# Great Harmeston Solar Farm

## Environmental Statement

### Chapter 7 Ecology

Development of National Significance
Pre-Application Consultation

March 2026

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# 7. Ecology

## 7.1. Introduction

7.1.1. This chapter of the Environmental Statement (ES) presents the assessment of likely significant effects of the Proposed Development on ecology and biodiversity. The assessment has been undertaken by competent ecological specialists and considers the legislative and policy framework, the methodology adopted, baseline ecological conditions within the Site and its Zone of Influence (ZoI), and the likely effects arising during construction, operation and decommissioning of the Proposed Development. The chapter also identifies mitigation measures to avoid, reduce or manage adverse effects, alongside opportunities for biodiversity enhancement, and describes the likely residual effects following implementation of these measures.

7.1.2. Baseline conditions have been informed by a comprehensive programme of desk-based data collection and site surveys undertaken between 2024, 2025 and 2026, including habitat classification and mapping assessment, protected species surveys, ornithological assessments. These data have been used to characterise ecological receptors and inform the assessment of effects in accordance with the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM)[1].

7.1.3. The scope of the assessment has also been informed by the findings of the EIA Scoping Report and subsequent consultation responses, which identified key ecological receptors and potential impact pathways requiring consideration within the ES.

7.1.4. The assessment of ecology and biodiversity has therefore been scoped into the EIA process. This chapter considers both adverse and beneficial effects of the Proposed Development and demonstrates how ecological considerations have informed the scheme design to minimise impacts and deliver long-term biodiversity gains through embedded mitigation and enhancement measures.

7.1.5. This chapter is supported by the following technical appendices with associated plans and mapping within each technical assessment:

- Shadow Habitat Regulation's Assessment (Appendix 7.1);
- UKHab Habitat Survey and Results (Appendix 7.2);
- BNG Assessment (Appendix 7.3);
- Great Crested Newt eDNA Surveys and Results (Appendix 7.4);
- Bat Surveys and Results (Appendix 7.5);

[1] CIEEM (2018*) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester

- Badger Survey and Results (Appendix 7.6);
- Breeding Bird Survey and Results (Appendix 7.7);
- Skylark Mitigation Strategy (Appendix 7.8)
- Winter Bird Report (7.9);
- Otter Survey and Water Vole Habitat Suitability Assessment and Results (Appendix 7.10);
- Green Infrastructure (GI) Statement (Appendix 7.11).

## 7.2. Assessment Approach

### Legislative and Policy Framework

7.2.1. This section summarises the biodiversity related legislation, planning policy and guidance that is of relevance to the proposals.

National Planning Policy Wales Edition 12 (Feb/Jul 2024)

7.2.2. The Habitats Directive: Adopted by the European Commission (EC) in 1992, Council Directive 92/43/EEC concerning the conservation of natural habitats and wild flora and fauna was transposed into UK legislation through the Conservation Regulations 1994. This has been superseded by the Conservation of Habitats and Species Regulations 2017. Habitats listed under Annex I to the Directive and species listed under Annex II (including otter and some species of bat) receive special legal protection. This is partly implemented through the creation of a network of protected sites (known through Europe as Natura 2000 network of Site of Community Importance) which, in the UK, is made up of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) which are designated under the Birds Directive (Directive 79/409/EEC). Under Regulation 48(1) of the Habitats Directive, all developments with the potential to affect a European Site must undergo an assessment, known as an Appropriate Assessment, to determine the potential to cause harm to the features for which the SAC or SPA was designated.

**7.2.3.** Chapter 6 (Distinctive and Natural Places) of Planning Policy Wales details a number of outcomes which planning applications should achieve as detailed below:

- the role which landscapes, the historic environment, habitats and biodiversity, the characteristics of coastal, rural or urban environments play in contributing to Distinctive and Natural places are identified, understood, valued, protected, maintained and enhanced;
- further fragmentation and isolation of habitats and species is avoided, wherever possible, and wildlife corridors and stepping stones forming wider ecological networks are protected, maintained and enhanced;

- sites designated for their landscape or biodiversity or geodiversity importance are fully considered and their special characteristics and features protected and enhanced, whilst the series of sites should be recognised as being at the heart of improving the resilience of ecosystems;

- development proposals are directly shaped by the principle of retaining and enhancing existing habitats and species. This is the most cost effective and robust option for biodiversity, taking into account the benefits of a preventative approach;

- opportunities in all areas to improve the resilience of ecosystems are taken by addressing problems such as, building on floodplains, diffuse pollution, soil compaction and sealing, ensuring the protection of peat resources and improving approaches to coastal flood defence in urban areas and coastal margins;

- opportunities to improve health and well-being are taken, in particular, to reduce average levels of airborne pollution, protect appropriate soundscapes, create areas of tranquillity, secure sustainable drainage systems, ensure water sensitive design, address soil carbon management and secure access to informal spaces for recreation through green infrastructure provision so as to improve capacity for adaptability to the challenges of climate change, such as flood risk and increased temperatures;

- opportunities to develop green infrastructure are taken, where this would improve the resilience of ecosystems; and

- support development which contributes positively to an area and addresses environmental risks which constrain potential and impact adversely on communities and the natural and built environment by using PDL or existing buildings and taking opportunities to 'clean up' land and address dereliction, where this is informed by the historic and natural environment.

7.2.4. Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. Chapter 6, Distinctive and Natural Places, addresses biodiversity, ecological networks and ecosystem resilience, and establishes the expectation that development should protect, maintain and enhance biodiversity. The advice contained within PPW is supplemented by Technical Advice Notes (TANs), with TAN 5: Nature Conservation and Planning providing specific guidance on nature conservation matters within the planning system.

7.2.5. Recognising that development needs to take place and some biodiversity may be impacted, the planning system should ensure that overall there is a net benefit for biodiversity and ecosystem resilience, resulting in enhanced wellbeing.

**7.2.6.** Development proposals must consider the need to:

- support the maintenance and enhancement of biodiversity and the resilience of ecosystems;

- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework;

- ensure statutory and non-statutory designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded;

- safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative negative impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat; and

- secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity.

7.2.7. Where negative effects on biodiversity and ecosystem resilience cannot be avoided, minimised or mitigated/restored, and as a last resort compensated for, it will be necessary to refuse planning permission.

7.2.8. Enhancement must be secured by delivering a biodiversity benefit primarily on Site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact.

7.2.9. Further legislation and policy documents relevant to the ecology and nature conservation at a national level applicable to this development are:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);

- The Countryside and Rights of Way (CRoW) Act 2000;

- The Hedgerows Regulations 1997;

- The Protection of Badgers Act 1992;

- Wild Mammals (Protection) Act 1996

- The Environment (Wales) Act 2016

- Future Wales: The National Plan 2040 – Policies 17 and 18

- Planning Policy Wales Edition 12 (February 2024);

- Technical Advice Note 5: Nature and Conservation and Planning (September 2009)

7.2.10. BS 42020:2013. Biodiversity – Code of practice for planning and development

**7.2.11. Technical Advice Note 5 (TAN 5)**

7.2.12. PPW and TAN 5 identify a number of key principles that should be taken into account within the town and country planning system in Wales. Those relevant to the Proposed Development include:

- Work to achieve nature conservation objectives through a partnership between local planning authorities, Natural Resources Wales (NRW), voluntary organisations, developers, landowners and other key stakeholders;
- Integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time;
- Ensure that the UK's international obligations for site, species and habitat protection are fully met in all planning decisions;
- Look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally;
- Promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable. Minimising or reversing the fragmentation of habitats and improving habitat connectivity through the promotion of wildlife corridors;
- Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality;
- The presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat.

**7.2.13. Step Wise Approach**

7.2.14. As part of the Ecology Assessment of the site, the 7-stage stepwise process within TAN 5 reinforcing the mitigation hierarchy within PPW 2024 Chapter 6 Distinctive and Natural Places has been followed. A summary of the stepwise approach is provided below:

1. **Avoid:**

   - To avoid damage to biodiversity and ecosystem functioning.

2. **Minimise:**

   - Alternative sites that would result in less harm, no harm or gain are to be fully considered to minimise the any harmful environment effects.

3. **Mitigate/Restore:**

   - '…ensure that features and elements of biodiversity or green infrastructure value are retained on site and enhanced or created wherever possible.'

4. **Compensate on site:**

   - Onsite compensation must be sought when all other options have been exhausted.

5. **Compensate off site:**

   - Offsite compensation must be sought when all other options have been exhausted.

6. **DECCA Framework:**

   By assessing resilience attributes of the site, appropriate enhancements can be proposed through the landscape design:

   - **Diversity**: Biological diversity and all scales of the environment underpins biodiversity and resilient ecosystems. A more diverse ecosystem is more resilient to external influences.
   - **Extent**: The size of an ecosystem will affect its capacity to adapt, recover or resist disturbance. The smaller the extent of an ecosystem, the less species it can support and the less resilient it is to extreme events.
   - **Condition**: This relates to the overall condition of an ecosystem, which could be measured by several factors including presence, abundance, structure, range of habitats and species, and water/air/soil quality. Ecosystems in better condition will be more resilient to change.
   - **Connectivity**: "Connectivity refers to the links between and within habitats, which may take the form of corridors, stepping stones or patches of the same or related vegetation types." "Connectivity is a major driver for spatial variation which affects diversity and the abundance of living organisms."
   - **Adaptability**: Ecosystem resilience is thought to emerge from the four attributes above, and may appear in three distinct aspects: adaptability, resistance, or recovery to/from disturbance.

7. **Long Term Management:**

   - Long **Term** Management of retained and new GI assets to secure enhancement.

### 7.2.15. Environment (Wales) Act, 2016

7.2.16. Part 1 of the Environment Act Wales came into force in May 2016 and sets out the approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

### 7.2.17. Section 6 - Biodiversity and resilience of ecosystems duty

7.2.18. Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'.

### 7.2.19. Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity

7.2.20. This section lists living organisms and types of habitat in Wales which are considered of key significance to maintaining and enhancing biodiversity in relation to Wales. The Welsh Ministers are required to take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

**7.2.21. Future Wales: The National Plan 2040**

7.2.22. Future Wales: The National Plan 2040 sets out the Welsh Government's long-term spatial development framework and provides strategic policy direction at a national level, sitting alongside Planning Policy Wales. The Plan identifies the protection, enhancement and connectivity of green infrastructure and natural assets as fundamental to sustainable development and ecosystem resilience. It promotes development that safeguards biodiversity, avoids the fragmentation of habitats, and contributes positively to nature recovery, climate resilience and community wellbeing. In particular, Policies 17 and 18 emphasise the importance of maintaining and enhancing ecological networks, protecting designated sites and priority habitats, and delivering net benefits for biodiversity as part of new development.

Local Planning Policy

**7.2.23. Pembrokeshire County Council Local Development Plan**

7.2.24. Pembrokeshire County Council Local Development Plan – Planning Pembrokeshire's Future was adopted on 28 February 2013 and provides the statutory development plan framework for the County.

**7.2.25. Policy GN.31 – Protection and Enhancement of Biodiversity**

7.2.26. All development should demonstrate a positive approach to maintaining and, wherever possible, enhancing biodiversity.

7.2.27. Development that would disturb or otherwise harm protected species or their habitats, or the integrity of other habitats, sites or features of importance to wildlife and individual species, will only be permitted in exceptional circumstances where the effects are minimised or mitigated through careful design, work scheduling or other appropriate measures.

## Methodology

Study Area

7.2.28. The ecological assessment has been undertaken with reference to the Application Site (defined by the red line boundary) and an associated Zone of Influence (ZoI) (where each zone of influence is discussed separately in each Appendix and is shown on associated plans) appropriate to the ecological receptors being considered. The extent of the ZoI has been determined using professional judgement, informed by published

guidance including the Guidelines for Ecological Impact Assessment[2], and taking into account the nature of the Proposed Development, the scale of potential impacts and the mobility of relevant species.

7.2.29. The core study area for habitats and most protected species comprises the Site boundary and immediately adjacent land where potential indirect effects could occur, such as disturbance, habitat fragmentation or pollution pathways. For internationally designated sites, a wider study area of up to 10 km was adopted to identify statutory sites with potential functional connectivity to the Site. For cumulative effects, a 3 km search radius was applied, consistent with the EIA methodology set out in Appendix 2 of this ES.

7.2.30. Where the study area extends beyond the red line boundary, this is illustrated on accompanying figures.

Desk Study

7.2.31. The desk-based assessment was informed by a review of publicly available datasets and consultation responses, including:

- Multi-Agency Geographic Information for the Countryside (MAGIC);
- West Wales Biodiversity Information Centre (WWBIC) records (data received 4 November 2024);
- Natural Resources Wales (NRW) designated sites data;
- Joint Nature Conservation Committee (JNCC) website;
- Woodland Trust Ancient Tree Inventory;
- Ordnance Survey mapping and aerial imagery; and
- Relevant local planning authority and statutory consultee information.

Surveys

7.2.32. Baseline ecological conditions have been established through a combination of desk-based data collection and targeted field surveys undertaken between 2024 and 2026. Survey methodologies were selected based on the habitats present, desk study constraints and relevant best practice guidance.

7.2.33. Surveys completed to inform the assessment include:

- Extended Phase 1 Habitat Survey and UKHab mapping to identify and classify habitats and ecological features within the Site and immediate surroundings,

[2] CIEEM (2018*) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester

initially undertaken in October 2024 with additional survey updates in 2025, with an updated walkover in February 2026 to assess any major changes to habitat types;

- Great crested newt environmental DNA (eDNA) surveys of accessible on-site ponds undertaken in June 2024, with laboratory analysis completed in June/July2024 in accordance with the DEFRA WC1067 protocol;

- Bat activity surveys, including walked transects and multiple static detector deployments undertaken across the 2024 and 2025 survey seasons, in accordance with Bat Conservation Trust best practice guidance alongside a Ground Level Tree Assessment (GLTA) of trees proposed for clearance undertaken in February 2026 to assess bat roosting potential;

- Badger survey undertaken in October 2024, including a search for setts, field signs and foraging activity, in accordance with standard guidance, with an additional badger check undertaken during the February 2026 walkover survey to identify any newly emerged setts within and adjacent to the Site;

- Breeding bird surveys undertaken in April-July 2024 to inform an impact assessment of the development within the survey area on qualifying bird features ;

- Non-breeding (wintering) bird surveys undertaken between November 2024 and February 2025 by Logika Group, following an adapted Winter Farmland Bird Survey methodology; and

- An otter survey and water vole habitat suitability assessment undertaken in February 2026, focusing on the watercourse and associated riparian habitats within and adjacent to the Site.

7.2.34. The scope of surveys reflects the findings of the EIA Scoping Report and has been designed to proportionately assess likely impact pathways associated with the Proposed Development.

Modelling

7.2.35. No quantitative ecological modelling was required as part of this assessment. The evaluation of likely effects has been undertaken using professional judgement informed by baseline survey data, published guidance and established ecological impact assessment principles.

Cumulative Effects Assessment Methodology

7.2.36. Cumulative ecological effects have been assessed in accordance with the EIA Regulations and the methodology set out in Appendix 2 of this ES. A preliminary review of cumulative development within a 3 km radius of the Site was undertaken to identify existing, consented and proposed schemes that could give rise to cumulative or in-combination ecological effects.

7.2.37. Each scheme identified within the cumulative search area was reviewed to determine its relevance to ecological receptors and potential impact pathways. Schemes were either scoped into or scoped out of the cumulative assessment based on factors including distance from the Site, scale of development, overlap of ecological receptors, and the likelihood of shared impact pathways.

7.2.38. Based on the findings of the EIA Scoping Report and the subsequent review of cumulative development within the defined Zone of Influence, only White House Farm Solar Farm (CAS_03107_C5X9W1) has been scoped into the cumulative ecological assessment, due to its proximity to the Site, scale of development and potential to interact with similar ecological receptors and impact pathways. All other schemes identified within the cumulative search area have been scoped out on the basis that they are either operational with mitigation already in place, are small in scale, are located at distances where ecological interaction is not reasonably likely to occur, or lack any credible pathway for cumulative ecological effects.

7.2.39. In-combination effects between ecology and other environmental topics (such as hydrology, construction traffic or landscape proposals) have also been considered qualitatively where relevant.

### Assessment of Significance

7.2.40. For the purpose of this assessment, a significant ecological effect is one that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity. Conservation objectives may relate to designated sites, protected species, priority habitats or wider nature conservation policy. In broad terms, significant effects encompass impacts on the structure and function of habitats and ecosystems and the conservation status of species populations, including changes in extent, abundance or distribution.

7.2.41. The assessment has been undertaken in accordance with best practice guidance published by the CIEEM [3].and within the EIA significance framework set out in Chapter 2 of this ES.

7.2.42. The sensitivity of ecological receptors and the magnitude of change arising from the Proposed Development have been combined using a significance matrix (Table 7.3) to identify overall effect significance, described using the terms major, moderate, minor or negligible. In EIA terms, moderate and major effects are considered significant, while minor and negligible effects are not significant.

7.2.43. In undertaking the assessment, consideration was given to the types of impacts that could affect ecological features, including (but not limited to): direct habitat loss; habitat fragmentation and isolation; disturbance, killing or injury of species; changes to key habitat features; and changes to local hydrology and/or water quality.

[3] CIEEM (2018*) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester

7.2.44. In describing and evaluating ecological impacts, the following factors were considered:

- Positive or negative – whether the impact would improve or reduce the quality or function of the ecological resource, assessed against nature conservation objectives and relevant policy;
- Extent – the geographical area over which the effect would occur;
- Magnitude – the size or amount of change to the ecological receptor, determined on a quantitative basis where possible;
- Duration – the time period over which the effect would persist prior to recovery or replacement of the resource or feature;
- Timing and frequency – whether effects would coincide with sensitive life stages, seasonal constraints or occur repeatedly;
- Reversibility – whether the effect would be permanent (irreversible) or temporary (reversible), taking into account the potential for recovery or enforceable mitigation; and
- Cumulative effects – whether the Proposed Development, together with other relevant developments within the Zone of Influence (ZoI), could give rise to significant combined or in-combination effects. For the purposes of this assessment, the ZoI is defined as 10 km for international designations and 2 km for national and local designations.

Criteria for Receptor Sensitivity

7.2.45. Ecological receptors have been assigned a level of sensitivity based on their ecological value, legal protection status, conservation importance, rarity, and capacity to accommodate change without adverse effects on their integrity or conservation status.

**Table 7.1: Criteria for Receptor Sensitivity**

| Significance Criteria | Description of Criteria |
|---|---|
| High | Ecological features of international or national importance, including Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest, SSSIs, nationally important habitats, and populations of legally protected or rare species where change could adversely affect conservation objectives or integrity. These receptors have little or no capacity to absorb change without fundamental alteration. |
| Medium | Ecological features of county or regional importance, including locally designated sites, priority habitats, or notable species populations that contribute to ecological networks and have moderate capacity to absorb change without significant adverse effects. |
| Low | Ecological features of local or site-level importance, including common or modified habitats and widespread (including some priority habitats) |

| Significance Criteria | Description of Criteria |
|---|---|
| | species populations that are generally tolerant of change and where effects would not compromise wider conservation objectives. |
| Negligible | Ecological features of very limited ecological value or conservation importance, including heavily modified or species-poor habitats with minimal ecological function. |

Criteria for Magnitude of Change

7.2.46. The magnitude of ecological effects has been assessed with reference to the scale, duration, reversibility and extent of change to ecological receptors.

**Table 7.2: Criteria for Magnitude of Change**

| Significance Criteria | Description of Criteria |
|---|---|
| High | Permanent or substantial loss, fragmentation or degradation of an ecological feature, or significant adverse effects on the integrity of a designated site or conservation status of a species population. |
| Medium | Partial loss or notable alteration of an ecological feature resulting in material change to its structure, function or value, or measurable effects on species populations. |
| Low | Localised, minor or short-term changes to ecological features that do not materially alter overall character or conservation status. |
| Negligible | Very small or barely perceptible changes with no meaningful effect on ecological function or value. |

7.2.47. The sensitivity of ecological receptors and the magnitude of change arising from the Proposed Development have been combined using the significance matrix set out in Table 7.3 to determine the overall significance of effects.

**Table 7.3: Significance Matrix**

| Magnitude of Change | Sensitivity of Receptor | | | | |
|---|---|---|---|---|---|
| | | **High** | **Medium** | **Low** | **Negligible** |
| | **High** | Major | Major | Moderate | Negligible |
| | **Medium** | Major | Moderate | Minor to Moderate | Negligible |
| | **Low** | Moderate | Minor to Moderate | Minor | Negligible |
| | **Negligible** | Negligible | Negligible | Negligible | Negligible |

7.2.48. Where effects are identified as moderate or major adverse, these are considered significant in EIA terms and require mitigation. Minor and negligible effects are not considered significant. The assessment considers effects during construction, operation and decommissioning phases, with residual effects identified following the application of mitigation measures.

## Consultation

7.2.49. Ecology related consultation has been undertaken as part of the EIA Screening and pre-application process to inform the scope of the ecological assessment and identify key environmental sensitivities associated with the Proposed Development. Formal responses were received from:

- Pembrokeshire County Council (Pre-application response dated 2 December 2025);
- Planning and Environment Decisions Wales (EIA Screening Direction issued 3 October 2025; Pre-application Advice dated 5 November 2025): and
- Natural Resources Wales (EIA Screening consultation response dated 24 September 2025).

7.2.50. These responses focused on designated sites, protected species, ecological connectivity, pollution risk pathways and opportunities for biodiversity enhancement. The comments received have directly informed survey scope, mitigation design and the assessment of likely significant effects within this Chapter, with further detail provided in the relevant technical appendices.

7.2.51. Table 7.4 below summarises the key ecology-related consultation responses and how these have been addressed within the EcIA**.**

**Table 7.4: Summary of Correspondence with Statutory Consultees**

| Consultee | Summary of Comments | Applicants Response |
|---|---|---|
| Pembrokeshire County Council (Pre-application response, 2 December 2025) | Site hydrologically connected to Pembrokeshire Marine SAC and Milford Haven Waterway SSSI; TLSE required. Likely requirement for OUTLINE CBMP and Appropriate Assessment. Otter should not be screened out due to records and watercourse connectivity. Buffer zones required around water features. Arboricultural Survey and Bat Activity Survey required at application stage. Encouraged biodiversity enhancement | The following documents have been produced and submitted as part of this Environmental Statement to address the points raised:<br>• Shadow Habitats Regulations Assessment (Appendix 7.1);<br>• Bat Activity Surveys and Ground Level Tree Assessment (Appendix 7.5);<br>• Otter Survey and Water Vole Habitat Suitability Assessment (Appendix |

| Consultee | Summary of Comments | Applicants Response |
|---|---|---|
| | (wildflower planting, native planting lists, strengthening riparian corridors). | 7.10);<br>• Outline Construction Biodiversity Management Plan(OUTLINE CBMP: Biodiversity);<br>• Landscape and Ecological Management Plan (LEMP); and<br>• Green Infrastructure (GI) Statement (Appendix 7. 11.<br><br>An Arboricultural Impact Assessment has also been produced (Appendix 5.5)= |
| Natural Resources Wales (Screening consultation response, 24 September 2025) | Insufficient information to rule out significant effects on Pembrokeshire Marine SAC and Milford Haven Waterway SSSI (otter, water quality, nutrients). Further information required on greater horseshoe bats (Scoveston Fort SSSI), water vole, barn owl and lapwing. Requested robust OUTLINE CBMP. Highlighted groundwater vulnerability and historic landfill. | The following documents have been produced and submitted as part of this ES which address all points raised:<br><br>• Shadow Habitats Regulations Assessment (Appendix 7.1); *(SAC/SSSI effects, nutrients, pathways)*<br>• Bat Activity Surveys and Assessment (Appendix 7.5); *(including consideration of greater horseshoe bat connectivity)*<br>• Otter Survey and Water Vole Habitat Suitability Assessment (Appendix 7.10;<br>• Breeding Bird Survey and Results (Appendix 7.7); *(covers lapwing and barn owl use of the Site)*<br>• Wintering Bird Survey (Logika Group) (Appendix 7.9); *(supports wider bird* |

| Consultee | Summary of Comments | Applicants Response |
|---|---|---|
| | | *assemblage context)*<br>• Outline Construction Biodiversity Management Plan(OUTLINE CBMP: Biodiversity); *(pollution control, groundwater, emergency response)* |
| Planning and Environment Decisions Wales (Screening Direction, 3 October 2025) | Determined proposal constitutes EIA Development. Significant effects likely in relation to ecology, landscape and historic environment. Cumulative impacts within 3 km highlighted. Insufficient information at screening stage to rule out significant ecological effects. | Full EcIA undertaken in accordance with EIA Regulations. Cumulative ecological assessment completed, including nearby solar developments and holiday lodge scheme. Detailed species surveys completed (bats, birds, badger, otter, GCN eDNA). Mitigation and residual effects assessed for construction, operation and decommissioning phases. |
| PEDW (Pre-application Advice, 5 November 2025) | Confirmed ES required. Recommended Scoping Direction to refine methodology. Advised consultation with NRW and LPA on ecological scope. Highlighted need for robust cumulative assessment. | Ecological scope aligned with Screening Direction and NRW/PCC feedback. Designated sites within 3 km assessed. Species surveys expanded beyond initial screening (otter, birds, bats). Cumulative ecology section structured in line with PEDW guidance. |

7.2.52. The consultation responses received from statutory consultees have directly informed the scope of the ecological assessment, the design of survey programmes and the development of mitigation and enhancement measures for the Proposed Development. Matters raised in relation to designated sites, protected species, pollution risk, habitat

retention and cumulative effects have been addressed through targeted field surveys undertaken between 2024 and 2026, refinement of the development layout, preparation of a Outline Construction Biodiversity Management Plan(OUTLINE CBMP) and incorporation of biodiversity-led design principles. The assessment within this chapter reflects the issues identified during consultation and demonstrates how likely significant effects have been avoided, reduced or mitigated, with residual effects reported for the construction, operational and decommissioning phases.

## Scoping Criteria

Technical Scope

7.2.53. The scope of the ecological assessment has been informed by the findings of the EIA Scoping Report, desk-based data review, baseline surveys and consultation with statutory bodies. Ecological features have been scoped into or out of the assessment based on the presence of suitable habitat, desk-study records, survey results, and the existence of credible impact pathways arising from the Proposed Development.

7.2.54. The following ecological issues have been scoped into the assessment:

- **Statutory designated sites** where potential functional connectivity and/or indirect impact pathways could not be ruled out, specifically Pembrokeshire Marine SAC, Scoveston Fort SSSI and Milford Haven Waterway SSSI. These sites were scoped in due to the presence of hydrological or ecological linkages and the potential for indirect effects such as changes in water quality, disturbance or habitat connectivity, with further consideration detailed in the Shadow Habitats Regulations Assessment (sHRA) (sHRA - Appendix 7.1);

- Habitats within and adjacent to the Site, particularly those of higher ecological importance or which provide habitat connectivity across the landscape. This includes Purple moor-grass and rush pasture (f2b), other neutral grassland (g3c), modified grassland (g4), dense boundary scrub, broadleaved woodland and woodland edges, species-rich and species-poor hedgerows (with trees), on-site ponds, boundary ditches and the on-site watercourse and riparian corridor. These habitats support a range of faunal receptors and represent the primary ecological features of the Site**.** These habitats support a range of faunal receptors and represent the primary ecological features of the Site (UKHab Survey – Appendix 7.2);

- **Bats,** owing to the presence of hedgerows, woodland edges and the riparian corridor which function as commuting and foraging corridors, together with trees with potential roost features within woodland compartments (Bat Surveys and GLTA – Appendix 7.5);

- **Badger**, as suitable foraging habitat is present across the Site and badger setts has been recorded in proximity to the Site boundary (Badger Survey – Appendix 7.6);

- **Breeding and wintering birds**, due to the presence of arable land supporting breeding skylark territories and boundary habitats providing nesting, shelter and foraging opportunities for a wider bird assemblage (Breeding Bird Survey – Appendix 7.7; Skylark Mitigation Strategy – Appendix 7.8; Wintering Bird Survey – Appendix 7.9);

- **Dormouse**, on a precautionary basis, due to the presence of interconnected hedgerows, woodland edges and riparian habitats which provide suitable habitat and dispersal corridors, despite limited clearance being proposed and no direct evidence recorded, and no dormouse records returned from the desk study search;

- **Otter**, due to the presence of the on-site watercourse and riparian corridor where confirmed signs of otters commuting have been identified(Otter Survey and Water Vole HSA – Appendix 7.10);

- **Common amphibians and reptiles**, as suitable terrestrial habitat is present along hedgerows, woodland edges, grassland margins and damp habitats associated with ponds and ditches, creating realistic potential for these species groups to be present within boundary areas of the Site; and

- **Invasive non-native species**, specifically Japanese knotweed *Reynoutria japonica*, due to its presence on Site and the legal requirements associated with its management and the potential for spread during construction and operation (UKHab Habitat Survey – Appendix 7.2).

7.2.55. The following ecological issues have been scoped **out** of detailed assessment:

- **Statutory designated sites** where distance from the Site, absence of ecological or hydrological connectivity and lack of credible impact pathways indicate that likely significant effects would not arise. These include, but are not limited to, Pembrokeshire Coast National Park designated sites, and European and nationally designated sites identified in the desk study which are separated from the Site by intervening land uses with no functional linkage (further detail is provided in the sHRA - Appendix 7.1). For these sites, there is no realistic potential for disturbance, habitat loss, pollution pathways or changes in hydrology arising from the Proposed Development;

- Habitats of negligible ecological importance, including intensively managed arable land, heavily modified grassland and hard standing/track areas, which are widespread in the local landscape and provide limited biodiversity value or ecological function. These habitats are not considered to support notable species assemblages and are therefore unlikely to give rise to significant ecological effects as a result of the Proposed Development;

- **Great crested newt**, based on negative eDNA survey results from accessible ponds, absence of desk-study records within the local area, and the limited extent of suitable terrestrial habitat within the developable areas of the Site;

- **Water vole**, as 2026 habitat suitability assessment survey confirmed that there is a lack of suitable water vole habitat present within the Site or along affected sections of the watercourse and boundary ditches, and no field signs or evidence of the species were recorded.

7.2.56. All receptors scoped into the assessment are considered in the assessment of likely significant effects, mitigation and residual effects, and are identified within the summary tables at the end of this chapter.

Receptors

7.2.57. The ecological receptors considered within this assessment comprise a range of habitats, designated sites and species, assessed at an appropriate geographical scale in accordance with CIEEM guidance. These include:

- International and national level receptors: Statutory designated sites and their qualifying features, including SACs, SPAs and SSSIs;
- County and local level receptors: Priority habitats, locally important habitats, and notable species populations; and
- Site-level receptors: Habitats and species identified and/or with potential to be present within the Site and its immediate surroundings that contribute to local biodiversity and ecological networks.

7.2.58. The geographical importance assigned to each receptor is identified within the baseline section and carried through to the assessment of effects and summary tables.

Temporal Scope

7.2.59. The ecological assessment considers the likely effects of the Proposed Development during the following phases:

- Construction Phase, including site preparation, vegetation clearance, construction activities and associated disturbance;
- Operational Phase, including the long-term presence and management of the development and associated habitats; and
- Decommissioning Phase, including removal of infrastructure and potential changes to land use.

7.2.60. Effects are assessed against an appropriate baseline, representing current ecological conditions at the time of survey, with consideration given to future baseline conditions in the absence of the Proposed Development.

7.2.61. The duration of effects is categorised as follows:

- **Temporary effects**, associated with specific activities and expected to cease once those activities are completed

- **Permanent effects**, defined as irreversible changes from which recovery is not reasonably expected within an appropriate timescale.

7.2.62. Each ecological receptor is assessed in relation to the relevant development phase(s), with the nature, duration and permanence of effects clearly identified in the assessment and summary tables.

### Limitations to the Assessment

7.2.63. The ecological assessment has been informed by a comprehensive programme of desk-based data collection and field surveys undertaken across appropriate seasons; however, some limitations are acknowledged. Further species-specific limitations relating to survey timing, weather conditions, access restrictions, survey coverage and methodological constraints are detailed within the relevant standalone technical reports provided in the Environmental Statement appendices.

7.2.64. Ecological surveys represent a snapshot in time and species presence and activity can vary seasonally and annually. To address this, surveys were undertaken across multiple seasons and years where relevant, including breeding and wintering bird surveys and multi-season bat activity surveys.

7.2.65. Desk-based data sources were used to supplement field survey information for the wider area, which may not capture all species occurrences; however, this approach is consistent with standard ecological assessment practice.

7.2.66. Overall, these limitations are not considered to materially affect the conclusions of the ecological assessment.

## 7.3. Baseline Conditions

### Site Description and Context

7.3.1. The ecological study area comprises the Application Site (red line boundary) and its immediate surroundings, together with a wider Zone of Influence (ZoI) (where each zone of influence is discussed separately in each Appendix and is shown on associated plans) extending up to 10 km for statutory designated sites and 3 km for cumulative development, as described in Section 7.2.

7.3.2. The Site is characterised predominantly by cropland (arable fields) interspersed with modified grassland, together with areas of other neutral grassland (g3c) and Purple moor-grass and rush pasture (f2b), native hedgerows with trees, ponds (other standing water) and a running water watercourse (other rivers and streams) forming a riparian corridor along the western and south eastern boundary. Scattered lowland mixed deciduous woodland blocks and treelines occur within and adjacent to the Site, contributing to local ecological connectivity see Appendix 7.2 for Habitat Survey.

7.3.3. Operational wind and solar developments within the surrounding landscape were present and functioning at the time of baseline surveys and therefore form part of the existing ecological baseline against which effects of the Proposed Development have been assessed.

#### 7.3.4. Statutory Designated Sites

7.3.5. A number of internationally and nationally designated nature conservation sites are present within the study area, identified through desk study and scoping assessment. Those considered relevant to the ecological baseline are summarised below, alongside their approximate distance from the Site boundary:

- **Pembrokeshire Marine Special Area of Conservation (SAC),** located approximately 2.8–3.8 km to the south, designated for a range of marine habitats and species including estuaries, reefs and marine mammals, with potential indirect impact pathways via hydrological connectivity, water quality and impacts to functionally linked land;

- **Cleddau Rivers SAC**, located approximately 6.0 km north east of the Site, designated for a range of aquatic and terrestrial habitats and species including, but not limited to, bogs, different species of lamprey (Lampetra sp. and Petromyzon sp.), and otters, with potential indirect impact pathways via impacts on functionally linked land utilised by otter;

- **Limestone Coast of South West Wales SAC**, located approximately 8.2 km to the south, designated for its coastal and terrestrial habitats and plant species, in addition to greater horseshoe bat. With potential indirect impacts pathways via impacts on functionally linked land utilised by greater horseshoe bat;

- **Scoveston Fort Site of Special Scientific Interest (SSSI),** located approximately 2.3 km south-east of the Site, designated primarily for its greater horseshoe bat roosts and associated supporting habitat; and

- **Milford Haven Waterway SSSI**, located approximately 4 km south of the Site, designated for its estuarine habitats, bird assemblages and otter populations.

7.3.6. SACs are of international importance SSSIs are of national importance, both are of high sensitivity. These statutory sites were scoped into further assessment due to the presence of potential ecological or hydrological linkages and credible indirect impact pathways, with detailed consideration of effects on both international and national designations informed by the Screening Shadow Habitats Regulations Assessment (Appendix 7.1).

**7.3.7. Non-Statutory Designated Sites**

7.3.8. No non-statutory designated nature conservation sites (including Sites of Importance for Nature Conservation or equivalent local designations) were identified within the study area during the desk-based data search.

**7.3.9. Habitats**

7.3.10. The UKHab Habitat Survey and associated mapping are provided within the Technical Appendix 7.2 of this Chapter.

7.3.11. The Site comprises habitats and features of County ecological importance, including Purple moor-grass and rush pasture (Field F37), which is listed as a Habitat of Principal Importance (HoPI) in Wales, and two veteran ash trees (T84 and T85). Habitats of Local ecological importance include neutral grassland, ponds, broadleaved woodland (lowland mixed deciduous woodland), individual trees, species-rich and species-poor native hedgerows (with trees), the on-site watercourse (running water) and its associated riparian corridor.

7.3.12. Habitats of negligible ecological importance include arable land, intensively managed modified grassland, roadside verge grassland, scrub, hardstanding, artificial unvegetated surfaces, non-native hedgerows and railway land (see Habitat Survey Report in Appendix 7.2).

7.3.13. Habitats of negligible ecological importance are scoped out of the detailed ecological assessment.

7.3.14. **Fauna**

7.3.15. Full details of relevant legislation, survey methodologies and results for each species and species group are provided within Technical Appendices 7.4 to 7.10. A summary of key ecological receptors is provided below.

**7.3.16. Bats**

7.3.17. Bat activity surveys confirmed that the Site is regularly used by bats for commuting and foraging. Key habitats include hedgerows, woodland edges and the riparian corridor, which function as well-connected linear features linking woodland blocks and higher quality foraging areas within the wider landscape. Species included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus* and nathusius pipistrelle *P. nathusius (P.* spp.*),* noctule *Nyctalus noctule,* Leisler's *N. leisleri*, serotine *Eptesicus* serotinus, myotis species *Myotis* spp., brown long-eared *Plecotus auritus,* greater horseshoe *Rhinolophus ferrumequinum,* lesser horsehoe *R. hipposideros*, and barbastelle *Barbastella barbastellus*. Greater horseshoe, lesser horseshoe and barbastelle are Annex II species. Hibernating greater horseshoe bats are the primary reason for designation of the Scoveston Fort SSSI, which is approximately 2.3 km south-east of Site.

7.3.18. The woodland-watercourse corridor (riparian), around the north, west and south of site, and the connected hedgerows through-out the site provide the most important commuting and foraging features for bats on site. The grassland habitats of higher structural diversity, including areas of purple moor-grass and rush pastures and other neutral grassland, particularly toward the south-eastern part of the Site, also provide improved foraging opportunities compared to arable and improved/modified grassland which are generally sub-optimal for bat foraging.

7.3.19. Horseshoe and barbastelle activity consisted of commuting passes across the site, primarily associated with the woodland-watercourse corridor, except for along two hedgerows between modified grassland fields (static locations L01 and L09) where foraging activity was recorded for barbastelle.

7.3.20. Survey data also recorded very early evening bat calls shortly after sunset, during known bat emergence windows, indicating the likely presence of roosting common pipistrelle, soprano pipistrelle, noctule, myotis species, brown long-eared bats within nearby woodland habitats surrounding the Site, with the Site itself primarily utilised for commuting and foraging purposes.

7.3.21. Several of the trees assessed during the Ground Level Tree Assessment GLTA support multiple Potential Roost Features (PRF) ranging from small knot holes to larger cavities, fissures and snapped limbs classified as moderate roost potential (PRF-M). The following trees were recorded as having bat roost potential: T17, T74, T75, T76, T122, tree group G7 and tree group G47. Within tree group G7, one tree was identified as supporting PRFs. Within tree group G47, nearly all trees were recorded as supporting multiple PRFs, including cavities, fissures and snapped limbs. Further surveys will be required to determine whether these trees support confirmed roosts but, for the purposes of this assessment, it is assumed bat roosts are present on a precautionary basis.

7.3.22. The bat assemblage utilising the Site is considered to be of **medium sensitivity and of regional ecological importance**.

**7.3.23. Breeding Birds**

7.3.24. The Site has been found to support at least twelve priority bird species as confirmed/probable breeders within the Site (chaffinch, dunnock, greenfinch, house sparrow, linnet, magpie, mistle thrush, song thrush, skylark, starling, willow warbler and whitethroat), with key habitats being the on-Site mixed woodland, hedgerows and hedgerows with trees. The key habitat for skylark was the open arable and modified grassland fields.

7.3.25. Due to the number of skylark territories recorded on-Site (13 probable territories), the assemblage of breeding skylarks utilising the Site is significant at a local level.

7.3.26. Other confirmed and probable breeding species were recorded in relatively low numbers within the Site, generally comprising one or a small number of territories associated with woodland edges, hedgerows and scrub habitats. These species are widespread and common across Wales and the wider UK, and the numbers recorded within the Site represent typical breeding bird use of farmland and hedgerow habitats within the local landscape. The Site is therefore not considered to support populations of these species that are important beyond the local level.

7.3.27. Records of barn owl were returned from the desk study data search within the wider local area, indicating the species is present within the surrounding landscape. Although no confirmed nesting barn owl records and no specific potential roosting features were recorded within the Site during surveys, the open arable land, other neutral grassland and grassland margins provide suitable foraging habitat for barn owl within the wider agricultural landscape.

7.3.28. Due to the number of priority species recorded across the Site, the assemblage of breeding birds utilising the Site is considered to be of **local ecological importance and medium sensitivity.**

**7.3.29. Non Breeding Birds**

**7.3.30.** Non breeding bird surveys recorded a range of farmland and open field species utilising the Site primarily for seasonal foraging and occasional loafing behaviour (refer to Winter Bird Survey Appendix 7.9 for full species lists and peak counts). Use of the Site was generally intermittent and characterised by low to moderate numbers, with occasional larger flocks of common farmland species recorded**.**

7.3.31. The survey data indicate predominantly low abundance and infrequent use of the Site by wintering waterbirds and waders, with no consistent concentrations recorded across survey visits species recorded included golden plover, snipe, fieldfare, redwing, starling and yellowhammer. Lapwing were also recorded; however, this comprised a single individual on one survey occasion only and is not considered to represent a significant or regularly supported wintering presence on the Site**.**Overall, the Site was assessed as being of limited value for wintering birds, with usage reflecting occasional opportunistic foraging rather than the presence of a significant wintering assemblage.

**7.3.32.** Based on the survey data presented in the Winter Bird Survey Appendix and professional judgement in accordance with CIEEM guidance, the wintering bird assemblage is considered to be of **local importance and of low sensitivity.**

### 7.3.33. Badger

7.3.34. Badger surveys have identified the presence of three active badger setts within the Site or within 30 m of the Site boundary, alongside evidence of foraging activity within the Site. Under the current scheme layout submitted for pre-application consultation, one of these setts lies within 30 m of the proposed development footprint, such that the standard precautionary 30 m buffer overlaps part of the development area.

7.3.35. Widespread field signs including snuffle holes, mammal paths and boundary habitat use indicate regular commuting and foraging activity across the Site. Suitable foraging habitat is provided by grassland, field margins, hedgerows and woodland edges which form part of a wider local badger territory.

7.3.36. Following consultation, the scheme layout may be amended and therefore works may ultimately be located outside of the precautionary 30 m buffer associated with the affected set.

7.3.37. As the population of badgers are protected from persecution rather than for conservation importance, they are considered to be of **negligible ecological importance and negligible sensitivity.**

### 7.3.38. Dormouse

7.3.39. No dormouse surveys were undertaken; however, desk study data returned no records of dormouse within the Site or immediate surrounding area.

7.3.40. Notwithstanding this, suitable interconnected habitat is present along hedgerows, woodland edges and the riparian corridor which provide realistic opportunities for dispersal and habitat use within the wider landscape. Given the species' legal protection status and habitat suitability present, dormouse is considered to be present on a precautionary basis and any population would be of up to **County ecological importance and Medium sensitivity**.

### 7.3.41. Otter

7.3.42. Targeted surveys undertaken in February 2026 recorded multiple otter field signs along the on-site watercourse, confirming active use of the riparian corridor for commuting and foraging. No otter holts or lay ups were recorded. It should be noted that a short section of watercourse to the east of the proposed substation, where a drainage outfall is now proposed, was not included within the surveyed area as impacts to this location were not anticipated at the time of survey. As such, the presence or absence of otter holts or other resting features within this section of watercourse cannot currently be confirmed and further surveys are undertaken.

7.3.43. The watercourse forms a well-connected linear feature within the wider catchment and contributes to ecological connectivity across the Site and surrounding landscape, providing suitable habitat supporting otter movement and resource use.

7.3.44. The Otter population is considered to be of **county ecological importance** and **medium sensitivity**

**7.3.45. Reptiles and amphibians**

7.3.46. Suitable terrestrial habitat for common amphibians and widespread reptile species is present along hedgerows, woodland edges, damp grassland margins, ponds and ditches.

7.3.47. These habitats are likely to support small, localised populations typical of agricultural landscapes, particularly within boundary features and areas of higher habitat diversity.

7.3.48. Reptiles and common amphibians are considered to be of up to **local ecological importance and low sensitivity**.

**7.3.49. Other Protected Species**

7.3.50. Hedgehog was recorded within the wider Site and surrounding habitats and is likely to utilise arable fields, grassland margins, hedgerows and scrub for foraging and shelter. These habitats provide connectivity and refuge across the Site and into the surrounding landscape.

7.3.51. Local hedgehog populations are considered to be of **local ecological importance and low sensitivity**.

**7.3.52. Invasive Non-Native Species**

7.3.53. Japanese knotweed *Reynoutria japonica* was recorded within the Site, which is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), making it an offence to cause the species to spread in the wild. The presence of this invasive non-native species has therefore been scoped into the assessment due to legal and management considerations but it is of **negligible ecological importance** and **low sensitivity**

## Future Baseline

7.3.54. In the absence of the Proposed Development, the Site would be expected to remain in agricultural use, primarily for arable cultivation, with ongoing routine land management practices including ploughing, cropping and harvesting. Boundary features such as hedgerows, woodland edges, grassland areas and the riparian corridor would likely be retained and managed in line with existing agricultural practices.

7.3.55. Operational renewable energy developments within the surrounding landscape would continue to form part of the baseline environment.

7.3.56. Over time, climatic change may influence habitat condition, species distribution and hydrological regimes, including increased frequency of extreme weather events and changes in rainfall patterns. However, no substantive improvement in ecological value is anticipated under the existing land management regime, and current baseline

conditions are therefore considered representative of the future baseline in the absence of the Proposed Development.

## 7.4. Assessment of Likely Significant Effects

7.4.1. This section assesses the likely ecological effects of the Proposed Development during construction, operation and decommissioning, based on the baseline conditions described in Section 7.3 and the assessment methodology set out in Section 7.2. Effects are characterised with reference to receptor sensitivity, magnitude of change, duration and geographical importance, and assigned a significance level in accordance with the adopted significance criteria.

7.4.2. The Proposed Development includes mitigation by design which relates to measures incorporated into the design to retain habitats and connectivity which includes:

- Creation of approximately 20 m deep native woodland planting along the northern boundary to provide visual screening and strengthen landscape-scale connectivity;
- Native woodland planting blocks within the Site to reinforce existing woodland edges and enhance structural diversity;
- Native hedgerow planting and extension of existing hedgerows (including infill planting to strengthen gappy sections) to improve connectivity and condition;
- Management of retained hedgerows (including selective height increases where appropriate) to enhance screening and ecological function;
- Creation of tussocky grassland with wildflower mix (e.g. Emorsgate EM10 or similar) to provide enhanced habitat structure and potential skylark mitigation areas;
- Establishment of grazing meadow mix (e.g. Emorsgate EM2 or similar) beneath and between solar panel arrays to improve botanical diversity compared to the existing arable baseline;
- Management of retained marshy grassland as a dedicated skylark mitigation and biodiversity enhancement area;
- Planting of frequent large-scale native trees in key locations to filter views from Public Rights of Way while strengthening green infrastructure corridors; and
- Retention and protection of existing woodland, hedgerows, ponds and the riparian corridor as core ecological infrastructure.

### Effects during Construction

#### 7.4.3. Effects on Designated Sites

7.4.4. In the absence of mitigation, construction activities associated with the Proposed Development have the potential to give rise to indirect effects on designated sites through pathways such as pollution runoff, increased sedimentation, accidental spillages and, to a lesser extent, disturbance to functionally linked land associated with noise, lighting and increased site activity.

7.4.5. For the majority of internationally, nationally and locally designated sites identified in the desk study, no direct construction-related impacts are anticipated due to the distances involved, the absence of physical habitat loss, and the lack of credible disturbance pathways linking the Site to these receptors. These sites are therefore not expected to experience significant effects during construction.

7.4.6. However, Pembrokeshire Marine Special Area of Conservation (SAC) and Milford Haven Waterway Site of Special Scientific Interest (SSSI) are hydrologically connected to the Site via surface water catchments. In the absence of appropriate pollution control and surface water management measures, there is potential for construction-related impacts to functionally linked land through sedimentation, chemical pollution, habitat removal, noise, artificial lighting, and vehicle movement, in addition to hydrological impacts through sedimentation and chemical pollution, to affect downstream water quality and associated qualifying features, including habitats supporting otter and estuarine ecological communities.

7.4.7. Whilst these sites are of **high sensitivity**, the magnitude of change would be l**ow**, therefore there could potentially be a short term, temporary, **moderate adverse** impact. As such, without mitigation, minor to potentially moderate adverse effects on these hydrologically connected designated sites could arise during construction. Further details are provided in the sHRA Appendix 7.1.

7.4.8. No non-statutory designated sites were identified within 2 km of the Site, and therefore no construction-phase effects on locally designated sites are anticipated.

**7.4.9. Effects on Habitats: Loss and Modification**

7.4.10. Construction of the Proposed Development will result in the temporary disturbance and long-term change in management of areas of arable land and limited areas of modified and other neutral grassland within the Site. These habitats will not be permanently lost, as the majority will be retained beneath and between solar panel arrays. These habitats are of **Low sensitivity and Negligible to Local ecological importance**, reflecting their intensive management and relatively limited botanical diversity. Although the land take is extensive in area, similar habitat is widespread within the surrounding agricultural landscape and the magnitude of change is therefore considered Low, as habitat function will be retained. This results in a **Negligible adverse** effect, which is not significant in EIA terms.

7.4.11. The majority of ecologically important habitats within the Site, including broadleaved woodland blocks, woodland edges, hedgerows (with trees), ponds and the on-site watercourse and associated riparian corridor, will be retained as part of the Proposed Development, with buffers incorporated into the scheme design. This includes areas of priority habitat (e.g. deciduous woodland and species-rich hedgerows), which will be

largely retained within the Site. This also includes the habitats and features of County ecological importance identified within the baseline, including Purple moor-grass and rush pasture (Field F37) and the veteran ash trees (T84 and T85), which will be retained and protected within the scheme layout. Direct impacts to the habitats of local importance mentioned above are therefore not anticipated, except at a very localised scale where existing access points, farm tracks and infrastructure corridors require widening or crossing of boundary features along with installation of the proposed drainage outfall to the east of the substation.

7.4.12. Purple moor-grass and rush pasture (Field F37), which is a Habitat of Principal Importance in Wales and therefore considered to be of County ecological importance, will be retained within the Site and avoided by the scheme layout. Construction activities within the surrounding fields have the potential to result in temporary disturbance or indirect effects such as soil compaction or accidental encroachment in the absence of mitigation. Given that the habitat will be retained and protected within the design, and that any potential disturbance would be localised and temporary in extent, the magnitude of change is considered **Low**. When considered against the **Medium sensitivity** of this habitat, this would result in a **Minor to Moderate adverse** effect in the absence of mitigation, which is not significant in EIA terms.

7.4.13. Two veteran ash trees (T84 and T85) identified within the Site are considered to be of County ecological importance due to their veteran characteristics and associated ecological value. These trees will be retained within the Proposed Development; however, there is potential for indirect effects during construction in the absence of mitigation, including soil compaction within Root Protection Areas or accidental damage to stems and root systems from construction vehicles or materials storage. Given that the trees will be retained and that potential impacts would be localised and temporary in nature, the magnitude of change is considered **Low**. When considered against the **Medium sensitivity** of this receptor, this would result in a **Minor to Moderate adverse** effect in the absence of mitigation, which is not significant in EIA terms.

7.4.14. Limited loss of trees, tree groups and hedgerows will be required to facilitate access tracks and installation of the proposed drainage outfall to the east of the substation visibility splays and site fencing, as set out within the Arboricultural Impact Assessment (Appendix 5.5). This includes the removal of three B-grade individual trees, one C-grade individual tree and two U-grade trees, together with partial loss of one B-grade tree group, three C-grade tree groups and sections of sixteen B-grade hedgerows. All woodland parcels will be retained.

7.4.15. Hedgerows and trees are considered to be of **Medium sensitivity** and of Local ecological importance where they function as habitat connectivity features and support protected species. The magnitude of change associated with their partial removal is considered **Low**, reflecting the localised nature of the works relative to the overall extent of retained boundary habitats across the Site. This results in a **Minor to Moderate** adverse effect in the absence of compensation, which is not significant in the EIA terms.

7.4.16. Compensatory habitat creation and enhancement is proposed through the provision of new native hedgerow planting, strengthening of retained hedgerows, species-rich grassland creation and wider landscape planting, as detailed within the Landscape Proposals and GI Statement. This is expected to offset habitat losses over time and deliver an overall enhancement of the Site's green infrastructure network, in accordance with Planning Policy Wales.

7.4.17. For retained trees, hedgerows and woodland, there remains potential for minor damage during construction in the absence of mitigation, particularly from vehicle movements within Root Protection Areas and storage of materials. In the absence of protective measures, accidental incursion into Root Protection Areas, compaction of soils, severance of roots and damage to stems or canopy could occur during construction activities. Given that these habitats are of Local ecological importance, and that potential damage would likely be localised and temporary in extent, the magnitude of change is considered **Low**. This would result in a **Minor to Moderate adverse effec**t in the absence of mitigation, which is not significant in EIA terms..

**7.4.18. Effects on Bats**

7.4.19. Construction activities have the potential to result in temporary disturbance to both roosting bats on the Site or adjacent habitat and commuting and foraging bats through increased noise, artificial lighting and human activity adjacent to hedgerows, woodland edges and the riparian corridor which function as commuting and foraging features.

7.4.20. In the absence of mitigation, construction activities associated with habitat clearance, increased disturbance, temporary lighting and noise would have the potential to adversely affect bats of **Medium sensitivity** through loss or degradation of commuting and foraging habitats, disturbance along boundary features, and disruption of established movement corridors. The magnitude of change is considered **Low** but such effects could result in reduced habitat functionality, temporary displacement and reduced foraging efficiency for the local bat assemblage, giving rise to a **potentially minor to moderate adverse effect** prior to the implementation of mitigation measures.

7.4.21. Limited sections of hedgerow and associated trees will be removed to facilitate new access tracks, access widening where necessary and site infrastructure, as identified within the Arboricultural Impact Assessment. These losses are highly localised, occur primarily at existing access points or narrow crossing locations, and represent a very small proportion of the overall hedgerow network within the Site. The majority of hedgerows, woodland edges and linear features will be retained, maintaining continuous commuting corridors across the Site and connectivity to the wider landscape. Given the scale and location of hedgerow loss, the integrity and functionality of bat commuting routes will not be materially affected.

7.4.22. The updated walkover survey confirmed that a number of trees proposed for removal or potentially affected by works contain multiple PRF-M features, which would typically require further climbing inspections and/or additional bat surveys to confirm roost presence. In line with the precautionary principle, and in the absence of completed further survey work, it is assumed for the purposes of this assessment that roosting

bats could be present within some of these features and that removal of such trees could result in the loss or disturbance of a bat roost. In the absence of avoidance, there remains a realistic potential for impacts to roosting bats and associated legal implications, including the potential requirement for a European Protected Species licence.

7.4.23. The magnitude of change is considered **Low**, as the majority of commuting and foraging features will be retained within the Proposed Development and a minimum buffer of approximately **10 m** will be maintained between solar infrastructure and all hedgerows/linear features, thereby reducing the potential for direct habitat loss or severance. Disturbance effects are anticipated to be temporary and largely confined to the construction period.

7.4.24. This would result in a **Low** magnitude of change leading to a **Minor to Moderate** adverse effect, which is considered not significant in EIA terms.

**7.4.25. Effects on Breeding Birds**

7.4.26. Construction of the Proposed Development will result in the permanent loss of arable fields currently supporting 13 confirmed skylark territories. The skylark population is of Medium sensitivity and Local importance. The magnitude of change is considered Medium, as a substantial proportion of the local breeding resource would be lost, and the effect is permanent.

7.4.27. This would result in a Moderate adverse effect, which is considered significant in EIA terms, prior to mitigation.

7.4.28. Barn owl is present within the wider landscape based on desk study records and utilises open arable land, neutral grassland and grassland margins within and adjacent to the Site as foraging habitat. Construction activities may result in temporary disturbance to foraging behaviour through noise, visual disturbance and increased human activity.

7.4.29. Barn owl is of **Medium** sensitivity and **Local** importance. The magnitude of change is considered Low, as no nesting sites will be directly affected and suitable alternative foraging habitat remains widespread within the surrounding agricultural landscape.

7.4.30. This would result in a **Minor to Moderate** adverse effect, which is not significant in EIA terms.

7.4.31. Construction activities will also generate noise, visual disturbance and increased human activity which may temporarily disturb other breeding birds using boundary habitats including hedgerows, woodland edges and field margins.

7.4.32. Other breeding birds are of Low to Medium sensitivity. The magnitude of change is considered Low, as disturbance will be temporary, largely confined to the construction period, and the majority of nesting habitat will be retained with alternative habitat available in the surrounding landscape. This would result in a Minor adverse effect, which is not significant in EIA terms.

### 7.4.33. Effects on Wintering Birds

7.4.34. Construction activities may cause temporary disturbance to wintering birds using arable fields and field margins for foraging and loafing, due to increased noise, human presence and machinery movements.

7.4.35. Wintering birds are of Medium sensitivity. The magnitude of change is considered Low, as disturbance will be short-term, intermittent, and alternative foraging habitat is widespread within the surrounding agricultural landscape. This results in a Minor adverse effect, which is not significant in EIA terms.

### 7.4.36. Effects on Badger

7.4.37. Under the current scheme layout submitted for pre-application consultation, one badger sett lies within 30 m of the proposed development footprint and therefore part of the standard precautionary 30 m buffer overlaps with the development area. The remaining setts identified within or adjacent to the Site are located beyond the 30 m protection buffer and will not be directly affected by the Proposed Development. Following consultation, if the layout is amended to avoid this buffer area, this sett would similarly remain unaffected by the development footprint. .

7.4.38. As the layout stands, there may be some disturbance or damage to the badger sett located within 30m for the developable area during construction.

7.4.39. Furthermore, construction works may result in temporary disturbance to badger foraging activity within the Site. There is potential for badgers to be killed and/or injured during construction as a result of becoming trapped in excavations. Although badger populations are of negligible ecological importance and therefore impacts would not be significant, these impacts still have the potential to trigger the legislation in relation to badgers.

7.4.40. Badger within and adjacent to the Site are considered to be of Negligible ecological importance; however, they are afforded legal protection under the Protection of Badgers Act 1992. In the absence of mitigation, while ecological effects would be Minor and not significant in EIA terms, there remains potential for legislative offences to occur.

### 7.4.41. Effects on Dormouse

7.4.42. Construction activities have the potential to result in loss or fragmentation of sections of hedgerow and boundary vegetation, together with increased disturbance from noise, lighting and vehicle movements adjacent to retained habitats. In the absence of mitigation, these activities could result in disruption of habitat connectivity, temporary displacement of individuals and potential injury or mortality during vegetation clearance, particularly where works occur within suitable linear habitats.

7.4.43. Dormouse is a European Protected Species and is considered to be of Medium sensitivity and County ecological importance on a precautionary basis. The magnitude of change is considered Low, reflecting the limited extent of habitat loss proposed and the retention of the majority of suitable boundary features.

7.4.44. This would result in a Minor adverse effect, which is not considered significant in EIA terms prior to mitigation.

**7.4.45. Effects on Otter**

7.4.46. In the absence of mitigation, construction works adjacent to the watercourse, including installation of the proposed drainage outfall to the east of the substation may result in temporary disturbance to otter movement and foraging activity and a small localised loss or modification of riparian habitat associated with installation of the outfall structure.

7.4.47. . Otter are of **medium sensitivity** and county importance. The magnitude of change is considered **Low**, reflecting temporary disturbance, the very small scale of riparian habitat loss associated with the outfall, and retention of the wider watercourse corridor. It should also be noted that the section of watercourse receiving the outfall was not previously surveyed for otter holts; however, given the small footprint of the proposed outfall and the absence of holts recorded elsewhere along the surveyed sections of watercourse, the likelihood of significant effects is considered to be low. The effect is temporary.

**7.4.48.** This results in a **Minor to Moderate** adverse effect, which is not considered significant in EIA terms prior to mitigation, provided that standard pollution prevention and sensitive working methods are applied.

**7.4.49. Effects on Reptiles and Amphibians**

7.4.50. Construction groundworks and vegetation clearance have the potential to result in the temporary displacement or, in the absence of appropriate safeguards, mortality of small numbers of widespread reptile species and common amphibians within suitable habitats.

7.4.51. Suitable habitat for reptiles and common amphibians is largely confined to hedgerows, woodland edges and areas of neutral or rough grassland. These boundary features will be retained within the Proposed Development, and the majority of suitable habitat will therefore remain intact. While there is a potential risk associated with vegetation clearance and soil disturbance, this risk is limited in extent and can be effectively managed through appropriate working methods, including sensitive clearance of vegetation and precautionary measures during construction.

**7.4.52.** Reptiles and common amphibians are of **Low sensitivity and of Local importance.**

7.4.53. The magnitude of change is considered Low, reflecting the limited extent of habitat loss, the retention of boundary habitats and the temporary nature of construction disturbance. This results in a **Minor adverse effect**, which is not significant in EIA terms.

**7.4.54. Other Species**

7.4.55. Construction activities have the potential to result in temporary disturbance to hedgehog foraging and movement within the Site, particularly within grassland margins,

hedgerows and scrub habitats. There is also a risk of injury or mortality associated with open excavations, vehicle movements and vegetation clearance in the absence of precautionary working methods. Hedgehog populations are considered to be of Low sensitivity and of Local ecological importance. The magnitude of change is considered Low, reflecting the temporary nature of disturbance and the availability of similar habitat in the surrounding landscape. This would result in a Minor adverse effect, which is not significant in EIA terms prior to mitigation.

### Effects during Operation

#### 7.4.56. Designated Sites

7.4.57. During operation, no direct habitat loss will occur in relation to statutory designated sites. The majority of ecologically important habitats within the Site, including the watercourse and riparian corridor, hedgerows and woodland blocks, will be retained with embedded buffers. Operational management will also result in a reduction in intensive agricultural inputs (e.g. fertilisers and pesticides), which is anticipated to provide a neutral to beneficial influence on local water quality.

7.4.58. For Pembrokeshire Marine Special Area of Conservation (SAC) and Milford Haven Waterway Site of Special Scientific Interest (SSSI), which are hydrologically linked to the Site, potential operational effects are limited to indirect pathways associated with long-term changes in water quality or runoff. However, given the retention of buffers and implementation of drainage controls, no significant operational effects are anticipated.

7.4.59. Scoveston Fort Site of Special Scientific Interest (SSSI) is sufficiently distant from the Site and lacks direct operational impact pathways. As such, no adverse operational effects are anticipated.

#### 7.4.60. Habitats

7.4.61. During operation, the majority of boundary and higher-value habitats, including broadleaved woodland, hedgerows (with trees), ponds and the on-site watercourse and riparian corridor, will be retained and protected within the Proposed Development, along with the habitats and features of County ecological importance identified within the baseline, including the Purple moor-grass and rush pasture (Field F37) and the veteran ash trees (T84 and T85).

7.4.62. An outfall is proposed to the east of the substation, into the Ordinary Watercourse, to alleviate flood risk as agreed with SAB. Water discharge rates are to be limited to the equivalent pre-development (greenfield) rate and therefore will not increase outfall rates/watercourse flows compared to the pre-construction scenario. Therefore no operational impacts on the riparian habitats are anticipated.

7.4.63. Operational use of the Proposed Development could disturb retained and newly created habitats and without appropriate management newly created habitats could fail to establish. In the absence of mitigation this would result in a permanent, long term, minor adverse effect particularly in relation to the successful establishment of proposed species-rich grassland and hedgerow planting.

### 7.4.64. Fauna

### 7.4.65. Bats

7.4.66. Retained hedgerows, woodland edges and the riparian corridor will continue to function as key commuting and foraging corridors for bats during operation, with enhanced grassland habitats expected to increase invertebrate availability and foraging resource over time.

7.4.67. In the absence of mitigation, there is potential for minor adverse effects on bats associated with operational lighting from infrastructure such the inverter transformer substation where located in proximity to boundary features.

7.4.68. A recent scientific summary of noise effects on bats (Reason and Bentley, 2020[4]) highlights that information on this subject is in its infancy and there is not enough evidence to allow any specific thresholds to be prescribed for UK bat species. The article makes further references to other studies of the effects of noise on bats, as follows:

7.4.69. One study of brown long-eared, Bechstein's bat and greater mouse eared bat (Janssen et al., 2017[5]) suggests effects above 60 dB;

7.4.70. Another study of compressor stations at natural gas extraction sites (Bunkley et al., 2015[6]) found that bats echolocating above 35 kHz did not show any altered behaviour at sound levels of up to 68 dBA; and

7.4.71. A study of Daubenton's bats (Luo et al., 2015[7]) showed noise avoidance at levels of 68-84 dB.

7.4.72. Whilst acknowledging that the evidence is limited, this research indicates that noise avoidance behaviour in bats occurs at 60 dB and above. Whilst the exact specification of equipment to be installed on the solar site is not yet finalised, it is understood that most solar inverters produce noise below a level of 55dB[8]. Based on the Preliminary Noise Assessment [**TEAM NOTE:** Please could you insert the reference to the noise

[4] Reason, P. and Bentley, C. (2020) Noise Impacts on Bats – A Sound Assessment? InPractice 108. Chartered Institute of Ecology and Environmental Management, Winchester

[5] Janssen, R., Delbroek, R. and Molenaar, T. (2017). Vleermuizen op de Lonnekerberg mede in relatie tot het Airforce Festival. Monitoring en analyse van het gedrag van de passieve luisteraars gewone grootoorvleermuis, vale vleermuis en Bechsteins vleermuis. Bionet Natuuronderzoek, Stein. 2017 – 2: 53.

[6] Bunkley, J.P., McClure, C.J.W., Kleist, N.J., Francis, C.D. and Barber, J.R. (2015). Anthropogenic noise alters bat activity levels and echolocation calls. Global Ecology and Conservation, 3: 62–71.

[7] Luo, J., Siemers B.M. and Koselj, K. (2015). How anthropogenic noise affects foraging. Global Change Biology, 21(9): 3278-3289.

[8] https://www.solarctrl.com/blog/solar-inverter-noise-levels/"

report?]the majority of the equipment on Site will operate substantially below this level even in a worst case scenario (refer to Figure 3 of Appendix XX).

7.4.73. There are some point locations across the Site which may record higher levels than this and may exceed 60dB in the worst case scenario. The solar string inverters propose for the Site would generate a noise levels below 60 dB(A) at a distance of more than 5 metres from each inverter, thus less than 55 dB(A) at 10 metres. However, these locations are not along the key commuting and foraging routes for bats nor in areas that support trees that have the potential to support roosting bats and as Figure 3 shows, these levels are at points which rapidly decrease as the distance from them increases. Furthermore, this level of noise would only be likely to be generated during peak summer months, during the middle of the day. The inverters do not generate noise during hours of darkness. Therefore, given the abundance of suitable bat habitats within and directly adjacent to the Site and the low noise levels throughout the rest of the Site, the fact that the noise will not be generated during the hours of darkness, commuting and foraging routes will continue to be available to bats as will substantial roosting opportunities. Therefore, it is highly unlikely that noise generated during the operational use of the solar farm would impact bat behaviour on the Site so impacts would not be anticipated.

7.4.74.

7.4.75. In the absence of mitigation the magnitude of change during operation is anticipated to be Low, resulting in a Minor effect, which is not significant in EIA terms.

**7.4.76. Breeding Birds**

7.4.77. During operation, retained hedgerows, woodland edges and woodland blocks will continue to provide nesting and foraging habitat for the breeding bird assemblage recorded on Site.

7.4.78. Skylark mitigation areas and species-diverse grassland established beneath and around the solar arrays will provide suitable open nesting habitat and foraging opportunities for skylark, replacing breeding habitat lost during construction.

7.4.79. Open arable land, neutral grassland and grassland margins within and adjacent to the Site will continue to provide suitable foraging habitat for barn owl, with retained boundary features maintaining commuting connectivity across the landscape.

7.4.80. Operational disturbance is expected to be minimal, with birds likely to habituate to static infrastructure over time. The magnitude of change is therefore considered Negligible to Low, resulting in Negligible to Minor effects, which are not significant in EIA terms.

**7.4.81. Wintering Birds**

7.4.82. During operation, grassland habitats and retained margins will continue to provide seasonal foraging habitat for wintering farmland bird species typical of the local agricultural landscape.

7.4.83. No significant changes to habitat availability or function for wintering birds are anticipated, and disturbance levels will be low once construction is complete.

7.4.84. The magnitude of change is therefore considered Negligible, resulting in Negligible effects, which are not significant in EIA terms.

7.4.85. **Badger**

7.4.86. There is potential that badger movement around the Site may be hindered during operation if the proposed security fencing does not allow access across the Site. This would not directly trigger the legislation in relation to badgers; however, it would be considered an adverse impact on the population using the Site.

**7.4.87. Dormouse**

7.4.88. Retained and strengthened hedgerow networks and woodland edges will continue to provide habitat connectivity during operation, with no fragmentation anticipated.

7.4.89. Operational effects on dormouse are therefore considered Negligible to Low, resulting in no significant effects.

**7.4.90. Otter**

**7.4.91.** The on-site watercourse and riparian corridor will be retained and buffered during operation, maintaining commuting and foraging habitat for otter with the exception of very small localised modifications associated with the proposed drainage outfall to the east of the substation and potential widening of existing farm access tracks within the riparian corridor.

7.4.92. During operation, disturbance will be minimal and limited to infrequent maintenance visits during daylight hours. The drainage outfall will discharge at the equivalent greenfield rate and therefore will not increase watercourse flows compared to the existing scenario. Given the retention of riparian habitat and absence of routine night-time activity, the magnitude of change is considered Negligible, resulting in a Negligible effect, which is not significant in EIA terms and consistent with the conclusions of the sHRA.

**7.4.93. Reptiles and Amphibians**

7.4.94. Enhanced grassland, retained boundary habitats and reduced intensive land management will provide improved habitat conditions during operation.

7.4.95. Operational effects are considered Negligible to Low, resulting in Negligible to Minor beneficial effects.

**7.4.96. Other Species**

**7.4.97.** Hedgehog will continue to utilise retained hedgerows, woodland edges, scrub and grassland margins during operation for foraging, shelter and movement across the Site and into the surrounding landscape. The transition from intensively managed arable

land to species-diverse grassland beneath and around the solar arrays is likely to increase invertebrate availability, providing improved foraging opportunities for hedgehog over time.

7.4.98. No significant sources of disturbance or habitat fragmentation are anticipated during operation, with boundary features maintaining habitat connectivity throughout the Site. The magnitude of change is therefore considered Negligible to Low, resulting in a Negligible to Minor (beneficial) effect, which is not significant in EIA terms.

### Effects during Decommissioning

7.4.99. Decommissioning would involve removal of infrastructure and reinstatement of land, resulting in temporary disturbance effects similar to those experienced during construction. These effects would be short-term and reversible.

7.4.100. The physical removal of solar farm panels and associated infrastructure at the end of the solar farm lifetime would be anticipated to have no significant adverse direct effects given its temporary nature of the work required.

7.4.101. In the long term, if the land is returned to the landowners, the potential impacts would depend on the proposed use of the land post decommissioning which currently is an unknown. As a worst-case scenario, it would be reverted to its current baseline, resulting in no net loss.

### Summary of Significance of Effects (Before Mitigation)

7.4.102. Prior to the implementation of mitigation the Proposed Development has the potential to give rise to several adverse ecological effects. The principal significant effect relates to the permanent loss of breeding skylark habitat and associated nesting territories within the Site, which would represent a **Moderate adverse effect**.

7.4.103. In the absence of appropriate controls, there is also the potential for:

- Adverse effects on the on-site watercourse and riparian corridor through pollution, sediment run-off and habitat disturbance during construction, which could result in **Moderate adverse effects on a receptor of County importance**;
- Localised habitat damage and risk of harm to badgers, bats, breeding birds, wintering birds, dormice, otters, common reptiles and amphibians as well as hedgehog associated with vegetation clearance and groundworks;

7.4.104. These risks are addressed through mitigation by design and additional mitigation measures set out in Section 7.5.

**Table 7.5: Significance of Effects (before Mitigation)**

| Environmental Effect | Sensitivity of Receptor | Impact Magnitude | Nature of Impact (Permanent/ Temporary) | Effect and Significance |
|---|---|---|---|---|
| **CONSTRUCTION** | | | | |
| Modification of Purple moor-grass and rush pasture (f2b) | Medium (County importance – HoPI) | Low | Temporary disturbance | Minor to Moderate Adverse (Not Significant) |
| Potential damage or disturbance to retained veteran ash trees (T84 and T85) | Medium (County importance) | Low | Temporary | Minor to Moderate Adverse (Not Significant) |
| Localised loss/modification of broadleaved woodland along track widening within woodland corridor | Medium (Local importance) | Low | Permanent (small scale) | Minor to Moderate Adverse (Not Significant) |
| Widening of hedgerow entrances and localised habitat fragmentation | Low (Local importance for hedgerows) | Low | Permanent (small scale) | Minor Adverse (Not Significant) |
| Disturbance and pollution risk to watercourse and riparian corridor | Low (Local importance) | Medium | Temporary | Minor to Moderate Adverse (Potentially Significant if unmanaged) |
| Loss/modification of other neutral grassland (g3c) | Low (Negligible –Local importance) | Low | Temporary and long-term modification | Minor Adverse (Not Significant) |
| Loss of breeding skylark habitat and 13 confirmed territories | Medium (Local importance) | Medium | Permanent | Moderate Adverse (Significant) |

| Environmental Effect | Sensitivity of Receptor | Impact Magnitude | Nature of Impact (Permanent/ Temporary) | Effect and Significance |
|---|---|---|---|---|
| Disturbance to bats (noise, lighting, activity) | Medium (Regionali mportanc e) | Low | Temporary | Minor to Moderate Adverse (Potentially Significant if unmanaged) |
| Disturbance to badger including limited works within the 30 m buffer of one sett under the current layout | Negligible (Legally protected species) | Medium | Temporary | Minor Adverse (Not significant in EIA terms but potential legislative offence if unmanaged) |
| Disturbance to otter along watercourse including localised works associated with the drainage outfall and widening of existing tracks within the riparian corridor | Medium (County importanc e) | Low | Temporary | Minor to Moderate Adverse (Potentially Significant if unmanaged) |
| Potential killing or injury of reptiles, common amphibians and hedgehog during vegetation clearance and groundworks | Low (Local importanc e) | Medium | Temporary | Minor to Moderate Adverse (Potentially Significant if unmanaged) |
| Potential destruction of active bird nests during hedgerow/tree clearance | Medium (Local importanc e) | Medium | Temporary | Moderate Adverse (Significant if unmanaged) |
| **OPERATION** | | | | |

| Environmental Effect | Sensitivity of Receptor | Impact Magnitude | Nature of Impact (Permanent/ Temporary) | Effect and Significance |
|---|---|---|---|---|
| Potential for damage and disturbance to retained and newly created habitats during operational activities if inappropriately implemented | Not Applicable | Not Applicable | Permanent | Minor adverse |
| Failure of habitats to establish or inappropriate management would prevent the site reaching its intended condition and biodiversity net gain | Not Applicable | Not Applicable | Permanent | Minor adverse |
| Disturbance to protected species during standard operation requirements | Not Applicable | Not Applicable | Permanent | Minor adverse |
| **DECOMMISSIONING** | | | | |
| Temporary disturbance to habitats during removal works | Low–Medium (Local–County) | Low–Medium | Temporary | Minor to Moderate (Potentially significant) |
| Pollution/run-off risk during decommissioning | Low (Local importance) | Medium | Temporary | Minor to Moderate Adverse (Potentially Significant if unmanaged) |
| Disturbance to protected species during standard decommissioning requirements | Not Applicable | Not Applicable | Permanent | Minor adverse |

## 7.5. Mitigation, Enhancement and Residual Effects

### Mitigation by Design

7.5.1. The Proposed Development has been informed by an environmentally led design process, with embedded mitigation incorporated into the layout to avoid and reduce effects on ecological receptors wherever practicable. These measures form an inherent part of the scheme design and have been taken into account within the assessment of likely significant effects. The layout has evolved to avoid the most valuable habitats and species where possible, with built infrastructure largely confined to areas of lower ecological value.

7.5.2. Key mitigation by design measures include:

- Retention of the majority of hedgerows, woodland edges and the riparian corridor to maintain habitat connectivity and ecological function across the Site;
- Use of existing access points within hedgerows where possible, with only limited widening required to minimise habitat loss and fragmentation;
- Provision of buffer distances between solar infrastructure and retained ecological features, including hedgerows, woodland and the on site watercourse;
- Avoidance of works within close proximity to identified badger setts; and
- Creation and enhancement of habitats across the Site including species-rich neutral grassland beneath and between solar arrays, reinforcement and gapping-up of existing native hedgerows, new native hedgerow planting, enhancement of Purple moor-grass and rush pasture, and provision of native tree and woodland planting in accordance with the Landscape Masterplan.

7.5.3. For all protected and priority species that may be using the Proposed Development during operation, the habitat creation outlined above represents an increase in connectivity across the Site through the creation of new hedgerows, gap planting of existing as well as tree and woodland planting, as well as an increase in available habitat offering increased feeding, commuting and resting opportunities for all species.

7.5.4. Specifically in relation to skylark, given their presence on Site, areas have been allocated to be sown with a grass mix suitable for providing foraging opportunities for skylark, so whilst nesting opportunities will be reduced, skylark will still be able to use the Site during operation.

### 7.5.5. Designated Sites

7.5.6. The Proposed Development has been designed to avoid direct impacts to all statutory designated sites identified within the ecological baseline, including Pembrokeshire Marine Special Area of Conservation (SAC), Scoveston Fort Site of Special Scientific Interest (SSSI) and Milford Haven Waterway SSSI. No land take will occur within any designated site boundary.

7.5.7. Buffers have been incorporated into the scheme design to protect retained boundary habitats, watercourses and riparian corridors, thereby maintaining ecological connectivity and reducing the risk of disturbance or pollution pathways linking the Site to designated features.

7.5.8. In relation to hydrologically linked sites, particularly Pembrokeshire Marine SAC and Milford Haven Waterway SSSI, the design avoids works within waterbodies and incorporates drainage control measures, habitat buffers and pollution prevention infrastructure to minimise the potential for sediment run-off, changes in water quality or accidental contamination.

### 7.5.9. Habitats

7.5.10. Areas of Purple moor-grass and rush pasture (Field F37), which are a Habitat of Principal Importance in Wales and therefore considered to be of County ecological importance, have been retained within the Site layout and avoided through the design of the solar array and associated infrastructure. These areas occur adjacent to hedgerows, woodland and the riparian corridor and their retention maintains damp grassland habitat and associated ecological function within the Site.

7.5.11. Two veteran ash trees (T84 and T85), considered to be of County ecological importance, have also been retained within the Proposed Development layout. The design has ensured that infrastructure and access tracks avoid these trees and their Root Protection Areas, thereby preventing direct impacts to these irreplaceable habitat features. Although installation of the proposed drainage outfall to the east of the substation within the riparian corridor will be needed with some localised disturbance.

7.5.12. The arable land and modified grassland within the Site, which are of low sensitivity and limited ecological value, have been selected for development. This approach minimises impacts on higher value habitats while allowing the retention of boundary features that provide the primary ecological function of the Site.

7.5.13. Small areas of other neutral grassland in the southern part of the Site will be retained where practicable (and used for skylark mitigation), with the remainder developed.

7.5.14. Broadleaved woodland within and adjacent to the Site has been largely avoided through the layout design. Only very limited areas in the south-western part of the Site may be affected where the cable route follows existing farm tracks through woodland compartments, thereby minimising new fragmentation and disturbance. The majority of woodland habitat will remain intact and buffered from development.

7.5.15. In addition to the retention of the majority of existing woodland blocks and woodland edge habitats, the Proposed Development includes the creation of new woodland planting as part of the site layout. A new woodland belt approximately 20 m in width is proposed along the northern boundary of the Site, which will strengthen habitat connectivity, provide additional screening and contribute to long-term ecological enhancement. This new woodland will link with existing boundary features and reinforce the wider woodland network within the local landscape.

7.5.16. Species-rich hedgerows with trees, species-poor hedgerows, and associated boundary vegetation have been retained across the Site as key ecological corridors. Limited widening of existing access points will be required in small sections of hedgerow to facilitate construction and operational access. Where hedgerow gaps are present these will be replanted with native species to restore continuity and strengthen the hedgerow network over time.

7.5.17. The on-site watercourse and associated riparian corridor have been retained within the Site layout, with development set back at 20m buffer to maintain its function as a linear ecological corridor. Only very limited works are anticipated in woodland sections where the cable route crosses existing tracks. Boundary ditches associated with hedgerows will benefit from the retention of adjacent vegetation and the provision of undeveloped buffer zones, helping to maintain hydrological function and habitat quality.

7.5.18. Further areas of biodiversity-focused planting are proposed across the Site as part of the landscape and green infrastructure framework, subject to the final detailed landscape design. This will include the strengthening of field boundaries, infilling of hedgerow gaps and the creation of additional planted corridors and habitat areas designed to improve structural diversity and ecological connectivity. The precise composition and extent of this planting will be confirmed within the Landscape and Ecological Management Plan (LEMP) and Green Infrastructure Statement (Appendix 7.11).

7.5.19. These embedded design measures significantly reduce the extent of habitat loss of ecologically valuable habitats, fragmentation and disturbance and form the primary means of avoiding significant ecological effects.

**7.5.20. Fauna**

**7.5.21. Bats**

7.5.22. The retention of boundary habitats, hedgerows, woodland edges and the riparian corridor provides embedded mitigation for bat species by preserving key commuting and foraging routes used across the Site. The scheme layout incorporates undeveloped buffer areas between solar infrastructure and these linear features, including a minimum separation distance in areas where bat activity was recorded, thereby reducing disturbance and maintaining habitat functionality for more sensitive species such as barbastelle.

7.5.23. Limited hedgerow removal identified within the Arboricultural Impact Assessment is localised and does not sever key commuting corridors. The majority of linear features remain intact and continuous across the Site, maintaining connectivity for bat movement through the wider landscape.

7.5.24. Although some loss of sub-optimal foraging habitat will occur where arable land is converted to solar infrastructure, most affected areas currently provide limited bat foraging value. Higher quality foraging habitats, including purple moor-grass and rush pastures and neutral grassland and boundary features, will be retained, and habitat creation beneath and around the arrays will enhance foraging resources in the long term.

### 7.5.25. Breeding Birds

### 7.5.26. Winter birds

7.5.27. Retention of boundary habitats, grassland areas and open foraging space within the Site provides continued winter foraging opportunities for farmland bird assemblages. Construction disturbance will be temporary and spatially limited, with alternative foraging habitat widely available within the surrounding agricultural landscape.

### 7.5.28. Badger

7.5.29. The scheme layout has been informed by the location of three active badger setts recorded within or adjacent to the Site. Infrastructure has been positioned to avoid direct impacts to sett entrances, and no permanent development is proposed within sett locations. Under the current layout submitted for pre-application consultation, one sett lies within the precautionary 30 m buffer associated with the development footprint; however, the sett itself will not be directly affected.

7.5.30. The majority of hedgerows, woodland edges and boundary vegetation used by commuting and foraging badger will be retained, maintaining established movement corridors across the Site and into the wider landscape. Solar infrastructure has been set back from woodland blocks and boundary features to reduce fragmentation and maintain ecological connectivity.

7.5.31. By retaining these key habitat features and incorporating spatial separation from identified setts, the Proposed Development has been designed to minimise disturbance and avoid direct impacts to badger at the layout stage. Following consultation, the layout may be refined such that the affected sett also lies outside the precautionary 30 m buffer, in which case it would be unaffected in the same way as the remaining setts

### 7.5.32. Dormouse

7.5.33. Suitable dormouse habitat within the Site is associated with interconnected native hedgerows (including hedgerows with trees), woodland edges and the riparian corridor. The scheme layout retains the majority of these linear and edge habitats, ensuring continued habitat connectivity across the Site and into the wider landscape.

7.5.34. Only limited and localised hedgerow removal is required to facilitate access widening and infrastructure installation, and the overall network of connected woody vegetation will remain intact. The retention of these corridors maintains potential dispersal routes and foraging habitat for dormouse, thereby reducing the risk of habitat fragmentation through design.

### 7.5.35. Otter

7.5.36. The on-site watercourse and associated riparian corridor have been retained within the Site layout, with development set back behind an undeveloped buffer zone. No permanent infrastructure is proposed within the channel itself, and the largely avoids

direct modification of the watercourse, with the exception of a very small localised outfall structure proposed to the east of the substation.

7.5.37. By retaining and buffering the riparian corridor, the scheme maintains its function as a commuting and foraging route for otter and preserves hydrological connectivity within the wider catchment. The use of existing track crossings for cable routing and limited widening of existing farm access tracks where required minimises new disturbance within woodland compartments and avoids unnecessary encroachment into riparian habitat.

7.5.38. These embedded design measures ensure that the ecological function of the watercourse corridor is maintained during operation and that only very limited and localised modifications to riparian habitat are required.

**7.5.39. Reptiles and Amphibians**

7.5.40. Habitats offering suitability for reptiles and amphibians, including hedgerows, woodland edges, scrub, areas of neutral grassland and purple moor-grass and rush pasture, have been largely retained within the scheme layout. These habitats form the principal areas of higher suitability for sheltering, foraging and dispersal.

7.5.41. Development has been directed toward intensively managed arable and modified grassland areas of lower ecological value, thereby reducing impacts on higher suitability habitats. Retention of boundary vegetation and habitat corridors maintains connectivity between suitable habitats within and adjacent to the Site.

**7.5.42.** By avoiding extensive clearance of higher-value edge and damp habitats, the scheme design minimises fragmentation and reduces the likelihood of significant impacts on reptiles and amphibians.

**7.5.43. Other species**

7.5.44. Suitable habitat for hedgehog is present within retained hedgerows, woodland edges, scrub and grassland margins across the Site. The scheme layout retains the majority of these boundary habitats, maintaining sheltering, nesting and foraging opportunities within and around the development footprint.

7.5.45. Ecological connectivity across the Site will be maintained through the retention of continuous hedgerow and woodland corridors. The proposed perimeter fencing design will incorporate ground-level gaps where appropriate, allowing continued movement of small and medium-sized mammals between retained habitats and adjacent land. The use of standard security fencing with clearance beneath panels also maintains permeability across the Site.

7.5.46. By retaining boundary habitats and maintaining landscape permeability, the Proposed Development has been designed to minimise fragmentation and avoid severance of hedgehog commuting routes at the layout stage.

## Additional Mitigation.

7.5.47. Further mitigation measures will be secured through a suite of environmental management documents to ensure that construction, operation and decommissioning activities are undertaken in a manner that protects ecological receptors. These will include an **Outline Construction Biodiversity Management Plan (OUTLINE CBMP) (Appendix 4.2)**, **Landscape and Ecological Management Plan (LEMP) (Appendix 7.12)**, and **Green Infrastructure (GI) Statement (Appendix 7.11)**, together with the supporting technical appendices reporting the baseline surveys and any species-specific mitigation strategies.

**7.5.48. <u>Construction</u>**

**7.5.49. Statutory Designated Sites**

7.5.50. Statutorily designated sites identified within the wider study area, including Pembrokeshire Marine SAC, Milford Haven Waterway SSSI and Scoveston Fort SSSI, will be protected during construction through the implementation of appropriate pollution prevention, buffer zones and construction controls set out within the OUTLINE CBMP. submitted as part of this application. The OUTLINE CBMP includes specific measures relating to run-off prevention, sediment control, storage of fuels and chemicals, protection of riparian corridors, and species-specific safeguards for otter and bats, as relied upon within the sHRA.

**7.5.51. Habitats**

7.5.52. The Proposed Development has been progressed using a stepwise approach to retain ecologically important habitats wherever practicable, particularly hedgerows with trees, woodland edges, ponds and the riparian corridor which provide the principal ecological value and connectivity across the Site.

7.5.53. Construction effects on retained habitats will be controlled through the implementation of an OUTLINE CBMP (Appendix 4.2) which s includes:

- Identification of biodiversity protection zones and buffer areas;
- Protective fencing to prevent encroachment into retained habitats;
- Pollution prevention and sediment control measures;
- Control of vehicle movements and material storage;
- Toolbox talks and ecological supervision where required.

7.5.54. Specific working methodologies will be implemented where works are required near the watercourse, hedgerows and retained trees (including veteran trees) to prevent soil compaction, vegetation damage and pollution, those will be provided in OUTLINE CBMP.

7.5.55. Retained trees and hedgerows will be protected in accordance with BS5837:2012 and the Arboricultural Impact Assessment, including no-dig construction within Root Protection Areas where required.

### 7.5.56. Fauna

7.5.57. **Bats**

7.5.58. Where retention of trees with moderate bat roost potential cannot be achieved, further bat roost surveys (including climbing inspections and/or emergence surveys where required) will be undertaken at the appropriate seasonal window to confirm roost presence and inform any necessary mitigation and licensing requirements with Natural Resources Wales. Given the nature of the features identified, it is considered likely that any roost lost could be compensated for with enhancements in the form of bat boxes. Where practicable, the design will be reviewed to retain trees identified as supporting multiple PRF-M features in order to avoid impacts to potential bat roosts and reduce the requirement for further bat survey work and licensing. Avoidance of these trees represents the preferred mitigation approach in line with the ecological mitigation hierarchy.

7.5.59. Should a roost be confirmed and loss be unavoidable, a mitigation strategy will be prepared in accordance with NRW guidance. This may include timing restrictions, supervised soft-felling, and provision of compensatory roost features.

7.5.60. No artificial lighting will be used during construction. Works will be undertaken during daylight hours only, and therefore no light spill onto boundary habitats will occur.

### 7.5.61. Breeding Birds

7.5.62. Vegetation clearance will be undertaken outside the breeding bird season (generally March to August inclusive), unless checks by a suitably qualified ecologist confirm the absence of active nests.

7.5.63. A Skylark Mitigation Strategy (Appendix 7.8) will be implemented to address the loss of breeding territories. This includes the creation and long-term management of suitable skylark nesting habitat and provision of appropriate seed mixes within retained areas of the Site. Breeding bird surveys recorded 13 probable skylark territories within the Site and the strategy therefore provides a minimum of 6.5 ha of suitable nesting habitat based on an assumed density of two territories per hectare. A total of approximately 12.3 ha of habitat within fields F1, F5, F11, F29, F33, F34 and F39 will be managed for nesting skylark, exceeding the minimum requirement. Grassland management will follow typical meadow management practices, including an annual summer cut with a potential second autumn cut where necessary. Grassland will not be cut between early April and late May to avoid damage to active nests, and subsequent cuts will be spaced by a minimum of seven weeks to allow successful fledging of later broods. Cuttings will be removed following mowing to prevent nutrient enrichment and promote a structurally diverse sward that supports invertebrate prey. Areas of grassland beneath the solar arrays will also be managed to provide suitable foraging habitat for skylark.

7.5.64. Retained open grassland and field margins will also maintain foraging habitat suitable for barn owl within the wider agricultural landscape.

7.5.65. Open grassland, neutral grassland and field margins also provide suitable foraging habitat for barn owl, with retained boundary features maintaining commuting routes across the Site.

7.5.66. A range of bird boxes can be provided on the retained mature trees to replace any loss of nesting opportunities in the short term until the landscaping scheme matures.

**7.5.67. Wintering Birds**

**7.5.68.** Disturbance to wintering birds will be minimised through good construction practice set out in the OUTLINE CBMP, including controlling working areas, retaining boundary habitats and limiting unnecessary disturbance to open fields and margins used for seasonal foraging**.**

7.5.69. **Badger**

7.5.70. A pre-construction badger survey will be undertaken to confirm the status of all known setts and identify any newly excavated setts prior to commencement of works.

7.5.71. Works within 30 m of any active sett will be undertaken in accordance with a Precautionary Working Method Statement (PWMS) and under ecological supervision where required. Under the current scheme layout submitted for pre-application consultation, one sett lies within the precautionary 30 m buffer associated with the development footprint and therefore works within this buffer may be required. Should disturbance to a sett be unavoidable, appropriate mitigation and licensing will be secured from Natural Resources Wales. Following consultation, if the layout is amended such that all development lies outside the 30 m buffer, a PWMS would not be required and standard good practice construction measures would be sufficient..

7.5.72. Good site practice measures will be implemented throughout construction, including covering or providing escape ramps in excavations, secure storage of hazardous substances and maintenance of clear access routes to prevent entrapment.

**7.5.73. Dormouse**

7.5.74. Where works affect suitable hedgerow or woodland edge habitat, a Precautionary Working Method Statement (PWMS) will be implemented. This will include sensitive vegetation clearance techniques, toolbox talks for site personnel and ecological supervision where required to minimise the risk of harm.

7.5.75. Should evidence of dormouse be identified during works, activities will cease and further advice sought from a licensed ecologist.

7.5.76. **Otter**

7.5.77. Works in proximity to the watercourse will be undertaken in accordance with the Outline CBMP, incorporating pollution prevention controls and sensitive working practices. In addition, targeted otter surveys will be undertaken along the section of

watercourse to the east of the proposed substation where the drainage outfall is proposed, as this area was not included within the original survey coverage.

7.5.78. To reduce the risk of disturbance, works within close proximity to the watercourse will be restricted to daylight hours only.

7.5.79. Pre-construction checks will be undertaken to confirm the absence of newly established holts within areas affected by works. If a holt is identified and likely to be impacted, appropriate mitigation and licensing will be secured from Natural Resources Wales. Where practicable, the location of the drainage outfall will also be relocated to an alternative position to avoid any identified otter holt or resting place, ensuring that no direct disturbance or loss of such features occurs.

7.5.80. **Reptiles and Amphibians**

7.5.81. Where works affect suitable habitat, sensitive phased vegetation clearance will be undertaken under a Precautionary Working Method Statement (PWMS). This will include toolbox talks, staged cutting of vegetation to encourage dispersal, and ecological supervision where required.

7.5.82. Should reptiles or amphibians be encountered during works, activities will cease temporarily and appropriate ecological advice sought.

**7.5.83. Other species**

7.5.84. Hedgehog mitigation will be precautionary and integrated into site working practices, including sensitive clearance of boundary habitats, provision of escape ramps in excavations and maintaining habitat connectivity across retained features.

**7.5.85. Invasive Non-Native Species**

7.5.86. Precautionary measures will be implemented during construction to minimise risk to hedgehog. These will include sensitive vegetation clearance, provision of escape ramps in excavations and maintenance of site tidiness to reduce entrapment risk.

7.5.87. Invasive Non-Native Species Management Plan, to be implemented by a suitably qualified specialist contractor as set out within the OUTLINE CBMP will be implemented to control Japanese knotweed recorded within the Site and prevent its spread during construction, operation and decommissioning. A pre-construction walkover survey will also be undertaken to confirm the current extent of Japanese knotweed and identify any additional stands prior to the commencement of works.

**7.5.88. <u>Operational</u>**

7.5.89. **Statutorily Designated Sites**

7.5.90. As no adverse effects on statutory designated sites are anticipated during operation, no specific operational mitigation measures are required beyond the retention of buffers and habitat protection embedded within the scheme design.

**7.5.91. Habitats**

7.5.92. Retained and newly created habitats will be managed in accordance with the Landscape and Ecological Management Plan (LEMP) (Appendix 7.12) ., securing long-term ecological enhancement, habitat connectivity and biodiversity net benefit.

**7.5.93. Fauna**

7.5.94. The completed scheme will retain key habitat corridors for bats, birds, badger, otter and other wildlife, with grassland management and planting delivering enhanced foraging and nesting opportunities.

7.5.95. The retention of hedgerows, woodland edges and the riparian corridor will maintain habitat connectivity across the Site and into the wider landscape, allowing continued movement of mobile species including bats, birds and mammals.

7.5.96. Access points will be provided within the security fencing to allow badger and hedgehog movement across the Site during operation.

7.5.97. No additional species-specific mitigation is anticipated during operation beyond the implementation of habitat management secured through the LEMP which will secure appropriate timings and methods of ongoing management to avoid any adverse effects.

**7.5.98. Decommissioning**

7.5.99. The physical removal of solar photovoltaic panels, mounting structures, cabling and associated infrastructure at the end of the operational lifetime of the Proposed Development would be temporary in nature and undertaken over a relatively short period. Provided appropriate environmental controls are implemented, including measures equivalent to those set out within the Outline Construction Biodiversity Management Plan (OUTLINE CBMP), no significant adverse direct ecological effects are anticipated.

7.5.100. Potential impacts during decommissioning would be similar in nature to those during construction, including temporary disturbance to fauna, risk of habitat damage and pollution pathways. These risks would be managed through sensitive working methods, protection of retained habitats, pollution prevention measures and, where required, ecological supervision. With such measures in place, effects on retained habitats and protected species are anticipated to be Minor adverse and not significant in EIA terms.

7.5.101. In the longer term, the post-decommissioning land use is currently unknown. As a reasonable worst-case scenario, the Site could be returned to its current baseline agricultural condition, which would result in no net long-term loss of habitats. Alternatively, retention of established grassland and boundary habitats could deliver ongoing biodiversity benefits beyond the lifetime of the scheme.

**Table 7.6: Mitigation**

| Ref | Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects | How measure would be secured | | |
|---|---|---|---|---|
| | | By Design | By S.106 | By Condition |
| 1 | Layout designed to locate development on low sensitivity arable and modified grassland, retaining higher value boundary habitats including hedgerows, woodland, ponds and the riparian corridor as well as areas of Purple moor-grass and rush pasture (Field F37) | X | | |
| 2 | Retention and buffering of woodland blocks, hedgerows, ditches and the watercourse to maintain habitat connectivity and protect priority habitats including Purple moor-grass and rush pasture and veteran trees (T84 and T85) | X | | |
| 3 | Creation of new woodland belt along the northern boundary and biodiversity-focused planting to strengthen ecological networks (secured through LEMP and GI Statement) | | | X |
| 4 | Implementation of a Outline Construction Biodiversity Management Plan(OUTLINE CBMP) including pollution control, habitat protection fencing, protection of Root Protection Areas of retained trees including veteran trees, sensitive vegetation clearance and ecological supervision. | | | X |
| 5 | Protection and buffering of ponds and riparian habitats to safeguard amphibians and otter from disturbance and pollution | | | X |
| 6 | Sensitive lighting strategy to avoid light spill onto bat commuting and foraging corridors | | | X |

| | | | | |
|---|---|---|---|---|
| 7 | Timing of works near watercourse to daylight hours only to minimise disturbance to otter | | | X |
| 8 | Skylark Mitigation Strategy to compensate for loss of breeding habitat through habitat management and enhancement | | | X |
| 9 | Application of 30 m precautionary buffers around badger setts where practicable, with works within any buffer undertaken under a Precautionary Working Method Statement (PWMS). Escape ramps will be installed in excavations to prevent entrapment. | | | X |
| 10 | Pre-construction otter survey of the outfall watercourse, implementation of CEMP pollution controls and timing of works near the watercourse to daylight hours only to minimise disturbance to otter | | | X |
| 11 | Invasive Non-Native Species Management Plan to control and prevent spread of Japanese knotweed | | | X |

### Enhancements

7.5.102. In addition to mitigation necessary to make the Proposed Development acceptable, the scheme will deliver biodiversity enhancements through landscape and habitat management measures set out within the GI Statement and LEMP. These will include:

- Installation of bat boxes on retained trees and woodland edges to provide additional roosting opportunities;
- Installation of bird boxes on retained trees and boundary woodland to support breeding bird assemblages;
- Provision of a barn owl box within suitable open farmland habitat to enhance foraging and nesting opportunities for barn owl;
- Creation of amphibian and reptile hibernacula and log piles within retained buffer areas, particularly adjacent to ponds, woodland edges and hedgerows; and
- Installation of insect hotels within suitable locations across the Site.

7.5.103. These enhancements will contribute to improved ecological resilience and biodiversity value over the lifetime of the development.

## Residual Effects

7.5.105. Following the incorporation of mitigation by design and the implementation of additional mitigation measures secured through the OUTLINE CBMP, LEMP and GI Statement, the majority of potential ecological effects associated with the Proposed Development are predicted to be reduced to **Minor adverse or Negligible** and therefore **not significant in EIA terms**.

**Table 7.7: Residual Significance of Effects (with Mitigation)**

| Environmental Effect | Sensitivity of Receptor | Impact Magnitude | Nature of Impact (Permanent/ Temporary) | Residual Effect and Significance |
|---|---|---|---|---|
| **CONSTRUCTION** | | | | |
| Temporary disturbance risk to retained Purple moor-grass and rush pasture (f2b) during construction (e.g. accidental encroachment) | Medium (County importance – HoPI) | Negligible (as retained) | Temporary | Negligible (Not Significant) |
| Potential damage to retained veteran ash trees (T84 and T85) during construction activities | Medium (County importance) | Negligible | Temporary | Negligible (Not Significant) |
| Localised loss/modification of broadleaved woodland along existing track widening within woodland corridor | Medium (Local importance) | Low | Permanent (small scale) | Minor to Moderate Adverse (Not Significant) |
| Disturbance and pollution risk to watercourse and riparian corridor | Low (Local importance) | Low | Temporary | Minor Adverse (Not Significant) |

| | | | | |
|---|---|---|---|---|
| Widening of hedgerow and woodland entrances and localised habitat fragmentation | Low (Local importance) | Low | Permanent (small scale) | Minor Adverse (Not Significant) |
| Loss/modification of other neutral grassland (g3c) | Low (Negligible–Local importance) | Low | Permanent | Minor Adverse (Not Significant) |
| Loss of breeding skylark habitat and 13 confirmed territories (with Skylark Mitigation Strategy) | Medium (Local importance) | Low | Permanent | Minor to Moderate Adverse (Not Significant) |
| Disturbance to bats (noise, activity; no lighting during construction) | Medium (Regional importance) | Negligible | Temporary | Negligible |
| Potential impacts to bat roost features (subject to survey/licensing if required) | Medium (Local–County importance) | Negligible | Permanent (if loss confirmed) | Negligible |
| Disturbance to badger (works within the 30 m buffer of one sett managed through PWMS and good site practice measures)) | Negligible (legal protection) | Negligible– | Temporary | Negligible (Not Significant) |
| Disturbance to otter along watercourse (buffers + daylight working + pollution controls) | Medium (County importance) | Negligible | Temporary | Negligible |

| | | | | |
|---|---|---|---|---|
| Potential killing/injury of reptiles, amphibians and hedgehog (PWMS + phased clearance) | Low (Local importance) | Low | Temporary | Minor Adverse (Not Significant) |
| Potential destruction of active bird nests (timing restrictions + checks) | Medium (Local importance) | Low | Temporary | Minor to Moderate Adverse (Not Significant) |
| **OPERATION** | | | | |
| Disturbance to retained habitats during operation | Low–Medium (Local–County depending on receptor) | Negligible | Permanent | Negligible (Not Significant) |
| Disturbance to bats during operation (no routine lighting; inverters low noise) | Medium (Regional importance) | Negligible | Permanent | Negligible |
| Disturbance to otter during operation | Medium (County importance) | Negligible | Permanent | Negligible (Not Significant) |
| **DECOMMISSIONING** | | | | |
| Temporary disturbance to habitats during removal works | Low–Medium (Local–County) | Low | Temporary | Minor Adverse (Not Significant) |
| Pollution/run-off risk during decommissioning (CEMP-style controls applied) | Low (Local importance) | Low | Temporary | Minor Adverse (Not Significant) |
| Disturbance to protected species during decommissioning | Receptor dependent | Low | Temporary | Minor Adverse (Not Significant) |

## 7.6. Cumulative Effects

Assessment Approach

7.6.1. The cumulative effects assessment has been undertaken in accordance with the methodology set out within the ES Scoping Report and the EIA Regulations. Cumulative effects are considered to arise where multiple developments interact to give rise to combined ecological effects which may be insignificant when considered in isolation but potentially significant when assessed together.

7.6.2. A long list of committed and proposed developments is provided with Chapter 2 (Figure 2,.1 Cumulative Sites Plan) (details correct as of December 2025) and reviewed to identify schemes with the potential to result in cumulative ecological effects in combination with the Proposed Development.

7.6.3. Each cumulative scheme was reviewed with regard to:

- proximity to the Site;
- presence of shared ecological receptors or connected habitats;
- potential overlap of ecological impact pathways (including habitat loss, fragmentation, disturbance and hydrological connectivity); and
- the scale and nature of predicted ecological effects.

7.6.4. Schemes located at distances where no ecological connectivity exists, where there are no shared ecological receptors or pathways for impact, or where the scale and nature of development is unlikely to give rise to cumulative ecological effects were scoped out of the cumulative ecology assessment. This includes schemes separated by intervening development or unsuitable habitat which would prevent functional ecological interaction.

7.6.5. Only developments with the potential to interact with the Site through shared habitats, species populations or ecological processes were taken forward for cumulative assessment.

**7.6.6. Schemes Scoped into the Cumulative Ecology Assessment**

7.6.7. Following the screening process, White House Farm Solar Farm (CAS_03107_C5X9W1) was scoped into the cumulative ecology assessment. This scheme is located within proximity to the Site and has the potential to share ecological receptors and habitat connectivity, particularly in relation to farmland habitats, boundary features and mobile species such as birds and bats.

7.6.8. All other schemes listed in Figure 2.1 were scoped out on the basis of distance, lack of ecological pathways, absence of shared receptors, or the nature and scale of likely effects

<u>Cumulative Effects</u>

7.6.9. The Proposed Development has been designed using an environmentally led approach which retains the principal ecological features of the Site, including hedgerows,

woodland edges, ponds and the riparian corridor, with additional habitat enhancement proposed through new woodland planting, strengthened boundaries and biodiversity-focused planting.

7.6.10. Similarly, embedded mitigation within the White House Farm Solar Farm scheme includes habitat retention, buffering of key ecological features and landscape enhancement measures.

7.6.11. Given the separation distance between the two developments, the retention of intervening habitats, and the absence of direct habitat loss affecting shared high-value ecological features, no significant cumulative loss or fragmentation of priority habitats is anticipated.

7.6.12. With respect to fauna, mobile species such as bats and birds may utilise the wider agricultural landscape across both schemes. However, both developments retain linear features and habitat connectivity, incorporate buffer zones and include habitat enhancement measures. As such, cumulative disturbance effects are anticipated to be temporary, of low magnitude and not significant.

7.6.13. For breeding skylark, while arable habitat will be lost within the Site, this will be addressed through measure outlined in the Skylark Mitigation Strategy (Appendix7.8). When considered in combination with the cumulative scheme, no significant cumulative effect on skylark populations is anticipated due to the availability of retained and enhanced habitats within the wider landscape.

7.6.14. Cumulative effects on other protected species including badger, otter, reptiles and amphibians are not anticipated to be significant, as habitat connectivity will be maintained, disturbance will be controlled through mitigation measures, and no loss of critical habitat resources is predicted in combination.

7.6.15. Overall, the Proposed Development, when considered cumulatively with White House Farm Solar Farm, is not anticipated to give rise to significant cumulative ecological effects.

<u>In-Combination Effects</u>

7.6.16. In-combination effects related to ecology effects and the effects of other environmental disciplines for the Proposed Development are not expected to be greater than that provided for each individual environmental discipline considered in isolation. Where the highest and most direct effects from other topics are predicted, the overall magnitude of in-combination effects would not be expected to increase as a result of concurrent ecology effects.

7.6.17. In-combination effects arise where impacts from different environmental disciplines interact to affect ecological receptors. These effects are considered throughout the ES and include, but are not limited to:

- the potential interaction of construction traffic with disturbance to fauna;

- the interaction of dust, runoff and pollution risks with aquatic and terrestrial habitats; and
- the influence of landscaping and habitat creation on ecological enhancement.

7.6.18. The mitigation measures set out within this chapter, together with those detailed within the OUTLINE CBMP, LEMP and GI Statement, are designed to control such interactions and ensure that in-combination effects remain minor or negligible and not significant in EIA terms.

## 7.7. Summary

### Introduction

7.7.1. This chapter assessed the likely effects of the Proposed Development on ecology and biodiversity, using desk-based data, detailed field surveys undertaken between 2024 and 2026, and best practice ecological assessment guidance. It considered habitats, designated sites and protected species within the Site and surrounding area, and evaluated effects during construction, operation and decommissioning. Measures to avoid, reduce and mitigate impacts have been incorporated into the scheme design, alongside opportunities to enhance biodiversity.

### Baseline Conditions

7.7.2. The Site is predominantly agricultural land, comprising arable fields and modified grassland, with the principal ecological value associated with boundary features including native hedgerows (with trees), woodland edges and blocks, areas of Purple moor-grass and rush pasture, two veteran ash trees ponds and an on-site watercourse forming a riparian corridor.

7.7.3. Statutory designated sites of relevance within the wider area include Pembrokeshire Marine SAC, Scoveston Fort SSSI and Milford Haven Waterway SSSI, which were assessed due to potential ecological or hydrological connectivity.

7.7.4. Ecological surveys confirmed use of the Site by a range of species, including bats commuting and foraging along boundary habitats and the riparian corridor, with several trees identified as supporting Potential Roost Features of moderate bat roost potential; breeding skylark within arable fields; wintering farmland birds; badger, with three active setts recorded within or adjacent to the Site; with one sett located within 30 m of the current development footprint; and otter using the watercourse corridor. It should be noted that the section of watercourse to the east of the proposed substation, where a drainage outfall is now proposed, was not included within the original otter survey coverage and further surveys will therefore be undertaken to confirm the presence or absence of holts within this area. Common amphibians, dormice, reptiles and hedgehog are also likely to be present within suitable boundary habitats.

### Likely Significant Effects

7.7.5. Without mitigation, the principal ecological effect identified was the permanent loss of arable habitat supporting 13 confirmed skylark breeding territories, representing a Moderate adverse and Significant effect.

7.7.6. Other potential effects included temporary disturbance to protected species such as bats, dormouse and otter during construction, including localised works associated with the installation of the proposed drainage outfall, localised modification of woodland associated with widening of existing tracks and cable routing, localised impacts on hedgerows and small sections of woodland associated with access

widening and cable routing, and risks of pollution or sediment run-off affecting aquatic habitats in the absence of appropriate controls. There is also potential for temporary disturbance to badger associated with works occurring within the precautionary 30 m buffer of one sett under the current scheme layout. There is also potential legal risk associated with trees supporting bat roost features if removal were to occur without further survey and licensing where required.

7.7.7. Effects on lower value arable land and modified grassland were assessed as Negligible due to their limited ecological importance. Purple moor-grass and rush pasture and veteran trees are retained within the scheme design and therefore only subject to limited temporary disturbance risk during construction.

### Mitigation, Enhancement, Residual Effects

7.7.8. A stepwise approach has informed the layout, retaining the majority of higher value habitats across the Site, including hedgerows, woodland blocks and edges, ponds, Purple moor-grass and rush pasture, veteran trees and the riparian corridor. Buffers have been incorporated to protect these features and maintain ecological connectivity.

7.7.9. Further mitigation will be secured through a Construction Environmental Management Plan (CEMP), Landscape and Ecological Management Plan (LEMP) and Green Infrastructure Statement. Measures include pollution prevention and surface water controls, protection of retained habitats, application of 30 m buffers around badger setts where practicable and use of a Precautionary Working Method Statement where works occur within this buffer, pre-construction checks, retention of bat commuting routes, avoidance where practicable of trees with bat roost potential or further survey and licensing where required, daylight-only working near the watercourse, otter survey of the outfall watercourse and precautionary working methods for reptiles, amphibians and other small mammals..

7.7.10. A Skylark Mitigation Strategy will address the loss of breeding habitat through grassland management and enhancement measures designed to maintain suitable nesting and foraging conditions within the Site.

7.7.11. In addition, biodiversity enhancements will be delivered through new woodland planting, strengthened hedgerow networks and species-diverse grassland establishment as set out within the Green Infrastructure proposals..

7.7.12. With these measures in place, all ecological effects are predicted to be reduced to Minor to Minor–Moderate adverse or Negligible and therefore Not Significant in EIA terms. Some minor beneficial effects are anticipated during operation as newly created habitats establish and habitat connectivity is strengthened.

### Cumulative Effects

7.7.13. A review of nearby developments identified White House Farm Solar Farm as the only scheme with potential to interact ecologically with the Proposed Development.

7.7.14. Both developments retain key habitats, incorporate buffers and include habitat management measures. As a result, no significant cumulative ecological effects are predicted for habitats or protected species including birds, bats, badger and otter.

### Conclusion

7.7.15. The ecological assessment has demonstrated that, although the Proposed Development will result in the loss of some agricultural habitat, the principal ecological features of the Site, including Purple moor-grass and rush pasture, veteran trees, hedgerows, woodland blocks and the riparian corridor, will be retained and protected.

7.7.16. Following avoidance of key bat roost features where practicable implementation of a Precautionary Working Method Statement where works occur within the 30 m buffer of the affected badger sett,, and delivery of habitat mitigation and enhancement measures, no significant adverse ecological effects are predicted during construction, operation or decommissioning.

7.7.17. Following implementation of embedded design measures, further survey and licensing where required for bat roost features, appropriate protection measures for badger setts, and delivery of habitat mitigation and enhancement measures, no significant adverse ecological effects are predicted during construction, operation or decommissioning.

7.7.18. The scheme will deliver long-term improvements in habitat structure and connectivity through habitat creation and management measures, contributing to strengthened ecological networks in line with national and local policy objectives.

7.7.19. **Table 7.8** provides a summary of effects, mitigation and residual effects.

**Table 7.8: Summary of Effects, Mitigation and Residual Effects**

| Receptor / Receiving Environment | Description of Effect | Nature of Effect * | Sensitivity Value** | Magnitude of Effect** | Geographical Importance *** | Significance of Effects **** | Mitigation / Enhancement Measures | Residual Effects **** |
|---|---|---|---|---|---|---|---|---|
| **Construction** | | | | | | | | |
| Statutory Designated Sites | Potential indirect effects through pollution and sediment run-off affecting hydrologically connected sites | Temporary, Indirect | High | Low | International / National | Moderate adverse (potentially significant if unmanaged) | OUTLINE CBMP, pollution prevention, buffers, drainage controls | Negligible |
| Habitats – Other neutral grassland | Loss/modification of other neutral grassland | Permanent (small scale) | Low | Low | Local | Minor and Moderate adverse | Habitat retention and management | Minor adverse |
| Habitats – Hedgerows, Woodland Edges, Riparian Corridor | Temporary disturbance to retained boundary habitats | Temporary, Direct | Low (Local importance) | Low | Local | Minor adverse | Protective fencing, buffers, OUTLINE CBMP | Minor adverse |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Purple Moor-grass and Rush Pasture | No direct loss; potential accidental disturbance during construction | Temporary, Direct | Medium (County importance) | Low | County | Minor to Moderate adverse | Buffering, protective fencing, CEMP controls | Negligible |
| Veteran Trees (T84 & T85) | Potential damage to retained veteran trees during construction activities | Temporary, Direct | Medium (County importance) | Low | County | Minor to Moderate adverse | Tree protection fencing, arboricultural supervision, CEMP controls | Negligible |
| Bats | Disturbance to commuting/foraging routes; potential impacts to trees with roost features | Temporary, Indirect | Medium (Regional) | Low–Medium | Regional | Negligible) | Corridor retention, no lighting, further surveys/licensing if required | Negligible |
| Breeding Birds (Skylark) | Loss of 13 breeding territories | Permanent, Direct | Medium (Local importance) | Medium | Local | Moderate adverse (Significant) | Skylark Mitigation Strategy | Minor adverse |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Other Breeding Birds | Temporary disturbance to nesting habitat | Temporary, Direct | Medium (Local importance) | Low | Local | Minor adverse | Seasonal clearance, checks, habitat protection | Negligible |
| Wintering Birds | Temporary disturbance to foraging habitat | Temporary, Direct | Medium (Local importance) | Low | Local | Minor adverse | Good construction practice | Negligible |
| Badger | Temporary disturbance near retained setts | Temporary, Direct | Negligible (legal protection) | Low | Local | Minor adverse (legislative risk if unmanaged) | 30 m buffers where practicable, PWMS if works occur within buffer, pre-construction checks, good practice measures | Negligible |
| Dormouse | Disturbance and limited hedgerow clearance affecting connectivity | Temporary, Direct | Medium (County importance) | Low | County | Minor adverse | Habitat retention, precautionary working methods | Negligible |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Otter | Temporary disturbance associated with works along the watercourse including localised outfall installation and limited track widening within the riparian corridor | Temporary, Indirect | Medium (County importance) | Low | County | Negligible | Pre-construction otter survey of outfall watercourse, daylight working, buffers, CEMP pollution controls | Negligible |
| Reptiles & Amphibians | Risk of killing/injury during clearance | Temporary, Direct | Low (Local importance) | Medium | Local | Minor to Moderate adverse (if unmanaged) | Precautionary working methods | Negligible |
| Hedgehog | Risk of injury during groundworks | Temporary, Direct | Low (Local importance) | Low–Medium | Local | Minor adverse | **Precautionary working methods during clearance** | **Negligible** |
| **Operation** | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Habitats | Retention of key habitats and habitat establishment | Permanent | Low–Medium | Low beneficial | Local–County | Minor beneficial | LEMP, habitat creation & management | Minor beneficial |
| Bats | Continued commuting; low operational noise and no routine night lighting | Permanent, Indirect | Medium | Negligible | Regional | Negligible | Habitat retention | Negligible |
| Breeding & Wintering Birds | Continued habitat availability | Permanent, Indirect | Medium | Negligible | Local | Negligible | Habitat management | Negligible |
| Badger | Continued use of retained habitats | Permanent, Indirect | Negligible | Negligible | Local | Negligible | Connectivity retained | Negligible |
| Dormouse | Maintained connectivity | Permanent, Indirect | Medium | Negligible | County | Negligible | Hedgerow retention | Negligible |
| Otter | Continued use of riparian corridor following installation of outfall with no | Permanent, Indirect | Medium | Negligible | County | Negligible | Buffers maintained | Negligible |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | change to discharge rates | | | | | | | |
| Reptiles & Amphibians | Improved grassland structure beneath arrays | Permanent, Indirect | Low | Low beneficial | Local | Minor beneficial | Grassland management | Minor beneficial |
| **Decommissioning** | | | | | | | | |
| Cumulative Effects | | | | | | | | |
| Habitats & Fauna | Interaction with White House Farm Solar Scheme | Temporary, Indirect | Medium | Low | Local-County | Minor adverse | Habitat retention & enhancement | Negligible |
| In-Combination Effects | | | | | | | | |
| Habitats & Fauna | Interaction with White House Farm Solar Scheme | Temporary, Indirect | Medium | Low | Local-County | Minor adverse | Habitat retention & enhancement | Negligible |
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