouse be present within the Ecological Assessment Boundary, it is considered likely that they are in small numbers only. Significant areas of broadleaved woodland are present in the landscape surrounding the Ecological Assessment Boundary, it is therefore unlikely that a significant population of hazel dormouse are reliant on habitats present within the Ecological Assessment Boundary. Based on the presence of suitable habitat and their conservation status, the importance of hazel dormouse is considered to be County.	County
Otter ³⁵	The desk-based study undertaken to inform the PEA¹ identified two records of otter within 600 m of the Ecological Assessment Boundary, on the far side of the M4. A third record is present approximately 700 m north west of the	Otter are protected under the Conservation of Habitats and Species (Amendment)(EU Exit) Regulations 2019 and Schedule 5 of the Wildlife and Countryside Act. They are listed as a SoPI on Section 41 of the NERC Act and on the Wiltshire Biodiversity Action Plan³⁹.	Local

Species/ Group	Summary of the Baseline	Justification of Importance	Importance
	Ecological Assessment Boundary, though this is not associated with watercourses hydrologically connected to the Ecological Assessment Boundary. Drainage ditches are present throughout the Ecological Assessment Boundary and two brooks are identified with good connectivity to the Ecological Assessment Boundary, these are in the north and south. The drainage ditches and brooks are not suitable to provide significant foraging resource for otter, though may provide a commuting corridor. Minimal foraging habitat for otter is present within the nine ponds within the Ecological Assessment Boundary. No signs, or holts, (indicative of the presence of otter) were identified during the surveys³⁵.	Though otter are considered likely absent from the Ecological Assessment Boundary as the ditches present provide suboptimal habitat and may be utilised as a commuting route only. Based on habitat suitability and the conservation status of otter, their importance is considered to be Local.	
Water vole ³⁵	The desk-based study undertaken to inform the PEA¹ identified two records of water vole 130 m and 390 m south of the Ecological Assessment Boundary. The closest of these appears to be associated with Flaxlands Manor Farm which is directly adjacent to the Ecological Assessment Boundary. Running water and ponds within the Ecological Assessment Boundary provides suitable habitat for water vole with opportunity for burrowing into the banks and foraging on the bankside vegetation. The watercourses and ponds provide habitat of varying suitability for water vole, ranging from 'Negligible' to 'Good' suitability³⁵. A single dropping with characteristics of water vole was identified in proximity to Pond 2 during the September visit and a small mammal burrow with characteristics indicative of water vole use was identified during the July survey. Water vole are therefore considered present within the Ecological Assessment Boundary, though in small numbers in the west only.	Water vole are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. They are listed as a SoPl on Section 41 of the NERC Act and on the Wiltshire Biodiversity Action Plan³⁹. Water vole are present in small numbers within small areas of the Ecological Assessment Boundary. Based on habitat suitability and the conservation status of water vole, their importance is considered to be County.	County
Badger	The desk-based study undertaken to inform the PEA¹ identified 32 records of badger within 2 km of the Ecological Assessment Boundary. The field survey identified suitable habitat for badger, in the form of hedgerows and grassland. Large areas of broadleaved woodland are present directly adjacent to the Ecological Assessment Boundary. However, no field signs indicative of the presence of badger were recorded during the field survey in May 2024. No targeted surveys for badger were therefore carried out. During subsequent visits to the Ecological Assessment Boundary, during reptile and riparian mammal surveys, field signs indicative of the presence of badger were recorded. Two latrines were recorded in the south of the Ecological Assessment Boundary and two outlier setts were recorded in the north during August and September. The locations of these field signs are illustrated on Figure 3.	Badger are legally protected under the Protection of Badgers Act 1992. Given that the setts identified within the Ecological Assessment Boundary are outliers, and few obvious field signs have been recorded, it is considered unlikely that a clan of badgers are reliant on habitats present within the Ecological Assessment Boundary. Individuals present are likely to be infrequent visitors to the Site, utilising the area for commuting and/or foraging. Based on habitat suitability and the conservation status of badger, their importance is considered to be Local.	Local
INNPS	The PEA¹ identified no INNPS within the Ecological Assessment Boundary during the desk- or field-based surveys. Given the presence of watercourses, public rights of way and movement of vehicles to/from the	No plant species subject to legal control have been identified within the Ecological Assessment Boundary.	Local

Species/ Group	Summary of the Baseline	Justification of Importance	Importance
	Site, there is potential for INNPS to colonise in the future.		

5. The Proposed Development

A summary of the design of the Proposed Development, based on that provided to AECOM in March 2025 (Appendix C), is described below. It is assumed that the embedded design mitigation described will be carried through to the Proposed Development and that standard practices to ensure legal compliance, including the obtainment of EPSMLs where required, will be implemented.

It is estimated that the construction phase duration will be 24 weeks (six months) and all construction materials will be delivered by heavy goods vehicles to a centralised compound. The average daily number of delivery vehicles during the construction phase will be approximately five deliveries, totalling ten two-way vehicle movements per day. There is no requirement for night-time working during the construction phase; the proposed working hours are 08:00-18:00 Monday-Friday and 08:00-13:00 Saturday. During operation the Proposed Development will be visited for maintenance and inspection purposes only with all other works taking place remotely. The operation of the Proposed Development is anticipated to be a maximum of 40 years.

At the commencement of the construction phase of the Proposed Development, internal access routes and compound will be constructed. A single construction compound will be located within modified grassland in the north of the Site. It is assumed that facilities will be provided on-site for construction workers, including provision of a site office, welfare facilities and parking within the construction compound. The design describes access routes as 'access road' and 'perimeter track'. It is understood that the access roads will be constructed of an artificial unsealed surface, they will be approximately 5 m wide, the new access off Flaxlands Lane will be approximately 20 m wide and will be suitable for the use of heavy goods vehicles for the duration of the construction phase. Perimeter tracks would be approximately 3 m wide and be formed of compressed earth. The majority of heavy goods vehicles will access the Development Area for delivery purposes to the construction compound and BESS only. In association with the access roads and perimeter tracks to be created during construction, swales are to be incorporated into the design to avoid an increase in surface water leaving the Site. These swales will be 4 m wide and approximately 0.5 m deep. Swales will be located adjacent to constructed artificial surfaces, primarily towards the boundary of the Development Area to avoid an increase in run-off to the surrounding landscape. Upon completion of swale excavation, appropriate species will be planted for the management of grasslands tolerant of wet conditions.

Earthworks works will be required for the construction of the BESS and transformer, this will include topsoil removal, levelling and excavation for concrete foundations. As these structures will remain in place for the duration of construction and operation phase of the Proposed Development, the resulting loss of modified grassland is considered to be permanent. The BESS and parking areas are considered impermeable surfaces, an attenuation pond will therefore be required in their vicinity to ensure appropriate drainage. Lighting is required at the substation, though it will only be used during nighttime maintenance activities. As a priority, maintenance activities will take place in the day time and no artificial lighting will be required. Nine temporary passing places along Flaxlands Lane are proposed in order to allow two articulated vehicles to pass each other during construction. These are understood to likely consist of protective matting (Trak Mats, or similar) pinned into position. These passing bays have been designed to fit within the road reserve and will generally avoid impacts on vegetation. However, at one location approximately 40 m of hedgerow may be lost on the northern side of Flaxlands Lane. One tree (T78) with Potential Roost Features will be felled to accommodate this proposed passing place. This location was chosen for the passing bay as it avoids other mature trees in good condition with Potential Roost Features. Tree T78 identified as T265 in the Arboricultural Impact Assessment, has been classified as unsuitable for retention (Category U). 'It is considered that these tree features would require removal regardless of any development proposals due to their poor condition (sparse crown with dieback and deadwood) and proximity to Flaxlands Lane'⁴⁶. At this stage further assessment is required to determine if bats are present.

The components for construction of the Proposed Development are largely prefabricated, construction waste and the risk of pollution events are therefore reduced to a minimum. Construction of the PV array will require localised ground-breaking works to install pillars and panels. The solar panels will be mounted on metal frames driven into the ground, typically to a depth of 1-2 m depending on the ground conditions. This has potential to create noise and vibration, though this will be localised and short term. The construction of a perimeter fence will cause similar impact, due to the piling of pillars into the ground. The perimeter fencing will be approximately 2.5 m high. As the perimeter fence will be installed as a security measure, it is assumed that this will take place early in the construction phase. Ground works for the fencing and solar PV array will be limited to the pillar locations only. As such, the construction of solar PV array and perimeter fencing will not require any trenches to be left open.

During construction and decommissioning of the Proposed Development, noise will be produced in areas subject to active works during the installation of solar PV panels and fencing. Noise impacts are considered to be

temporary, and restricted to areas of active works. All works will take place in the day-time and no noise will be created at night-time during the construction phase. In total, the construction phrase of the Proposed Development is anticipated to last no longer than six months.

During operation, noise will be emitted from the following sources: the BESS, the MV stations and transformers. Noise production from the MV stations will be during daylight hours only, though the BESS and transformers will operate continuously. The sound power levels of each of these sources has been derived from assumptions and manufacturer specification sheets⁴², the concluding anticipated sound power levels are summarised in Table 5.1. No sound is produced from the solar panels themselves therefore they have not been subject to detailed assessment. No ultrasound will be produced as a result of the Proposed Development.

Table 5.1 Anticipated Sound Power Levels Resulting from the Proposed Development

Source	Source Height (m)	Total Sound Power Level (dB)
BESS	2.0	83
MV stations	2.2	93
Transformer	3.0	95
Inverter	2.0	84

Source: Adapted from noise impact assessment⁴²

To facilitate the Proposed Development, the diversion of several existing Public Rights of Way (PRoWs) will be required. In all cases, the PRoWs will be relocated to field edges, rather than directly through the middle. It is understood that the existing grassland will be maintained, though mown to a height of approximately 20 cm to enable continued use of the PRoWs. No hardstanding or hardcore will be required to enable the diversion of PRoWs. As the PRoWs are to be diverted to the edges of fields currently containing the existing paths, it is considered unlikely that this will have an ecological impact. In the absence of detailed assessment, it is assumed that the use of PRoWs will not alter as a result of the Proposed Development and no increased recreational pressure on the Ecological Assessment Boundary will occur.

Overhead lines cross the Development Area in four locations, and it is not possible to construct solar PV arrays beneath these. As such, the existing grassland and hedgerow habitats beneath them will not be impacted as a result of the Proposed Development. It is assumed that in these locations, habitat will be retained in its existing condition for the duration of construction and operation of the Proposed Development.

The design includes the provision of four areas considered suitable for BNG purposes. These areas will be subject to BNG assessment to identify the most appropriate measures to be incorporated into the Proposed Development to ensure that a net gain of 10% is achieved. It is considered likely that habitat management will take place within these areas to improve the condition of the habitats present, details regarding this will be provided within the BNG assessment report⁴³.

5.1 Avoidance Measures Incorporated to the Design

As the design of the Proposed Development has progressed since May 2024, and ecological information has become available following the completion of protected species surveys, the area to be developed has been subject to change. The initial boundary considered during the PEA identified the presence of a hedgerow in the north of the Ecological Assessment Boundary with suitability for hazel dormouse and connectivity to suitable nearby woodland. To avoid potential impacts to hazel dormouse, this hedgerow and field to the north were removed from the area to be considered for the Proposed Development. The Ecological Assessment Boundary also included three areas of grassland which were identified as lowland meadow habitat of principal importance during the NVC survey¹². These fields have since been removed from the Site boundary and will not be subject to works to facilitate the Proposed Development.

Several buffers have been agreed in relation to ecological features, in which no works will take place to facilitate the Proposed Development. The ecological features and agreed buffer distances are outlined in Table 5.2. In combination with pollution prevention measures, this will avoid the potential for impacts to the described habitats. Due to the implementation of these buffers, the potential for the Proposed Development to cause impact to protected species reliant on these habitats is also greatly reduced. For example, as water vole burrows are not

⁴² AECOM (2024) Flaxlands Noise Impact Assessment

⁴³ AECOM (2024) Flaxlands BNG Assessment report

likely to extend further than 5 m from the edge of aquatic habitat⁴⁴, potential impacts are entirely avoided. Similarly, direct impacts to breeding habitats in use by great crested newt and other amphibians will not occur as a result of the Proposed Development.

Table 5.2 Avoidance Buffers Applied to Ecological Features

Ecological Feature	Agreed Buffer Zone
Watercourses (rivers and ditches)	No works within 10 m
Waterbodies (ponds)	No works within 10 m
Ancient woodland designations	Where possible no works within 30 m (other than works associated with existing road access). Appropriate mitigation applied in line with arboricultural impact assessment report t, where works occur within 30 m.
Woodland and individual trees	Where possible no works within 15 m. Appropriate mitigation applied in line with arb report, where works occur within 15 m.
Trees with suitability for roosting bats	Where possible no works within 15 m (other than works associated with existing road access). Appropriate mitigation applied in line with arboricultural impact assessment report, where works occur within 15 m. No solar PV panels to be installed within 20 m No buildings or hardstanding to be constructed within 30 m
Hedgerows	Where possible no works within 10 m (other than where required for access) No solar PV panels to be installed within 10 m

Watercourses and ditches are present in several locations within the Ecological Assessment Boundary. The creation of additional crossings of these features is not required to facilitate the Proposed Development as all access roads and perimeter tracks are located on existing pathways. In combination with the buffer zones outlined in Table 5.2, this is deemed to entirely avoid impacts to aquatic habitats. As such, impacts to aquatic invertebrates are also avoided.

As all works to facilitate the Proposed Development will take place in the day-time, no artificial lighting will be required during construction. As a preference, all maintenance activities will take place in the day-time and therefore there will be no requirement for artificial lighting. Where maintenance activities are required at the BESS, artificial lighting may be utilised on an occasional basis. This will be directed away from semi-natural habitats. Ecological impacts as a result of lighting will therefore be avoided.

Pollution control measures to avoid impacts to watercourses and retained habitats within and adjacent to the Development Area will be incorporated into all activities during construction and operation. This will follow best practice guidelines outlined in the Environmental good practice handbook⁴⁵ which provides advice on how to avoid impacts resulting from fuel and oil spills, contaminated surface water and run-off. Tools and machinery will be stored appropriately, and not on grasslands or in proximity to aquatic habitats.

Retained trees, including those in hedgerows and woodland, will be protected to prevent root damage or compaction and knocking off or damaging overhanging branches. This will be through the implementation of suitable buffer zones as outlined above during all works. Where this is not possible, specialist measures as outlined in the arboricultural impact assessment⁴⁶ will be required.

5.2 Embedded Mitigation

During the construction phase of the Proposed Development, it is assumed that standard practice mitigation measures will be incorporated and outlined in a Construction Environmental Management Plan (CEMP) or a Precautionary Working Method Statement (PWMS) to be outlined and agreed in advance of commencement of works. These standard measures would include:

⁴⁴ Dean, M., Strachan, R., Gow, D., and Andrews, R. (2016) *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

⁴⁵ Law, C and D'Aleo, S. (2016) *Environmental Good Practice on Site Pocket Book*. Ciria. ISBN-13:9780860177777

⁴⁶ AECOM (2024) Flaxlands Solar Farm, Arboricultural Impact Assessment

- Vegetation clearance will be kept to the minimum required to facilitate the Proposed Development and habitats will be retained in their existing state as far as possible. 'No work' buffers will be observed as outlined in Table 5.2.
- Sensitive clearance methodologies in relation to breeding birds, amphibians and reptiles. This includes all vegetation with suitability for breeding birds, amphibians and/or reptiles. Vegetation removal should be undertaken during September when birds are no longer breeding but reptiles and amphibians remain active as a priority. If this is not possible, vegetation clearance during the winter months (October-February, inclusive) is considered appropriate to avoid impacts to breeding birds. Refugia suitable to support hibernating reptiles, amphibians and small mammals, should not be dismantled during the winter months and should be undertaken following the initial stage cut. Details regarding sensitive clearance methodologies should be outlined in a CEMP or PWMS and should include technical oversight provided by an Ecological Clerk of Works (ECoW) where appropriate.
- Sensitive clearance methodologies will be considerate of the presence of hazel dormouse in hedgerows ecologically connected to adjacent woodlands, particularly those which are semi-mature and species-rich, as identified by a suitably experienced ecologist. Hedgerow vegetation removal should take place following a staged methodology, in which vegetation above 300 mm height is removed in the winter months (November-February) when both hazel dormouse and breeding birds are not active. Vegetation below 300 mm should be removed in the summer (March-August), to avoid impact to hazel dormouse potentially hibernating at ground level. Requirements for staged vegetation and checks to be conducted by a suitably licenced (or accredited) ecologist will be outlined in the CEMP or PWMS. Should a hazel dormouse or their field signs be identified during works, all works must stop, and a suitably qualified ecologist be consulted regarding the requirement for an EPSML.
- There are no INNPS recorded on Site. There is potential for conditions to change prior to construction. A pre-construction check should be undertaken to confirm the continued absence of INNPS immediately prior to the commencement of works. Should INNPS be identified in proximity to the works, a management plan should be produced to include appropriate control measures for the identified species, biosecurity measures to prevent establishment of INNPS within the Development Area (from contaminated plant or substrate) implementation of works exclusion zones and disposal of contaminated waste where appropriate.
- The covering of all excavations larger than 150 mm in diameter when not being actively worked on, or at the end of the working day. This is to prevent wildlife, such as badger, becoming trapped inside. Where it is not possible to cover an excavation, a means of escape must be provided, this may be a wooden ramp such as a scaffolding board for example.
- As perimeter fencing is required to provide security to the Proposed Development, there is potential for this to cause an obstruction to ground-based animals moving throughout the Ecological Assessment Boundary and wider landscape. To mitigate for this, gaps will be incorporated to the fencing to ensure that habitats within the Development Area remain available to reptiles, amphibians and badger. Gaps will be at ground level, and of a suitable size (at least 20 cm high and 20 cm wide) to allow individuals to pass through.
- Requirement for an ECoW to be present on site during vegetation clearance and ground-breaking works, including to conduct pre-works checks in advance of vegetation clearance and endoscopic inspection of features with suitability to support roosting bats where works are required within 30 m.

6. Assessment of Effects

This section presents the assessment of likely effects on each of the ecological receptors identified within the baseline. Where the potential effects of the Proposed Development are to be avoided through the implementation of the avoidance measures, embedded mitigation or standard legal requirements included within the CEMP, as outlined in Sections 5.1 and 5.2, effects are not assessed in this section. The effects as a result of potential impacts, such as pollution, are therefore not assessed in this section. The assessment identifies any likely significant effects that are predicted to occur, taking into account the incorporated mitigation measures outlined.

The potential effects likely to result from decommissioning are considered to be in line with those identified during the construction phase of the Proposed Development. Where these are considered likely to differ, the effects are outlined below. Due to the anticipated time lapse between this EclA and decommissioning of the Proposed Development, update surveys should be carried out to confirm the presence of protected and notable species and habitats and identify the ecological value of the Site at the time. A subsequent assessment of the impact of decommissioning of the Proposed Development may be required and should be confirmed by a suitably experienced ecologist.

Where an ecological feature is not likely to be impacted by the Proposed Development as a result of the avoidance and mitigation measures outlined above, no assessment of effects has been conducted. Such ecological features, and the relevant avoidance and mitigation measures are outlined in Table 6.1.

Table 6.1 Ecological Features Not Subject to Further Assessment

Ecological Feature	Importance	Justification for Scoping out of Further Assessment
International statutory designated sites for nature conservation	International	No international designated sites have been identified within 2 km of the Ecological Assessment Boundary, impacts are unlikely to occur at distance beyond this.
Nationally designated sites for nature conservation: - Restrop Farm and Brockhurst Wood SSSI; and, - Jubilee Lake LNR.	National	These designations are for habitats present over 500 m from the Ecological Assessment Boundary. The implementation of pollution prevention controls outlined in the CEMP is considered sufficient to avoid all impacts to these designations.
LWSs designated for ancient semi natural broadleaved woodland: - Flaxlands Wood LWS; - Cowleaze Copse LWS; - Frith Copse LWS, Morris's Copse LWS; - Midgehall Copse LWS; - Bridge House Copse LWS; - Plain Copse LWS; - Brickkiln Copse LWS; - Folly Wood Wootton Bassett LWS; - Parley Copse LWS; - Webbs Wood LWS; - Jubilee Lake Fields LWS; - Jubilee Lake Woods LWS; - Park Copse Lydiard Tregoze LWS; - Drill Farm Copse LWS; and, - Letterage Copse LWS. LWSs designated for woodlands not classified as ancient: - Withybed, Royal Wootton Bassett LWS; - Alder Plantation LWS	County	These designations do not overlap with the Ecological Assessment Boundary. Given that no works will take place within 30 m of ancient woodland designations, and pollution prevention controls (outlined in the CEMP) will be implemented during the construction and maintenance of the Proposed Development, no impacts are likely to occur to these designations.
LWSs designated for grassland habitats: - Hooker's Gate Farm Meadow LWS; - Bagbury Green Farm Meadow LWS; - Callow Hill Farm Meadow LWS; and, - South Pavenhill Farm Meadow, Purton LWS	County	These LWS designations are all at least 1.5 km from the Ecological Assessment Boundary and not hydrologically connected. Pollution prevention controls (outlined in the CEMP) are considered sufficient to avoid impacts to these designations.

Ecological Feature	Importance	Justification for Scoping out of Further Assessment
WWT Reserves: - The Firs WWT Reserve designated for woodland; and, - Echo Lodge Farm Meadows and Wood WWT Reserve designated for meadows and ancient woodland.	County	These WWT Reserves are at least 1.5 km from the Ecological Assessment Boundary and not hydrologically connected. Pollution prevention controls (outlined in the CEMP) are therefore considered sufficient to avoid impacts.
Ancient woodland designations	National	These designations do not overlap with the Ecological Assessment Boundary. Given that no works will take place within 30 m of ancient woodland designations, and pollution prevention controls (outlined in the CEMP) will be implemented during the construction and maintenance of the Proposed Development, no impacts are likely to occur to these designations.
Other broadleaved woodland (w1g)	Local	The Proposed Development does not require the removal of any woodland habitats, where possible works will be avoided within 15 m of all woodlands. Where this is not possible, the avoidance of impacts to the trees will be managed through the specialist measures outlined in the arb report ⁴⁶ . In combination with the inclusion of pollution prevention measures (outlined in the CEMP), this is considered sufficient to avoid impacts to woodland habitats within the Ecological Assessment Boundary.
Other lowland meadows habitat (g3a6)	County	The Development Area has been adjusted during the course of the project to avoid impacts to other lowland meadows habitat. Identified locations of this habitat will not be subject to works, and no temporary or permanent habitat loss will occur. Habitat degradation will be avoided through the inclusion of standard pollution prevention practices.
Buildings (u1b5) and hardstanding	Less than Site	This habitat provides minimal ecological value and will not be impacted by the Proposed Development.
Non-priority habitat ponds (r1g 41)	Local	Non-priority habitat ponds are of minimal ecological value due to the identified water quality issues within them. Negative impacts to the ponds are unlikely to occur as a result of the Proposed Development due to the implementation of a 10 m no works zone surrounding the ponds. Pollution prevention controls (outlined in the CEMP) are therefore considered sufficient to avoid impacts.
Aquatic habitats: Other standing water (r1g)	Less than Site	These habitats are of minimal ecological value. No works are required to aquatic habitats, or within 10 m of them. Pollution prevention controls (outlined in the CEMP) are therefore considered sufficient to avoid impacts.
Veteran trees	Regional	Standing advice is for the avoidance of works within a root protection area of 15x the stem diameter of all veteran trees ⁴⁷ . Where works required to facilitate the Proposed Development cannot be avoided within the root protection area of these trees, measures advised by a suitably experienced arboricultural consultant will be followed as outlined in the CEMP. As such, ecological impacts to the veteran trees will not occur as a result of the Proposed Development.
Individual trees	Local	As outlined in the arb report ⁴⁶ , works should be avoided within the root protection area of identified trees. Where this is not possible, measures as advised by a suitably experienced arboricultural consultant will be incorporated to the CEMP to minimise impacts to the trees. In combination with the pollution prevention measures outlined above, this is considered sufficient to avoid impacts.

⁴⁷ Natural England and Forestry Commission (2022) Ancient woodland, ancient trees and veteran trees: advice for making planning decisions. Available online at <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions#avoid-impacts-reduce-mitigate-impacts-and-compensate-as-a-last-resort> [accessed 27/09/2024].

Ecological Feature	Importance	Justification for Scoping out of Further Assessment
Protected plants	Less than Site	No protected or SoPI plant species were identified during the surveys undertaken to inform the baseline.
Terrestrial invertebrates, including marsh fritillary butterfly	Local	Habitats in use by terrestrial invertebrates, primarily grassland and veteran trees, will be retained throughout construction and operation of the Proposed Development. Marsh fritillary butterfly is considered likely absent from the Ecological Assessment Boundary due to low numbers of scabious plant species upon which they are reliant for food.
Aquatic invertebrates	Less than Site	No impacts to aquatic habitats and species will occur as a result of the Proposed Development due to the implementation of a 10 m buffer around all watercourses and waterbodies within and adjacent to the Ecological Assessment Boundary in combination with pollution prevention measures outlined in the CEMP.
Common reptiles	Local	Common reptiles are considered likely absent from the Ecological Assessment Boundary. The risk of death or injury to common reptiles will be managed through implementation of mitigation, to include staged vegetation clearance to be completed under the direction of an ECoW. Terrestrial habitats with suitability for common reptiles will be maintained beneath and surrounding solar PV array during operation of the Proposed Development.
Hazel dormouse	County	Suitable habitat for hazel dormouse within the Ecological Assessment Boundary is limited to a single hedgerow in the north with connectivity to suitable neighbouring woodlands. As the development boundary has been altered to exclude this hedgerow, no vegetation removal is required in proximity to the suitable habitat and no impacts to hazel dormouse are anticipated. Precautionary working measures, including the presence of an ECoW, to be outlined in the CEMP, are considered sufficient to manage the risk of encountering individuals in connected hedgerows of suboptimal suitability for commuting hazel dormouse.
Otter	Local	Otter are considered likely absent from the Ecological Assessment Boundary, commuting habitat is present for opportunistic individuals though this will not be impacted by the Proposed Development, as no works will be conducted within 10 m of any watercourse or waterbody.
Water vole	County	Water vole are present in small numbers within the Ecological Assessment Boundary. However, as no works will be conducted within 10 m of any watercourse or waterbody, and water vole burrows are not likely to extend further than 5 m from the edge of aquatic habitat ⁴⁸ , no impact to water vole is anticipated as a result of the Proposed Development.
INNPS	Local	No INNPS are known to be present within or adjacent to the Ecological Assessment Boundary. Ongoing monitoring and implementation of a management plan, as outlined in the CEMP, is considered sufficient to ensure continued absence of INNPS within the Ecological Assessment Boundary and to prevent the spread of INNPS as a result of the Proposed Development.

⁴⁸ Dean, M., Strachan, R., Gow, D., and Andrews, R. (2016) *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

6.1 Designated Sites

6.1.1 Flaxlands Manor LWS

The Flaxlands Manor LWS is within the south of the Site, as identified on Figure 2 of the PEA¹. The designation is for neutral pasture and hay meadows, considered to be of County importance as outlined in Table 4.1. Fields 1, 2 and 3 (as labelled on Figure 2) support HoPI lowland meadows, Fields 4, 5, 6 and 7 are concluded to be modified grassland¹². Only Fields 6 and 7 of the LWS are included within the Development Area, solar PV arrays will be constructed within these fields.

Construction of the solar PV arrays within Fields 6 and 7 is likely to lead to localised habitat loss through the installation of pillars and vehicular access. During operation, this will cause an increase in shading on the grassland habitats and may result in a loss of species and subsequent degradation of the habitats. As these fields are currently supportive of modified grassland, the effect of works required to facilitate the Proposed Development in Fields 6 and 7 of the LWS is considered to be **minor adverse**.

The NVC survey¹² concluded that Fields 6 and 7 (see Figure 2) do not currently support habitats conforming to that within the LWS description, the installation of solar PV array in these areas are therefore not likely to have a significant impact on the integrity or condition of the LWS. During operation of the Proposed Development, grasslands will be subject to monitoring and management to ensure continued presence of HoPI. The implemented measures will be considerate of the LWS designation and ensure that management allows for the re-establishment of habitats previously identified within the LWS.

As no works are required within Field 3, the effect of works required to facilitate the Proposed Development in this location is considered to be **neutral**.

Overall, the Proposed Development is concluded to have a **minor adverse** residual effect on the integrity and nature conservation value of Flaxlands Manor LWS which is significant at County level.

6.2 Habitats

6.2.1 Other Neutral Grassland (g3c)

At present, the Development Area supports approximately 39.7 ha of other neutral grassland (g3c) which is of Local importance. The construction of hard infrastructure associated with the Proposed Development will result in a permanent loss of 2.8 ha (~7% of the total area) of other neutral grassland. A total of 20.4 ha (~51% of total area) of other neutral grassland will be utilised for the construction of solar PV array.

Where solar PV arrays are to be installed on other neutral grassland, construction impacts will be minimised to the piling locations for the installation of pillars and requirements for vehicular access to facilitate this. During operation, the presence of the solar PV panels has potential to cause shading, though it is likely that the grassland will be maintained beneath the panels. As described in Section 9, a plan will be implemented for the monitoring and management of grassland habitats throughout the Development Area to ensure that all grasslands are maintained in the target condition as considered by the BNG assessment. As this habitat is of medium distinctiveness, it is considered likely that the moderate species diversity of the other neutral grassland will be maintained during operation of the Proposed Development, through the implementation of a monitoring and management regime.

In several locations, areas of other neutral grassland are not developable due to the presence of PROWs or overhead lines. In these instances, the grassland will not be subject to works to facilitate the Proposed Development. These areas will be retained in their existing condition and subject to ongoing monitoring and management.

Given the likely retention in species diversity of other neutral grassland, the overall residual effect of the Proposed Development on other neutral grassland is concluded to be **minor adverse** and at county level.

6.2.2 Modified Grassland (g4)

The Development Area currently supports approximately 46.2 ha of modified grassland (g4) which is of Site importance. The construction of hard infrastructure associated with the Proposed Development will result in a permanent loss of approximately 2.4 ha (~5% of the total area) of modified grassland. Solar PV arrays will be constructed on approximately 21.8 ha of modified grassland (~47% of total area). A temporary loss of modified grassland will occur due to the presence of the construction compound required during the construction phase of the Proposed Development.

Where solar PV arrays are to be installed on modified grassland, construction impacts will be minimised to the piling locations for the installation of pillars and requirements for vehicular access to facilitate this. During operation, the presence of the solar PV panels has potential to cause shading, though it is likely that the grassland will be maintained beneath the panels. As described in Section 9, a plan will be implemented for the monitoring and management of grassland habitats throughout the Development Area to ensure that all grasslands are maintained in the target condition as considered by the BNG assessment.

Decommissioning of the Proposed Development is likely to result in the localised loss of modified grassland, due to the requirement for vehicular access to remove the solar PV arrays. Where the loss of modified grassland cannot be avoided, this will be reinstated as soon as possible following the completion of construction works.

Overall, the effect of the Proposed Development on modified grassland is concluded to be **minor adverse**.

6.2.3 Mixed scrub with scattered trees (h3h 32)

Mixed scrub is present in proximity to Pond 9 and is also classified as Site importance. Given that the scrub is associated with a watercourse and a pond, which have an embedded minimum no works buffer of 10 m, no loss or degradation of scrub is likely to occur as a result of the Proposed Development during construction, operation or decommissioning. The effect of the Proposed Development on scrub habitats is therefore concluded to be **negligible**.

6.2.4 Priority habitats ponds (r1g 40)

Priority habitat ponds of Regional importance are present throughout the Ecological Assessment Boundary. As described in Section 5, a 10 m buffer has been applied to all ponds within and adjacent to the Development Area in which no works will take place. No vegetation clearance will take place within 10 m of any ponds and no works will be required to the banks. No alterations will be made to the flow of water in or out of ponds as a result of the Proposed Development. As the pond habitats will be retained in their current state and pollution prevention measures implemented for the duration of construction, operation and decommissioning of the Proposed Development, the overall effect is concluded to be **negligible**.

6.2.5 Species-rich native hedgerows with trees (h2a5 32)

Species-rich hedgerows within the Development Area are of County importance. As far as possible, crossings through hedgerows will be restricted to the location of existing gaps and field entrances. Where pruning is required to ensure the existing gaps are of sufficient width, this will be kept to a minimum to ensure the continued integrity of the hedgerows.

To allow access to the Development Area from Flaxlands Lane, two new gaps will be created in species-rich native hedgerows for the construction of access roads. The access north of Flaxlands Lane will lead to permanent hedgerow loss of approximately 20 m wide. The access to the south of Flaxlands Lane will lead to permanent hedgerow loss approximately 10 m wide.

Temporary proposed passing places will remove, approximately 40 m of hedgerow along Flaxlands Lane (on the north side only). Where possible the hedgerow will be translocated temporarily and replanted after construction, supported by new infill hedge planting of locally sourced native species. This will preserve the soil ecology and seed bank associated with species-rich hedgerow. Alternatively, this hedgerow will be reinstated with locally sourced native planting following construction, with an appropriate species mix.

As all other species-rich native hedgerows will remain in their existing condition during construction and operation of the Proposed Development, the overall effect of the Proposed Development upon these habitats is considered to be **minor adverse**.

6.2.6 Native hedgerow (h2a6)

The native hedgerows within the Development Area are concluded to be of Local importance, they will largely be retained during construction and operation of the Proposed Development as access will be obtained through existing gaps. Where pruning is required to ensure the existing gaps are of sufficient width, this will be kept to a minimum to ensure the continued integrity of the hedgerows.

Two new gaps will be created in existing native hedgerows to facilitate the construction of access roads and perimeter tracks in the north of the Development Area. An additional two new gaps will be created in native hedgerow in the south. This will lead to the permanent loss of no more than 5 m of habitat in each hedgerow.

As the vast majority of native hedgerows within the Ecological Assessment Boundary will not be impacted by the construction or operation of the Proposed Development, and only small gaps will be created, the overall effect of the Proposed Development upon these habitats is considered to be **minor adverse**.

6.3 Protected Species

6.3.1 Great Crested Newt

Great crested newt are known to be present within at least five ponds (Ponds 2, 6, 7, 8 and 9) in the Ecological Assessment Boundary and a further two (Ponds 10 and 11) in close proximity to the boundary⁴⁹. In the absence of surveys to inform a population estimate, the population is assumed to be of Regional importance. Terrestrial habitats with suitability for great crested newt within the Ecological Assessment Boundary include hedgerows, scrub and grasslands. Areas of grassland which are regularly sheep-grazed are short and uniform in nature, therefore offering limited opportunity for great crested newt. Arable farm land with high densities of ponds has been shown to support large populations of great crested newt⁴⁹, though it is generally agreed that the highest densities of great crested newt are present within 50 m of the breeding ponds^{49,50}.

Given the geographic location of the Site, a Natural England District Level Licence (DLL) for great crested newt will be obtained in advance of the commencement of works to facilitate the Proposed Development. The DLL is an approach which relies on data modelling to assess the likely impact of development, identify where suitable habitat for compensation should be targeted and identify 'risk zones' according to the potential presence for great crested newt. The implementation of DLL ensures a net increase in habitat available to great crested newt, to maximise the conservation status of the population. The Ecological Assessment Boundary is within amber and green risk zones, meaning that suitable habitat is present and great crested newt are likely to be present.

It has been agreed that a 10 m buffer will be maintained around aquatic habitats, including ponds, in which no works will take place. This is in combination with general pollution prevention measures outlined above. As such, no direct impacts to breeding habitat in use by great crested newt are likely to occur as a result of the Proposed Development. In the south of the Development Area, Pond 8 is within a field that will not be subject to works to facilitate the Proposed Development other than the construction of a perimeter track through the centre, this is at least 70 m from Pond 8 and therefore unlikely to cause an effect on individuals. This field may be subject to works required to enable the achievement of a 10% gain in biodiversity units, though the potential presence of protected species, including great crested newt, will be considered during the design of these measures. Similarly, Ponds 2, 6 and 7 are in proximity to habitats that will be retained throughout the construction and operation phases of the Proposed Development:

- Pond 2: on the edge of the Development Area, in close proximity to the no-works buffer applied to adjacent woodland. The grassland closest to Pond 2 is currently subject to intense sheep grazing and unlikely to provide optimal terrestrial habitat.
- Pond 6: adjacent to a hedgerow and close to PRow, both of which are subject to a 15 m buffer in which no works will take place to facilitate the Proposed Development.
- Pond 7: on the edge of the Development Area, within a no-works buffer applied to a PRow. Connectivity between this pond and the nearby woodland will be maintained during construction and operation of the Proposed Development.

The construction phase of the Proposed Development has the potential to cause the death or injury of great crested newt as a result of required vegetation clearance and ground-breaking works to facilitate the construction of access tracks and installation of the solar PV array, particularly where works are required within 50 m of a pond. This will be managed through the implementation of a precautionary working methodology⁵¹. The perimeter fencing will be approximately 2.5 m tall and of a structure suitable for security purposes, though it will contain suitable gaps at the base to ensure the habitats within the Development Area remain available to amphibians. Access tracks will be created through gaps within existing hedgerows, where clearance works are required these will be kept to a minimum and follow a directional methodology. Should this be required, works should be timed to avoid the

⁴⁹ Cresswell, W & Whitworth, R. (2004) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt *Triturus cristatus*. English Nature Research Report 576. English Nature, Peterborough.

⁵⁰ Jehle, R. (2000) The terrestrial summer habitat of radio-tracked great crested newts (*Triturus cristatus*) and marbled newts (*T. marmoratus*). *Herpetological Journal* 10:137-142

⁵¹ ARG UK Guidance for works carried out under great crested newt district level licensing. Available online at: <https://www.arguk.org/downloads-in-pages/resources/gcn-licensing-reform/436-ne-gcn-dll-guidance-march19/file>

amphibian hibernating season (October-February, inclusive) to reduce the risk of killing or injuring great crested newt potentially hibernating within the hedgerow.

The installation of buildings, including the BESS and MV stations, will lead to the permanent loss of habitat with potential to support great crested newt. However, these are small in area (0.95 ha) and generally within areas of suboptimal habitat that are currently grazed by sheep and likely to have minimal impact on amphibians. Similarly, the construction compound to be created to facilitate the Proposed Development is located within a field containing short, grazed grassland. The nearest ponds to the proposed construction compound location (Ponds 3 and 4) were concluded to have Below Average HSI¹⁵.

Grassland habitats throughout the Ecological Assessment Boundary will be subject to increased shading as a result of the presence of solar PV arrays during the operational phase of the Proposed Development. As described in Section 9, these will be routinely monitored and managed to ensure that the habitats are retained in the existing condition. These habitats will therefore remain available to, and suitable for, great crested newt and, the presence of the panels is considered unlikely to affect great crested newt.

The mitigation measures described, in combination with the obtainment of a DLL, will result in the Proposed Development having a **negligible** effect on great crested newt.

6.3.2 Common Toad

Common toad has been recorded within the Ecological Assessment Boundary¹ and habitats suitable for breeding, foraging and hibernating are present throughout. In the absence of surveys, the population is assumed to be of Local importance. Common toad rely on aquatic habitats for breeding, though spend much of the year in terrestrial habitats such as woodland and tussocky grassland.

It has been agreed that a 10 m buffer will be maintained around aquatic habitats, including ponds, in which no works will take place. This is in combination with general pollution prevention measures outlined above. As such, no impacts to breeding habitat in use by common toad are likely to occur as a result of the Proposed Development.

The construction phase of the Proposed Development has the potential to cause the death or injury of common toad as a result of required vegetation clearance and ground-breaking works to facilitate the construction of access tracks and installation of the solar PV array. This will be managed through the implementation of precautionary working methodology. The perimeter fencing will be of a height and structure suitable for security purposes, though it will contain suitable gaps at the base to ensure the habitats within the Development Area remain available to amphibians.

As outlined above, terrestrial habitats beneath the solar PV array will be appropriately managed to ensure the continued suitability for amphibians. Therefore, the effect of the Proposed Development on common toad is concluded to be **negligible**.

6.3.3 Breeding Birds

The Ecological Assessment Boundary supports a breeding bird assemblage of Local importance due to the presence of at least 25 breeding species of bird, several of which are listed on Section 41 of the NERC Act. The Proposed Development has the potential to cause loss of habitat and disturbance to breeding birds.

During construction, impacts to breeding birds will be managed through the implementation of a PWMS, to ensure that no individuals are disturbed, killed or injured as a result of construction activities including vegetation clearance. The permanent loss of habitat resulting from the construction of the BESS is in close proximity to identified breeding territories for wren, dunnoek and wood pigeon. As the breeding habitats of these species are associated with hedgerows and scrub, it is considered likely that sufficient habitat will be retained within the Development Area to sustain breeding populations at their current level.

During operation, the Proposed Development has potential to cause the continued disturbance to breeding birds as a result of noise generation at the BESS. As the breeding bird surveys did not identify any particularly sensitive species, it is considered likely that the population will habituate to the ongoing noise. Little scientific evidence exists to evaluate the impact of ground-mounted solar panels on birds and it is likely that the impact of their presence will be dependent on the species and habitats to be considered⁵². The presence of ground-mounted solar PV systems

⁵² Harrison, C., Lloyd, H., Field, C. (2016) Evidence review of the impact of solar farms on birds, bats and general ecology. Natural England Report NEER012.

is considered to pose negligible collision risk to barn owl⁵³. The installation of the solar array is likely to lead to a loss of habitat in use by foraging barn owl, though the habitats are assumed to remain accessible to individuals. Areas of open grassland habitat will be retained during operation of the Proposed Development, therefore enabling continued use of the Development Area by breeding skylark. There is research suggesting that ground-nesting birds require an unbroken line of sight and avoid nesting within solar farms⁵⁴. As such, a monitoring regime will be implemented during operation of the Proposed Development to identify its impact and appropriate remedial measures, factors to be included within this monitoring regime will be outlined in the oLEMP. As described, grassland habitats will be subject to ongoing monitoring and management to ensure the continued presence and diversity of habitats, this will maintain an invertebrate species assemblage appropriate for species which are reliant upon them.

Overall, the effect of the Proposed Development on breeding birds is concluded to be **minor adverse**.

6.3.4 Bats

The Ecological Assessment Boundary supports a bat species assemblage of National importance, including barbastelle and lesser horseshoe bat which are particularly sensitive to disturbance. No roosting bats were identified during the surveys, though trees with features suitable for roosting bats (excluding lesser horseshoe) are present within the Development Area.

Roosting

Where works are required within 30 m of trees with suitability for roosting bats, these features have been subject to endoscopic inspection. No bats were recorded during these surveys, though features with suitability for multiple bats (PRF-M) were confirmed present on two trees within the Development Area. During construction of the Proposed Development, fencing will be installed no closer than 15 m from trees with suitability for roosting bats. This will not cause any damage or destruction to the roost features, nor will it obstruct the roost feature. As there is potential for this work to cause disturbance to bats roosting within trees in the Development Area, a PWMS will be implemented to ensure that impacts do not occur. The works will be short in duration, localised only to areas requiring piling for the installation of fence posts and temporary in nature.

It is understood that trees may be removed along Flaxlands Lane to facilitate the requirement for passing places for construction traffic. One tree (T78) with Potential Roost Features will be felled to accommodate the proposed passing places. This location was chosen for the passing bay as it avoids other mature trees in good condition with Potential Roost Features. Tree T78 identified as T265 in the Arboricultural Impact Assessment, has been classified as unsuitable for retention (Category U). *'It is considered that these tree features would require removal regardless of any development proposals due to their poor condition (sparse crown with dieback and deadwood) and proximity to Flaxlands Lane'*⁴⁶. At this stage further assessment is required to determine if bats are present. For this EclA a worst-case scenario that the tree might support a low-conservation roost (equivalent to PRF-I) has been adopted in the absence of a survey based on professional judgment of the location and context of the tree and the suitability of the potential roost features. The assessment (comprising inspection and/or emergence survey) would be completed post determination secured in the Framework LEMP, and any mitigation would be secured in the detailed LEMP which will be subject to approval by the council.

Works along Flaxlands Lane will occur within 30 m of trees with potential to support roosting bats. Should roosts be present there is potential for disturbance from noise and vibration during construction. As there is potential for this work to cause disturbance to bats roosting within trees in the Development Area, a PWMS will be implemented to ensure that impacts do not occur. There is no further requirement for tree felling during the construction or operation of the Proposed Development and there are no trees located within hedgerows requiring the creation/widening of gaps to facilitate access. As such, all other features with suitability for roosting bats will be retained in their current condition.

Operation of the Proposed Development is likely to include the occasional access for maintenance activities only and is anticipated to require the movement of a single vehicle. This is therefore unlikely to cause disturbance to roosting bats.

Ambient noise levels ($L_{Aeq,T}$) measured in September-October 2024, indicate the noise levels bats are currently habituated to across the site. Monitoring sites recorded peak sound levels during the day (07:00-19:00), of 49

⁵³ The Barn Owl Trust (2015) Barn Owls and Rural Planning Applications – a Guide. Available online at <https://www.barnowltrust.org.uk/wp-content/uploads/Barn-Owls-and-Rural-Planning-Applications-a-Guide-2015.pdf>

⁵⁴ Taylor, R., Conway, J., Gabb, O. & Gillespie, J. (2019) *Potential ecological impacts of ground-mounted PV solar panels*. Available online at <https://www.bsg-ecology.com/wp-content/uploads/2019/04/Solar-Panels-and-Wildlife-Review-2019.pdf>

$L_{Aeq,12hour}$ dB to the south of Flaxlands Farm, near Flaxlands Lane (LT1), 48 $L_{Aeq,12hour}$ dB to the north west of the Site, near the woodland (LT2), and an average 51 $L_{Aeq,12hour}$ dB at Flaxlands Field Farm near the centre of the Ecological Assessment Boundary (LT4)⁴².

During operation of the Proposed Development, each BESS unit, each inverter, and the substation transformer are anticipated to have a sound power level of 83 dB(A), 84 dB(A) and 95 dB(A), respectively, at all hours. Each MV station will have a sound power level of 93 dB(A) in the daytime only⁴². None of these structures will emit ultrasound. As these structures will be located at least 30 m from trees with potential to support roosting bats, they are not anticipated to cause any significant disturbance to roosting bats.

The modelled increase in ambient noise levels, indicates that there is potential for the operation of the Proposed Development to cause a worst-case increase of approximately 4 dB during the day-time (07:00-19:00) and 7 dB during the evening (19:00-23:00) at noise monitoring location LT2. In addition, a worst-case increase of approximately 6 dB during the night-time (23:00-07:00) is expected at noise monitoring location LT4. It is considered that these increases in noise levels within the Site are zonal and contained to specific areas; noise monitoring location LT3 for example is not anticipated to experience any change in noise levels and LT1 is at most predicted an increase of 2.5 dB. These zonal ambient noise level increases are minimal and do not exceed 60 dB in any location. Therefore, the increase in noise levels due to the operation of the Proposed Development is not anticipated to cause any significant disturbance to bats.

As artificial lighting is required during operation at the BESS only, and this will only be utilised during occasional maintenance activities, lighting is not considered to pose significant impact to bats within the Development Area. No lighting is required to facilitate construction of the Proposed Development.

All but one tree that has potential to be affected by the Proposed Development have been suitably assessed and appropriate mitigation applied. Therefore, in general the impact on roosting bats is considered to be Minor adverse. However, due to the uncertainty regarding T78, the residual potential effect of the Proposed Development on roosting bats is concluded to be **moderate adverse**. Further assessment of T78 will be completed post determination secured in the Framework LEMP, and any mitigation would be secured in the detailed LEMP which will be subject to approval by the LPA. Should this post determination survey identify no bat roosts within T78, the moderate adverse effect would be downgraded to minor adverse.

Commuting

During construction, the Proposed Development has the potential to cause the loss and degradation of habitats in use by commuting bats. The hedgerows within the Ecological Assessment Boundary will be retained where possible, with no permanent gaps greater than 20 m created as a result of the Proposed Development. The majority will be no greater than 5 m. There is a requirement to create two new permanent gaps in hedgerows on Flaxlands Lane, one to the north (20 m) and one to the south (10 m), to facilitate access to the Development Area during construction. These gaps will not be directly opposite each other and as the two hedgerows run parallel, and the dark corridor of Flaxlands Lane is to be retained, it is considered likely these features will remain functional and accessible to commuting bats. Additionally, temporary proposed passing places will affect up to 40 m of hedgerow along Flaxlands Lane. Where temporary gaps over 5 m are created during construction of the Proposed Development, temporary flightlines should be created to ensure continuity of habitats, these should be constructed prior to the removal of the current hedgerows and be at least 2 m high and maintained until permanent flightlines are re-instated or established. Temporary flightlines may include the use of potted shrubs/trees, screening or Heras fencing with attached brash and vegetation.

During operation of the Proposed Development, each BESS unit, each inverter and the substation transformer are anticipated to have a sound power level of 83 dB(A), 84 dB(A) and 95 dB(A), respectively, at all hours⁴⁴. Each MV station will have a sound power level of 93 dB(A) in the daytime only. None of these structures will emit ultrasound and they will be located at least 15 m from green corridors likely to provide high value habitat for commuting bats. As such, their potential to cause a loss of habitat in use by commuting bats is considered to be negligible. Other than the larger gaps along Flaxlands Lane, all other gaps in hedgerows will be no greater than 5 m, due to the avoidance and mitigation measures detailed. Therefore the construction and operation of the Proposed Development is not anticipated to cause any significant disturbance to commuting bats using the hedgerows.

Foraging

Suitable habitats for foraging bats will be subject to works during construction of the Proposed Development. Where this is within modified grasslands, the impact on foraging bats is likely to be minimal as the habitat is typically of low foraging value for bats. The construction of the BESS and transformers is therefore considered to result in a

permanent loss of low value habitat. The construction of access tracks will also result in a permanent loss of habitat in use by foraging bats, including the other neutral grassland and lowland meadows. Though this loss is permanent, it is unlikely to have a significant impact on the local bat population due to the off-setting of at least 10 m from green corridors.

A temporary loss of grassland habitat will occur as a result of the construction of solar PV panels, due to ground-breaking works required to install their pillars and footings. This is unlikely to have a significant impact on bats due to the relatively small area to be impacted and retention of similar habitat within the landscape.

No lighting, or night-time working, is anticipated during construction of the Proposed Development.

The presence of the solar PV arrays has the potential to cause degradation of grassland habitats during operation of the Proposed Development. Investigations into the potential for this to cause a reduction in insect diversity and biomass (which is known to be the key factor in determining the quality of bat foraging habitats⁵⁵) are ongoing. Acoustic analysis within solar farms has identified that bats continue to feed amongst solar PV arrays, though activity levels are generally lower than in semi-natural habitats⁵⁶. As bat activity levels in solar farms are typically comparable to that in arable habitats⁵⁶, the installation of solar PV arrays within modified grassland is unlikely to be of significant impact to foraging bats. However, where arrays are to be installed in other neutral grassland or lowland meadows, monitoring will be required to ensure that these habitats remain suitable and utilised by foraging bats. Depending on the results of monitoring, additional compensation measures may be required to address a decline in bat activity. This could include offsite habitat creation and enhancement, such as hedgerow creation, species rich grassland creation and /or pond creation.

Given the lack of information regarding the use of solar farms by bats, a precautionary approach must be taken when assessing the potential impact of the Proposed Development. The Proposed Development has the potential to cause the degradation of 42.2 ha of grassland habitats in use by foraging bats, though commuting features will be largely retained due to the implementation of no-works buffers. Due to the inherent uncertainty, monitoring will be required to identify any adverse effect on population/activity or conservation status. If a significant impact on the bat population is identified, offsite compensation measures will be required. These measures may include offsite habitat creation and enhancement, or a change in management to those habitats retained within the Development Area.

Due to the uncertainty, the residual potential effect of the Proposed Development on foraging and commuting bats is concluded to be **moderate adverse**.

6.3.5 Badger

Field signs indicative for badger, including latrines and outlier setts, are indicative of the presence of opportunistic individuals within the Ecological Assessment Boundary and is of Local importance. The Proposed Development has the potential to cause:

- disturbance to a badger within a sett;
- damage or destruction of a badger sett; and,
- loss and degradation of foraging habitat.

As badger are a highly mobile species, an update survey should be undertaken prior to the commencement of works. Works will be adjusted to avoid impacts to any identified badger setts. This may include the diversion of access tracks or a reduced number of solar PV panels to be installed in an area to ensure that a suitable buffer is maintained to avoid impact to badger. If impacts to a sett cannot be avoided, a closure licence from Natural England will be secured and methods within the licence will be followed. As activity recorded within the Ecological Assessment Boundary is low, it is considered highly unlikely that the closure of a main sett will be required to facilitate the Proposed Development.

Habitats within the Ecological Assessment Boundary with suitability for foraging and sett-building badger, including hedgerows and grasslands, will be retained during construction, operation and decommissioning of the Proposed Development. The installation of solar PV arrays and perimeter fencing will follow a precautionary methodology, as outlined in the CEMP, to prevent the entrapment of badger within open excavations. The perimeter fencing will be

⁵⁵ Kyheröinen, E.M. et al. (2019) Guidance on the conservation and management of critical feeding areas and commuting routes for bats. EUROBATS Publication series No. 9. UNEP/EUROBATS Secretariat, Bonn, Germany, 109 pp.

⁵⁶ Szabadi, K.L., Kurali, A., Rahman, N.A.A., Froidevaux, J.S.P., Tinsley, E., Jones, G., Görföl, T., Estók, P. & Zsebök, S. (2023) The use of solar farms by bats in mosaic landscapes: implications for conservation. *Global Ecology and Conservation*. 44, e02481. Doi:10.1016/j.gecco.2023.e02481

approximately 2.5 m tall and of a structure suitable for security purposes, though suitable gaps (at least 20 cm wide and 20 cm high) will be provided to ensure that wildlife such as badger are able to freely move about the landscape, a gap will be provided in every 200 m section of fencing.

As minimal, occasional lighting is required to facilitate the Proposed Development, and all works will take place in the day time. Overall, the impact of the Proposed Development on badger is concluded to be **negligible**.

6.4 Summary of Impacts and Effects

The predicted impacts and effects of the Proposed Development have been assessed during the construction, operation and decommissioning phase in light of the embedded mitigation described. Where residual effects have been identified, the likely significant effects on ecological features are summarised in Table 6.2.

Table 6.2 Summary of Impacts and Effects

Ecological Feature	Importance	Summary of Potential Impacts			Mitigation Measures	Residual Effect
		Construction	Operation	Decommissioning		
Flaxlands Manor LWS	County	Destruction of habitats due to construction of access tracks.	Degradation of habitats due to shading.	Destruction of habitats due to vehicular movement.	Incorporation of pollution prevention measures in the CEMP.	Minor Adverse
Other neutral grassland (g3c)	Local	Destruction due to construction of access tracks, localised piling for fence and panel installation.	Degradation of habitats due to shading.	Destruction due to vehicular movement and ground-breaking works to remove piles.	Minimisation of working areas. Monitoring and management regime to be implemented during operation.	Minor Adverse
Modified grassland (g4)	Site	Permanent loss due to construction of BESS and transformers. Destruction due to construction of access tracks, localised piling for fence and panel installation.	Degradation of habitats due to shading.	Destruction due to vehicular movement and ground-breaking works to remove piles.	Reinstatement of areas destroyed during construction.	Minor Adverse
Species-rich native hedgerows with trees (h2a5 32)	County	Localised destruction and degradation due to the construction of access tracks.	None	None	Minimisation of working areas. Access tracks to be constructed in existing gateways as far as possible.	Minor Adverse
Native hedgerow (h2a6)	Local	Localised destruction and degradation due to the construction of access tracks.	None	None	For temporary hedgerow removal, (where possible) hedgerow will be translocated temporarily and replanted after construction. Alternatively, hedgerows will be reinstated following construction, with an appropriate species mix.	Minor Adverse
Bats	National	Destruction and degradation of habitats in use by foraging and commuting bats.	Degradation of habitats in use by foraging bats.	Destruction and degradation of habitats in use by foraging and commuting bats.	Minimisation of working areas, including buffers from trees and locating access tracks in existing hedgerow gaps.	Moderate Adverse*

Ecological Feature	Importance	Summary of Potential Impacts			Mitigation Measures	Residual Effect
		Construction	Operation	Decommissioning		
		Risk of disturbance to bats roosting within the Development Area. Potential for Tree T78 to support a low-conservation roosts and for that roost to be destroyed (felled).			Monitoring will be required to identify any significant adverse effects on foraging bats. If significant effects are identified then mitigation/ off-site compensation will be required. Where temporary gaps in hedgerows are created, flightlines must be replaced and maintained until permanent flightlines are re-instated. Implementation of PWMS to avoid disturbance impacts to roosting bats. The assessment of T78 (comprising inspection and/or emergence survey) would be completed post determination secured in the Framework LEMP, and any mitigation would be secured in the detailed LEMP which will be subject to approval by the LPA Should a bat roost be identified a European Protected Species Licence from Natural England to destroy or disturb a roost (fell the tree) will be required and working methods may include restricting the removal of this tree to a time of year when the bats are not roosting in the tree and installation of compensation bat boxes.	

*See Section 6.3.4 - Bats

7. Cumulative Effects

A search of planning applications within 2 km of the Proposed Development was undertaken in April 2025 to determine whether any similar or large-scale developments are in the planning process which could have the potential to result in significant cumulative effects with the Proposed Development. The search identified no developments with the potential to lead to significant cumulative effect. The effects of the Proposed Development are expected to be limited to within 1 km of the Development Area and this does not overlap with the impacts associated with cumulative schemes in the vicinity.

8. Monitoring Requirements

As described in the Wiltshire Solar PV Farm guidelines⁶, monitoring will be carried out in years 1, 3, 5, 10, 25 and 40 of operation of the Proposed Development. The key considerations for this should be the lowland meadows HoPI within the CWS, skylark and bat activity within the Development Area.

Monitoring will be conducted to ensure that the HoPI lowland meadows within the Development Area are retained in a suitable condition during construction and operation of the Proposed Development. A suitably qualified ecologist will be appointed to conduct surveys and provide recommendations for the management of the grasslands. These recommendations may differ each year, depending on the findings of the monitoring visits, though may include a cutting or grazing regime to ensure adequate species and structural diversity of the grassland.

Monitoring will also be carried out to ensure that the bat species identified within the Ecological Assessment Boundary³³ continue to use the flightlines and foraging habitats retained within the Development Area. This should include the deployment of automated static bat detectors to allow identification of the species present, and an assessment regarding their use of the Development Area. If significant effects are identified, then off-site compensation may be required. These measures may include offsite habitat creation and enhancement, or a change in management to those retained within the Development Area.

9. Conclusions

This assessment has identified no residual effects on the majority of ecological receptors within the zone of influence of the Proposed Development, including those scoped out of further assessment in Table 6.1, provided that the mitigation measures summarised in Table 6.2 are incorporated into the design.

Where impacts to protected species cannot be avoided, mitigation licences will be obtained to ensure that no residual effects will result from the Proposed Development. This will apply to badger, for example, should any setts be identified during the pre-construction check and it not be possible to adjust required works to avoid destruction, obstruction or damage to a sett or a badger occupying the sett. In the case of great crested newt, a DLL will be obtained from Natural England, all working methodology recommended by Natural England will be followed and it is considered that the compensatory measures included within this process will be sufficient to avoid net impact to great crested newt despite their confirmed presence within the Development Area.

A monitoring and management regime must be implemented during operation of the Proposed Development to maintain the grasslands in their existing condition as far as possible, including those within Flaxlands Manor LWS. Compensation measures are recommended, including the restoration of habitats within the CWS adjacent to the Development Area, quantitative assessment of this is provided within the BNG report.

The permanent loss of all other habitats associated with the Proposed Development is relatively low, given the implementation of appropriate no-works buffers (as outlined in Table 5.2) and that 95% of habitat beneath and surrounding solar PV arrays are likely to be retained. All woodlands and aquatic habitats will be retained and protected from construction run-off and pollution during construction and operation of the Proposed Development. Hedgerows are to be largely retained, with minimal works required to widen existing gaps where access is required to facilitate the Proposed Development.

The potential effects of the Proposed Development in relation to foraging and commuting bats is of consideration given the presence of highly protected and sensitive species. Flightlines will be retained throughout the Development Area and this will provide continued connectivity to habitats available in the wider landscape.

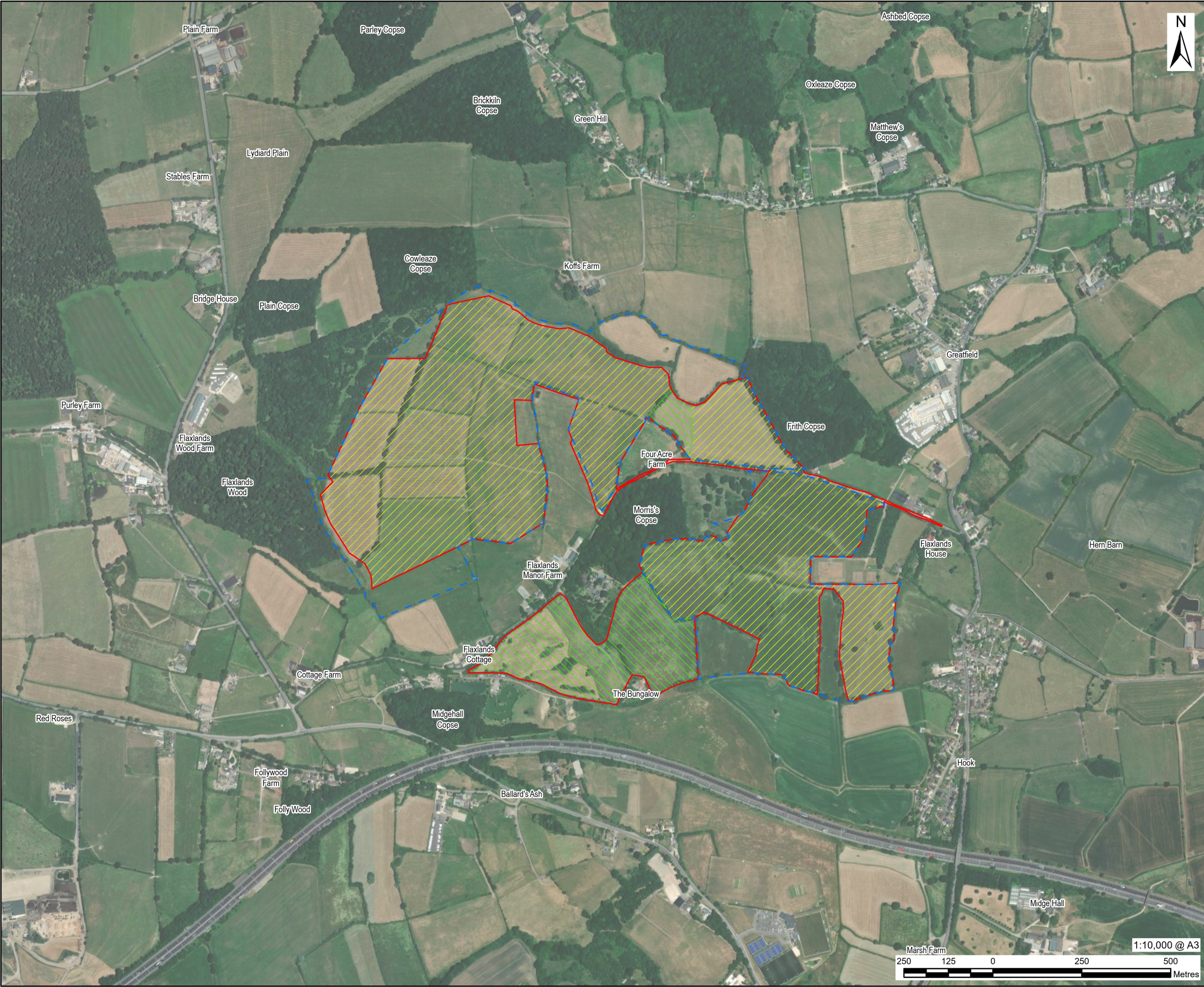
The overall impact of the Proposed Development is considered to be **minor adverse** utilising a cumulative approach of the residual impacts. However, further survey is required to fully assess impacts on roosting bats in trees and therefore the **moderate adverse** impacts remain at this stage. Additionally, due to uncertainty in the way that bats will react to the installation of Solar PV, Moderate adverse impacts remain for foraging and commuting bats. This uncertainty will be addressed through post construction monitoring, with any significant effects addressed through compensation measures.

Appendix A Figures

Figure 1. Ecological Assessment Boundary

Figure 2. Habitats within the Ecological Assessment Area

Figure 3. Badger Setts and Field Signs – Incidental Recordings



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PROJECT

Flaxlands Solar Farm

CLIENT

Ampyr Solar Europe

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LEGEND

- Site Boundary
- Ecological Assessment Boundary
- BNG Area
- Development Area

NOTES

1: Earthstar Geographics, Microsoft

ISSUE PURPOSE

Ecological Impact Assessment

PROJECT NUMBER

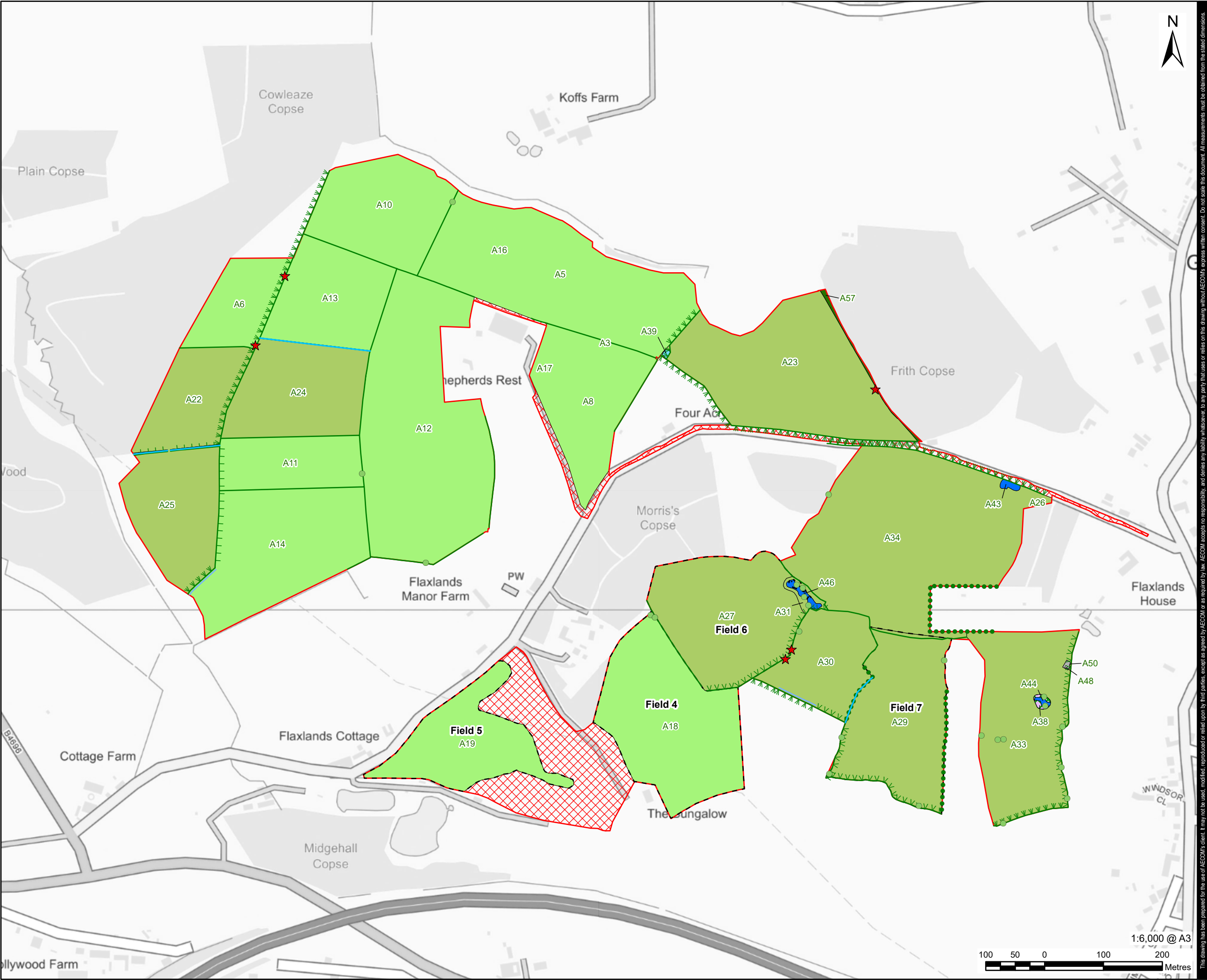
60727989

FIGURE TITLE

Ecological Assessment Boundary

FIGURE NUMBER

Figure 1



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LEGEND

- Site Boundary
- Rural tree
- Veteran tree
- Ditches
- Line of trees
- Native hedgerow
- Native hedgerow with trees
- Species-rich native hedgerow
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with bank or ditch
- Grassland - Modified grassland
- Grassland - Other neutral grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
- Lakes - Ponds (priority habitat)
- Urban - Developed land; sealed surface
- Watercourse Footprint
- Woodland and forest - Other woodland; broadleaved
- Not surveyed
- Local Wildlife Site (LWS)

NOTES

1: Contains OS data © Crown Copyright and database right 2022

ISSUE PURPOSE

Ecological Impact Assessment

PROJECT NUMBER

60727989

FIGURE TITLE

UK Habitats within the Ecological Assessment Boundary

FIGURE NUMBER

Figure 2



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LEGEND
Site Boundary
Badger Sett - Active Outlier
Latrine
30m Buffer

NOTES
1: Microsoft

ISSUE PURPOSE
Ecological Impact Assessment

PROJECT NUMBER
60727989

FIGURE TITLE
Incidental recordings of badger field signs

FIGURE NUMBER
Figure 3

Appendix B Ecological Survey Reports

[To be submitted as separate PDFs]

- B.1 Preliminary Ecological Appraisal Report**
- B.2 National Vegetation Classification and Rare Plant Survey Report**
- B.3 Great Crested Newt Survey Report**
- B.4 Common Reptile Survey Report**
- B.5 Breeding Bird Survey Report**
- B.6 Roosting Bat Survey Report**
- B.7 Foraging and Commuting Bat Survey Report (Bat Activity Report)**
- B.8 Otter and Water Vole Survey Report**

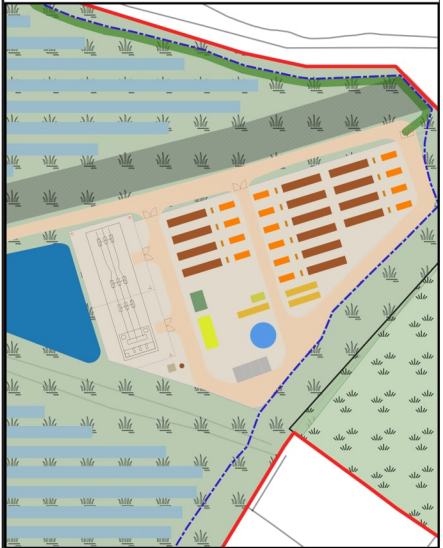
Appendix C Design Freeze



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- LEGEND:**
- Red Line Boundary
 - Perimeter Fence
 - Solar Panels
 - Access Roads
 - Perimeter track
 - Passing Places
 - Substation and BESS Area
 - Substation Design
 - BESS Units
 - BESS Management Units
 - MV Station
 - DNO Control Substation
 - Customer Substation
 - DNO Waste
 - Segregated Waste Management
 - Storage Container
 - Communication Tower
 - Car Parking
 - Flood Lights
 - Gates
 - Water Tank
 - Indicative Construction Compound
 - Overhead Electricity Line Buffer
 - Attenuation Basin
 - Proposed PRoW 15m buffer
 - BNG Areas
 - Grazing/ Meadow Seed Mix

Inset map showing substation design:



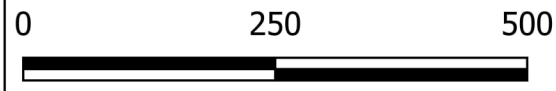
As built	Information only	For approval	For construction
	X	X	

REVISION HISTORY			
Rev	Date	Remarks	Prepared by
R11	25.04.25	Updated Design	MB

PROJECT: Flaxlands Solar Farm
PROPOSER: AMPYR Solar Europe
DRAWING TITLE:
Concept Design

CRS: OSGB36 / British National Grid
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Y 185137.85396913975

SCALE @ A3: 1:7500



Appendix D Summary of Relevant Wildlife Legislation and Policy

D.1 Wildlife Legislation

A summary of the wildlife legislation considered relevant to this EclA is provided in Table D.1.

Table D.1 Summary of Relevant Wildlife Legislation

Legislation	Summary
Conservation of Habitats and Species Regulations 2019 (Amendment)(EU Exit Regulations)	The Conservation of Habitats and Species Regulations are in place to transpose the Council Directive 92/43/EEC on conservation of natural habitats and wild fauna and flora into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Conservation of Habitats and Species protects designated sites, including SACs and SPAs, which support vulnerable and protected species as listed within the directive. SACs are considered the best areas to represent a range and variety of habitats and species within the European continent and are protected to form an ecological network and SPAs are strictly protected sites for the most important habitats in use by rare and migratory birds. The Regulations also provide a framework for the protection, management and control of all species of naturally occurring wild birds. Several species, including bats, dormice, otter and great crested newt, are listed within these regulations as 'European Protected Species'. It is an offence to deliberately capture, injure, kill or disturb individuals of these species and it is an offence to damage or destroy a breeding or resting place used by them. Where development cannot avoid impact to European Protected Species, mitigation licences must be obtained from Natural England.
Wildlife and Countryside Act (1981)	The Wildlife and Countryside Act 1981 is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Conservation of Habitats and Species Regulations 2019 are implemented in the UK. The Countryside and Rights of Way Act 2000 has strengthened the legal protection. The Wildlife and Countryside Act provides protection to National Nature Reserves (NNRs) and SSSIs to manage them for the benefit of nature conservation. The Wildlife and Countryside Act also provides protection to species including water vole, common reptiles and nesting birds. Some birds are especially protected under Schedule 1 of the act which makes it an offence to disturb birds and their young at their nest. A small number of plant species are listed under Schedule 9 of the Wildlife and Countryside Act. This includes species such as Japanese knotweed (<i>Reynoutria japonica</i>), Himalayan balsam (<i>Impatiens glandulifera</i>), montbretia (<i>Crocsmia x crocosmiiflora</i>), giant hogweed (<i>Heracleum mantegazzianum</i>) and some cotoneaster species (<i>Cotoneaster</i> sp.). It is illegal to plant or to cause these plants to grow in the wild and legal disposal methods for vegetation and soil subject to disturbance or clearance from a site must be used.
National Parks and Access to the Countryside Act 1949	This act provides statutory designation to Local Nature Reserves (LNRs) and places responsibility upon local authorities and landowners to protect the LNR.
Protection of Badgers Act 1992	This act makes it an offence to wilfully take, kill, injure or ill-treat a badger, possess a dead badger or any part of a badger. Sett interference (obstruction, destruction or damage) and disturbance to a badger whilst occupying a sett is prohibited by this act. The act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'. Works That may disturb a badger within a sett or cause damage, destruction or obstruction to a sett may proceed with a development licence from Natural England.
The Hedgerow Regulations 1997	The Hedgerow Regulations 1997 make provision for the protection of important hedgerows. The regulations affect hedgerows which are 20 m or more in length, or connected at both ends to another hedgerow of any length. The act relates to hedgerows which are on, or adjoining land used for agriculture, forestry, breeding or keeping of horses and donkeys, common land, village greens and SSSIs. They do not include hedgers that are attached to or marking the boundaries of a private house. It is an offence to intentionally or recklessly remove or cause or permit another person to remove a hedgerow.
Natural Environment and Rural Communities (NERC) Act 2006	Section 40 of the NERC Act sets out the duty for public authorities to conserve biodiversity in England. Section 41 addresses this in the form of a list of species and habitats of principal importance for the conservation of biodiversity. This is used as a guide for decision makers in implementing their duty under Section 40 of the act.

D.2 National Planning Policy Framework Chapter 15

This chapter of the NPPF⁴ outlines the contributions development should make to conserving and enhancing the natural environment. This includes the protection and enhancement of sites of biodiversity value and minimising

impacts on biodiversity. The establishment and maintenance of ecological networks is encouraged to ensure that these remain resilient to potential changes and pressures in the future.

The chapter includes requirement for developments to identify, map and safeguard wildlife-rich habitats and wider ecological networks to ensure that wildlife corridors and stepping stones between designated sites are suitably maintained. Guidance for local planning authorities is included to prevent harm to wildlife through the avoidance and mitigation of potential impacts, unacceptable impacts as a result of development include degradation of designated sites and deterioration of irreplaceable habitats.

D.3 Local Planning Policy: Wiltshire Core Strategy

A summary of policies within the Wiltshire Core Strategy considered relevant to this EclA is provided in Table D.2.

Table D.2 Summary of Relevant Policies within the Wiltshire Core Strategy⁵

Policy Number	Summary of Policy
Core Policy 42: Standalone Renewable Energy Installations	This policy states that ' <i>Proposals for standalone renewable energy schemes will be supported subject to satisfactory resolution of all site specific constraints</i> ' and identifies biodiversity as a factor that should be considered for such developments.
Core Policy 50: Biodiversity and Geodiversity	This policy requires developments to demonstrate protection of biodiversity through the retention, buffering and management of features suitable for nature conservation to maintain ecological value, connectivity and functionality.
Core Policy 52: Green Infrastructure	This policy requires developments to provide for, and enhance, Wiltshire's green infrastructure network and requires the creation of new or replacement green infrastructure where damage is unavoidable to maintain the integrity and functionality of the network.
Core Policy 57: Ensuring High Quality Design and Place Shaping	This policy requires developments to retain and enhance existing natural features including trees, hedges and watercourses and take opportunities to enhance biodiversity where possible through the creation of wildlife corridors.

