



Candwr Solar Farm

Pre Application Consultation

Environmental Statement

Chapter 6: Ecology

2 July 2026



Table of Contents:

6. Ecology	2
6.1. Introduction.....	2
6.2. Assessment Approach	3
6.3. Baseline Conditions.....	51
6.4. Embedded Mitigation.....	79
6.5. Assessment of Likely Significant Effects.....	115
6.6. Additional Mitigation.....	152
6.7. Cumulative Effects.....	159

List of Tables:

Table 6.1: Field Survey Methodologies	8
Table 6.2: Criteria for Receptor Sensitivity	15
Table 6.3: Criteria for Magnitude of Change.....	17
Table 6.4: Summary of Significance Levels	18
Table 6.5: Significance Matrix	19
Table 6.6: Summary of Statutory Designated Sites within 10 km of the Site	52
Table 6.7: Summary of Non-Statutory Designated Sites within 10 km of the Site.....	61
Table 6.8: Summary of GCN Habitat Suitability	76
Table 6.9: Scoping In/Out of Ecological Receptors	88
Table 6.10: Temporal scope of ecological receptors scoped in to detailed assessment.....	111
Table 6.11: Significance of Effects (before Additional Mitigation)	149
Table 6.12: Residual Significance of Effects (with Additional Mitigation).....	156
Table 6.13: Projects for Inclusion in the Cumulative Impact Assessment.....	159
Table 6.14: Summary of Effects, Mitigation and Residual Effects.....	166

6. Ecology

6.1. Introduction

6.1.1. This draft chapter for Statutory Consultation presents the findings of an assessment of the likely significant effects on ecological receptors during the construction, operation and decommissioning phases of the Proposed Development.

6.1.2. It should be noted that only common species names are referred to throughout this chapter. Scientific species names can be found in the relevant technical appendix.

6.1.3. This chapter is supported by the following technical appendices:

- **Appendix 6.1: Habitats and Vegetation Survey Report;**
- **Appendix 6.2: Protected Species Survey Report;**
- **Appendix 6.3: Breeding Bird Survey Report;**
- **Appendix 6.4: Bat Activity Report;**
- **Appendix 6.5: Great Crested Newt Survey Report;**
- **Appendix 6.6: Clavarioids, Hygrocybe, Entoloma, Geoglossum and Dermoloma (CHEGD) Fungi Survey Report;**
- **Appendix 6.7: Wintering Bird Survey Report;**
- **Appendix 6.8: Information to Inform a Habitats Regulations Assessment (HRA); and,**
- **Appendix 6.9: Green Infrastructure Statement.**
- **outline Landscape and Ecological Management Plan (oLEMP);**

6.1.4. This chapter is supported by the following figures:

- **Figure 5.5: Indicative Landscape Strategy;**
- **Figure 6.1: Statutory Designated Sites;**
- **Figure 6.2: Non-Statutory Designated Sites;**
- **Figure 6.3: Habitats of Principal Importance;**
- **Figure 6.4: Ancient Woodland;**
- **Figure 6.5 (Map 1 – 4): UKHabitat Classification Map;**
- **Figure 6.6: Waterbodies Location Plan;**

- 6.1.5. A report to inform HRA has been prepared as part of the application for development consent, and is submitted separate to the Environmental Statement (ES) as Information to Inform a HRA (**Appendix 6.8**).
- 6.1.6. This chapter should also be read in conjunction with **Chapter 2: EIA Assessment Scope and Methodology**, **Chapter 3: Application Site** and **Chapter 4: Proposed Development and Alternatives**.
- 6.1.7. An outline Construction Environmental Management Plan (**oCEMP**) has been prepared for the Proposed Development to manage environmental effects arising from the Proposed Development and to demonstrate compliance with environmental legislation.

6.2. Assessment Approach

Legislative and Policy Framework

- 6.2.1. The applicable legislation in relation to ecology and nature conservation matters includes:

International

- Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 ('the Ramsar Convention);
- Convention on the Conservation of European Wildlife and Natural Habitats 1979 ('the Bern Convention); and,
- UNESCO convention on the protection of the World Cultural and Natural Heritage (1972).

National

- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017;
- The Wildlife and Countryside Act 1981 (as amended);
- Environment (Wales) Act 2016;
- Countryside and Rights of Way Act 2000;
- Hedgerow Regulations 1997;
- Management of Hedgerow Regulations 2024;

- Wild Mammals (Protection Act) 1996;
- Fisheries Act 2020;
- The Protection of Badgers Act 1992; and,
- The Invasive Alien Species (Enforcement and Permitting) Order 2019.

6.2.2. The applicable national planning policy of relevance to ecology matters includes:

- Future Wales: The National Plan 2040 – Policy 9 of Future Wales is concerned with resilient ecological networks and green infrastructure;
- Planning Policy Wales (Edition 12) – Section 6 of Planning Policy Wales is concerned with distinctive and natural places, with Section 6.4 focusing on Biodiversity and Ecological Networks. Section 6.4.5 concerns the Biodiversity and Resilience of Ecosystems Duty.
- Technical Advice Note (TAN) 5: Nature Conservation and Planning provides advice as to how the planning system should contribute to the protection and enhancement of biodiversity.
- Biodiversity deep dive: recommendations (Welsh Government, 2022);

6.2.3. The following local planning policies of relevance to ecology matters include:

- Monmouthshire Local Development Plan (LDP) 2011 to 2021
 - Policy S13 – Landscape, Green Infrastructure and the Natural Environment
 - Policy NE1 – Nature Conservation and Development
 - Policy EP2 – Protection of Water Sources and the Water Environment
- Monmouthshire and Torfaen Local Nature Recovery Action Plan (2023–2030);
- Monmouthshire Supplementary Planning Guidance – Green Infrastructure (2015)
- Torfaen County Borough Council LDP (to 2021)
 - Strategy Policy 7 – Conservation of the Natural and Historic Environment;
 - Borough Wide Policy B – Natural Environment;
 - Topic Based Policy BG1 – Locally Designated Sites for Biodiversity and Geodiversity.
- Torfaen County Borough Council Biodiversity, Ecosystem Resilience and Development Supplementary Planning Guidance (2024);

- Blaenau Gwent and Torfaen Local Nature Partnership Local Nature Recovery Action Plan (2023 to 2030);
- Newport Local Development Plan 2011 – 2026; and
 - Objective 6 – Conservation of the Natural Environment;
 - GP5 General Development Principles – Natural Environment; and
 - CE8 Locally Designated Nature Conservation and Geological Sites.
- Newport City Council Biodiversity Duty Forward Plan 2023 – 2025.

Guidance

6.2.4. Consideration has been given to the following best practice guidelines/guidance:

- Commission Notice Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 2021/C 496/01;
- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018 (updated 2024))¹;
- Biodiversity – Code of practice for planning and development (BSI, 2013);
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) (Collins, 2023)²;
- Bird Survey & Assessment Steering Group: Bird Survey Guidelines for Assessing Ecological Impacts (BSASG, 2025)³;
- BS 42020:2013 'Biodiversity – Code of Practice for Planning and Development (British Standard)'.

6.2.5. Specific guidance documents and survey methodologies are referenced in the relevant technical appendices **ES Volume 2: Technical Appendices 6.1 to 6.9** accompanying this chapter.

Methodology

¹ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

² Collins, J. (ed) (2023) Bat surveys for professional ecologists. Good practice guidance (4th edition). The Bat Conservation Trust, London.

³ BSASG (2025) Bird survey guidelines for assessing ecological impacts. Bird Survey & Assessment Steering Group. Available at: <https://birdsurveyguidelines.org/> (assessed May 2026)

Site boundary

- 6.2.6. The Site boundary of the Proposed Development is depicted in **Figure 1.1**. This is the Site boundary in which this assessment has been based upon.
- 6.2.7. The Site boundary experienced changes as a result of project evolution during the course of the baseline survey programme. Surveys completed in 2023 and between January to March 2025 had a survey area based upon a Site boundary that has now been superseded. Surveys from May 2025 to December 2025 were based on a Site boundary which did not include Field 14a, 14b, 14c, 15, and the field in which the proposed substation is located. An ecological walkover and where required a ground-level tree assessment for bats was undertaken on Fields 14a, 14b and 14c in April 2026 and December 2025 for Field 15.

Study Area

- 6.2.8. The areas surveyed (the survey areas) are appropriate buffers of the Site Boundary for a given survey and have been defined with reference to appropriate industry standard guidance. How survey areas relate to the Site boundary are shown on in the relevant technical appendices **ES Volume 2: Technical Appendices 6.1 to 6.9** accompanying this chapter and are discussed in the survey method sections where relevant.
- 6.2.9. The Site boundary (**Figure 1.1**) was located within the study areas during all field surveys undertaken.

Desk Study

- 6.2.10. A desk study review of existing ecological information was undertaken to:
- Identify the location of designated sites for nature conservation cited for ecological interest within the Site and within 10km for statutory sites;
 - Identify the location of non-statutory designated sites within the Site and within 2km of the Site;
 - Identify existing records of protected and/or notable species and habitats within 2km of the Site;
 - Identify any factor or features that may influence the potential for impacts on ecological receptors as a result of the Proposed Development;
 - Inform the requirement for further detailed survey; and
 - Provide context for assessment.
- 6.2.11. In order to establish the baseline conditions within the study area, data has been obtained from the following sources:

- Multi-Agency Geographic Information for the Countryside (MAGIC)⁴;
- DataMapWales⁵;
- Joint Nature Conservation Committee (JNCC);
- Natural Resources Wales (NRW);
- South East Wales Biodiversity Records Centre (SEWBRc);
- Local Nature Recovery Action Plans;

Surveys

6.2.12. In order to establish the baseline conditions within the survey area, data has been obtained by undertaking the following field surveys:

- Extended UKHabitat Classification surveys;
- Protected terrestrial mammal field surveys (badger, water vole and otter);
- Habitat suitability appraisal (HSA) for bats;
- Ground level tree assessment (GLTA) for bats;
- Night-time bat walkover (NBW);
- Bat activity surveys – ground-level automated monitoring surveys;
- Great Crested Newt (GCN) habitat suitability index (HSI) and environmental DNA (eDNA) surveys;
- CHEGD fungi eDNA surveys and fruiting bodies walkover;
- Breeding bird surveys; and
- Wintering bird surveys.

6.2.13. **Table 6.1** provides a summary of field survey methodologies followed. Full details are provided in **Technical Appendices 6.1 to 6.9**.

⁴ Available from: <https://magic.defra.gov.uk/> (accessed May 2026)

⁵ Available from: <https://datamap.gov.wales/> (accessed May 2026)

Table 6.1: Field Survey Methodologies

Ecological Receptor	Methodology
Habitats and Vegetation	A UKHabitat Classification survey was undertaken during April and May 2025. Habitat types were identified and mapped in compliance with the UKHabitat Classification guidance documents. Primary habitats on-site were classified using Level 3, Level 4 and Level 5 of the UKHabitat Classification hierarchy and urban features have been classified up to Level 5 of the hierarchy. Secondary codes have been used on the UKHabitat Classification Map to further describe the primary habitat present. Dominant plant species were noted, as were any protected, uncommon, invasive species or species indicative of particular habitat types. Full details are provided in ES Volume 2, Appendix 6.1.
Protected Terrestrial Mammals	<u>Extended habitat survey</u> An extended habitat survey was undertaken concurrently with the UKHabitat Classification survey. The extended habitat survey comprised a systematic search of habitat features, to record the location and distribution of field signs identifying the presence and/or potential presence of protected terrestrial mammal species within the Site. Where suitability for, evidence or signs of protected species were recorded targeted surveys were undertaken as detailed below. <u>Camera trap monitoring for badger</u> Where potential evidence of badger setts was recorded during the extended habitat survey camera traps were deployed to confirm presence/likely absence of badger. Camera traps were focussed on mammal burrows which were deemed to be attributed to badger setts. <u>Otter and water vole survey</u> One survey visit was undertaken on all stretches of watercourses (where accessible), located within the Site. The survey of the watercourse extents were undertaken on either week commencing 23rd June 2025 or week commencing 15th September 2025. The survey assessed the suitability of the watercourse to support otter and water vole, and searched for evidence/signs of the species groups. The survey methodology followed industry standard species-specific guidance: Chanin (2003)⁶ and Dean <i>et al.</i> (2016)⁷. Full details are provided in ES Volume 2, Appendix 6.2.

⁶ Chanin P (2003) Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature, Peterborough.

⁷ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) The water vole mitigation handbook (The Mammal Society Mitigation Guidance series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

Ecological Receptor	Methodology
Breeding Birds	Breeding Bird Surveys (BBS) were undertaken in 2025 between April and July, based on guidance from the Bird Survey & Assessment Steering Group (2025)³. The survey comprised six survey visits spread over the survey period. Each survey visit was undertaken over several days (typically three consecutive days). Five of the six survey visits were carried out from dawn, whilst one visit was conducted in the evening. The BBS survey area comprised the Site (as defined at the time of survey completion), as well as a surrounding 100m Site buffer. Coverage of the 100m buffer was observed from within the Site boundary and publicly accessible roads and paths. During the survey, all 'Priority Species' were recorded and mapped, whilst any behaviour indicative of breeding was noted. On completion of all surveys, the data were examined to estimate territory locations. BBS were also undertaken in 2023 for the Site that was current at that time; however, it is the 2025 survey results that inform the impact assessment. Full details, including a definition of 'Priority Species', are provided in ES Volume 2, Appendix 6.3.
Bats	<u>Bat habitat suitability appraisal</u> A HSA was undertaken to determine suitability to support foraging, commuting and roosting bats (in accordance with Collins, 2023²). This appraisal was informed by the results of the baseline habitat surveys and aerial imagery. <u>GLTA</u> In November 2025 a GLTA was undertaken of all trees proposed to be directly impacted to facilitate the Proposed Development plus a 5m buffer to account for indirect impacts. The trees within the study area were given an initial suitability appraisal of their potential to support roosting bats (as assigned by professional judgement) based on definitions described within Table 4.2 of current BCT guidelines (Collins, 2023), as follows: • None: Either no potential roost features (PRF) in the tree or highly unlikely to be any; • FAR: Further assessment required to establish if PRF's are present in the tree; and • PRF: A tree with at least one PRF present. In instances where PRF status was prescribed per tree, PRFs were further assessed relative to their likely potential to support roosting bats, based on Table 6.2 of BCT guidelines (Collins, 2023), as follows: • PRF- I: PRF is only suitable for individual bats or very small numbers of bats due to size or lack of suitable surrounding habitats; and • PRF- M: PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Ecological Receptor	Methodology
	Tree suitability and PRF designations are preliminary and based on a ground-level inspection in line with GLTA survey effort, and subject to review should the need for additional surveys be identified (e.g. FAR tree designations, or PRF Inspection Surveys at height). <u>Night-time bat walkovers</u> Using the habitat suitability assessment, five transects routes were designed to encompass all habitats and features suitable to support commuting and foraging bats within the Site, where safe access was permitted. NBW's were undertaken once seasonally within the active bat season. Each NBW incorporated an initial 30–60 minute vantage point (VP) observation period, commencing at sunset during which bat activity was observed and recorded; vantage point locations were informed by the habitat suitability assessment, and were determined based on locations which were assessed as having suitability to support roost sources and/or flight-lines. Should emergence activity or large numbers of directionally commuting bats be observed, this methodology encourages surveyors to investigate possible emergence locations via back tracking within this initial VP period. The initial VP location was changed on each route every season. Post-VP observation, surveyors walked a pre-determined transect route, utilising a full spectrum Wildlife Acoustics Echo Meter Touch 2 Pro detector; this allowed for acoustic recordings and visual observations of activity to be recorded, allowing for bat identification and a time-stamped narrative of activity to be spatially logged. During each NBW, particular emphasis was placed on recording observed activity (e.g., numbers of bats, behaviour, habitat usage etc.) for the purpose of understanding how bats are using the Site, and to help further inform a response to proposed impacts. Whilst the transect routes were pre-determined, flexibility was enabled, permitting some deviation from the defined transect route to allow for a better understanding of bat activity on Site. NBW surveys ended approximately two to three hours after sunset and all surveys were aimed to be conducted during suitable weather conditions, as defined in Collins (2023), with optimal conditions being a start temperature of 10°C or above, no rain or strong winds. <u>Bat activity survey –automated bat activity surveys</u> Static bat detectors, referred to as monitoring stations (MS), were seasonally (Spring, Summer and Autumn) deployed for at least 5 consecutive nights in ten locations in 2025. Locations of the static detectors were selected to collate bat activity data across habitats representative of the Site. Automated monitoring was undertaken between time periods spanning approximately 30 minutes before sunset and 30 minutes after sunrise, with detectors calibrated to record simultaneously, allowing comparison of activity recorded between monitoring station locations and habitats present. Full details are provided in ES Volume 2, Appendix 6.4.

Ecological Receptor	Methodology
GCN	From a review of aerial mapping ponds were identified within 250m of the Site. Where access was granted by landowners, these ponds were subject to a HSI assessment. If the pond held water during the HSI the pond was also subject to eDNA sampling. HSI and eDNA were undertaken within the GCN breeding season (mid-April to June in either 2023 and/or 2025). <u>HSI</u> Ponds were assessed for their suitability to support GCN using the HSI assessment methodology as developed by Oldham et al. (2000) and as detailed within ARG UK guidance (ARG UK, 2010). HSI provides a score for the suitability of a pond for GCN, based on selected physical and ecological characteristics. <u>eDNA</u> Where ponds held water, these were subject to eDNA sampling to determine the presence or likely absence of GCN. The protocol for sampling followed the technical advice note for field and laboratory sampling of GCN (Biggs et al. 2014), which requires the collection of 20 x 30ml subsamples from each pond, spaced as evenly as possible around the pond margin. The subsamples were all placed within the same sample bag, which was shaken for 10 seconds, before a 15ml sample was pipetted from the bag and placed in a specimen tube for laboratory analysis. Following collection, samples were refrigerated prior to laboratory dispatch. Laboratory analysis was undertaken by SureScreen Scientifics Ltd, using the methodology outlined by Biggs et al. (2014). DNA was extracted from the sample and then amplified and detected using specific primers and probes within a q-PCR test. Each sample was run in 12 replicates, and the results reported as the proportion of the 12 replicates that were successfully amplified (indicating that GCN DNA is present). Inhibition and degradation checks were also carried out on each sample using a known DNA marker. eDNA surveys were undertaken within the specified timings (mid-April – June) during the GCN breeding season. Full details are provided in ES Volume 2, Appendix 6.5.
CHEDG fungi	<u>eDNA</u> An eDNA survey for CHEDG fungi was undertaken week commencing 6th October 2025. The eDNA survey was designed by specialists at Nature Metrics. Nature Metrics utilised their in-house CHEDG habitat suitability model, based on remote sensing data and approximately 2000 soil eDNA samples across the UK and categorised the habitat suitability within the Site for CHEDG suitability. The habitat suitability

Ecological Receptor	Methodology
	was then sorted into 5 CHEGD suitability classes (very low suitability, low suitability, medium suitability, high suitability and very high suitability), and the area of each class was calculated. Sampling locations were allocated spatially evenly within each suitability class, any locations on tracks or paths were moved to adjacent less disturbed soil within same habitat suitability patch. 22 sampling locations were identified. At each location a 10x10m quadrat was demarcated and 4 (10ml) subsamples were collected, one at each corner of the quadrat. Subsamples were collected with a corer and placed into a sample pot. Once all four subsamples were collected the sample pot was filled with 50ml of RNA preservation buffer and the pot was shaken to mix the subsamples and preservation buffer. Laboratory analysis was undertaken by Nature Metrics Ltd. Following removal of the RNA preservation buffer, soils were rinsed with 10X phosphate buffered saline (PBS), homogenised, and DNA was extracted from approximately 0.5g of the resulting homogenate using a DNeasy PowerSoil Pro Kit (Qiagen) according to the manufacturer's protocol. A negative control was processed with each batch of samples to monitor for exogenous DNA contamination. Extraction yields were checked by measuring DNA concentration using a Qubit fluorometer with the Qubit dsDNA broad range assay kit (Thermo Fisher Scientific). Replicate PCRs for each sample and extraction blank were amplified via a two-step PCR process, with tails added to the 5' end of taxon specific primers to complement downstream adapter and index primer sequences. Amplification was performed with a commercially available Hot Start DNA polymerase following manufacturers guidelines using the ITS3 5'- GCATCGATGAAGAACGCAGC-3' and ITS4 5'- TCCTCCGCTTATTGATATGC-3' primers (White et al, 1990) targeting the Internal transcribed spacer 2 (ITS2) gene for the target taxa. Indexed PCR products were subsequently purified, quantified, normalised, and pooled in equal volumes. The final pooled library was sequenced on an Illumina MiSeq system using a V3 600 cycle reagent kit (Illumina). <u>Fruiting bodies walkover</u> To supplement the eDNA survey a fruiting bodies walkover (week commencing 6th October 2025) was undertaken in conjunction with the eDNA survey. Location of fruiting fungi bodies were noted and mapped. Full details are provided in ES Volume 2, Appendix 6.6.
Wintering Birds	Wintering Bird Surveys (WBS) were undertaken in 2025 during all calendar months considered to represent the non-breeding ('winter') season, and covered January to mid-March and September to December. A total of 14 survey visits were completed, with each survey visit generally taking place over two consecutive days.

Ecological Receptor	Methodology
	The surveys were undertaken in reference to guidance from the Bird Survey & Assessment Steering Group (2025)³ and Gilbert <i>et al.</i> (1998)⁸. The WBS comprised a walk-over survey adopting a 'look-see' methodology, whereby the surveyor made regular stops to scan for 'Priority Species' which were recorded and mapped. The WBS survey area comprised the Site (as defined at the time of survey completion), as well as a surrounding 600m Site buffer. Coverage of the 600m buffer was observed from within the Site boundary and publicly accessible roads and paths. All fields within the study area were given a unique identification number, which was used to record the location of each bird sighting. Full details, including a definition of 'Priority Species', are provided in ES Volume 2, Appendix 6.7.

- 6.2.14. All field surveys were completed by experienced, reputable and professional ecologists, fully conversant in established ecology survey methodologies.

Cumulative Effects Assessment Methodology

- 6.2.15. The cumulative assessment has considered the potential for cumulative ecological impacts to receptors as a result of the Proposed Development in combination with the cumulative schemes set out in **Chapter 2: EIA Assessment Scope and Methodology**.
- 6.2.16. Where the impact assessment for the Proposed Development alone has determined a negligible, neutral or beneficial residual effect on an ecological receptor, a cumulative assessment has not been undertaken for that receptor. It is concluded that such an indiscernible change in the status of the ecological receptor would not be sufficient to contribute meaningfully to cumulative impacts such that it would result in a significant cumulative effect.
- 6.2.17. An assessment of impacts upon static ecological receptors (e.g. habitats) is only made for projects which are located within or immediately adjacent to the Site. However, in the specific case of the Proposed Development, no other projects are located within or immediately adjacent.
- 6.2.18. Similarly, for designated areas that have static qualifying features (e.g. habitats, flora) the cumulative assessment only includes projects that immediately adjoin both the designated area and the Site. However, in the specific case of the Proposed Development, no other projects are located within or immediately adjacent.

⁸ Gilbert, G., Gibbons, D.W., & Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the Protection of Birds, Sandy, Bedfordshire.

- 6.2.19. For mobile ecological receptors (e.g. birds and bats) other relevant projects have been included in the assessment if they met the following criteria:
- Committed schemes (i.e. projects with planning permission consented and which are either under construction or yet to commence);
 - Applications awaiting determination (assumes projects will be consented and built out according to the application);
 - Potential projects that are at the Screening or Scoping stage (where sufficient information is available to allow for meaningful inclusion in the assessment);
 - Location is within 6km of the Site; and
 - The scheme has been identified as a 'major project'.
- 6.2.20. Specific to ecology the assessment of cumulative effects has been made with reference to CIEEM guidelines for EclA.

Assessment of Significance

Assessment Criteria

- 6.2.21. The assessment has been undertaken with reference to CIEEM guidelines (2018, updated 2024) and includes the following stages:
- Determination and evaluation of important ecological receptors;
 - Identification and characterisation of impacts with implementation of embedded and primary mitigation;
 - Outline of additional mitigating measures to avoid and reduce significant impacts (where required);
 - Assessment of the significance of any residual effects after such measures;
 - Identification of appropriate compensation measures to offset significant residual effects; and,
 - Identification of opportunities for ecological enhancement.

Criteria for Receptor Sensitivity

- 6.2.22. Relevant legislation, policy and guidance will be referenced to determine the importance of ecological and ornithological receptors.
- 6.2.23. In addition, importance will also be determined using professional judgement and taking account of the results of baseline field and desk study findings and the functional role of features within the context of the geographical area.

- 6.2.24. It should be noted that a receptor's 'importance' does not necessarily relate to the level of legal protection that a receptor receives, and receptors may be important for a variety of reasons, such as their connectivity to a designated site, rarity or the geographical location of species relative to their known range.
- 6.2.25. For the purposes of the assessment the importance (or sensitivity) of an ecological receptor will be considered within the context of a defined geographical area, ranging from International (high value) to Site (low/negligible), as detailed in **Table 6.2**.

Table 6.2: Criteria for Receptor Sensitivity

Value or Sensitivity of Receptor / Geographic Scale of Importance	Definition Example
Very High – International / European	An internationally designated site (Special Protection Areas (SPA), Special Areas of Conservation (SAC) and/ or Ramsar sites) or proposed / candidate site (pSPA or cSAC). Large area of a habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of the larger whole. A regularly occurring, nationally significant population of an internationally important species or site supporting such a species (or supplying a critical element of their habitat requirement) or species listed in Annex IV of the Habitats Directive
High – National (Wales / UK)	A nationally designated site (e.g. Site of Special Scientific Interest) or a discrete area which meets the selection criteria for national designation. An area of a priority habitat listed under Section 7 of the Environment (Wales) 2016 or which constitutes a significant proportion of the UK resource of that habitat. Habitat defined as irreplaceable in Wales; habitats, including the natural resources which underpin them, which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. Examples include, ancient woodland and veteran trees, ancient hedgerows, wet woodlands, sand dunes, peatland, species rich grassland, long undisturbed soils, blanket bog, salt marsh and lowland fen (Planning Policy Wales, 2016). A regularly occurring, regionally significant population of any nationally important species listed as a UK BAP / Biodiversity List and priority species listed under Section 7 of the Environment (Wales) Act 2016, and Species listed under Schedule 1 or Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive.
Medium – Regional (Monmouthshire, Torfaen and/or Newport)	Locally designated sites (Local Nature Reserves, Sites of Importance for Nature Conservation – SINCs).

Value or Sensitivity of Receptor / Geographic Scale of Importance	Definition Example
	Areas of priority habitat which constitutes a significant proportion of the Region's resource of that habitat. A regularly occurring, locally significant population of any nationally important species listed as a UK BAP / priority species and priority species listed under Section 7 of the Environment (Wales) Act 2016, Species listed under Schedule 5 of the Wildlife and Countryside Act, Annex II or Annex IV of the Habitats Directive or listed on the local biodiversity action plan (LBAP) or Local Nature Recovery Action Plan (LNRAP).
Low – Local	Local area around the Proposed Development. For example, areas of priority habitat which are not large enough to meet the criteria for Regional value, or small but sustainable populations of a protected or notable species
Low/Negligible – Site	Considered within the context of the Proposed Development Site only.

Characterising Impacts

- 6.2.26. Once identified, potential effects will be described making reference to the following characteristics as appropriate:
- Positive or negative;
 - Extent;
 - Magnitude;
 - Duration;
 - Timing;
 - Frequency; and,
 - Reversibility.
- 6.2.27. The assessment also identifies areas where no change is anticipated, and the resulting impact is described as 'not discernible' or 'none'.
- 6.2.28. The assessment will only make references to those characteristics relevant to understanding the nature of an impact and determining its significance of its effect.
- 6.2.29. For the purpose of the assessment, the temporal nature of potential impacts will be described as follows:
- Short-term impacts are defined as 0–1 year;
 - Medium terms impacts are defined as 1 – 5 years;

- Long term impacts are defined as > 5 years; and
- Permanent impacts are defined as an unrecoverable change.

Criteria for Magnitude of Change

- 6.2.30. The magnitude of change on ecological receptors will be described as set out in **Table 6.3**.
- 6.2.31. The likelihood or probability that an impact will occur is addressed as far as possible based on available information. Whilst it is reasonably straightforward to identify impacts that are certain to occur, or conversely will not occur, it is generally more difficult to assign a quantified level to occurrences defined as likely, unlikely or highly unlikely. In these circumstances, professional judgement has been used, with reasoning supported by available evidence.

Table 6.3: Criteria for Magnitude of Change

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

Determining Significance

- 6.2.32. The EIA Regulations require the ES to include information that 'is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development) (Regulation 17(3)(b)).
- 6.2.33. To determine the overall significance of each ecological effect, judgements on the sensitivity of the receptor(s) and the magnitude of impact from the Scheme are considered together in order to determine whether or not an effect is likely to be significant. This involves a combination of quantitative and qualitative assessment and the application of professional judgement.
- 6.2.34. For the purposes of the assessment, effects will be categorised as 'significant' or 'not significant', in line with the EIA Regulations.

- 6.2.35. The assessment considers effects at different geographic scales i.e. where effects may be discernible at a local scale but are not considered significant in the context of the EIA Regulations. For the purpose of the assessment, moderate and major effects are deemed to be 'significant' in EIA terms unless stated otherwise.
- 6.2.36. A 'significant effect' is considered to be one that either supports or undermines biodiversity conservation objectives for 'important ecological receptors', or for biodiversity in general.
- 6.2.37. CIEEM guidelines on ecological impact assessment note that:
- 'A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures.'*
- 6.2.38. For ease of reference, **Table 6.4** sets out the adapted CIEEM terminology, which also shows the equivalent EIA terms used in this assessment.

Table 6.4: Summary of Significance Levels

Effect	Significance	CIEEM Definition
Major or Moderate beneficial	Significant	Positive effect on ecological integrity or conservation status at a Regional, National or International geographic scale
Minor Beneficial	Not significant	Positive effect on ecological integrity or conservation status, discernible/significant in ecological terms at a Local geographic scale only
Negligible or Neutral	Not significant or neutral	Not discernible or significant on ecological integrity or conservation status (e.g. species or habitat).
Minor Adverse	Not significant	Adverse effect on ecological integrity or conservation status, discernible / significant in ecological terms at a Local geographic scale only.

Moderate or Major Adverse	Significant	Adverse effect on ecological integrity or conservation status at a Regional, National or International geographic scale.
---------------------------	-------------	--

6.2.39. CIEEM guidelines (2018, updated 2024) do not recommend the sole use of a matrix table as commonly set out in ES chapters to determine 'significant' and 'non-significant' effects. For the purposes of the assessment presented herein, **Table 6.5** sets out a (non-exhaustive) framework upon which professional judgement is based. Terminology is adapted from CIEEM (2018, updated 2024) guidance and equivalent in the context of the EIA Regulations. Shaded cells depict 'significant' effects.

Table 6.5: Significance Matrix

Magnitude of Change	Sensitivity of Receptor					
		Very High (International /European)	High (National)	Medium (Regional)	Low (Local)	Negligible (Site)
	High	Major	Major to Moderate	Major	Moderate	Negligible
	Medium	Major	Major to Moderate	Moderate	Minor to Moderate	Negligible
	Low	Major	Major to Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Consultation

Screening

6.2.40. A Screening Direction request was sent to Welsh Ministers, managed by Planning Inspectorate Wales on behalf of the Welsh Government (PEDW), on 7th April 2025. A Screening Direction was issued on 12th June 2025 concluding the Proposed Development is EIA development.

6.2.41. The feedback received from PEDW and stakeholders within the Screening Direction consultation response has been reviewed and relevant points relating to this chapter are summarised in **Table 6.6** below.

Scoping

6.2.42. Scoping of this assessment was undertaken as part of a wider EIA scoping exercise, the findings of which were recorded in **Appendix 2.1: EIA Scoping Report** that was submitted on 3rd October 2025.

6.2.43. A Scoping Direction was received on 11th February 2026 as presented in **Appendix 2.2: EIA Scoping Direction**. The feedback received from PEDW and stakeholders within the Scoping Direction has been reviewed and relevant points relating to this chapter are summarised in **Table 6.6** below.

6.2.44. **Table 6.6** describes the consultation that has been undertaken with respect to the assessment of the Proposed Development's likely significant ecology and ornithology effects.

Pre-application consultation (meetings and emails)

6.2.45. Engagement with the local planning authorities was undertaken to discuss the scope of the ecological and ornithological surveys. This engagement was undertaken via two meetings; one was held on 22nd July 2025 with the following local planning authority representatives:

- Ecology Officer; Newport City Council (NCC);
- Ecology Officer; Monmouth County Council (MCC); and
- Planning Officer; Torfaen County Borough Council (TCBC).

6.2.46. The Ecology Officer for Torfaen County Council was unable to attend the meeting, therefore, consultation was undertaken via email.

6.2.47. A further pre-application meeting was held on 25th September 2025 this meeting was held with local planning representatives at MCC. The purpose of the meeting was to provide an overview of the Proposed Development and discuss any key queries or concerns from the local planning authority. This meeting was attended by the following local planning authority representatives from ecology, planning and transport departments.

6.2.48. The main points, relating to ecology and ornithology, discussed in these meetings are detailed in **Table 6.6** below.

Table 6.6: Summary of Correspondence with Statutory Consultees

Consultee	Type and Date	Summary of Comments	Applicants Response
PEDW	Screening Opinion 12/06/2025	The Environmental Designations Plan shows a number of areas of ancient woodland bordering several field parcels, as well as an area of ancient woodland included within parcel 8. Torfaen County Borough Council highlights that within the site are various Tree Preservation Orders.	Stands of ancient woodland are situated partially within and adjacent to the Site. Appendix 6.1 and Figure 6.4 discusses and highlights locations of ancient woodland in proximity to the Site. Tree Preservation Orders within the Site are acknowledged within the arboricultural survey, schedule and plans and are reported in Appendix 5.10 .
PEDW	Screening Opinion 12/06/2025	The Screening Request (SR) states an Ecological Appraisal Report, including Phase 1 Habitat Survey and Species Assessment, will likely accompany the application. The SR adds that hedgerow vegetation and trees will be retained wherever possible and that appropriate mitigation measures during construction will be implemented. The applicant should note the comments from Monmouthshire County Council on the loss of trees.	Tree and vegetation loss have been avoided where possible. In accordance with PPW tree loss will be replaced at a 3:1 ratio. For details on areas outlined for tree planting refer to the oLEMP .
PEDW	Screening Opinion 12/06/2025	The Site is located 10.5km from the Severn Estuary Special Protection Area (SPA) and Ramsar site. MCC states that the SPA	Wintering bird surveys have been undertaken within the Site plus a 600m survey area from January to March

		supports internationally important populations of regularly occurring migratory bird species and that the wider wintering waterfowl assemblage is considered to be of international importance. They add that records of qualifying features of the SPA have been returned within close proximity of the application site and that wintering and breeding birds (including Schedule 1 species) could be directly affected by habitat loss and indirect disturbance effects. They add that the Llandegfedd Reservoir SSSI, located 4.5 km to the north of the site, has previously been known to support overwintering features of the Severn Estuary SPA. The SR does not provide information regarding overwintering birds or potential impacts on species associated with the SPA. MCC therefore states there is uncertainty over whether the percentages of features present are likely to classify the site as functionally linked land.	2025 and September to December 2025. These surveys recorded very few waterfowl and only one wader species. Results of the wintering bird surveys are reported within Appendix 6.7. Impacts upon relevant species and designated sites are scoped in for assessment where applicable. Information to inform a Habitats Regulations Assessment (Appendix 6.8) accompanies this chapter and includes an assessment of the potential adverse effects on internationally designated sites within proximity to the Site, including the Severn Estuary SPA. The data presented suggests that the Site should not be considered as functionally linked land to the Severn Estuary SPA.
PEDW	Screening Opinion 12/06/2025	NRW notes the lack of survey data and advises there is a potential for impact on lapwing and barn owl. They state that the habitats on site may have the potential to support breeding lapwing and breeding and foraging barn owl. Regarding barn owl, NRW highlights that either a species-specific survey is required, or a robust mitigation /	Breeding bird surveys have been undertaken in 2023 and 2025. No lapwing or barn owl were identified during the breeding bird surveys. A species-specific survey for barn owls was not undertaken but this is acknowledged and addressed in the assessment. Measures to enhance habitat for a range of breeding birds

Draft Environmental Statement

Ecology

		enhancement package aimed at retaining and promoting barn owls on site.	are described, including measures for the benefit of barn owl.
PEDW	Screening Opinion 12/06/2025	MCC also raises concerns that other protected species including otter, bats, badger and reptiles /amphibians could be impacted by habitat loss, due to the location and scale of the proposals. TCBC also highlights that no clear assessment has been undertaken upon protected species and their habitat that may be affected by this proposal.	Otter, bat and badger surveys have been undertaken and reported within Appendix 6.2 . Reptiles and amphibians have been scoped out of the assessment and will be safeguarded through precautionary working measures. This approach was agreed with TCBC, MCC and NCC during a virtual meeting held via Teams on 22 nd July 2025.
PEDW	Screening Opinion 12/06/2025	The applicant should also note the advice from TCBC regarding using the Stepwise approach in relation to outlining ecological enhancements.	Appendix 6.9 discusses the stepwise approach and ecological enhancement measures incorporated into the Proposed Development.
PEDW	Screening Opinion 12/06/2025	As noted above, a number of land parcels lie adjacent to Candwr Brook, with two unnamed tributaries running through part of the site. MCC notes the site also includes springs, streams, brooks and associated wet areas that ultimately drain to the Afon Lwyd south of the site. Fields 1, 2 and 11 appear to drain towards the Sor brook to the east. The LPA raises that there is potential for impacts on the watercourses, such as changes in water hydrology and quality through siltation /sedimentation and contamination.	There are no main rivers within the Site, a buffer of 7m, around ordinary watercourses (except from where watercourse crossings are proposed) has been embedded into the design. The oCEMP outlines measures that will be employed to avoid pollution and sedimentation events on watercourses within the Site and in turn, those downstream.

MCC	Screening Opinion 12/06/2025	The site is 10.5km from the Severn Estuary SPA and Ramsar site. The SPA supports a number of internationally important populations of regularly occurring migratory bird species including European white-fronted geese, dunlin, redshank, shelduck and gadwall. Furthermore, the wider wintering waterfowl assemblage is considered to be of international importance. No wintering bird surveys have been undertaken to inform the screening opinion but a number of records of qualifying features have been returned from within close proximity of the application site.	Wintering bird surveys have been undertaken within the Site plus a 600m survey area and cover the full winter season (September to March). Results of the wintering bird surveys are reported within Appendix 6.7. Desk study results, including data received from the local biological records centre, are also presented in this appendix. Information to inform a Habitats Regulations Assessment (Appendix 6.8) accompanies this chapter and includes an assessment of the potential adverse effects on internationally designated sites within proximity to the Site, including the Severn Estuary SPA and Ramsar site.
MCC	Screening Opinion 12/06/2025	Wintering and breeding birds (including Schedule 1 species) could be directly affected by habitat loss and indirect disturbance effects. Other protected species including otter, bats, badger and reptiles/amphibians could be impacted by habitat loss.	Results of the wintering bird surveys are included in Appendix 6.7. Wintering birds are included in the impact assessment. Results of the breeding bird surveys are included in Appendix 6.3. Breeding birds are included in the impact assessment. Otter, bat and badger surveys have been undertaken and reported within

Draft Environmental Statement

Ecology

			Appendix 6.2. Reptiles and amphibians have been scoped out of the assessment and will be safeguarded through precautionary working measures. This approach was agreed with TCBC, MCC and NCC during a virtual meeting held via Team on 22nd July 2025.
MCC	Screening Opinion 12/06/2025	Development works could result in a number of disturbance impacts on the surrounding environment such as dust, noise, vibration and lighting. There is also potential for impacts on the watercourses during works such as changes in water hydrology and quality through siltation/sedimentation and toxic contamination, spread of invasive species.	The oCEMP details measures to reduce dust, noise and vibration during construction. Security and lighting considerations are considered as part of the assessment of impacts and effects, on species (where appropriate) in Section 6.5. Mitigation measures in relation to a sensitive lighting strategy are set out in the oCEMP. There are no main rivers within the Site, a buffer of 7m, around ordinary watercourses (except from where watercourse crossings are proposed) has been embedded into the design. The oCEMP outlines measures that will be employed to avoid pollution and sedimentation events on watercourses

Draft Environmental Statement

Ecology

			within the Site and in turn, those downstream. Measures to control and eradicate invasive, non-native species are included in embedded mitigation measures (Section 6.4) and discussed in the oLEMP.
MCC	Screening Opinion 12/06/2025	Policy NE1 and Policy GI1 require the protection of natural features which may have ecological value, and which are part of the Monmouthshire GI network.	Policy NE1 and Policy GI1 have been considered within the design, additionally a Green Infrastructure Statement has been included (Appendix 6.9) assessment.
MCC	Screening Opinion 12/06/2025	There are some trees located along the boundaries of the sites and within the development site boundary. None of the trees are protected by Tree Preservation Order, however, they may have visual and landscape amenity value within the wider landscape and/or biodiversity value. Loss of trees would not be viewed positively and would be irreversible (albeit they are not statutorily protected), and it is expected that the development would avoid tree loss.	Tree and vegetation loss have been avoided where possible. In accordance with PPW tree loss will be replaced at a 3:1 ratio. For details on areas outlined for tree planting refer to the oLEMP .
MCC	Screening Opinion 12/06/2025	If tree loss is proposed, a tree survey would be required and only if the tree to be removed is of a low quality and there is an arboricultural reason for its removal would its loss potentially be considered as having a neutral	An arboricultural survey, schedule and plans have been prepared and are included in Appendix 5.10 .

Draft Environmental Statement

Ecology

		impact. Any trees to be lost would also need to be assessed for potential ecological value, i.e. bat roosts, to assess whether there is a statutory protected feature which need to be retained.	Trees identified for removal within the arboricultural survey have been subject to a ground-level tree assessment for suitability to support roosting bats. Results of the ground-level tree assessment is included in Appendix 6.4
MCC	Screening Opinion 12/06/2025	Should trees be proposed for removal, appropriate replacement planting is required to be included within GI scheme and comply with PPW 12 with regards to replacement ratios.	Tree and vegetation loss have been avoided where possible. In accordance with PPW tree loss will be replaced at a 3:1 ratio. For details on areas outlined for tree planting refer to the oLEMP .
MCC	Screening Opinion 12/06/2025	Impacts on the availability of functionally linked land could impact overwintering bird assemblage. The size and scale of the proposals means that protected fauna and flora is likely to be significantly impacted.	Wintering bird surveys have been undertaken within the Site plus a 600m survey area and cover the full winter season (September to March). Results of the wintering bird surveys are reported within Appendix 6.7. Desk study results, including data received from the local biological records centre, are also presented in this appendix. The data show that the Site is of low value for waterfowl and wader species. Information to inform a Habitats Regulations Assessment (Appendix 6.8) accompanies this chapter and includes an assessment of the potential adverse effects on

Draft Environmental Statement

Ecology

			internationally designated sites within proximity to the Site, including the Severn Estuary SPA. The data presented suggests that the Site should not be considered as functionally linked land to the Severn Estuary SPA.
MCC	Screening Opinion 12/06/2025	The development both during construction and operation has potential to impact on protected species that are using the site and surrounding landscape. The impacts could be caused by development and reduced natural landscape.	Section 6.4 discusses ecological receptors scoped into this assessment. Section 6.5 discusses effects on ecological receptors from the Proposed Development.
MCC	Screening Opinion 12/06/2025	However proposed ecological survey, Arb survey, CEMP, mitigation enhancements as indicated and subsequent management via GIMP could provide a net benefit for some species.	Ecological surveys undertaken are reported in Section 6.3 . An arboricultural survey, schedule and plans have been prepared and is included in Appendix 5.10 . An oCEMP is included. A Green Infrastructure Statement has been included in Appendix 6.9 .
MCC	Screening Opinion 12/06/2025	The Biodiversity/Ornithology chapters of the EIA will need to consider the likelihood of potential impacts of the proposals on species associated with the Severn Estuary Marine Site. Records of qualifying features of the SPA are noted to have been returned from close	Wintering bird surveys have been undertaken within the Site plus a 600m survey area and cover the full winter season (September to March). Results of the wintering bird surveys are reported within Appendix 6.7 . Desk

		proximity to the proposed solar installations – notably white-fronted geese, shelduck, tufted duck, teal and curlew. No information has been submitted to date regarding overwintering birds and therefore there is uncertainty over whether the percentages of features present are likely to classify the site as functionally linked land. It is recommended that wintering bird surveys are undertaken to inform the relevant chapter of the EIA as the loss of functionally linked land associated with the Severn Estuary SPA would constitute a likely significant effect on these protected sites and would merit an EIA. It should be noted that the Llandegfedd Reservoir SSSI, located 4.5km to the north of the site, has previously been known to support overwintering features of the Severn Estuary SPA. The location and scale of the proposals means that the EIA chapters will need to consider the impacts of the proposals on the presence of protected species and habitats including breeding/wintering birds, Schedule 1 breeding birds (e.g. barn owl), bats, badger, otter, reptiles/amphibians. A significant effect on these populations is considered likely due to the proximity and scale of development.	study results, including data received from the local biological records centre, are also presented in this appendix. The data show that the Site is of low value for waterfowl and wader species. Information to inform a Habitats Regulations Assessment (Appendix 6.8) accompanies this chapter and includes an assessment of the potential adverse effects on internationally designated sites within proximity to the Site, including the Severn Estuary SPA. The data presented suggests that the Site should not be considered as functionally linked land to the Severn Estuary SPA. Section 6.4 discusses ecological receptors scoped into this assessment. Section 6.5 discusses effects on ecological receptors from the Proposed Development.
MCC	Screening Opinion 12/06/2025	It is not clear what cumulative impact the development will have on underlying water courses and habitats. Appropriate ecological surveys, CEMP and construction methodology	Cumulative impacts are assessed in Section 6.7.

		and management could mitigate for risks. Surface water run off from new hard surfaces will need to be managed through a SAB (Sustainable Drainage Approval Body) application process.	
TCBC	Screening Opinion 12/06/2025	Important features that are of consideration are outlined below: The River Usk which is designated as a Special Area of Conservation (European designation) and a Site of Special Scientific Importance (SSSI) (national designation) located c. 1.4km south at the closest point (land parcel 12). The watercourse is designated as a SAC for the presence of sea lamprey (<i>Petromyzon marinus</i>), European river lamprey (<i>Lampetra fluviatilis</i>), Brook Lamprey (<i>Lampetra planeri</i>), Allis shad (<i>Alosa alosa</i>), Twait shad (<i>Alosa fallax</i>), Atlantic salmon (<i>Salmo salar</i>), European bullhead (<i>Cottus gobio</i>) and Eurasian otter (<i>Lutra lutra</i>); and Brook Cottage SSSI c. 2.5km north-east of land parcel 3.	Impacts on designated sites are discussed in Section 6.5 and Information to inform a Habitats Regulations Assessment (Appendix 6.8)
TCBC	Screening Opinion 12/06/2025	The proposed impact upon surface water drainage and how this would affect the hydrology and ecology of the area.	There are no main rivers within the Site, a buffer of 7m, around ordinary watercourses (except from where watercourse crossings are proposed) has been embedded into the design. The oCEMP outlines measures that will be employed to avoid pollution and

Draft Environmental Statement

Ecology

			sedimentation events on watercourses within the Site and in turn, those downstream.
TCBC	Screening Opinion 12/06/2025	The proposal would need to be considered in the context of the adjoining built hospital (The Grange) and other DNS applications, most notably the solar farm at Pant bach Farm, and the wind farm developments at Mynydd Maen and Mynydd Llanhilleth. But given the separation distances of these proposals from the site it is considered that this project is visibly separable from them. However, there may be development within the neighbouring authorities of Monmouthshire and Newport which may have an affect upon this proposal.	Cumulative impacts are assessed in Section 6.7 . Only projects within 6km have been included in the cumulative assessment, which excludes Mynydd Llanhilleth Wind Farm Resubmission.
TCBC	Screening Opinion 12/06/2025	The submitted ES outlines ecological enhancement but rather than using the WG Stepwise approach has used the English Biodiversity net gain matrix to demonstrate a 10% increase. Whilst this may be acceptable, there is the potential that the proposed biodiversity could be enhanced prevention, through the 'Stepwise' approach, could result in a different impact.	The English biodiversity net gain matrix has not been utilised. The Stepwise approach has been followed and net benefits for biodiversity are outlined within the Green Infrastructure Statement (Appendix 6.9).
South East Planning on behalf of PEDW	Screening Opinion 12/06/2025	The habitats on site may have the potential to support breeding lapwing. Lapwing is a species of high conservation concern; owing to severe short-term and long-term decline of the breeding population. Lapwing is listed	No lapwings were recorded during the baseline breeding bird surveys. The desk study data did not return any breeding records from the Site, whilst the most recent breeding evidence

Draft Environmental Statement

Ecology

		under Section 7 of the Environment (Wales) Act 2016, and Red-listed in Wales (BoCCW4). There were estimated to be fewer than 1000 breeding pairs of Lapwing in Wales (Pritchard et al. 2021).	from within 2 km of the Site comes from 2019. Measures to enhance habitat for a range of breeding birds are described, including measures for the benefit of ground-nesting species such as lapwing.
South East Planning on behalf of PEDW	Screening Opinion 12/06/2025	The habitats on site may have the potential to support breeding and foraging barn owl. We therefore recommend either: a. A species-specific survey for barn owls during the breeding season to assess the impacts on the scheme on foraging barn owls and identify the potential for breeding barn owls. Such as survey Surveys for barn owls Barn Owl Survey Methodology and Techniques for use in Ecological Assessment b. In lieu of additional surveys, a robust mitigation/enhancement package aimed at retaining and promoting barn owls on site. This should include how appropriate habitat will be retained and managed for the lifetime of the scheme, and the provision of suitable nest boxes.	No barn owls were recorded during any baseline bird surveys. It is acknowledged that dedicated surveys for barn owl were not undertaken, but the recording of tawny owl suggests barn owl would have been recorded on Site if present. The desk study data did not return breeding evidence from the Site but included a record of recently fledged juveniles close to the Site boundary in 2020. Measures to enhance habitat for a range of breeding birds are described, including measures for the benefit of barn owl.
TCBC	Pre-application advice (email) - 18/06/25	At this stage, without essential baseline ecological data it would be impossible to establish for certain what the potential impacts these proposals may have on	Baseline ecological surveys are reported within Section 6.3. CHEGD eDNA fungi surveys have been undertaken and supplemented by a

		existing habitats and species within the proposed boundary. Although Llanfrechfa Grange SINC site is not within the proposed development boundary it is relatively close by. This SINC was in the past identified as being a site with excellent habitat for notable fungi species. Therefore, given the relatively close proximity, I would recommend that any future ecological assessments include surveys for fungi in addition to the baseline data. In order to fully establish the potential ecological impacts a full Preliminary Ecological Assessment will be required and will need to include a phase 1 habitat survey, fungi surveys, assessments for potential impacts to bats, breeding birds, reptiles and mammals. Plus any other specialist surveys as recommended in the report depending on the results of the assessment. The ecological assessment will need to be carried out by an appropriately qualified consultant ecologist in accordance with CIEEM guidelines and take into account all legislation relevant to Wales.	fruiting body walkover. Results are included in Appendix 6.6. Assessment of effects is reported within this Chapter.
TCBC, MCC and NCC	Pre-application advice (virtual meeting) – 22/07/2025)	A virtual meeting was held, via Teams on 22 nd July 2025, between the following to discuss ecological receptors to be scoped into the impact assessment.	<u>UKHabitat Classification Survey:</u> <i>Undertaken of whole Site boundary. No concerns with approach and methodology raised.</i> <u>Notable fungi:</u>

		Topic's discussed include: • UKHabitat Classification Survey; • Notable fungi; • Age of survey data; • Wintering birds; • Breeding birds; • Bats; • GCN; • Water vole; • Otter; • Badger; • Hazel dormouse; and, • Reptiles. Summarised information and conversational points from the meeting are depicted in italics.	<i>Nature Metrics Limited have been engaged to provide eDNA survey design (locations and number of samples) for the Proposed Development. It was advised that eDNA would be the initial assessment and if notable/protected species are returned further surveys would likely be undertaken. NCC advised that eDNA typically should supplement other surveys and should not be used as a stand alone method.</i> Action taken: A fruiting bodies walkover was undertaken in conjunction with the CHEGD eDNA survey and is reported within Appendix 6.6. <u>Age of survey data:</u> <i>TCBC raised point that in the time between all baseline surveys being undertaken and construction work beginning, if consented, that species distribution and presence may change. Applicant advised that as per best practice measures pre-construction surveys would be undertaken. This was accepted by TCBC.</i> Action taken: Requirement for pre-construction surveys are included within the oCEMP.
--	--	--	---

			<u>Wintering birds:</u> <i>MCC and NCC advised that full year baseline surveys are preferential. It is advised to collect as much wintering bird data as possible to inform the HRA. Gathering of September and October data is particularly recommended.</i> Action taken: Wintering bird surveys have been undertaken within the Site plus a 600m survey area from January to March 2025 and September to December 2025. Results of the wintering bird surveys are reported within Appendix 6.7. <u>Breeding birds:</u> <i>Breeding bird surveys have been undertaken in 2023 and 2025. No concerns, and approach accepted by LPAs.</i> <u>Bats:</u> <i>NCC raised point regarding assessing impacts of construction traffic on bats (activity and roosting). In NCC’s recent experience there has been little regard for assessment of the narrow lanes in the local area. Projects have been delayed due to lack of swept path analysis and consideration of the need</i>
--	--	--	--

			<i>for felling of trees along narrow lanes for construction traffic. Applicant advised that narrow lanes around the Site are currently used by farm plant and machinery, if bat roosts are present within trees along construction routes they would be habituated to the regular passing of large machinery.</i> <i>The Applicant's transport consultant have provided input on trees and vegetation which would require felling along narrow lanes for access.</i> <i>MCC and NCC advised that identifying potential bat roost features in trees at a stage, earlier than pre-construction, will reduce likelihood of project delays.</i> Action taken: Trees to be directly impacted due to the proposals, and those within a 5 m buffer have been subject to a ground-level tree assessment and results are reported within Appendix 6.4. <u>GCN:</u> <i>The Applicant ecologist advised that all ponds, where accessible, have been subject to eDNA sampling in 2023 and 2025. All ponds have been returned as negative for GCN.</i>
--	--	--	--

			<i>The Applicant ecologist enquired as to known populations/records of GCN in the local area. None were known to the Ecology Officers.</i> Action taken: Results of the GCN surveys are reported in Appendix 6.5. <u>Water vole:</u> <i>The Applicant ecologist advised that the methodology for water vole survey would comprise one targeted survey of proposed watercourse crossing points plus 200m up and downstream of these crossing points, where accessible.</i> <i>This approach to water vole survey was accepted by the LPAs. MCC Ecology Officer advised of one record of water vole within Court Farm Treatment works in 2009.</i> Action taken: Results of the water vole surveys are reported within Appendix 6.2. <u>Otter:</u> <i>The LPAs advised that due to the hydrological connectivity of the Site to statutory and non-statutory designated sites with otter as a reason</i>
--	--	--	---

			<i>for designation it is advised that these watercourses, where there is connectivity to designated sites, should be surveyed in full, not just where the Proposed Development crosses a watercourse.</i> <i>The LPAs advised that where there is currently free passage along watercourses this should be retained.</i> Action taken: Where a watercourse is located within the Site, this has been surveyed for otter. Access to stretches of watercourse outside of the Site, were limited due to landownership permissions. Results of the otter surveys are reported within Appendix 6.2. <u>Badger:</u> <i>The Applicant ecologist advised that camera traps have been deployed in two locations within the Site, where evidence of badger and potential setts were identified during walkover surveys.</i> <i>LPAs were satisfied with this approach.</i> Action taken: Results of the badger monitoring
--	--	--	--

			surveys are reported within Appendix 6.2. <u>Hazel dormouse:</u> <i>The LPAs advised that there are no records of populations within immediate local area, however, MH advised that absence of records does not mean absence of dormouse.</i> <i>The Applicant ecologist advised that hedgerows on-site are suitable for dormouse, comprising dominant hazel. However, vegetation clearance would be minimal and localised and any hedgerow removal would be confined to where access is required only, therefore, to avoid impacts on dormouse, dormouse would be assumed to be present and vegetation removal, in areas suitable for dormouse, would be undertaken in accordance with RAMS.</i> <i>The LPAs agreed that dormouse should be assumed to be present and precautionary working methods to be utilised during construction.</i> Action taken: Hazel dormouse are discussed within Section 6.5.
--	--	--	--

			<u>Reptiles:</u> <i>The Applicant ecologist advised that habitats within the Site are suitable to support reptiles, however, buffers have been applied to hedgerows and field margins and loss of hedgerow would be localized. Therefore, presence of reptiles is reasonably assumed and approach during construction would be to employ precautionary working methods during construction.</i> <i>LPAs agreed with this approach, additionally, LPAs advised that reptile species would likely be confined to grass snake and slow worm due to the habitats present.</i> Action taken: Reptiles are discussed within Section 6.5.
Newport City Council (NCC)	Pre-application advice (email correspondence)– 15/09/2025	Biodiversity Enhancement This is a policy requirement. However, policy does not quantify what should be achieved but it is implicit that benefit should be proportional to the scale of the development i.e. bigger schemes should deliver more and the developer may wish to utilise the biodiversity metric tools applicable in England to quantify the net-gain being achieved.	The English Statutory Biodiversity Metric has not been utilised as this is not a statutory requirement for development in Wales. A Green Infrastructure Statement has been prepared and is presented in Appendix 6.9. The Stepwise approach has been utilised and landscape and ecological

Draft Environmental Statement

Ecology

		Enhancement should naturally arise out of the existing ecological qualities of the site which themselves should be protected by scheme layout (avoidance). Enhancement must be securable and adaptive. Land management strategies should be developed to maximise ecological potential on the site.	mitigation and enhancement opportunities are detailed within the Green Infrastructure Statement (Appendix 6.9) and the oLEMP.
MCC	Pre-application advice (virtual meeting) – 25/09/2025)	A virtual meeting was held, via Teams on 25th September 2025, between the following to discuss the Proposed Development.	MCC ecologist noted that a meeting had already taken place to discuss ecology for the proposals. The Applicant ecologist set out survey scope and progress to date, including the list of technical appendices that would be provided to accompany the Ecology chapter of the Environmental Statement. MCC ecologist was satisfied with the survey and reporting approach. It was verbally stated by MCC ecologist that they did not expect the submission of a DEFRA Biodiversity Metric.
PEDW	Scoping Direction	It is noted that TCBC state that the Impact on protected sites should be scoped in including potential impact of hydrological connectivity of the site with the River Usk SAC and the	As agreed during scoping; the River Usk SAC/SSSI is scoped out of the ES. However, for completeness and to provide

Draft Environmental Statement

Ecology

		Severn Estuary. However, NRW agree with the reasoning to scope out the River Usk SAC/SSSI as set out in the SR. The applicant suggests that the water quality risks can be managed through appropriate stand-off from watercourses and adoption of standard good practice pollution control measures including a CEMP. PEDW concur with this approach and therefore the River Usk SAC/SSSI can be scoped out. NRW note that the sites/units of the proposed development are located either close to watercourses or on the sloping ground with various steepness and on average within 50m elevation, prone to erosion, sediment run-off and water pollution. NRW advise that a minimum buffer of 8m be left between proposed development and any main river. NRW acknowledge and welcome that a CEMP is proposed for the construction phase of development which we support, however, in addition they consider a Soil Management and Drainage strategy should be also in place for the operational phase of development. Any documents which contain mitigation measures to avoid significant effects should be included as technical appendices to the ES. NRW welcome the intention to scope in potential impacts on the Severn Estuary SPA and Ramsar Site.	confidence that the process has been followed for all relevant European sites the River Usk SAC has been included within the Information to Inform a Habitats Regulations Assessment (HRA). No main rivers are located within the Site. However, following advice from Monmouthshire County Council Flood Risk Team, a 7 m buffer has been applied to all ordinary watercourses within the Site, except in locations where watercourse crossings are proposed. An Outline Soil Management Plan and the draft Drainage Strategy are included within the application. Both documents will be updated to final position as part of detailed design and secured by condition and agreed with the Local Planning Authorities prior to commencement of development. The Severn Estuary SPA and Severn Estuary Ramsar Site are scoped into the Environmental Statement (ES), and information to inform a HRA has been provided. The information to inform the HRA is presented in Appendix 6.8.
--	--	---	--

Draft Environmental Statement

Ecology

		It is noted that a Habitats Regulations Assessment with regards to the Severn Estuary SPA/Ramsar site is proposed. NRW advise that the HRA should be undertaken in relation to both terrestrial and marine protected sites having regard to both construction and operational stages of the proposed development. The Applicant's attention is drawn to NRW's comments in Appendix 1 regarding Habitat Connectivity and Resilient Ecological Network.	
PEDW	Scoping Direction	NRW advise that should protected species be confirmed, information must be provided identifying the species-specific impacts in the short, medium and long term together with any mitigation and compensation measures proposed to offset the impacts identified. NRW advise comprehensive descriptions of the habitats affected are included to support robust conclusions about their significance for the species. The applicant's attention is drawn to NRW's response in Appendix 1 for further advice regarding descriptions of affected habitats, favourable conservation status, site security of mitigation and compensation. NRW advocate that a conservation plan is prepared for relevant	The Ecology Chapter of the ES provides the temporal nature of potential impacts on scoped in receptors. The ES provides an assessment of the potential impacts on habitats that support ecological receptors, including protected and notable species. No conservation plans have been assessed as required. Where relevant, the ES assesses the potential for pollution events to occur during the construction phase of the Proposed Development.

Draft Environmental Statement

Ecology

		species and included as a technical Appendix to the ES. MCC note that whilst it is agreed that the operational impacts to many of the species associated with the watercourses on site can be scoped out EIA, there is potential for impacts during the construction phase through pollution events, this should be a consideration for the EIA.	
PEDW	Scoping Direction	MCC highlight that where over 24 months have expired since the previous surveys were undertaken, update surveys will be expected to be submitted to inform the application unless sufficient justification can be provided.	Noted – all surveys are currently in date.
PEDW	Scoping Direction	The Applicant should liaise with the local authorities in regard to Local Biodiversity Interests.	A biological record data request has been obtained from South East Wales Biodiversity Records Centre (SEWBRc) (Local Environment Records Centre (LERC) reference: 0256-148) and used to inform the assessment.
PEDW	Scoping Direction	NRW notes that the SR indicates that onsite watercourses and ditches have been assessed as being suitable for otter use during the extended habitat survey and that no evidence of otter presence was identified in the surveys. NRW add that the scope of the surveys appears to have been limited. Whilst the SR proposes to scope otter out of the ES, unless results of surveys from	No signs/evidence of otter were recorded during the September 2025 surveys. Otter have been scoped in to the ES for potential impacts during construction and decommissioning. Otter have been scoped out of the ES during operation as embedded mitigation measures, as

Draft Environmental Statement

Ecology

		September 2025 confirm otter presence, NRW advise that otter should be considered in the context of being an European Protected Species as well as a feature of the River Usk/ Afon Wysg Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI). NRW add that existing records show that otters are present in the Afon Lwyd (a tributary of the River Usk), which runs directly adjacent to Parcel 12 of the proposed development land. NRW also include in their comments that additional information is required in regard to the proposed deer-proof fencing as some do not allow for otter passage. NRW further advise that the impact assessment covers all stages of the proposed development on otters, including the potential for elements of the development to block or impede otter movement and subsequently increase road casualties.	detailed within the ES, will protect otter during operation. Deer fencing includes the provision for mammal gates; mammal gates will allow movement across the Site for otter and other mammals.
PEDW	Scoping Direction	NRW notes that the SR states that watercourses and ditches within the site were assessed as having suitability for water vole. No evidence of water vole presence was found; however, NRW advise that the scope of water vole surveys appears to have been limited to an inspection of areas likely to contain crossing points over water courses. Whilst the SR proposes to scope water vole out of the ES unless results of the September 2025 surveys confirm presence, NRW advise that as	Surveys of crossing points, including 200m upstream and downstream of each crossing point, were undertaken. This is considered proportionate to the level of impact. Additionally, all watercourses within the Site that were hydrologically connected to a designated site for which otter is a qualifying feature were surveyed. Consequently, all

		live sighting of a water vole exists on land directly adjacent to Parcel 8, the proposals have the potential to affect water voles and their habitats and NRW advise that this should be considered as part of any future assessment.	watercourses within the Site were surveyed. No signs of water vole or otter were identified during the surveys. One record of water vole was returned within the last 10 years, within 2km of the Site at the Boating Lake. The Site is hydrologically connected to the Boating Lake via the Afon Lwyd; however, the record is located approximately 4.3 km from the Site along the watercourse. Given that water voles do not typically range more than 200 m from the bank top, it is reasonable to conclude that, if the record relates to a water vole population, it is unlikely that this population are utilising the Site due to the considerable distance separating the two locations. The live sighting of water vole, raised by NRW, recorded adjacent to Parcel 8 is assumed to relate to the same record discussed between the Applicant and the LPA during the pre-consultation meeting, which was recorded at Court Farm Water Treatment Works in 2009. Given the age of this record, together with the absence of evidence during the current surveys, it is considered reasonable to conclude that water
--	--	--	--

Draft Environmental Statement

Ecology

			vole is no longer present within or adjacent to the Site.
PEDW	Scoping Direction	NRW notes that surveys found the hedgerows and woodlands within the site to have suitability for dormouse, however, no targeted dormouse surveys appear to be undertaken. The SR suggests that dormouse can be scoped out of the ES due to avoidance and mitigation measures, however, the report also suggests that some sections of hedgerow (potential dormouse habitat) would need to be removed to facilitate the development. It is noted that the quantity and location of dormouse habitat clearance has not been confirmed. MCC add that if alterations to the scheme require the removal of sections of hedgerows it could result in significant delays in order to determine potential impacts to dormice. MCC also note the potential for operational impacts to dormice such as lighting. NRW advise that the proposals, along with breaks in habitat connectivity at hedgerow crossing points, have the potential to affect dormice and should be considered as part of any future assessments. Dormouse is therefore scoped into the ES.	No confirmed records of dormouse were returned within 2km of the Proposed Development, in the last 10 years, by the local biological records centre. In addition, during pre-application consultation, the LPA advised that there are no known local populations of dormouse within the area. It is acknowledged, however, that this does not confirm the absence of dormouse. It was agreed during pre-application discussions that, due to the minimal and localised nature of the proposed hedgerow loss, the precautionary assumption of dormouse presence would be adopted. Accordingly, precautionary working methods would be implemented during hedgerow removal to avoid adverse impacts on dormouse. Furthermore, the limited extent of hedgerow removal would not result in the loss of function of suitable habitat, fragmentation of habitat connectivity, or severance of dormouse populations, should the species be present. Dormouse has been scoped into the ES, as requested by NRW.

Draft Environmental Statement

Ecology

PEDW	Scoping Direction	The SR states that there are trees within the site that offer suitable habitat for roosting bats. NRW agree with the approach to scope in foraging and commuting bats for construction and operation. PEDW acknowledges MCCs stance that surveys prior to determination can be scoped out, however, PEDW's stance is that to properly establish the baseline, once it has been identified which potential roosts may be affected, surveys should be undertaken and included as part of the ES at the point of submission. NRW highlight that lighting during construction of the development, as well as lighting at the proposed permanent substation compound, has the potential to impact on bats and their tree roosts. Therefore, roosting bats should also be scoped into the Environmental Statement.	Ground Level Tree Assessments have been undertaken on all areas of proposed vegetation clearance and a 5m buffer. Trees with suitability to support bats have been identified. All PRF-M trees have been avoided and those classified as PRF-I will be subject to soft-felling under ecologist supervision. Results are reported in Appendix 6.4.
PEDW	Scoping Direction	It is noted that breeding and non-breeding birds are to be scoped into ES. NRW and MCC welcome the approach to breeding birds and advise details of appropriate mitigation, compensation, and enhancements for any likely significant effects identified should be provided along with appropriate enhancements. The applicant's attention is drawn to NRW's comments in Appendix 1 for further detail particularly regarding enhancements for Barn Owl.	Enhancement measures for birds have been included within the ES and oLEMP and this includes enhancement measures for barn owl. The Severn Estuary SPA and Ramsar site have been scoped into the ES and included within the Information to Inform a HRA (Appendix 6.8). It has been hypothesised that the glare from photovoltaic panels can result in

		MCC agree that the non-breeding bird surveys should inform the impact of the operational scheme on Severn Estuary Ramsar site and SPA features. TCBC highlight that the glint and glare assessment should also assess flight path of bats and birds.	birds confusing a solar farm for a lake, which could affect waterbirds passing overhead by attracting the birds, potentially disrupting migration or leading to collision. However, although this may occur in certain arid areas, a research review did not find strong evidence for the 'lake effect hypothesis' (Anderson et al, 2025). Furthermore, the panels themselves would have a non-reflective coating and would have fixed tilt to the south, which would limit the occurrence of glare As detailed within Chapter 4 – Proposed Development and Alternatives no permanent lighting would be required across the Site; temporary mobile task lighting may be required for maintenance during periods of low light, however, this would be brought onto Site for short periods of time and would not be used routinely. The substation would have inward facing security lighting installed. This would be operated with passive infrared detectors or would be turned on manually for maintenance in low light conditions or in the event of an emergency. As a result, artificial lighting levels will remain low and intermittent. Therefore, significant glint and glare effects are not anticipated, and
--	--	--	--

			no adverse effects on bats are predicted as a consequence of the proposed lighting scheme. A sensitive lighting strategy would be secured via the oCEMP, ensuring that features of value for foraging and commuting bats are not subject to additional lighting during the operational lifetime.
--	--	--	---

Limitations to the Assessment

- 6.2.49. Limitations in relation to the field surveys and data gathering for ecology are discussed within **ES Volume 2, Appendix 6.1 to 6.7**. No substantive limitations that impact the validity of the assessment have been identified.

6.3. Baseline Conditions

Site Description and Context

- 6.3.1. The Site is dominated by cattle and sheep grazed pasture within a rolling pastoral farmland landscape. Pockets of broadleaved woodland are connected via hawthorn dominated hedgerows. Within the wider surrounding landscape, habitats include further agricultural fields and pockets of woodland. The Afon Lwyd flows between the pockets of land located within the Site, before flowing into the River Usk.

Baseline Desk Study and Survey Information

- 6.3.2. This section provides a summary of baseline ecological conditions. Full details, including desk study records, are provided within **ES Volume 2, Appendix 6.1 to 6.7**.

Statutory Designated Sites for Nature Conservation

Desk study

- 6.3.3. From a review of MAGIC, DataMap Wales and data provided by SEWBReC the Site is not situated wholly or partially within any statutory designated sites for nature conservation. However, 27 statutory designated sites with ecological qualifying features/reasons for designation are situated within 10km of the Site.
- 6.3.4. **Table 6.6** summarises the statutory designated sites within 10km of the Site. Descriptions of the designated sites, including qualifying features, are provided where information is available. Locations of the designations in context to the Site are shown on **Figure 6.1** (including the six statutory designated sites which are designated for geological reasons to provide context).

Table 6.6: Summary of Statutory Designated Sites within 10 km of the Site

Site Name and Designation	Approximate Distance (km) and Direction from Site	Description
River Usk / Afon Wysg (SAC)	1.4km south	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation. Annex II species that are a primary reason for selection of this site: • Sea lamprey • Brook lamprey; • River lamprey; • Twaite shad; • Atlantic salmon; • Bullhead; and, • Otter

Draft Environmental Statement

Ecology

		Annex II species present as a qualifying feature, but not a primary reason for site selection: • Allis shad.
River Usk (Lower Usk) / Afon Wysg (Wysg Isaf) (SSSI)	1.4km south	The reasons for the Lower Usk designation are; mesotrophic lowland river and plant communities, craneflies, aquatic flora, otter, bat, and fish species.
St. Julians (LNR)	2.5km south	Remnant ancient woodland, ponds and grassland, which supports numerous breeding birds.
Llwyncelyn (LNR)	3.1km west	Designated for its conservation value.
Church Wood and Springvale Ponds (LNR)	3.7km north west	Remnant ancient woodland, ponds and grassland.
Cilwrgi Quarry (SSSI)	3.7km north	Designated for geological reasons – added here for context only.
Llandegfedd Reservoir (SSSI)	3.8km north	This reservoir is the largest inland open water habitat in the County and since its formation in 1963 has developed into one of the three regionally important overwintering wildfowl refuges in Wales. The site is particularly important for the overall numbers and variety of wintering wildfowl, with large numbers of wigeon, pochard and mallard. Other notable species include goosander, teal and goldeneye.

Draft Environmental Statement

Ecology

Henllys Open Space (LNR)	4.3km west	Accessible green space of grassland and woodland.
Allt-Yr-Yn (LNR)	4.9km south west	Designated for its diverse flora.
Langstone-Llanmartin Meadows (SSSI)	5.0km south east	Two unimproved wet meadows located in the same hydrological unit which are the remnants of a formerly more extensive low-lying area of meadow and fen.
Henllys Bog (SSSI)	5.6km west	This small fen with a ground flora rich in plant species lies in pastoral lowlands at the eastern part of the coalfield uplands. It is the only site in the County for marsh helleborine.
Gwent Levels – Nash and Goldcliff (SSSI)	5.9km south	The Gwent Levels are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain and is the largest area of its kind in Wales. The Gwent Levels reens are rich in plant species and communities, many of which are rare or absent in other Levels systems. The regular maintenance of some reens provides conditions for submerged species such as hairlike pondweed and openwater emergents such as arrowhead an opportunity to flourish. The Nash and Goldcliff area forms an important part of the Gwent Levels system and is of particular botanical interest as it is the only area in Wales for the Least Duckweed. There is also an interesting community where two species of hornwort grow together.

Draft Environmental Statement

Ecology

Cwmynyscoy Quarry (LNR)	6.1km north west	Designated for its calcareous grasslands and orchids.
Parc Seymour Woods (SSSI)	6.5km east/south east	Area of coppiced sessile oak woodland, overlying Upper Old Red Sandstone and Quartz Conglomerate rocks, is the last major relict of the formerly extensive ancient woodland of Wentwood Forest.
Cwm-Ton, Glascoed (SSSI)	6.7km north	Designated for geological reasons – added here for context only.
Gwent Levels – Whitson (SSSI)	7.2km south/south east	This area of the Gwent Levels is important for its botanical interest as it contains the nationally rare hairlike pondweed and is the only location in Gwent for the tussock sedge. Arrowhead also grows in abundance in several main reens in this area.
Gwent Levels – Redwick and Llandeenny (SSSI)	7.7km south east	This area of the Gwent Levels contains a number of nationally rare plant species including the rare <i>Myriophyllum verticillatum</i> located in peaty ditches in the northern part of the site and the brackish water crowfoot associated with the ditches bordering the sea wall.
Gwent Levels – St. Brides (SSSI)	7.8km south/south west	The reens in the St Brides area support a number of interesting plant species most notably thread-leaved water-crowfoot and small pondweed. Reen bank and green lane habitats in this area are also important for relict meadow plant species such as the regionally notable grass vetchling and common meadow-rue. The St Brides area also supports rich invertebrate communities with a number of nationally notable and notable marshland

Draft Environmental Statement

Ecology

		species, e.g. the true fly <i>Chrysogaster macquarti</i> and the beetle <i>Hydaticus transversalis</i> . It is the only area on the Gwent Levels where the rare fly <i>Stenomicra cogani</i> has been recorded.
Cwrt y Bela a Springdale (SSSI)	7.9km north east	Designated for its neutral grassland.
Coed-y-Darren (SSSI)	7.9km west	Designated for geological reasons – added here for context only.
Penhow Woodlands (SSSI and National Nature Reserve (NNR))	8.0km east	Two areas of ancient semi-natural woodland. The structure is a mixture of high forest, coppice and coppice-with-standards comprising a range of woodland types, several of which have a restricted distribution in Britain. The ground flora is predominately calcicolous and includes a number of nationally rare and locally distributed species, for example Tintern spurge, green hellebore, bird's nest orchid and wild daffodil.
Severn Estuary (SSSI)	8.4km south	Beds of eel-grass occur on the more sheltered mud and sand banks. The estuary fringes have large areas of saltmarsh. These are generally grazed by sheep and/or cattle, a significant factor determining the plant communities. A range of saltmarsh types is present, with both gradual and stepped transitions between bare mudflat and upper marsh. The SSSI is of international importance for wintering and passage wading birds, with total winter populations averaging about 44,000 birds. The SSSI holds most of the

		estuary's internationally important curlew and redshank populations, and most of its nationally important ringed plover and grey plover populations. Other waders which occur in significant numbers within the SSSI are snipe, knot, whimbrel and turnstone. The SSSI is internationally important for dunlin and supports about 7.5% of the British wintering population of this species. The estuary as a whole supports about 10.5% of the British wintering population and is the single most important wintering ground of dunlin in Britain.
Severn Estuary (SPA)	8.5km south	Qualifying features of the SPA: • Bewick's swan (non-breeding); • European white-fronted goose (non-breeding); • Dunlin (non-breeding); • Redshank (non-breeding); • Shelduck (non-breeding); • Gadwall (non-breeding); • Curlew (non-breeding); • Pintail (non-breeding); • Ringed plover (non-breeding); and • Waterbird assemblage.

Severn Estuary (Ramsar)	8.5km south	The estuary has the second highest tidal range in the world and consists of an extensive intertidal zone comprising intertidal mudflats, sand banks, saltmarsh, shingle, and rocky platforms. Flora and fauna communities typical of extreme physical conditions occur at the site. The invertebrate community provides an important food source for passage and wintering waders. The site is of particular importance for staging nationally important numbers of several species of waterbirds, including shelduck and whimbrel, and supports internationally important numbers of various species of wintering waterbirds, including Icelandic black-tailed godwit. This site is important for several species of fish migrating between sea and river via the estuary. Small patches of a nationally rare plant <i>Lythrum hyssopifolia</i> are found in the grassland zone.
Severn Estuary (SAC)	8.5km south	Annex I habitats that are a primary reason for selection of this site: • 1130 Estuaries; • 1140 Mudflats and sandflats not covered by seawater at low tide; and • 1330 Atlantic salt meadows. Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • 1110 Sandbanks which are slightly covered by sea water all the time

Draft Environmental Statement

Ecology

		1170 Reefs
Newport Wetlands (SSSI and NNR)	8.5km south	This site is of special interest for its breeding and wintering birds, invertebrates and aquatic and marginal flora. Also of special interest are the ditch habitat and reedbeds.
Tir-Pentwys (LNR)	8.7km north west	This former landfill and colliery site contains ancient beech woodland which contrasts with a reclaimed area of grassland, ponds, quarries and streams.
Dan y Graig Quarry, Risca	9.1km south west	Designated for geological reasons – added here for context only.
Golden Hill Quarry, Devauden	9.1km north east	Designated for geological reasons – added here for context only.
Ty'r Hen Forwyn (SSSI)	9.7km north west	Ty'r Hen Forwyn is of special interest for its species-rich neutral grassland and for the association of this habitat with others including acid grassland, scrub, bracken and well-developed hedgerows. Species rich neutral grassland can be found throughout and is characterised by a high herb cover.

Non-Statutory Designated Sites for Nature Conservation

Desk study

- 6.3.5. From a review of data provided by SEWBRc, the Site is situated within the non-statutory designated site; B-Lines. Additionally, 44 non-statutory designated sites with ecological qualifying features/reasons for designation are situated within 10km of the Site.
- 6.3.6. **Table 6.7** summarises statutory designated sites within 10km and locations of the designations in context to the Site are shown on **Figure 6.2**. Site descriptions are provided where information is available.

Table 6.7: Summary of Non-Statutory Designated Sites within 10 km of the Site

Site Name and Designation	Approximate Distance (km) and Direction from Site	Description
B-Lines	Within Site boundary	The B-Lines are a series of 'insect pathways' which are being restored, creating a series of wildflower-rich habitat stepping stones.
Afon Llwyd Grasslands (SINC)	Adjacent to the southern extents of the Site	Large areas of semi-improved marshy and dry neutral grassland (known to support otter).
Ancient Semi Natural Woodland (SINC)	Adjacent to the southern extents of the Site	Multiple stands of ancient semi-natural woodland within 2 km of the Site.
Ponthir Sewage Works (SINC)	Adjacent to the southern extents of the Site	Mosaic of habitats comprising; lowland grassland, woodland, open standing water, wetland, scrub and young trees backing on to Afon Llwyd. (Supports 'owls, snipe, blackcap, linnet, goldeneye, sandpiper, green woodpecker, goshawk, goosander and kingfisher').
Afon Llwyd (SINC)	0.006km south	Freshwater linear stream (known to support otter).
Coed y Gatlas (SINC)	0.17km south east	Ancient semi-natural woodland.

Draft Environmental Statement

Ecology

Wood south east of Common Cefn (SINC)	0.24km north	Ancient semi-natural woodland / planted ancient woodland.
Lan-Sor Wood (SINC)	0.38km north	Ancient semi-natural woodland / planted ancient woodland.
Llantarnam Abbey Bat Roost (SINC)	0.39km west	A known Lesser Horseshoe bat roost situated within the confluence of the Dowlais Brook and Afon Lwyd (with known otter breeding site). Ancient woodland and species-rich hedgerow are also present.
Graig Yr Eurych (SINC)	0.48km south west	Ancient semi-natural woodland.
Ty Llwyd Wood (SINC)	0.50km west	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
White House Meadows (SINC)	0.54km north	Fields comprising MG5 and MG6 neutral grassland.
Lan-Sor Wood North (SINC)	0.56km north	Ancient semi-natural woodland / planted ancient woodland.
Rose Cottage (SINC)	0.60km west	Neutral grassland.

Draft Environmental Statement

Ecology

Llanfrechfa Grange (SINC)	0.75km north west	Ancient mown grassland, parkland trees, scrub, species-rich hedgerows. The site is mown extensively and the clippings are taken away, this management contributes to the low fertility of the underlying soil, providing ideal conditions for a wide range of grassland fungi. Many of the trees and most of the habitats on site also provide ideal conditions for fungi.
Cefn Tilla Meadow (SINC)	0.76km north	Species rich neutral grassland (MG5) and marshy grassland (M23).
Graig Wood (SINC)	0.84km south west	Ancient semi-natural woodland.
Cwm-y-wiwer Brake, Colomendy Wood (SINC)	0.91km east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland)
Lodge Wood (SINC)	0.92km south west	Ancient semi-natural woodland.
Land at Edgehill, Llanfrechfa, Cwmbran (SINC)	0.92km west	No citation available (from a review of aerial imagery; assumed to be designated for grassland)
Cwm Heron Wood (SINC)	0.95km north west	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).

Draft Environmental Statement

Ecology

Llantarnam Wetland (SINC)	1.1km west	No citation available (from a review of aerial imagery; assumed to be designated for marshy grassland, wet woodland and scrapes/ponds).
Llantarnam Abbey Wetland 2 (SINC)	1.1km west	Mosaic of habitats comprising; marshy grassland, neutral grassland, stream and pond, wet woodland, banked species-rich grassland and scrub.
Llanthewy Vach (SINC)	1.18km north	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Llantarnam Grasslands (SINC)	1.2km west	No citation available (from a review of aerial imagery; assumed to be designated for marshy grassland).
Llantarnam Grasslands – the Alders (SINC)	1.14km west	No citation available (from a review of aerial imagery; assumed to be designated for grassland and woodland).
Llantarnam Abbey Wetland 1 (SINC)	1.2km west	Mosaic of habitats comprising; marshy grassland, neutral grassland, stream and pond, wet woodland, ancient woodland, banked neutral grassland, fen/wetland and scrub.
County Hall (SINC)	1.4km north west	Mosaic of habitats that supports a variety of breeding birds.
Hillcroft Field (SINC)	1.5km south west	Ancient semi-natural woodland.

Draft Environmental Statement

Ecology

Wilderness Wood (SINC)	1.5km west	Ancient woodland.
Ivybridge Wood (SINC)	1.53km east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Llwyn-celyn Wood (SINC)	1.54km north east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Trinity View (SINC)	1.6km south west	Mosaic habitat of scrub, woodland and grassland.
Whitehouse Farm Woods (3 parts) (SINC)	1.61km north east	Species-rich grassland and woodlands.
Llantarnam Ponds (SINC)	1.64km west	Supports kingfisher, goosander and cormorant.
Llanyravon Farm, Cwmbran (SINC)	1.65km west	No citation available (from a review of aerial imagery; assumed to be designated for heritage asset and gardens).
Cwm-ffrwd Wood (SINC)	1.69km north east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Madam Rogers' Wood (SINC)	1.72km east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).

Draft Environmental Statement

Ecology

Ivybridge Wood East (SINC)	1.75km east / south east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Woodbank (SINC)	1.81km south east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Cefn-henllan Wood (SINC)	1.84km east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Llantarnam Road / Court Road, Cwmbran (SINC)	1.88km west	No citation available (from a review of aerial imagery; assumed to be designated for watercourse and woodland).
Graigwith Wood (SINC)	1.89km north east	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).
Coed Llwyd Wood (SINC)	1.98km north west	No citation available (from a review of aerial imagery; assumed to be designated for ancient woodland).

Habitats of Principal Importance*Desk study*

6.3.7. SEWBReC data returned a list of the following habitat types which may contain HPI within the Site and a 50m buffer:

- Semi-natural broadleaved woodland;
- Semi-improved neutral grassland;
- Running water; and,
- Standing water.

6.3.8. From a review of DataMap Wales data set Environment (Wales) Act Section 7 Terrestrial HPI the following HPI⁹ were returned from within the Site and a 50m buffer:

- Coastal and floodplain grazing marsh; and,
- Traditional orchard.

6.3.9. The locations of these potential HPI, returned from DataMap Wales, are depicted on **Figure 6.3**.

Field survey

6.3.10. The following habitats listed on Section 7 of the Environment (Wales) Act 2016, Monmouthshire Local Nature Recovery Action Plan, Torfaen Local Nature Recovery Action Plan and/or on the priority species list for Newport were recorded during the UK Habitat Classification Survey:

- Woodland;
- Wet woodland;
- Lowland mixed deciduous woodland;
- Freshwater;
- Farmland;
- Lowland grassland;

⁹ Confidence in the accuracy of the DataMap Wales HPI data entry is variable depending on the age of the survey data.

- Hedgerows; and,
- Rivers.

Ancient woodland

Desk study

- 6.3.11. Following a review of DataMap Wales and SEWBrEC data, five stands of ancient semi-natural woodland¹⁰ were returned from within the Zol. Two stands of ancient semi-natural woodland overlap with and are partially situated within the Site boundary, with the remaining three stands situated immediately adjacent to the Site boundary. For locations of ancient woodland within the Zol refer to **Figure 6.4**.

Field survey

- 6.3.12. The UK Habitat Classification Survey concurs with the biological record data, two stands of ancient woodland partially overlap and are situated within the Site boundary, with three stands immediately adjacent the Site boundary.

Other On-Site Habitats

Field survey

- 6.3.13. Detailed baseline information in relation to habitats is provided in **ES Vol 2 Appendix 6.1: Habitats and Vegetation**. The UKHabitat Classification survey recorded 27 UK Habitat Classification primary habitat types. Habitats are shown on **Figure 6.5 Map 1 – 4**.
- 6.3.14. Habitats within the Site predominantly comprise pastoral (grazed by cattle) other neutral grassland and modified grassland fields. Arable fields are also present planted with non-cereal crop. Fields are typically bound by native species-rich hedgerow, dominated by hawthorn. Woodland blocks, ditches and streams are also present on field boundaries.

Protected and/or notable flora species

Desk study

- 6.3.15. SEWBrEC data returned records of the following flora species which are listed on Section 7 and/or returned as species on local biodiversity action plans from within 2km of the Site boundary within the last 10 years.

¹⁰ Ancient semi-natural woodland is defined as a woodland site with evidence of continuous wooded cover since 1600 AD.

- Bee orchid;
- Butcher's broom;
- Sea barley;
- Tubular water-dropwort;
- Daffodil;
- Mistletoe;
- Red hemp-nettle; and,
- Bluebell.

Field survey

- 6.3.16. No species (other than bluebell) listed on Schedule 8 of the Wildlife and Countryside Act, Section 7 of the Environment (Wales) Act 2016, Monmouthshire Local Nature Recovery Action Plan¹¹, Torfaen Local Nature Recovery Action Plan¹² or on the priority species list¹³ for Newport were recorded during the UK Habitat Classification Survey.

Protected and/or notable lichen and/or bryophyte species

Desk study

- 6.3.17. The data returned by SEWBRc did not include records of any bryophyte or lichen species, dated within the last 10 years, within the Site from within 2km of the Site boundary.

Field survey

- 6.3.18. No species listed on Schedule 8 of the Wildlife and Countryside Act, Section 7 of the Environment (Wales) Act 2016, Monmouthshire Local Nature Recovery Action Plan¹¹, Torfaen Local Nature Recovery Action Plan¹² or on the priority species list¹³ for Newport were recorded during the UK Habitat Classification Survey.

¹¹ Monmouthshire County Council (2024). Local Nature Recovery Action Plan. Available at: [Local NRAP](#)

¹² Torfaen County Borough Council (2024). Local Nature Recovery Action Plan. Available at: [FINAL-designed-version-ENG-03-01-24.pdf](#)

¹³ Newport City Council (no date). Biodiversity. Available at: [Biodiversity | Newport City Council](#)

CHEGD fungi*Desk study*

- 6.3.19. The data from SEWBRc includes multiple records of CHEGD fungi within the Study Area, from between 2008 and 2024, although none are from within the boundary of the Site. The records represent 36 species: six Clavarioids, 19 Hygrocybe, six Entoloma and five Geoglossoids.

Field survey – eDNA

- 6.3.20. The named CHEGD species identified within the study area via eDNA sampling are:
- Yellow fairy club fungus;
 - Straw club;
 - White spindles;
 - Fairy club;
 - Yellow club; Parrot waxcap;
 - Entoloma velenovsky;
 - Geoglossum barlae, and;
 - Black magic.
- 6.3.21. No species listed on Section 7 of the Environment Act (Wales), on Schedule 8 of the Wildlife and Countryside Act 1981 or on a relevant Nature Recovery Action Plan were identified.

Field survey – fruiting bodies walkover

- 6.3.22. The fruiting bodies walkover identified CHEDG species Hygrocybe.
- 6.3.23. No species listed on Section 7 of the Environment Act (Wales), on Schedule 8 of the Wildlife and Countryside Act 1981 or on a relevant Nature Recovery Action Plan were identified.

Breeding birds*Desk study*

- 6.3.24. SEWBRc returned records from within the Site of the following species listed on Section 7 of the Environment Act (Wales): bullfinch, dunnoek, herring gull, kestrel, linnet, redpoll and starling. Within the 2km buffer, further records were returned of the following additional Section 7 species: black-headed gull,

goldcrest, greenfinch, green woodpecker, hawfinch, house sparrow, lapwing, lesser black-backed gull, marsh tit, pied flycatcher, reed bunting, skylark, snipe, spotted flycatcher, tree pipit, turtle dove, whitethroat, willow warbler, wood warbler and yellow wagtail. Note that this list includes all records returned. The majority of species records returned did not denote the date/ season when recorded, so this does not represent a list of species that are breeding in the search area.

- 6.3.25. The SEWBrEC data from the search area (Site plus 2km) also included records of the following species listed on Schedule 1 of the Wildlife and Countryside Act 1981: avocet, barn owl, Cetti's warbler, common crossbill, firecrest, goshawk, hobby, kingfisher, marsh harrier, osprey, peregrine and red kite. Note that the majority of species records returned did not denote the date/ season when recorded. Of these records, only the peregrine record comes from within the Site (and in this case the information provided is sufficient to confirm it as non-breeding), with the other records being from within the 2km buffer.

Field survey

- 6.3.26. The BBS undertaken in 2025 provides the data used in this assessment. The BBS recorded a community of breeding birds typical for the habitats and location.
- 6.3.27. The BBS recorded two species of ground-nesting bird breeding within the fields of the Site: skylark (four territories) and yellow wagtail (one territory), with both species listed on Section 7 of the Environment Act (Wales) and the Monmouthshire Local Nature Recovery Action Plan.
- 6.3.28. Most breeding species were associated with the hedges and trees along field boundaries and all comprised passerine or near-passerine species. Species listed on Section 7 of the Environment Act (Wales) comprised: dunnock, goldcrest, greenfinch, green woodpecker, house sparrow, magpie, spotted flycatcher, whitethroat, willow warbler and yellow wagtail.
- 6.3.29. No species listed on Schedule 1 of the Wildlife and Countryside Act 1981 were recorded as nesting on Site during the BBS.
- 6.3.30. Further details can be found in **Appendix 6.3**.

Wintering birds

Desk study

- 6.3.31. SEWBrEC returned records from the search area (Site plus 2 km) of 11 waterfowl species. This includes species listed on Section 7 of the Environment Act (Wales): white-fronted goose (note the record is of an unspecified subspecies but only the Greenland subspecies is Section 7 listed), pochard, shelduck, coot, pintail, shoveler, teal and wigeon. The data include occasional

records from Ponthir Reservoir (adjacent to the Site), but most waterfowl records were returned from Llantarnam, Cwmbran and the River Usk, within the surrounding 2 km buffer.

- 6.3.32. The returned data also included records of seven wader species, which included the following Section 7 species: lapwing, redshank, common sandpiper, green sandpiper, oystercatcher and snipe. Most records were from the 2km buffer, especially the Newport area, and there were no notable records from within the Site.

- 6.3.33. Gull records returned include those of Section 7 listed black-headed gull, herring gull, lesser black-backed gull, common gull, great black-backed gull and little gull.

Field survey

- 6.3.34. The WBS recorded a community of non-breeding birds typical for the habitats and location. Most species were recorded infrequently and/or in low numbers.

- 6.3.35. Birds recorded in fields included Section 7 listed species black-headed gull, fieldfare, herring gull, lesser black-backed gull, linnet, meadow pipit, mistle thrush, rook, skylark, snipe and starling. However, these wintering individuals/flocks were highly transitory and their presence was sporadic. The large majority of fields did not record Priority Species (as defined in **Appendix 6.7**) on any survey visit and where a field did support Priority Species this was generally the case for one visit only, which suggests the Site is not of high importance for wintering birds.

- 6.3.36. The majority of sightings during the WBS referred to birds associated with field boundaries and adjacent woodland (for example Section 7 listed bullfinch, dunnock, greenfinch, house sparrow and marsh tit), or simply overflying the Site (most gull records, plus species such as Section 7 listed hawfinch).

- 6.3.37. No waterfowl and wader species associated with the Severn Estuary and Ramsar site were recorded during the WBS, with the exception of mallard (which is named as a component of the waterfowl assemblage for this designated area), which was occasionally recorded overhead and was found once in a wet field (three birds). The only wader species recorded was snipe (four records of individual birds), which is a listed feature of the Severn Estuary SSSI but not the SPA nor Ramsar site.

- 6.3.38. Further details can be found in **Appendix 6.7**.

Bats

Desk study

6.3.39. The data returned by SEWBReC returned records of ten bat species (not including those undefined) within 2km of the Site boundary, in the last 10 years. Species returned were:

- Brown long-eared, eight records most recently recorded in 2024;
- Daubenton's bat, one record most recently recorded in 2018;
- Greater horseshoe, one record most recently recorded in 2016;
- Common pipistrelle, one record most recently recorded in 2024;
- Soprano pipistrelle, two records most recently recorded in 2024;
- Noctule, one record most recently recorded in 2022;
- Lesser horseshoe, one record most recently recorded in 2022;
- Natterer's bat, one record most recently recorded in 2018;
- Serotine, one record most recently recorded in 2024;
- Undefined Myotis species, five records most recently recorded in 2020
- Undefined bat species, five records most recently recorded in 2024; and,
- Whiskered/Brandt's bat, one record most recently recorded in 2015.

Field survey – Roosting

6.3.40. No evidence or signs of bat roosts were identified during the GLTA, (results are reported in **Appendix 6.4**) however, fifty-three trees were identified as suitable to support roosting bats.

- 47 trees were assessed as PRF-I;
- 17 as PRF-M;
- One group of trees as PRF-M; and,
- Four as FAR.

Field survey – Foraging and commuting

6.3.41. At a high-level, hotspots of activity were noted to be along the wooded edge of the Afon Lwyd, along Candwr Brook and around farm buildings on NBW 5.

-
- 6.3.42. A total of 24,510 collective passes were recorded across the combined recording periods, this equates to a Site level bat activity index (BAI)¹⁴ of 21.36 passes per hour.
- 6.3.43. Collective bat activity was noted to be highest overall at MS5 (9,320 passes, equating to a site level BAI of 71.21 passes per hour) and lowest at MS8 (192 passes, equating to a Site level BAI of 1.66 passes per hour).
- 6.3.44. Collective bat activity was highest during summer with a total of 11,321 passes (equating to a site level BAI of 39.63 passes per hour) and lowest in autumn with a total of 5,113 passes (equating to a Site level BAI of 1.58 passes per hour).

Badger

Desk study

- 6.3.45. The data returned by SEWBrEC returned 14 records of badger within 2km of the Site boundary, in the last 10 years.

Field survey

- 6.3.46. Surveys recorded one active annexe badger sett with further signs/evidence of badger commuting and foraging through the Site.

Hazel dormouse

Desk study

- 6.3.47. The data returned by SEWBrEC returned no confirmed records of dormouse within 2km of the Site boundary, in the last 10 years.

Field survey

- 6.3.48. Hedgerows within the Site were recorded as suitable to support dormouse.
- 6.3.49. No signs/evidence of dormouse were recorded during the field surveys.

Otter

Desk study

- 6.3.50. The data returned by SEWBrEC returned 11 records of otter within 2km of the central point of the Site, in the last 10 years. The most recently returned record was from the Afon Lwyd in 2017, approximately 500m from the Site boundary

¹⁴ A cumulative average of bat activity (i.e. total passes over total recording hours, per night) relative to all MS locations during all recording periods

Field survey

- 6.3.51. Suitability of the watercourses for otter within the study area varied from some watercourses being unsuitable to others being recorded as suitable for commuting, foraging and resting.
- 6.3.52. No signs/evidence of otter were recorded during the field surveys.

*Water vole**Desk study*

- 6.3.53. The data returned by SEWBReC returned one record of water vole (recorded at the Boating Lake) within 2km of the Site boundary, in the last 10 years.

Field survey

- 6.3.54. Suitability of the watercourses for water vole within the study area varied from some watercourses being unsuitable to others being recorded as suitable for foraging and burrowing.
- 6.3.55. No signs/evidence of water vole were recorded during the field surveys.

*Other mammals**Desk study*

- 6.3.56. The data returned by SEWBReC returned records of hedgehog (82 records, most recently in 2024), stoat (one record, most recently in 2021), weasel (four records, most recently in 2021) and polecat (two records, most recently recorded in 2022) from within 2km of the Site boundary, in the last 10 years.

Field survey

- 6.3.57. Habitats within the Site such as hedgerow, grassland, scrub and woodland are suitable to support mammal species.
- 6.3.58. Fox, rabbit, mouse, field vole and grey squirrel were recorded during field surveys.

*Great Crested Newt**Desk study*

- 6.3.59. No records of GCN were returned from SEWBReC from within the Site and a 2km buffer, within the last 10 years.

Field survey

- 6.3.60. No positive GCN results were returned from eDNA surveys undertaken for the Proposed Development in 2023.
- 6.3.61. During 2025 access was granted to eight (P5, P10, P11, P12, P14, P17, P24 and P26¹⁵) of the 26 ponds within the Survey Area. Pond 14 (P14) was deemed to no longer exist as its location was situated within a hedgerow and no water was recorded during the field survey. Therefore, seven ponds (P5, 10, 11, 12, 17, 24 and 26) were assessed for their suitability to support GCN, in line with the HSI methodology. **Table 6.8** below summarises the suitability of each pond for GCN.

Table 6.8: Summary of GCN Habitat Suitability

Pond	P5	P10	P11	P12	P17	P24	P26
GCN habitat suitability	Poor	Below Average	Below Average	Average	Below Average	Poor	Below Average

- 6.3.62. P5, P11 and P12 were dry at the time of survey, therefore, it was not possible to take water samples for eDNA analysis from these waterbodies.
- 6.3.63. All ponds sample (P10, P17, P24 and P26) returned negative results for the presence of GCN as summarised.

Other amphibians*Desk study*

- 6.3.64. The data returned by SEWBReC returned three records of common toad, most recently recorded in 2019 within 2km of the Site boundary, in the last 10 years.

Field survey

- 6.3.65. Habitats within the Site such as watercourses, ponds, field margins, hedgerow, grassland, scrub and woodland are suitable to support amphibian species.
- 6.3.66. No signs/evidence of amphibians were recorded during the field surveys.

Reptiles*Desk study*

- 6.3.67. The data returned by SEWBReC returned three records of grass snake and four records of slow worm from within 2km of the Site boundary, in the last 10 years.

¹⁵ For pond locations refer to **Figure 6.6**.

Both of which were most recently recorded in 2019, 900m from the central point of the Site.

Field survey

6.3.68. Habitats within the Site such as field margins, hedgerow, grassland, scrub and woodland are suitable to support foraging, basking and hibernating reptile species.

6.3.69. No signs/evidence of reptiles were recorded during the field surveys.

Fish

Desk study

6.3.70. The data returned by SEWBRc returned records of brown trout (four records, most recently recorded in 2022; with records returned from Candwr Brook and Sor Brook), eel (seven records, most recently recorded in 2023; with records returned from Candwr Brook and Sor Brook) within 2 km of the Site boundary, in the last 10 years.

Field survey

6.3.71. Watercourses within the Site have variable suitability to support fish species, some channels were recorded with inconsistent or intermittent water levels/flow.

6.3.72. No targeted surveys for fish were undertaken, however, no signs/evidence of fish were recorded during the baseline surveys.

Aquatic invertebrates

Desk study

6.3.73. The data returned by SEWBRc returned one records of white-clawed crayfish within 2 km of the Site boundary, in the last 10 years.

Field survey

6.3.74. Watercourses within the Site are suitable to support aquatic invertebrate species.

6.3.75. No targeted surveys for aquatic invertebrates were undertaken, however, no signs/evidence of aquatic invertebrates were recorded during the field surveys.

Terrestrial invertebrates

Desk study

-
- 6.3.76. The data returned by SEWBRc returned records of 50 terrestrial invertebrates species from within 2 km of the Site boundary, in the last 10 years:

Field survey

- 6.3.77. Habitats within the Site such as field margins, hedgerow, grassland, scrub and woodland are suitable to support invertebrate species.
- 6.3.78. No targeted surveys for terrestrial invertebrates were undertaken, and no signs/evidence of terrestrial invertebrates were recorded during the field surveys.

Future Baseline

- 6.3.79. In the absence of the Proposed Development, or assuming a gap between baseline surveys and the commencement of construction, changes in baseline ecology conditions (i.e. distributions and populations) are most likely to result from habitat modifications within or surrounding the Site due to land management practices.
- 6.3.80. The Site is subject to grazing and farming practices which would be expected to remain under the current management regime (grazing by sheep and cattle). There would be expected to be little change in the ecological receptors present in these areas, particularly in the short and medium-term, notwithstanding natural fluctuations in local populations year to year.
- 6.3.81. Whilst short-term and small-scale variability in populations and distributions may occur, and revisions to conservation statuses and designations are possible, such changes would be unlikely to qualitatively alter the conclusion of the assessment presented within, and have been accounted for through the application of a precautionary approach and appropriate mitigation.
- 6.3.82. In the longer-term, increased summer and winter temperatures and higher average precipitation rates in summer and winter, predicted by climate change, are likely to result in an extended growing/breeding season with earlier in the year vegetation growth and breeding activity of key species. Increased rainfall is likely to result in greater vegetation growth, although for some botanical species it may have adverse effects (through water-logging). Furthermore, increased juvenile mortality may be expected as a result of higher rates of rainfall for certain birds such as raptor species. The bat activity season is likely to be extended by the higher seasonal temperatures, but conversely higher rates of rainfall and an increase in windy days are likely to adversely affect foraging activity.
- 6.3.83. The opposing potential effects of climatic change on ecology receptors makes predicting future likely outcomes difficult. However, the potential effects on ecology receptors detailed in this chapter are not predicted to substantively change in relation to climate change over the next 40 years.

- 6.3.84. Taking into consideration the above, it is considered unlikely that these changes would substantially alter the conclusions of the impact assessment for the Proposed Development, based on current expectations. If appropriate, factors such as population trends have been accounted for in the assessment (where available) and, where relevant, a precautionary approach has been applied.

6.4. Embedded Mitigation

- 6.4.1. Embedded mitigation is a fundamental part of the Proposed Development. In accordance with the 'step-wise' approach (mitigation hierarchy), the Proposed Development has sought to avoid and minimise potential impacts at the design stage, where possible. The step-wise approach is set out below:

- Step 1: Avoid
- Step 2: Minimise
- Step 3: Mitigate / Restore
- Step 4: Compensate off site
- Step 5: Management plan.

- 6.4.2. This assessment has been based on the principle that measures have been 'embedded' into the design of the Proposed Development to remove potential significant effects as far as practicable. In accordance with the 'step-wise' approach (mitigation hierarchy), the embedded mitigation relevant to this assessment is detailed below.

Design Principles

- 6.4.3. **Chapter 4: Proposed Development and Alternatives** explains how the design of the Proposed Development has evolved from project inception through to submission of this application for development consent. **Chapter 4** sets out the project vision and design principles, the way the design has evolved, and how good design will be secured post-consent.

- 6.4.4. The design process has been led by competent design experts and technical specialists in consultation with the local community, local project stakeholders and statutory consultees to deliver on a design vision whilst minimising impacts on protected/notable species and habitats.

Outline Landscape and Environmental Management Plan

- 6.4.5. The **Indicative Landscape Strategy** accompanying the ES on **Figure 5.5** illustrates the proposed mitigation of the Proposed Development.

- 6.4.6. The Indicative Landscape Strategy on **Figure 5.5** is annotated to set out the purpose of the landscaping proposals to meet the design objectives and mitigate for the impacts of the Proposed Development, these include:
- Retention of existing woodland, hedgerows, individual trees, ditches and watercourses across the Site as far as practicable;
 - Creation of species-diverse grassland meadows and corridors as buffers to existing landscape elements (such as hedgerows and woodland), as buffers to residential properties, and for ecological mitigation and benefits; and
 - Inclusion of mammal gates within all fence lines to solar areas.
- 6.4.7. These embedded mitigation measures and the management and maintenance of the proposed landscaping and green infrastructure is secured by the requirements of the **oLEMP**. The **oLEMP** sets out the management prescriptions for the various landscape features identified on the **Figure 5.5: Indicative Landscape Strategy** to ensure a net benefit for biodiversity is achieved.
- 6.4.8. Commitment to delivering net benefits for biodiversity will include the requirement for long-term ecological monitoring through the lifespan of the Proposed Development. These ecological monitoring surveys would assess the success of mitigation and enhancement measures detailed within the **oLEMP**, and if necessary, provide recommendations for remedial actions required to achieve the biodiversity objectives detailed within the **oLEMP** and/or adhere to relevant wildlife conservation legislation at that time.
- 6.4.9. Additional post-construction species-specific monitoring may be required as a legal requirement within an European Protected Species Mitigation Licence (EPSML). Any such monitoring would be in addition to the ecological monitoring discussed above, to ensure compliance with the EPSML conditions.

Outline Construction Environmental Management Plan

- 6.4.10. Embedded mitigation measures for the construction phase would be secured by the adoption of the **oCEMP**.
- 6.4.11. Should the Proposed Development be consented, the DNS will require that a final Construction Environmental Management Plan (**CEMP**) in substantial accordance with this **oCEMP** is prepared prior to commencing the construction phase. The **oCEMP** sets out the following broad measures of relevance to this assessment:
- Requirement for an ecological clerk of works (EcoCoW);
 - Site protection measures (fencing/soil management plan);

- Pollution and sedimentation control, including runoff and dust;
- Noise and vibration management measures;
- Implementation of habitat protection buffers;
- Implementation of root protection areas in line with BS:3857;
- Sensitive lighting strategy;
- Pre-construction surveys;
- Protected species derogation licenses (if required);
- Species protection plans;
- PWMS; and
- Requirement for Invasive, Non-Native Species Management Plans.

Ecological Clerk of Works

- 6.4.12. A suitably qualified and experienced EcoCoW would be appointed prior to the commencement of construction activities and through whom appropriate ecological advice will be provided throughout. The EcoCoW will be responsible for undertaking and/or co-ordinating checks for protected species before providing confirmation that construction activities can commence. The EcoCoW will also maintain a watching brief as necessary throughout the construction phase to ensure compliance with relevant legislation, including adhering to any protected species mitigation measures, if required.

Protection of Habitats

- 6.4.13. Heras fencing, or similar, would be used to demarcate the working area in order to protect sensitive ecological or hydrological features (woodland (10m), ancient woodland (15m), hedgerows (5m) and watercourses (7m)) during the site preparation works and construction phase of the project. The works will adhere to 'British Standards BS5837:2012 Trees in relation to design, demolition and construction' as set out in **Appendix 5.10**.
- 6.4.14. Best practice measures to control both runoff and dust pollution would be implemented during construction across the Site, but particularly in proximity to sensitive habitats, together with noise and vibration management measures.

Sensitive Lighting Strategy

- 6.4.15. Construction works would take place 07.00 to 18.00 hrs Monday to Friday and 07:00 to 13:00 hrs Saturday. The compounds would be lit during periods of low

light during construction working hours. Outside working hours, lighting would only be switched on for security breaches or temporary mobile task lighting.

- 6.4.16. A sensitive lighting strategy would be put in place to manage temporary lighting used during the construction phase. Any lighting that is required would be directed away from existing or created linear habitats, ditches, watercourses, ponds, woodland and associated terrestrial habitats. This would be achieved by the use of low-level lighting and lighting hoods to prevent the spillage of light from its intended source.
- 6.4.17. The sensitive lighting strategy would be informed by current guidance 'Guidance Note 08/23: Bats and artificial lighting at night' (2023).

Breeding Birds

- 6.4.18. Construction may directly impact birds nesting within the area of works (particularly ground-nesting species) as well as those close enough to be disturbed by construction activities (including those associated with field boundary habitats and adjacent woodland); where works are undertaken in the breeding season (March to August inclusive).
- 6.4.19. In order to avoid impacts on nesting birds, and to ensure compliance with the provisions of the Wildlife and Countryside Act 1981, vegetation removal would take place outside of the bird breeding season where possible. If vegetation works (including any hedgerow removal or ground clearance activity required to facilitate development) are necessary during the breeding season, all suitable nesting habitat affected by works would be checked in advance of works by a suitably experienced ecologist, via the EcoCoW. Nesting bird checks would need to be repeated regularly during the nesting bird season and for each phase of work, depending on the timing of construction activities.
- 6.4.20. Works would be permitted to proceed only when the EcoCoW is satisfied that no harm would occur to any identified breeding attempts, or once the breeding attempt has come to a natural conclusion. If necessary, works may be restricted in a defined area until the nest is no longer active, with any buffer around nests to be dependent on the species involved, the stage of breeding (egg laying often being the most sensitive period) and habitat (e.g. nests hidden in cover or with a natural barrier between the nest and works may require a smaller buffer), etc, to be determined by the EcoCoW. Additional protections may be required to prevent potential disturbance to any species found breeding that are listed on Schedule 1 of the Wildlife and Countryside Act 1981 to prevent disturbance-related offences occurring under the legislation. Appropriate protection measures would be supervised by the EcoCoW.

Bats

-
- 6.4.21. Trees present within the Site would be retained and protected during construction. If plans change and trees require removal/felling as part of the Proposed Development (for instance to aid access requirements or for health and safety purposes), prior to removal, in accordance with current BCT guidance, any trees would be subject to a ground level tree assessment (GLTA) in order to assess the tree's potential to support roosting bat species. Trees with Potential Roost Feature–Multiple (PRF–M) would be subject to a detailed aerial inspection and/or emergence/re–entry surveys in the appropriate season. If bats are confirmed roosting within the tree(s), no removal would take place until an EPSML has been issued by NRW and necessary mitigation measures set in place under the supervision of a licensed ecologist.
- 6.4.22. If works on trees with Potential Roost Feature–Individual (PRF–I) are necessary, these would be felled under PWMS, in line with BCT Guidance (2023) and UK Bat Mitigation Guidelines (2023); the trees would be soft felled in sections which are lowered to the ground and left on Site overnight (not stacked) before removal. Should a bat (or nesting bird) be found during this process then works would cease immediately and the EcoCoW contacted immediately for advice.
- 6.4.23. Works would generally take place 07.00 to 18.00 hrs Monday to Friday and 07:00 to 13:00 hrs Saturday; therefore, other than during winter when day length is short, works are not expected to occur in the hours of darkness. The sensitive lighting strategy, as detailed above, would be informed by current guidance 'Guidance Note 08/23: Bats and artificial lighting at night' (2023). As such, lighting would be managed so that light spillage into key habitat features, such as tree lines, hedgerows, woodland, ponds, ditches and watercourses does not occur.
- 6.4.24. This would ensure there are no adverse impacts on roosting bats and the favourable conservation status of the roosting bat species in the wider environment would be retained.

Otter and Water Vole

- 6.4.25. The Proposed Development has been designed to avoid impacting linear ditch and watercourse habitats with potential suitability to support these species as far as reasonably practicable.
- 6.4.26. Where construction works are required within 10m of a ditch, watercourse or pond, e.g. creation of new or improved crossing points, these would be preceded by a pre–construction water vole/otter survey of both aquatic and terrestrial habitats, which would be completed by a suitably qualified ecologist immediately prior to the commencement of construction works to determine the presence/absence of water vole burrows/otter resting places within proximity to the working area.
- 6.4.27. Should signs of water vole presence, or an active otter holt/resting place be confirmed, works in or adjacent to the feature would only proceed under

suitable mitigation measures as advised by the EcoCoW and, if necessary, under a European Protected Species Mitigation Licence (EPSML) issued by NRW.

- 6.4.28. PWMS will be implemented during the construction phase to safeguard any otters during works. The PWMS will include measures to ensure that no trenches/excavations will be left open overnight without the creation of sloping escape ramps for otter, which may be achieved by edge profiling of trenches/excavations or by using planks placed into them at the end of each working day. Ramps will be no greater than 45 degrees in angle. Alternatively, all open trenches/excavations will be covered overnight.
- 6.4.29. Works will take place 08.00 to 18.00 hrs Monday to Friday and 08:00 to 13:00 hrs Saturday; therefore, other than during winter when day length is short, works are not expected to occur in the hours of darkness. A sensitive lighting strategy would be implemented, as detailed above. Any lighting (construction or operational) would be directed away from the ditches, watercourses and ponds, and associated terrestrial habitats.

Badger

- 6.4.30. The Proposed Development layout has been designed to avoid impacting habitats most likely to be used by badgers for both sett building and foraging and commuting (field boundary features). These habitats will be largely retained and protected during the construction process.
- 6.4.31. A 30m buffer would be maintained from active badger setts set out with barrier tape or similar, with no works to be undertaken within this area unless covered under a specific method statement and agreed by the EcoCoW. Where avoidance measures cannot reasonably be implemented and setts are likely to be impacted, these would be closed under a NRW EPSML during the appropriate season (July to November inclusive).
- 6.4.32. A pre-construction badger survey (including land within 30m of the Site, where access allows) would be completed by a suitably qualified ecologist immediately prior to the commencement of construction/site clearance works to determine levels of badger activity and to check for any newly constructed setts in and surrounding the Site.
- 6.4.33. If baseline conditions have altered and significant disturbance to badgers or their setts cannot be avoided, one or both of the following options would be incorporated:
- The Proposed Development design will be further amended to avoid works which may impacts on the sett; and/or,
 - A disturbance/EPSML will be obtained from NRW before construction commences.

Amphibians

- 6.4.34. As a precaution, PWMS would be implemented to avoid significant impacts on amphibian populations, if present. The PWMS would include a 'toolbox talk', a fingertip search, a two-stage cut of suitable vegetation, and watching brief by an appropriately qualified EcoCoW to minimise risk of accidental harm.

Reptiles

- 6.4.35. As a precaution, PWMS would be implemented to avoid significant impacts on reptile populations, if present. The PWMS would include a 'toolbox talk', a fingertip search, two-stage cut of suitable vegetation, and watching brief by an appropriately qualified EcoCoW to minimise risk of accidental harm.

Hazel dormouse

- 6.4.36. As a precaution, PWMS would be implemented to avoid significant impacts on dormouse populations, if present. The PWMS would include a 'toolbox talk', and prior to the clearance of any scrub, hedgerow and woodland vegetation, a detailed inspection will be undertaken by a suitably experienced ecologist to search for the presence of nests or signs of activity. Only when the ecologist is satisfied that no nest are present and that no offence under the legislation will works be permitted to proceed.
- 6.4.37. To avoid potentially killing or injuring dormice, the clearance of any scrub vegetation will be carried out by hand using the 'persuasion' approach (Bright *et. al.*, 2006') and under the direct supervision of a suitably experienced ecologist. Clearance will be done progressively in either the winter or summer period and will be sensitive to both hibernating and breeding dormice, nesting wild birds and other wildlife.

Other mammals

- 6.4.38. PWMS would be implemented to avoid significant impacts on other notable mammal populations, if present. The PWMS would include a 'toolbox talk', a fingertip search, and a watching brief by an appropriately qualified EcoCoW to minimise risk of accidental harm.

Fish

- 6.4.39. Standard measures to ensure runoff control and pollution prevention to be implemented via the **oCEMP** and a **Surface Water Management Plan (oSWMP)** (to be secured through the **CEMP** by condition) would also avoid significant impacts on fish populations, if present. The use of Silt Busters/sedimats/straw bales will also be used to protect downstream watercourses from silt inputs during prolonged dewatering.

Invasive, non-native flora species

-
- 6.4.40. Prior to the commencement of construction, a botanical invasive species walkover survey will be undertaken during an appropriate time of year (May – October) in order to assess the current distribution of invasive species within the Site.
- 6.4.41. Where necessary, an appropriate invasive botanical species treatment program would be implemented by a licensed and experienced invasive species contractor; a detailed control and removal strategy method statement would be produced to inform these actions and prevent further spread within the Site during the construction process, detailing the commitment to control or undertake long-term removal (or on-going treatment) of the species' from within the Site.
- 6.4.42. The appointed EcoCoW will include information regarding invasive non-native species within the toolbox talk, including providing informing contractors on avoidance / good practice measures required to avoid facilitating the spread of these species. Should further areas of spread/ other invasive species be encountered on Site prior to or during construction, the advice of the appointed EcoCoW will be sought, and appropriate measures taken in order to achieve legislative compliance.

Fencing

- 6.4.43. As set out in technical drawing Perimeter Fence (**PEG002**) suitably sized (approximately 20cm x 25cm) gaps or mammal gates would be installed at suitable intervals and locations along the perimeter fence line to allow small mammals, including badgers and otter, free movement across the Proposed Development, providing enhanced opportunities for foraging and refuge within what would be a relatively protected and undisturbed area during operation of the Proposed Development. The locations of the gaps/gates would be determined during the pre-commencement survey. This approach would allow for any changes in populations, sett locations and mammal paths prior to the commencement of construction to be taken into account. Temporary Heras fencing, or similar, installed within the Site during construction would also have gaps at suitable intervals and locations to allow free movement.

Scoping Criteria

Technical Scope

- 6.4.44. In accordance with CIEEM guidance (2018, updated 2024) and the principal of proportionate EIA, the assessment only assesses in detail impacts upon important ecological receptors i.e., those that are considered important and potentially affected (as set out in **Table 6.9**) It is not considered necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened, and resilient to project impacts and which will remain viable and sustainable, unless there is potential for a significant beneficial or adverse effect as a consequence of the Proposed Development

-
- 6.4.45. Where ecological receptors are not considered important enough to warrant further consideration, or where they will not be significantly affected, these can be scoped out of the assessment process, and justification for exclusion is provided. Where a feature has been scoped out of the detailed assessment, due to a lack of potential for a significant effect, measures to protect, enhance or ensure legislative compliance may still be included in the 'mitigation' section.
- 6.4.46. **Table 6.9** presents the evaluation of identified ecological receptors and provides the rationale as to why individual features have been included or 'scoped out' of the detailed assessment, with reference to comments received during consultation and engagement presented in **Section 6.2** of this chapter.

Receptors**Table 6.9: Scoping In/Out of Ecological Receptors**

Ecological Receptor	Geographic Scale of Importance	Potential Effect Pathway and Rationale for Selection of Features for Detailed Assessment
Statutory Designated Sites for Nature Conservation River Usk / Afon Wysg (SAC)	International	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Lwyd. The Afon Lwyd is hydrologically connected to the Afon Wysg. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on qualifying features (watercourses of plain montane levels <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation) of the Afon Wysg. With the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on watercourses, and in turn on the qualifying features of the Afon Wysg are anticipated. As agreed within the Scoping Direction the River Usk / Afon Wysg SAC is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation River Usk (Lower Usk) / Afon Wysg	National	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Lwyd. The Afon Lwyd is hydrologically connected to the Afon Wysg. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on the reasons for designation: mesotrophic lowland river and plant communities, craneflies, aquatic flora, otter, bat, and fish species.

(Wysg Isaf) (SSSI)		With the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on watercourses, and associated habitats, of the Afon Wysg are anticipated. Breeding birds listed in the citation are passerine species which have small territories and which would have no connectivity with the Site, 1.4km distant. Wintering birds are also mentioned in the citation but only in regard to the cut-off meander at Llanfihangel Gobion, which lies upstream and over 10km from the Site. No adverse impacts can be concluded for the ornithological listed features. As agreed within the Scoping Direction the River Usk (Lower Usk) / Afon Wysg (Wysg Isaf) SSSI is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation • Llandegfedd Reservoir (SSSI)	National	The reservoir is located 3.8km from the Site and is located upstream. There would be no impacts as a result of the Proposed Development on the supporting habitats within the SSSI. The wintering waterfowl that use the reservoir would be undisturbed by the Proposed Development due to the separation distance. Commuting flights in/out of the reservoir would be unaffected. Llandegfedd Reservoir SSSI is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation - Brook Cottage, Llangybi SSSI	National	These six statutory designated sites are situated within 10km of the Site, however, they are designated for geological reasons. As these are not designated for ecological features they are not considered further and are scoped out from detailed assessment.

Draft Environmental Statement

Ecology

- Cilwrgi Quarry SSSI - Cwn-Ton, Glascoed SSSI - Coed-y-Darren SSSI - Dan y Graig Quarry SSSI - Golden Hill Quarry, Devauden SSSI		
Statutory Designated Sites for Nature Conservation • St. Julians Local Nature Reserve (LNR) • Llwyncelyn (LNR) • Church Wood and Springvale Ponds (LNR)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that these sites are designated (conservation value) are anticipated and all sites are scoped out of detailed assessment.

Statutory Designated Sites for Nature Conservation Henllys Open Space (LNR)	Local	The designation is located in the headwaters of Nant y Milwr, which flows downstream into the Afon Lwyd. In the event of any pollution or sedimentation incidents during the construction, operation or decommissioning of the Proposed Development, there would be no interaction with the Nant y Milwr due to the downstream flows. Therefore, due to the direction of flow, no adverse effects on the reasons that this site is designated (accessible open green space) are anticipated and is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation Allt-Yr-Yn (LNR)	Local	The designation is located adjacent to the Monmouthshire and Brecon Canal, however, there are no hydrological connections between the Proposed Development and the designation. The lack of connectivity and the 5 km separation distance mean that no adverse effects on qualifying features (diverse flora, as well as bird species) are anticipated, and it is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation Langstone-Llanmartin Meadows (SSSI)	National	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (unimproved wet meadows) are anticipated and it is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation Henllys Bog (SSSI)	National	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (fen) are anticipated and it is scoped out of detailed assessment.

Statutory Designated Sites for Nature Conservation Gwent Levels – Nash and Goldcliff (SSSI)	National	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Lwyd. The Afon Lwyd is hydrologically connected to the Afon Wysg, tributaries of which drain into the designation. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on the reasons for designation (wet pasture, flora and plant communities). However, with the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on watercourses, and in turn on the reasons for designation of the Gwent Levels – Nash and Goldcliff are anticipated. Gwent Levels – Nash and Goldcliff SSSI is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation Cwmynyscoy Quarry (LNR)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (calcareous grassland and orchids) are anticipated and it is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation Parc Seymour Woods (SSSI)	National	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (ancient woodland) are anticipated and it is scoped out of detailed assessment.

Statutory Designated Sites for Nature Conservation • Gwent Levels – Whitson (SSSI) • Gwent Levels – Redwick and Llandeenny (SSSI) • Gwent Levels – St. Brides (SSSI)	National	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Lwyd. The Afon Lwyd is hydrologically connected to the Afon Wysg, tributaries of which drain into the designations. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on the reasons for designation (botanical interest). However, with the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on watercourses, and in turn on the reasons for designation. The sites are scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation • Cwrt y Bela a Springdale (SSSI)	National	The Site is hydrologically connected to the designated area, however, the Site is located downstream of the SSSI. In the event of a pollution or sedimentation event the designation would not be adversely impacted due to flow direction. Therefore, it is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation • Penhow Woodlands (SSSI and NNR)	National	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (ancient woodland) are anticipated and it is scoped out of detailed assessment.

Statutory Designated Sites for Nature Conservation Severn Estuary (SSSI, SPA, Ramsar and SAC)	National International -	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Lwyd. The Afon Lwyd is hydrologically connected to the Afon Wysg, which eventually drains into the designated area. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for direct and indirect adverse impacts on the reasons for designation (flora, habitats, fish and non-breeding birds). However, the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing refer to Section 6.5) would minimise the potential for adverse impacts on watercourses, and in turn on the habitats that support the designated features within the designated area over 8km distant. Due to the mobility of ornithological features there is potential for non-breeding birds associated with these designated areas to also be in the vicinity of the Site, where they could be subject to disturbance or displacement impacts during the construction and operational phases. The data gathered suggests there is little or no connectivity with the Site but a precautionary approach has been taken and further assessment has been undertaken. Severn Estuary (SSSI, SPA and Ramsar site) are scoped in (construction, operation and decommissioning) for ornithological features only, the Severn Estuary SAC is scoped out.
Statutory Designated Sites for Nature Conservation Newport Wetlands (SSSI and NNR)	National	The SSSI lies adjacent to the Severn Estuary and close to the mouth of the River Usk, but the designated area itself does not have hydrological connectivity with the Site. Therefore, there would be no route to impact the habitats found within the SSSI, nor to the invertebrates or aquatic flora they support. However, due to the mobility of ornithological features there is potential for birds associated with the designated area to also use land within the vicinity of the Site, where they could be subject to disturbance or displacement impacts during the construction and operational phases.

		The data gathered suggests there is little or no connectivity, but a precautionary approach has been taken and further assessment has been undertaken. Therefore, Newport Wetlands SSSI is scoped in (construction, operation and decommissioning) for ornithological features only. Note that although Newport Wetlands is also designated an NNR this designation is not separately assessed.
Statutory Designated Sites for Nature Conservation Tir-Pentwys (LNR)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (ancient woodland and associated passerine and near-passerine bird species) are anticipated and it is scoped out of detailed assessment.
Statutory Designated Sites for Nature Conservation Ty'r Hen Forwyn (SSSI)	National	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (neutral grassland) are anticipated and it is scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation B-Lines	Regional	The Proposed Development is situated within the designation. There will be direct impacts i.e. land take, therefore, the designated site is scoped in (construction, operation and decommissioning) to the assessment.

Non-Statutory Designated Sites for Nature Conservation Afon Lwyd Grasslands (SINC) (considers both separated components of the designation)	Local	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Lwyd, which hydrologically feeds into the Afon Lwyd Grasslands. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on the reasons for designation (semi-improved marshy and dry neutral grassland. Also known to support otter). With the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on the habitats are anticipated. However, invasive, non-native flora species Indian balsam and Japanese knotweed were recorded on the banks of the Afon Lwyd, within the designation. As part of the biodiversity enhancement proposals for the Proposed Development; eradication, treatment and management of INNS is proposed. These measures will directly impact the designation, therefore, Afon Lwyd Grassland is scoped in (operation) to the assessment. Additionally, otter may use the watercourses within the Site, therefore, noise/vibration and water crossing works may adversely affect otter populations associated with the designation. Therefore, Afon Lwyd Grassland is scoped in (construction and decommissioning only) to the assessment.
Non-Statutory Designated Sites for Nature Conservation Ancient Semi Natural	National	An ancient semi natural woodland SINC is present within the Site. There will be no direct impacts on ancient woodland through land-take, however, in the absence of embedded mitigation indirect impacts may occur through dust deposition during construction.

Draft Environmental Statement

Ecology

Woodland (SINC)		Buffers to protect ancient woodland (15m) have been built into the design, however, encroachment into protection buffers are anticipated to occur in one location. Therefore, ancient woodland is scoped in (construction and decommissioning only) to the assessment.
Non-Statutory Designated Sites for Nature Conservation Ponthir Sewage Works (SINC)	Local	Candwr Brook, within the Site, drains directly into the Ponthir Sewage Works. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on aquatic habitats within the SINC. With the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on the reasons for designation are anticipated. The SINC description includes mention of ornithological features that include species that were recorded on Site and which could, therefore, have connectivity with the SINC and be impacted by the Proposed Development. Therefore, the designated site is scoped out of the assessment for habitats but is scoped in (construction, operation and decommissioning) for ornithological features.
Non-Statutory Designated Sites for Nature Conservation Afon Llwyd (SINC)	Local	Multiple watercourses (Candwr Brook and unnamed tributaries of Candwr Brook) within the Site drain directly or indirectly (via Candwr Brook) into the Afon Llwyd. In the event of a pollution and/or sedimentation incident into watercourses within the Site, there is the potential for adverse effects on the reasons for designation (freshwater linear stream – known to support otter).

		With the implementation of embedded mitigation (pollution/sedimentation controls and site protection fencing, refer to Section 6.5) no adverse effects on the stream are anticipated. However, invasive, non-native flora species Indian balsam and Japanese knotweed were recorded on the banks of the Afon Lwyd, within the designation. As part of the biodiversity enhancement proposals for the Proposed Development; eradication, treatment and management of INNS is proposed. These measures will directly impact the designation, therefore, Afon Lwyd is scoped in (operation only) to the assessment. Additionally, otter may use the watercourses within the Site, therefore, noise/vibration and water crossing works may adversely affect the otter use of the designation. Therefore, Afon Lwyd is scoped in (construction and decommissioning only) to the assessment.
Non-Statutory Designated Sites for Nature Conservation Coed y Gatlas (SINC)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (ancient woodland) are anticipated and it is scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation Wood south east of Common Cefn (SINC)	Local	The Site is hydrologically connected to the designation, however, the Site is located downstream of the designated area. In the event of a pollution or sedimentation event the designation would not be adversely impacted due to flow direction. Therefore, the designation is scoped out of detailed assessment.

Draft Environmental Statement

Ecology

Non-Statutory Designated Sites for Nature Conservation • Lan-Sor Wood (SINC) • Lan-Sor Wood North (SINC)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (ancient woodland) are anticipated and it is scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation • Graig Yr Eurych (SINC) • Ty Llwyd Wood (SINC)	Local	The Site is hydrologically connected to the designation, however, the Site is located downstream. In the event of a pollution or sedimentation event the designation would not be adversely impacted due to flow direction. Therefore, the designated sites are scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation • White House Meadows (SINC)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that this site is designated (neutral grassland) are anticipated and it is scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation	Local	The Proposed Development is situated within the core sustenance zone (2 km) for lesser horseshoe bats. Change to habitat availability and quality within the core sustenance zone will have a significant influence on the resilience and conservation status of the colony using the roost.

Draft Environmental Statement

Ecology

Llantarnam Abbey Bat Roost (SINC)		Therefore, Llantarnam Abbey Bat Roost is scoped in (construction, operation and decommissioning) to the assessment. The Site is hydrologically connected to the designation, however, the connectivity with the Site is located downstream of the designation. In the event of a pollution or sedimentation event the reasons for designation (ancient woodland and species-rich hedgerow) would not be adversely impacted due to flow direction. Additionally, otter may use the watercourses within the Site, therefore, noise/vibration and water crossing works may adversely affect the otter use of the designation. Therefore, Llantarnam Abbey Bat Roost is scoped in (construction and decommissioning only) to the assessment.
Non-Statutory Designated Sites for Nature Conservation Rose Cottage (SINC)	Local	The Site is hydrologically connected to the designated area, however, the connectivity with the Site is located downstream of the designation. In the event of a pollution or sedimentation event the reasons for designation (neutral grassland) would not be adversely impacted due to flow direction. Therefore, the designated area is scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation - Llanfrechfa Grange (SINC) - Cefn Tilla Meadow (SINC)	Local	The Sites are hydrologically connected to the designated areas, however, the connectivity with the Site is located downstream of the designations. In the event of a pollution or sedimentation event the designations would not be adversely impacted due to flow direction. Therefore, the designated sites are scoped out of detailed assessment.

Draft Environmental Statement

Ecology

Non-Statutory Designated Sites for Nature Conservation - Land at Edgehill, Llanfrechfa, Cwmbran (SINC) - Cwm-y-wiwer Brake, Colomendy Wood (SINC)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that these sites are designated (grassland and ancient woodland) are anticipated and they are scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation - Lodge Wood (SINC) - Cwm Heron Wood (SINC) - Graig Wood (SINC)	Local	The Site is hydrologically connected to the designated areas, however, the connectivity with the Site is located downstream of the designations. In the event of a pollution or sedimentation event the designations would not be adversely impacted due to flow direction. Therefore, the designated areas are scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation Llantarnam Wetland (SINC)	Local	By virtue of distance and no hydrological connections, no adverse effects on the reasons that these sites are designated (marshy grassland, wet woodland, scrapes/ponds and woodland) are anticipated and they are scoped out of detailed assessment.

Draft Environmental Statement

Ecology

- Llantarnam Grasslands – the Alders (SINC) - Llantarnam Grasslands (SINC)		
Non-Statutory Designated Sites for Nature Conservation - Llanthewy Vach (SINC) - Llantarnam Abbey Wetland 2 (SINC) - Llantarnam Abbey Wetland 1 (SINC)		The Site is hydrologically connected to the designated areas, however, the connectivity with the Site is located downstream of the designation. In the event of a pollution or sedimentation event the designation would not be adversely impacted due to flow direction. Therefore, the designated areas are scoped out of detailed assessment.
Non-Statutory Designated Sites for Nature Conservation - County Hall (SINC) - Hillcroft Field (SINC)	Local	By virtue of distance ($\geq 1.4\text{km}$) and no hydrological connections, no adverse effects on the reasons that these sites are designated (open mosaic habitat, ancient woodland and mosaic of habitats (and associated breeding birds)) are anticipated and they are scoped out of detailed assessment.

Draft Environmental Statement

Ecology

• Ivybridge Wood (SINC) • Trinity View (SINC) • Wilderness Wood (SINC) • Llanyravon Farm, Cwmbran (SINC) • Cefn-henllan Wood (SINC) • Coed Llwyd Wood (SINC)		
Non-Statutory Designated Sites for Nature Conservation • Llwyn-celyn Wood (SINC) • Whitehouse Farm Woods (3 parts) (SINC) • Llantarnam Ponds (SINC)	Local	The Site is hydrologically connected to the designated areas, however, the connectivity with the Site is located downstream of the designation. In the event of a pollution or sedimentation event the designations would not be adversely impacted due to flow direction. Therefore, the designated areas are scoped out of detailed assessment.

Draft Environmental Statement

Ecology

• Cwm-ffrwd Wood (SINC) • Madam Rogers' Wood (SINC) • Ivybridge Wood East (SINC) • Graigwith Wood (SINC) • Llantarnam Road / Court Road, Cwmbran (SINC) • Woodbank (SINC)		
Habitats of Principal Importance (HPI)	Up to regional	HPI have been recorded within the Site during field surveys and through review of historic data. Direct impacts on HPI are anticipated through direct land take for cabling works and proposed biodiversity enhancement. Therefore, HPI are scoped in (construction, operation and decommissioning) to the assessment.
Ancient woodland	National	Ancient woodland is present within the Site. There will be no direct impacts on ancient woodland through land-take, however, in the absence of embedded mitigation indirect impacts may occur through dust deposition during construction. Buffers to protect ancient woodland have been built into the design, however, encroachment into protection buffers are anticipated to occur in one location, to avoid impacts to a group of mature trees. Therefore, ancient

Draft Environmental Statement

Ecology

		woodland is scoped in (construction and decommissioning only) to the assessment.
Other On-Site Habitats	Site	Habitats located within the Site and which will be impacted by the Proposed Development are all common and widespread habitats locally and regionally however may support other receptors of greater importance. Scoped in (construction and decommissioning only) to detailed assessment.
Protected and/or notable flora species	Local	The only biological record returned of flora species listed on Schedule 8 of the Wildlife and Countryside Act 1981 was bluebell. Schedule 8 protects bluebell from sale only, therefore, bluebell is not considered within the impact assessment with reference to its listing on Schedule 8. The Site supports an assemblage of common flora typical of lowland agricultural landscapes which may be affected by changes to habitats during construction and operation, however, due to the absence of protected/notable species recorded during the field surveys any impact is unlikely to be significant. Therefore, protected and/or notable flora species are scoped out of detailed assessment.
Protected and/or notable lichen species	Local	The Site is suitable to support common lichen, typical of lowland agricultural landscapes, and these may be affected by changes to habitats during construction and operation. However, due to the absence of protected/notable species recorded during the field surveys any impact is unlikely to be significant. Therefore, protected and/or notable lichen species are scoped out of detailed assessment.

Draft Environmental Statement

Ecology

CHEGD fungi	Local	CHEGD fungi have been recorded within the Site during eDNA and fruiting bodies walkover surveys. These may be affected by changes to habitats and habitat use during construction and operation. Scoped in (construction, operation and decommissioning) to detailed assessment.
Breeding birds	Local	The Site supports a typical community of breeding birds for the location and habitats present which is of no more than Local value. Construction of the Proposed Development has potential to cause damage and disturbance to nest sites but embedded mitigation measures, including pre-works checks for nesting birds (and the application of an avoidance buffer if required (including for Schedule 1 species)) would ensure their protection. The Proposed Development would result in habitat change and could lead to displacement of breeding birds from around infrastructure associated with the Proposed Development, which could have an adverse impact on the breeding bird assemblage. For widespread species of low conservation concern, Site-level displacement would not have a significant effect on their population. Breeding birds are scoped in to detailed assessment but only in relation to Priority Species. To aid the assessment, this feature is split into 'ground-nesting birds' (skylark and yellow wagtail) and 'breeding bird assemblage' (other species) to differentiate between the potential impacts between those species that nest within the interior of fields and those restricted to field margins.
Wintering birds	Site	The Site supports a low number and diversity of wintering birds and is of no more than Local value. Non-breeding bird species using the interior of

Draft Environmental Statement

Ecology

		fields may be affected by habitat changes or displaced by the presence of solar panels, but field use was shown to be very sporadic such that no discernible impact on the small number of wintering species involved can be concluded without the need for full assessment. Wintering birds are scoped out of detailed assessment. Note that non-breeding birds as a qualifying feature of designated sites are separately assessed, where appropriate and relevant designated sites have been scoped in.
Bats (roosting)	Local	Trees that are suitable to support multiple roosting bats; Potential Roost Feature–Multiple (PRF–M) will be retained and protected in line with embedded avoidance and mitigation measures (tree retention) and no buildings are anticipated to be directly affected by the Proposed Development. Trees classified as Potential Roost Feature–Individual (PRF–I) would be felled under PWMS, in line with BCT Guidance (2023) and UK Bat Mitigation Guidelines (2023); the trees would be soft felled in sections which are lowered to the ground and left on Site overnight (not stacked) before removal. Embedded mitigation measures and PWMS will sufficiently protect roosting bats during construction and operation, therefore, roosting bats are scoped out of detailed assessment.
Bats (foraging and commuting)	Regional	Foraging and commuting bats may be disturbed during construction and behaviourally affected by the presence of solar panels and also by habitat changes.

Draft Environmental Statement

Ecology

		Valued by following UK Bat Mitigation Guidelines¹⁶. Scoped in (construction, operation and decommissioning) to detailed assessment.
Badger	Site	A badger sett has been identified, and signs/evidence of badger have been identified throughout the Site. Badger may be disturbed during construction through noise and vibration and may be behaviourally affected by the presence of solar panels and also by habitat changes. Therefore, badger are scoped in (construction and decommissioning only) to detailed assessment.
Hazel dormouse	Regional	Through design, direct impacts to hedgerow and woodland habitat can mostly be avoided through retention and protection buffers. There will be minimal localised hedgerow/woodland removal only. Precautionary Working Method Statements (PWMS) will be implemented during construction to avoid impacts on dormouse, if present. Dormouse are scoped in (construction and decommissioning only) to detailed assessment as requested during the Scoping Direction Response.
Otter	Regional	Otter are likely present on watercourses adjacent to the Site and they may be subject to disturbance during construction through noise and vibration and temporary severance of commuting routes during watercourse crossing works.

¹⁶ A score of 25 was assigned; using region south-west England and south Wales. To complete the calculation, two *Myotis* species were assumed as a precaution, since individuals were not identified to species level.

Draft Environmental Statement

Ecology

		Therefore, otter are scoped in (construction and decommissioning only) to detailed assessment.
Water vole	Regional	Watercourses within the Site have limited and isolated suitability to support water vole. No records of water vole have been recorded within the last 10 years, and no field signs/evidence of water vole were recorded during the surveys. Therefore, water vole are scoped out of detailed assessment.
Other mammals	Local	Through design, direct impacts to habitats suitable for mammals such as; hedgerow and woodland habitat can mostly be avoided through retention and protection buffers. There will be minimal localised removal. PWMS will be implemented during construction to avoid impacts on mammals. Therefore, other mammals are scoped out of detailed assessment.
Great crested newt (GCN)	Regional	There are no records of GCN within the Zol and they were not recorded during the field surveys. PWMS for amphibians (discussed below) will also protect GCN. Therefore, GCN are scoped out of detailed assessment.
Other amphibians	Local	Species of principal importance, common toad, may be present within the Site. Amphibians may be affected by changes to terrestrial habitats during construction. However, PWMS will be implemented during construction to avoid impacts on amphibians. Therefore, other amphibians are scoped out of detailed assessment.
Reptiles	Local	Through design, direct impacts to habitats suitable for reptiles such as; field margins, hedgerow and woodland habitat can mostly be avoided through retention and protection buffers. There will be minimal localised

Draft Environmental Statement

Ecology

		removal. PWMS will be implemented during construction to avoid impacts on reptiles. Therefore, reptiles are scoped out of detailed assessment.
Fish	Regional	Fish are likely present on watercourses adjacent to the Site and they may be subject to disturbance during construction through noise and vibration and temporary severance of commuting routes during watercourse crossing works. Therefore, fish are scoped in (construction and decommissioning only) to detailed assessment
Aquatic invertebrates	Local	Aquatic invertebrates are likely present on watercourses adjacent to the Site and they may be subject to disturbance during construction through noise and vibration and temporary severance of commuting routes during watercourse crossing works. Therefore, aquatic invertebrates are scoped in (construction and decommissioning only) to detailed assessment.
Terrestrial invertebrates	Local	Through design, direct impacts to habitats suitable for terrestrial invertebrates such as; field margins, hedgerow and woodland habitat can mostly be avoided through retention and protection buffers. There will be minimal localised removal. Biodiversity enhancement proposals will enhance grassland habitats suitable to support terrestrial invertebrates. Therefore, terrestrial invertebrates are scoped in (construction and decommissioning only) to detailed assessment.

Temporal Scope

- 6.4.47. The table below summarises the development phases relevant to the ecological receptors that have been scoped into the detailed assessment.

Table 6.10: Temporal scope of ecological receptors scoped in to detailed assessment

Ecological Receptor	Construction	Operation	Decommissioning
Statutory Designated Sites for Nature Conservation Severn Estuary (SSSI, SPA, Ramsar)	Scoped in (short-term)	Scoped in (long-term)	Scoped in (short-term)
Statutory Designated Sites for Nature Conservation Newport Wetlands (SSSI and NNR)	Scoped in (ornithology only) (short-term)	Scoped in (ornithology only) (long-term)	Scoped in (ornithology only) (short-term)
Non-Statutory Designated Sites for Nature Conservation B-Lines	Scoped in (medium term)	Scoped in (long-term)	Scoped in (medium term)
Non-Statutory Designated Sites for Nature Conservation Afon Lwyd Grasslands (SINC)	Scoped in (medium term)	Scoped in (long-term)	Scoped in (medium term)

Draft Environmental Statement

Ecology

(considers both separated components of the designation)			
Non-Statutory Designated Sites for Nature Conservation Ancient Semi Natural Woodland (SINC)	Scoped in (long-term)	Scoped out	Scoped in (long-term)
Non-Statutory Designated Sites for Nature Conservation Ponthir Sewage Works (SINC)	Scoped in for ornithological features. (short-term)	Scoped in for ornithological features. (long-term)	Scoped in for ornithological features. (short-term)
Non-Statutory Designated Sites for Nature Conservation Afon Llwyd (SINC)	Scoped in (medium-term)	Scoped in (long-term)	Scoped in (medium-term)
Non-Statutory Designated Sites for Nature Conservation Llantarnam Abbey Bat Roost (SINC)	Scoped in (long-term)	Scoped in (long-term)	Scoped in (long-term)
Habitats of Principal Importance (HPI) - Woodland, wet woodland and lowland mixed deciduous woodland - Freshwater and rivers	Scoped in (long-term)	Scoped in (long-term)	Scoped in (long-term)

Draft Environmental Statement

Ecology

• Farmland • Lowland grassland • Hedgerows • Coastal and floodplain grazing marsh • Traditional orchard			
Ancient woodland	Scoped in (long-term)	Scoped out	Scoped in (long-term)
Other on-site habitats	Scoped in (long-term)	Scoped in (long-term)	Scoped in (long-term)
CHEGD fungi	Scoped in (short-term)	Scoped in (long-term)	Scoped in (short-term)
Ground nesting birds	Scoped in (short-term)	Scoped in (long-term)	Scoped in (short-term)
Breeding bird assemblage	Scoped in (short-term)	Scoped in (long-term)	Scoped in (short-term)
Bats (foraging and commuting)	Scoped in	Scoped in	Scoped in

Draft Environmental Statement

Ecology

	(short-term)	(medium to long-term)	(short-term)
Badger	Scoped in (short-term)	Scoped out	Scoped in (short-term)
Hazel dormouse	Scoped in (short-term)	Scoped out	Scoped in (short-term)
Otter	Scoped in (medium-term)	Scoped out	Scoped in (medium-term)
Fish	Scoped in (short-term)	Scoped out	Scoped in (short-term)
Aquatic invertebrates	Scoped in (short-term)	Scoped out	Scoped in (short-term)
Terrestrial invertebrates	Scoped in (short-term)	Scoped out	Scoped in (short-term)

6.5. Assessment of Likely Significant Effects

- 6.5.1. As detailed in **Section 6.4 and Table 6.10** only those ecological receptors which have been scoped into the detailed assessment are discussed in **Section 6.5**.
- 6.5.2. Additionally, this assessment of likely significant effects takes into consideration the embedded mitigation measures that form an integral part of the Proposed Development.

Effects during Construction

- 6.5.3. Potential construction phase ecological impacts associated with the Proposed Development are considered to relate to:
- Direct land take (habitat loss) to accommodate the Proposed Development and the potential associated loss of breeding sites and places of shelter;
 - Temporary disturbance and land take for construction, laydown areas and construction compounds (land restored thereafter);
 - Disturbance to, fragmentation or severance of connecting habitat or potential commuting routes within and adjacent to the Site; and
 - Disturbance and pollution (indirect effects such as noise and vibration, dust, pollution from surface water run-off) resulting from enabling works and construction, plant and vehicles movements and site workers' activities.
- 6.5.4. Potential effects are assessed on the assumption that embedded mitigation measures, as detailed in **Section 6.5** and within **Chapter 4** are implemented.

Statutory Designated Sites

Severn Estuary SPA, SSSI and Ramsar Site

- 6.5.5. The three designations cover an extensive area of the Severn Estuary, split across Wales and England. Although they differ in overall extent, in the Newport area of the Severn Estuary (that part closest to the Site; 8.5km distant) the three designations follow the same site boundaries. The qualifying ornithological features of the SPA, Ramsar site and SSSI are broadly similar and comprise mostly non-breeding waders and waterfowl. The qualifying features listed in the citation for the Severn Estuary SPA comprise non-breeding populations of Bewick's swan, European white-fronted goose, dunlin, redshank, shelduck, gadwall, curlew, pintail and ringed plover, as well as the waterfowl assemblage (the previously listed species plus wigeon, teal, pochard, tufted duck, grey plover, whimbrel, spotted redshank, lapwing, mallard and shoveler). The Ramsar site designation lists ornithological features that overlap with the SPA designated species listed previously, as well as breeding lesser black-backed gull. Additional non-breeding bird species listed in the SSSI citation comprise snipe, knot and turnstone. Note that for

some qualifying features, the citations list the locations within the designated areas that support important populations and these may relate to areas distant from the Site; for example the most important populations of Bewick's swan, European white-fronted goose and lapwing are associated with the uppermost part of the estuary and which is over 30km from the Site.

- 6.5.6. Impacts during the construction phase would only occur where qualifying species from the designated areas also utilise habitats within the vicinity of the Site, potentially leading to disturbance and displacement impacts. However, the lack of suitable habitats on Site (i.e. an absence of marshes, mudflats and intertidal areas) preclude there being connectivity with the designated area for the large majority of listed species. In addition, the separation distance (8.5km) is greater than foraging distance for most qualifying features, e.g. waterfowl (geese and dabbling ducks) have an average winter foraging flight distance of 4.2 ± 3.2 km (Johnson *et al.*, 2014¹⁷) and curlew (used here as an example due it being less tied to coastal habitats and so more likely to commute inland than other waders such as dunlin and ringed plover) has a maximum foraging distance of 3.5km (Mander *et al.*, 2022¹⁸).
- 6.5.7. This is evidenced in the baseline survey data for the Proposed Development, with snipe and mallard the only qualifying wader or waterfowl species (or assemblage component species) that were recorded during the WBS; albeit only occasionally and in small numbers. The desk study data returned occasional records of redshank, lapwing, white-fronted goose, shelduck, wigeon, teal, pochard, tufted duck, mallard and shoveler from within the search area (Site plus 2km) within the last ten years., but these were mostly from the buffer and not from within the Site itself. The desk study data returned records for three duck species from Ponthir Reservoir (which lies adjacent to the Site) but these species (mallard, teal and tufted duck) are widespread species that would be expected to be present occasionally irrespective of the proximity of the Severn Estuary designated area (i.e. they are considered to be 'wider countryside' not SPA birds). For species with widespread wintering distributions and which may potentially use fields within the Site on occasion (e.g. lapwing (whether 'wider countryside' or SPA birds)) displacement from close proximity of the Proposed Development, as a result of construction activities, would be expected to have a negligible impact on these mobile species.
- 6.5.8. For all the waterfowl and wader species listed as part of the Severn Estuary designations, any disturbance or displacement impacts on these species' populations as a result of construction of the Proposed Development are considered to be nil or negligible.
- 6.5.9. One listed ornithological feature requires separate assessment: breeding lesser black-backed gull which is a listed feature of the Ramsar site. This species was recorded

¹⁷ Johnson, W.P., Schmidt, P.M. and Taylor, D.P. (2014) Foraging flight distances of wintering ducks and geese: a review. *Avian Conservation & Ecology* 9(2).

¹⁸ Mander, L., Nicolson, I., Green, R.M.W., Dodd, S.G., Forster, R.M. and Burton, N.H.K. (2022) Individual, sexual and temporal variation in the winter home range sizes of GPS-tagged Eurasian curlews *Numenius arquata*. *Bird Study* 69(1– 2), p39–52.

infrequently during the breeding season baseline surveys, with most records being of birds simply passing overhead and so not at risk of adverse impacts from the Proposed Development. Lesser black-backed gulls associated with the Ramsar site are those that breed on Flatholm which, at 29.5km from the Site, is located at the edge of mean foraging distance (14.9 ± 15.9 km) for this species (Thaxter *et al.*, 2005¹⁹). It is considered more likely that the gulls recorded in the vicinity of the Site are from the large roof-nesting population that breed in industrial areas in towns such as Newport. Disturbance and displacement impacts on lesser black-backed gulls (whether from the Ramsar site or more locally) are likely to be negligible as a result of construction of the Proposed Development given their tolerance of human activity and generalist foraging behaviour and no identifiable impact can be concluded.

- 6.5.10. For the Severn Estuary SPA, Ramsar site and SSSI, the predicted impacts of the Proposed Development during construction would be temporary short-term and would be of nil or negligible magnitude at the International (SPA and Ramsar) or National (SSSI) scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

Newport Wetlands SSSI (and NNR)

- 6.5.11. The ornithological features listed in the citation for Newport Wetlands SSSI comprise breeding birds (including avocet, redshank, lapwing, water rail, Cetti's warbler, bearded tit, ringed plover and little ringed plover) and wintering species (including shoveler, black-tailed godwit, gadwall, wigeon, shelduck, dunlin, redshank, whimbrel and curlew). The lack of suitable habitat on Site (i.e. an absence of marshes, scrapes, wetlands and reedbeds, etc) preclude there being connectivity with the SSSI for the large majority of listed species.
- 6.5.12. None of the listed ornithological species were recorded during the baseline surveys for the Proposed Development. The desk study data returned occasional records for shelduck, shoveler, wigeon, avocet, redshank and lapwing from the last ten years but all records came from the 2km buffer used in the search, and not from the Site itself. The Site cannot be considered an important area for these species, irrespective of whether the recorded individuals are associated with the SSSI or represent birds from the 'wider countryside' population.
- 6.5.13. The occasional use of watercourses and waterbodies within the 2km buffer (rather than the Site itself) suggests that disturbance or displacement impacts on these species' populations as a result of construction of the Proposed Development would be nil or negligible.
- 6.5.14. For Newport Wetlands SSSI and NNR the predicted impacts of the Proposed Development during construction would be temporary short-term and would be of nil

¹⁹ Thaxter, C.B., Quinn, L., Atkinson, P., Booth Jones, K.A., Clark, N.A., Clewley, G.D., Green, R.M.W., O'Hanlon, N.J., Johnston, D.T., Masden, E.A., Ross-Smith, V.H., Sage, E., Scragg, E., Taylor, R., Burton, N.K.H. & Humpreys, E.H. (2025) Breeding and foraging habitat are important in determining foraging ranges of sympatric generalist species. *Ibis* 168(1), p259–292.

or negligible magnitude at the National scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

Non-statutory Designated Sites

B-Lines

- 6.5.15. The Site is situated directly within the B-Lines non-statutory designation. There will be localised permanent loss of the designated site to facilitate panel footings, access tracks and a substation for the Proposed Development.
- 6.5.16. During construction it is assessed that terrestrial invertebrates may be temporarily disturbed/displaced due to vegetation removal and construction noise. However, all vegetation removal will be minimised as practically as possible.
- 6.5.17. Given the amount of suitable habitat available for pollinator species in the vicinity of the Site and wider landscape and due to the temporary nature of the disturbance/displacement the predicted impact is temporary medium-term minor adverse of negligible magnitude at the Regional scale. This will lead to a potential effect that is **Negligible** and **Not Significant**.

Afon Lwyd Grasslands SINC

- 6.5.18. Afon Lwyd Grasslands SINC are known to support otter, adverse effects on the habitat reasons for designation are scoped out in **Table 6.9**. Therefore, this assessment considers construction effects on and otter only.
- 6.5.19. The size and depth of watercourses located within and adjacent to the Site range from dry ditches and shallow streams to larger streams and rivers with flowing water. The larger watercourses with flowing water, i.e. Candwr Brook and its tributaries, have the potential to support otter which are reason for designation of the SINC.
- 6.5.20. Otter are known to utilise large home ranges, with male ranges sometimes exceeding 30km and incorporating several typically smaller female territories. As such, otter using the Afon Lwyd Grasslands SINC may also utilise watercourses connected to the Site including Afon Lwyd, Canwdr Brook and their tributaries.
- 6.5.21. 12 watercourse crossings and 11 locations for horizontal direction drilling (HDD) will be required to facilitate access and cabling for the Proposed Development. Watercourse crossings will be constructed and designed to ensure the flow of water is not disrupted and to allow for mammal passage. It is anticipated that otter would readily pass through the new watercourse crossing structure; as such, it is not anticipated that the watercourse crossing works would result in the restriction of otter foraging and commuting habitat.
- 6.5.22. As part of embedded measures, the following will be implemented: standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution

Prevention (GPPs)²⁰, buffers of at least 7m, where reasonably practicable, from all ditches and watercourses. The contractor would be required to produce detailed watercourse crossing proposals within the **CEMP**, which would contain the construction details for each proposed watercourse crossing. The **CEMP** must refer to (in the absence of Welsh specific guidance) SEPA guidance, the River Crossings Good Practice Guide²¹. Pre-commencement surveys within four weeks prior to the commencement of works on-site will be undertaken to establish if any new signs/evidence of otter are present within the locality.

- 6.5.23. Should signs of otter presence be confirmed, works in or adjacent to the watercourse will only proceed under suitable mitigation measures as advised by the EcoCoW. Appropriate exclusion zones, as directed by the project ecologist, will be implemented if otter holts or shelters are identified. Exclusion zones will comprise 200m from breeding holts and 30-100m from non-breeding holts and shelters. If deemed necessary by the EcoCoW a Mitigation Licence issued by NRW will be sought.
- 6.5.24. Indirect impacts, for example from construction noise or vibration, may result in disturbance; however, these are anticipated to be short in duration. In the event of a pollution and/or sedimentation incident indirect impacts may occur through injury, mortality or habitat loss/degradation, however, embedded mitigation and best practice measures; drainage management, pollution prevention controls, dust prevention and suppression measures, sediment management and sensitive techniques with regards to construction near water, water quality monitoring (pre, during and post-construction) and the presence of an EcoCoW, would prevent adverse impacts from siltation, chemical pollution and dust deposition.
- 6.5.25. Suitably sized (approximately 20cm x 25cm) gaps or mammal gates would be installed at suitable intervals and locations along the perimeter fence line to allow small mammals, including badgers and otter, free movement across the Proposed Development, providing enhanced opportunities for foraging and refuge within what would be a relatively protected and undisturbed area during operation of the Proposed Development.
- 6.5.26. The predicted impact on Afon Lwyd Grasslands SINC is temporary medium-term minor adverse of medium magnitude at the Local scale. This will lead to a potential effect that is **Minor to Moderate and Not Significant**.

Ancient Semi Natural Woodland SINC

- 6.5.27. Where possible woodlands and trees will be retained and protected in line with BS 5837 (2012) – Trees in Relation to Design, Demolition and Construction. Where ancient

²⁰ <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/>

²¹ Available online at:

https://d3n8a8pro7vhmx.cloudfront.net/yyccares/pages/16/attachments/original/1499142327/SEPA_River_crossings_-_good_practice_guide.pdf?1499142327 (accessed May 2026)

woodland is present, NRW advice will be adhered to, including implementing buffer zones of at least 15m from ancient woodland.

- 6.5.28. However, there will be encroachment into the ancient woodland buffer in one location. There will be no direct impacts to the ancient woodland in this location; the proposals (no dig road) in this location are to use the existing fford to access between Fields 6a and 7b. In doing so, access between these fields is obtained as per current farming practices and negates the need for widening access along this linear feature and partially encroaching into a group of class C2 trees in poor health and poor structural condition.
- 6.5.29. On balance, encroaching into this buffer and the use of a no-dig cellular confinement system to construct the proposed site road within the buffer and installation of underground cabling in accordance with an approved Arboricultural Method Statement will ensure that no loss or deterioration to the ancient woodland is incurred. This is assessed as being a more proportionate approach to safeguarding tree resource than removing a portion of mature established tree line.
- 6.5.30. Utilising access in this location is no change from the current farming practices and vehicular movement (refer to **Appendix 5.10** for further details on the no dig road within the buffer), therefore, the predicted impact on ancient woodland is temporary long-term of negligible magnitude at the National scale. This will lead to a potential effect that is **Negligible and Not Significant**.
- 6.5.31. Further, **Appendix 5.10** confirms there will be no impact to the three veteran trees and on ancient tree features identified within the Site.
- 6.5.32. Implementation of the landscape proposals is discussed in relation to operational effects.

Ponthir Sewage Works SINC

- 6.5.33. The summary information for Ponthir Sewage Works SINC describes the site as comprising lowland grassland, woodland, open standing water and wetland, and provides a description of the 'significant assemblage of species' it supports, which includes the following birds: owls [species unspecified], snipe, blackcap, linnet, goldeneye, sandpiper [species unspecified], green woodpecker, goshawk, goosander and kingfisher. Further details are not provided and the SINC is taken here as supporting both an assemblage of breeding species (e.g. blackcap and green woodpecker) and wintering species (e.g. goldeneye and goosander).
- 6.5.34. The sewage works borders the SINC on its north side, whilst the Afon Lwyd watercourse borders the site to the south. To the west of the SINC and on the south side of the Afon Lwyd lie urban residential and industrial areas. One of the fields on-Site (a short sward pasture field during baseline surveys) adjoins the wooded edge of the SINC boundary in the north-east for approximately 65m.
- 6.5.35. Birds nesting within the SINC but close enough to construction works to potentially be exposed to disturbance impacts (e.g. Schedule 1 listed goshawk) would be protected

through embedded mitigation, including pre-construction checks and the enforcing of protection buffers around active nests.

- 6.5.36. The Proposed Development would not directly impact the habitats within the boundary of the designated area and so any potential impacts would only occur if ornithological features associated with the SINC also frequently use the habitats within the Site and the construction of the Proposed Development prevents the continued use of this resource. Only some bird species associated with the SINC are considered likely to utilise fields within the Site and so be potentially impacted. Of the species listed in the summary information for the SINC these would be tawny owl, snipe, linnet and green woodpecker. The baseline surveys for the Proposed Development recorded all four of these species. For the purposes of this impact assessment a precautionary approach is used that assumes the relevant species recorded on-Site are associated with the designated area, even though parts of the Site are over 2km distant and any individuals present in these areas are highly unlikely to contribute to the ornithological assemblage of the SINC.
- 6.5.37. The listed species would not breed within the fields of the Site but may use them for foraging. The use of on-Site fields depends on them supporting favourable habitat for each specific species: for example owls require rough grassland whilst green woodpeckers require a short sward, snipe would use the fields only when wet or waterlogged, and linnet favour arable fields over pasture. Species currently present in the vicinity of the Site therefore need to adapt to rotational changes in field land use, as the location of fields that provide suitable habitat will change within, and between, years. Temporary avoidance of parts of the Site during construction of the Proposed Development should be regarded in this context.
- 6.5.38. For Ponthir Sewage Works SINC the predicted impacts of the Proposed Development during construction would be temporary short-term and would have a low magnitude impact at the Local scale. This would lead to a potential effect that is **Minor Adverse and Not Significant**.

Afon Llwyd SINC

- 6.5.39. Afon Lwyd SINC is known to support otter, this assessment considers construction effects on and otter only.
- 6.5.40. The size and depth of watercourses located within and adjacent to the Site range from dry ditches and shallow streams to larger streams and rivers with flowing water. The larger watercourses with flowing water, i.e. Candwr Brook and its tributaries, have the potential to support otter which are reason for designation of the SINC.
- 6.5.41. Otter are known to utilise large home ranges, with male ranges sometimes exceeding 30km and incorporating several typically smaller female territories. As such, otter using the Afon Lwyd SINC may also utilise watercourses connected to the Site including Afon Lwyd, Canwdr Brook and their tributaries.
- 6.5.42. 12 watercourse crossings and 11 locations for HDD will be required to facilitate access and cabling for the Proposed Development. Watercourse crossings will be constructed

and designed to ensure the flow of water is not disrupted and to allow for mammal passage. It is anticipated that otter would readily pass through the new watercourse crossing structure; as such, it is not anticipated that the watercourse crossing works would result in the restriction of otter foraging and commuting habitat.

- 6.5.43. As part of embedded measures, the following will be implemented; standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution Prevention (GPPs)²², buffers of at least 10m, where reasonably practicable, from all ditches and watercourses. The contractor would be required to produce detailed watercourse crossing proposals within the **CEMP**, which would contain the construction details for each proposed watercourse crossing. The **CEMP** must refer to (in the absence of Welsh specific guidance) SEPA guidance, the River Crossings Good Practice Guide. Pre-commencement surveys within four weeks prior to the commencement of works on-site will be undertaken to establish if any new signs/evidence of otter are present within the locality.
- 6.5.44. Should signs of otter presence be confirmed, works in or adjacent to the watercourse will only proceed under suitable mitigation measures as advised by the EcoCoW. Appropriate exclusion zones, as directed by the project ecologist, will be implemented if otter holts or shelters are identified. Exclusion zones will comprise 200m from breeding holts and 30-100m from non-breeding holts and shelters. If deemed necessary by the EcoCoW a Mitigation Licence issued by NRW will be sought.
- 6.5.45. Indirect impacts, for example from construction noise or vibration, may result in disturbance; however, these are anticipated to be short in duration. In the event of a pollution and/or sedimentation incident indirect impacts may occur through injury, mortality or habitat loss/degradation, however, embedded mitigation and best practice measures; drainage management, pollution prevention controls, dust prevention and suppression measures, sediment management and sensitive techniques with regards to construction near water, water quality monitoring (pre, during and post-construction) and the presence of an EcoCoW, would prevent adverse impacts from siltation, chemical pollution and dust deposition.
- 6.5.46. Suitably sized (approximately 20cm x 25cm) gaps or mammal gates would be installed at suitable intervals and locations along the perimeter fence line to allow otter, free movement across the Proposed Development, providing enhanced opportunities for foraging and refuge within what would be a relatively protected and undisturbed area during operation of the Proposed Development.
- 6.5.47. The predicted impact on Afon Lwyd SINC is temporary medium-term minor adverse of medium magnitude at the Local scale. This will lead to a potential effect that is **Minor to Moderate and Not Significant**.

²² Available online at: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/> (accessed May 2026)

Llantarnam Abbey Bat Roost SINC

- 6.5.48. No direct impacts to Llantarnam Abbey Bat Roost are proposed, however, the Proposed Development is situated within the core sustenance zone (2 km) for lesser horseshoe bat roosts, for which Llantarnam Abbey Bat Roost is designated.
- 6.5.49. Lesser horseshoe bat was recorded during baseline bat activity surveys undertaken with the Site. 0.8% of total bat passes recorded during the baseline NBW and 0.2% of the total bat passes recorded during automated bat activity surveys were attributed to lesser horseshoe bat.
- 6.5.50. It is not known if the individuals using the Site are associated with Llantarnam Abbey Bat Roost.
- 6.5.51. Lesser horseshoe fly close to the ground and along building edges until reaching hedgerows or tree lines, which they then follow en route to woodland habitats where they forage.
- 6.5.52. When traveling between foraging areas, the species demonstrates a preference for wooded linear features, with open areas being less favoured; accordingly, within the Site, it is considered likely that the species would utilise boundary features.
- 6.5.53. Hedgerow and tree line habitats will be almost entirely retained and protected with buffer zones of at least 5m, with the exception of small-scale removal/ widening required to permit Site access at 27 locations and totalling 161.5m with no individual length of removal greater than 18m.
- 6.5.54. Through the embedded mitigation, as set out in the **oCEMP** measures will be implemented to ensure any lighting, if required, is directed away from boundary habitats including hedgerows, woodland edge and watercourses to ensure no disruption to bat commuting routes.
- 6.5.55. Taking into account the small scale of hedgerow removal, embedded stand-off zones and light spill prevention measures embedded within the **oCEMP** it is concluded that the construction of the Proposed Development will have no discernible effect on bat reasons for designation.
- 6.5.56. Minor hedgerow removal will result in no measurable (negligible) effects upon Llantarnam Abbey Bat Roost SINC.
- 6.5.57. Llantarnam Abbey Bat Roost SINC is also known to support otter, the size and depth of watercourses located within and adjacent to the Site range from dry ditches and shallow streams to larger streams and rivers with flowing water. The larger watercourses with flowing water, i.e. Candwr Brook and its tributaries, have the potential to support otter which are reason for designation of the SINC.
- 6.5.58. Otter are known to utilise large home ranges, with male ranges sometimes exceeding 30km and incorporating several typically smaller female territories. As such, otter using

the ground of Llantarnam Abbey Bat Roost SINC may also utilise watercourses connected to the Site including Afon Lwyd, Canwdr Brook and their tributaries.

- 6.5.59. 12 watercourse crossings and 11 locations for HDD will be required to facilitate access and cabling for the Proposed Development. Watercourse crossings will be constructed and designed to ensure the flow of water is not disrupted and to allow for mammal passage. It is anticipated that otter would readily pass through the new watercourse crossing structure; as such, it is not anticipated that the watercourse crossing works would result in the restriction of otter foraging and commuting habitat.
- 6.5.60. As part of embedded measures, the following will be implemented; standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution Prevention (GPPs), buffers of at least 10m, where reasonably practicable, from all ditches and watercourses. The contractor would be required to produce detailed watercourse crossing proposals within the **CEMP**, which would contain the construction details for each proposed watercourse crossing. The **CEMP** must refer to (in the absence of Welsh specific guidance) SEPA guidance, the River Crossings Good Practice Guide. Pre-commencement surveys within four weeks prior to the commencement of works on-site will be undertaken to establish if any new signs/evidence of otter are present within the locality.
- 6.5.61. Should signs of otter presence be confirmed, works in or adjacent to the watercourse will only proceed under suitable mitigation measures as advised by the EcoCoW. Appropriate exclusion zones, as directed by the project ecologist, will be implemented if otter holts or shelters are identified. Exclusion zones will comprise 200m from breeding holts and 30-100m from non-breeding holts and shelters. If deemed necessary by the EcoCoW a Mitigation Licence issued by NRW will be sought.
- 6.5.62. Indirect impacts, for example from construction noise or vibration, may result in disturbance; however, these are anticipated to be short in duration. In the event of a pollution and/or sedimentation incident indirect impacts may occur through injury, mortality or habitat loss/degradation, however, embedded mitigation and best practice measures; drainage management, pollution prevention controls, dust prevention and suppression measures, sediment management and sensitive techniques with regards to construction near water, water quality monitoring (pre, during and post-construction) and the presence of an EcoCoW, would prevent adverse impacts from siltation, chemical pollution and dust deposition.
- 6.5.63. Suitably sized (approximately 20cm x 25cm) gaps or mammal gates would be installed at suitable intervals and locations along the perimeter fence line to allow otter, free movement across the Proposed Development, providing enhanced opportunities for foraging and refuge within what would be a relatively protected and undisturbed area during operation of the Proposed Development.
- 6.5.64. The predicted impact on Llantarnam Abbey Bat Roost SINC is temporary long-term minor adverse of low magnitude at the Local scale. This will lead to a potential effect that is **Minor Adverse and Not Significant**.

- 6.5.65. Implementation of the landscape design is discussed in relation to operational impacts.

Habitats of Principal Importance

Woodland, wet woodland and lowland mixed deciduous woodland

- 6.5.66. Where possible woodland and trees will be retained and protected in line with BS 5837 (2012) – Trees in Relation to Design, Demolition and Construction, however there will be removal of 25 individual trees to permit Site access.

- 6.5.67. Given the retention of woodland, small-scale removal consistent with existing accesses and considering the abundance of woodland within the locality. The predicted impact is permanent long-term minor adverse of low magnitude at the Regional scale. This will lead to a potential effect that is **Minor to Moderate adverse** and **Not Significant**.

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

Freshwater and rivers

- 6.5.69. All ponds within the Site will be retained and protected throughout construction of the Proposed Development, with embedded best practice pollution prevention measures outlined within the **oCEMP** and **SWMP** (to be secured through the **CEMP** by condition). No hydrological impacts are anticipated that may affect the hydrological functioning of ponds within or immediately outside of the Site.

- 6.5.70. There are no main rivers within the Site, as part of embedded mitigation measures, buffers of at least 7m, where reasonably practicable, from all ordinary watercourses will be implemented during construction. Standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution Prevention (GPPs)^{Error! Bookmark not defined.} will be employed.

- 6.5.71. 12 watercourse crossings and 11 locations for HDD will be required to facilitate access and cabling for the Proposed Development. Prior to the commencement of works, the contractor would be required to produce detailed watercourse crossing proposals within the **CEMP**, which would contain the construction details for each proposed watercourse crossing. The **CEMP** must refer to (in the absence of Welsh specific guidance) SEPA guidance, the River Crossings Good Practice Guide²³.

- 6.5.72. Given the retention of ponds and embedded mitigation measures to protect watercourses the predicted impact is temporary short-term minor adverse of low magnitude at the Regional scale. This will lead to a potential effect that is **Minor to Moderate adverse** and **Not Significant**.

²³ [SEPA_River_crossings_-_good_practice_guide.pdf](#)

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

Farmland

- 6.5.74. Newport City Council include farmland within their list of priority habitats for the region. Newport City Council does not provide any further information on the definition of farmland, however, it is assumed to be in relation to the Section 7 HPI traditionally managed arable land.
- 6.5.75. Fields within the Site were recorded as in use for crop cultivation, specifically fields to the northwest and within the centre of the Site near to Shaftesbury Farm.
- 6.5.76. Under traditional agricultural management, arable fields supported a wide range of arable weeds. Species recorded within the cropland habitats comprised oilseed rape, pepper weed, brassica crop, barley, mayweed and the remnants of fallow crop.
- 6.5.77. With reference to the threatened arable plants identification guide (Plantlife, 2024), the illustrated guide to rare plants on arable land (Natural England, 2010) and the arable plants survey form (Plantlife, 2015) no species recorded are listed on these documents.
- 6.5.78. Therefore, the cropland within the Site is not assessed as supporting important arable plants or being traditionally managed arable land.
- 6.5.79. The predicted impact is temporary long-term negligible adverse of negligible magnitude at the Local scale. This will lead to a potential effect that is **Negligible and Not Significant**.

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

Lowland grassland

- 6.5.81. Newport City Council include lowland grassland within their list of priority habitats for the region. Newport City Council does not provide any further information on the definition of lowland grassland, however, it is assumed to be in relation to the Section 7 HPI; lowland acid grassland, lowland calcareous grassland, lowland marshy grassland and lowland fen.
- 6.5.82. Of these lowland grassland types none were recorded within the Site during the UKHabitat Classification survey.
- 6.5.83. The predicted impact is temporary long-term negligible adverse of negligible magnitude at the Local scale. This will lead to a potential effect that is **Negligible and Not Significant**.
- 6.5.84. Implementation of the landscape proposals is discussed in relation to operational effects.

Hedgerows

6.5.85. Hedgerow habitats within the Site will be retained and protected with buffer zones of at least 5m, with the exception of small-scale removal/ widening (for locations refer to **Appendix 5.10**) required to permit Site access at 27 locations and totalling 161.5m with no individual length of removal greater than 18m.

6.5.86. Given the retention and small-scale hedgerow removal consistent with existing accesses the predicted impact is permanent long-term minor adverse of low magnitude at the Regional scale. This will lead to a potential effect that is **Minor to Moderate adverse** and **Not Significant**.

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

Coastal and floodplain grazing marsh

6.5.88. An area of coastal floodplain grazing marsh²⁴, approximately 4.03 ha, is located at the southern extent of the Site, adjacent to the Afon Lwyd. This area was noted to be in a degraded condition due the lack of pools, ditches and bird assemblage.

6.5.89. No infrastructure is proposed to be constructed within this area of coastal floodplain grazing marsh, therefore, the predicted impact is permanent long-term negligible magnitude at the Regional scale. This will lead to a potential effect that is **Negligible** and **Not Significant**.

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

Traditional orchard

6.5.91. DataMap Wales returned a record of traditional orchard within the Site, at land at Shaftesbury Farm, located to the west of Court Farm Reservoir along Candwr Road. The DataMap Wales record states that the HPI may be present, however, evidence is insufficient to determine presence confidently and that it is a possible remnant of traditional orchard. Direct access to this land was not possible at the time of survey.

6.5.92. This area of potential traditional orchard was surveyed from a vantage point and supplemented by a review of aerial imagery. The area mapped as traditional orchard, by DataMap Wales, comprises modified grassland and native hedgerow with trees along the field boundary line. It is assessed that this area is likely to be relict traditional orchard and does not qualify as prime traditional orchard or meet the minimum size of traditional orchard.

6.5.93. It is proposed to lay cable route adjacent the hedgerow in this location, within the area highlighted as traditional orchard. However, as discussed above this area does not

²⁴ Utilising UKHabitat Classification this area has been mapped as 'g3c Other neutral grassland' with a secondary code of '19 – coastal floodplain grazing marsh'.

qualify as prime traditional orchard, therefore, no adverse impacts on traditional orchard are anticipated as a result of construction of the Proposed Development.

- 6.5.94. Therefore, the predicted impact on traditional orchard is temporary long-term negligible magnitude at the Regional scale. This will lead to a potential effect that is **Negligible** and **Not Significant**.

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

Ancient woodland

- 6.5.96. Where possible woodlands and trees will be retained and protected in line with BS 5837 (2012) – Trees in Relation to Design, Demolition and Construction. Where ancient woodland is present, NRW advice will be adhered to, including implementing buffer zones of at least 15m from ancient woodland.

- 6.5.97. However, there will be encroachment into the ancient woodland buffer in one location. There will be no direct impacts to the ancient woodland in this location; the proposals in this location are to use the existing fford between Field 6a and 7b. In doing so, access between these fields is obtained as per current farming practices and negates the need for widening access along this linear feature and partially removing a group of class C2 trees in poor health and poor structural conditions (refer to **Appendix 5.10** for further details on the no dig road within the ancient woodland buffer).

- 6.5.98. On balance, encroaching into this buffer is assessed as being a more proportionate approach to safeguarding tree resource than removing a portion of mature established tree line.

- 6.5.99. Utilising access in this location is no change from the current farming practices and vehicular movement, therefore, the predicted impact on ancient woodland is temporary long-term negligible of negligible magnitude at the National scale. This will lead to a potential effect that is **Negligible** and **Not Significant**.

- 6.5.100. Further, **Appendix 5.10** confirms there will be no impact to the three veteran trees and one ancient tree identified within the Site.

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

Other On-Site Habitats

- 6.5.102. Habitats within the Site generally comprise neutral grassland and modified grassland with grassland margins typical of the region. Grassland field margins offer value for a range of species and can form important networks of habitat to enable a wide range of species to traverse the landscape. Additionally, the Site also encompasses areas of scrub and woodland of which are higher value to biodiversity.

- 6.5.103. The Proposed Development has been designed so that the majority of land take resulting from the Proposed Development are to low value habitats, such as arable land and intensively grazed pasture. Higher value habitats, such as woodland, scrub, tree lines, field margin habitats and ditches would largely be retained and protected throughout construction with the implementation of buffer zones of at least 5m around retained boundary habitats (i.e., other than the minor removal and watercourse crossings discussed above) embedded in the **oCEMP**.
- 6.5.104. The majority of the crop and modified grassland habitats would be subject to permanent loss and/or subject to temporary disturbance during construction. Existing neutral grassland would also be subject to some permanent loss and/or subject to temporary disturbance during construction.
- 6.5.105. 12 watercourse crossings and 11 locations for HDD will be required..
- 6.5.106. The water course crossing solution will be developed at detailed design and will depend on the specific engineering requirements.
- 6.5.107. Horizontal directional drill crossings will require only short term and temporary works with no permanent above ground infrastructure remaining on completion.
- 6.5.108. The **oCEMP** also includes embedded mitigation to protect retained habitats and best practice pollution prevention measures to protect watercourses, ditches and ponds within the Site.
- 6.5.109. Given the retention of high value habitats, and the Proposed Development location, within mostly low value arable land, the construction of the Proposed Development, which is temporary and expected to last approximately 12 – 18 months, the predicted impacts of the Proposed Development during the construction phase would be temporary long-term and would be of low magnitude at the Site scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.
- 6.5.110. Implementation of the landscape proposals is discussed in relation to operational effects.

CHEGD fungi

- 6.5.111. Guidance by Bosanquet *et al.* (2018) gives a list of CHEGD species, which if present count towards a score used to assess grassland fungi sites (for SSSI selection).
- 6.5.112. Bosanquet *et al.* (2018) advise that a site should be considered for notification if the total score for *Hygrocybe* is 19 or higher, or if it reaches seven or above for *Clavaroids*, 15 or above for *Geoglossoids*, or three or above for *Dermoloma*, *Camarophylloopsis*, *Hodophilus* and *Porpoloma*.
- 6.5.113. In comparison, of the named species within the Survey Area there are five *Clavaroids*, one *Hygrocybe*, one *Entoloma*, two *Geoglossoids* and one *Dermoloma*. More CHEGD fungi were detected in the soil samples, but these DNA sequences could not be

assigned to a named species and so it is unknown how many more might score according to Bosanquet *et al.* (2018).

- 6.5.114. It is therefore concluded that CHEGD fungi do occur within the Survey Area. However, there was not sufficient evidence to suggest that the Survey Area supports a notably diverse assemblage of CHEGD fungi and no priority species were confirmed as present within the red line boundary of the Site.
- 6.5.115. The predicted impacts of the Proposed Development during the construction phase would be temporary short-term and would be of negligible magnitude at the Local scale. This would lead to a potential effect that is **Negligible and Not Significant**.

Species and species groups

Ground-nesting birds

- 6.5.116. During the construction phase there is potential for displacement of breeding birds through direct loss of available habitat or avoidance of construction works by nesting or foraging birds. Such impacts are most likely to occur to any ground-nesting species that have been shown to breed within the fields of the Site (i.e. where the large majority of construction works would be required). The BBS recorded two such species, skylark and yellow wagtail.
- 6.5.117. Embedded mitigation includes for undertaking construction works outside the breeding season (March to August), where reasonably practicable. Where construction would need to take place during the breeding season, embedded mitigation measures include pre-work checks for nesting birds by an EcoCoW. An appropriate buffer around identified nests would be set up, if required, in which works would be restricted whilst the nest remains active. These measures would minimise the likelihood of damage or loss of nests during construction.
- 6.5.118. Should the timing of construction result in ground-nesting birds being prevented from nesting (i.e. in the event that construction within the part of the Site where skylark and yellow wagtail breed coincides with the early breeding season when birds set up territory) there is potential for no breeding to take place within the Site in that year. In this instance it is most likely that these birds would relocate, given local breeders must adapt already to field type/ local farm management changes under baseline conditions, and these species are dispersive or migratory and so capable of moving to areas of most favourable habitat. At most, construction displacement impacts would affect one breeding season which would have a short-lived impact on the local population of passerine species.
- 6.5.119. The predicted impacts of the Proposed Development during the construction phase would be temporary short-term and would be of low magnitude at the Local scale. This would lead to a potential effect that is **Minor Adverse and Not Significant**.

Breeding bird assemblage

- 6.5.120. Excluding skylark and yellow wagtail, eleven other Priority Species of bird were recorded as holding breeding territories on Site, with these species all associated with hedges, trees or gardens: dunnock, song thrush, chaffinch, goldcrest, house sparrow, spotted flycatcher, green woodpecker, magpie, whitethroat, greenfinch and willow warbler. Seven of these species were represented by three or fewer pairs and only dunnock (13), song thrush (12) and chaffinch (11) were estimated as having more than ten pairs. The breeding community of birds is considered to have low (local) value only.
- 6.5.121. Embedded mitigation includes for undertaking construction works outside the breeding season (March to August), where reasonably practicable. Where construction would need to take place during the breeding season, embedded mitigation measures include pre-work checks for nesting birds by an EcoCoW. An appropriate buffer around identified nests would be set up, if required, in which works would be restricted whilst the nest remains active. These measures would minimise the likelihood of damage or loss of nests during construction.
- 6.5.122. There would be only a small loss of hedgerows and trees during construction of the Proposed Development, with these features to be retained as much as possible. In total 161.5m of hedgerow would be removed (with no more than 18m removed at any one location) and 25 individual trees. For locations of removal refer to **Appendix 5.10**.
- 6.5.123. The predicted impacts of the Proposed Development during the construction phase would be temporary and short-term for disturbance and also for displacement for most species (permanent for displacement only where hedgerow/tree removal coincides with a breeding territory) and would be of low magnitude at the Local scale. This would lead to a potential effect that is **Minor Adverse** and **Not Significant**.

Bats (commuting and foraging)

- 6.5.124. The most valuable habitats within the Site for foraging and commuting bats, including hedgerows, tree lines, ponds ditches and watercourses would be retained and protected with habitat protection buffers of at least 5m, with the exception of small-scale removal/widening of existing access (totaling approximately 161.5m cumulatively with no individual length of removal greater than 18m) required for access.
- 6.5.125. As any individual length of hedgerow removal would likely be no greater than 18m, the hedgerow removal proposed would not result in the loss of linear foraging habitat or potential commuting routes.
- 6.5.126. Construction works would take place 08.00 to 18.00 hrs Monday to Friday and 08:00 to 13:00 hrs Saturday; as such, during the main active season (predominantly from April to October), works would not be undertaken during times when bats are typically commuting/foraging. Works during periods of low light during construction working hours would be throughout the winter months, during which bats would be hibernating. As such, indirect impacts from noise and lighting are anticipated to be minimal.
- 6.5.127. It is considered that the acoustic sensitivity of the receiving environment is not high; background daytime noise levels are typically ~42–45 dB LA90 across the Site, influenced by traffic noise in local area. Activities that have potential to cause higher

levels of noise associated with the construction of the Proposed Development (including CFA piling and movement and activity of HGVs and plant installing the solar arrays) would result in highest likely noise levels during the Solar installation. However, considering the presence of traffic noise and the regular movement of plant entering and exiting the water and waste water treatment works, additional disturbance on foraging and commuting bats resulting from construction of the Proposed Development is considered to be nugatory.

- 6.5.128. The locations of the substation are of similar value to foraging and commuting bats.
- 6.5.129. The **oCEMP** will include a sensitive lighting strategy, which would ensure that features of value for foraging and commuting bats would not be subject to additional lighting during construction of the Proposed Development.
- 6.5.130. Given the implementation of embedded mitigation measures, construction of the Proposed Development is unlikely to have any discernible effect on foraging and commuting bats. As such, the predicted impacts of the Proposed Development during the construction phase would be short-term temporary and would be of negligible magnitude at the Regional scale. This would lead to a potential effect that is **Negligible and Not Significant**.

Badger

- 6.5.131. During the baseline surveys one active small main sett or annexe badger sett was identified along the banks of a watercourse.
- 6.5.132. A 30m buffer around the badger sett has been designed into the Proposed Development. This buffer zone would be demarcated to protect the sett from disturbance (i.e. noise and vibration) throughout the construction phase.
- 6.5.133. Given the existing baseline levels of disturbance from agricultural practices, the short timescales of works in any given locality, and taking into account NRW guidance²⁵, it is not considered that fencing or panel installation within 30 m of a sett would result in disturbance to badger beyond a trivial level and would not require a licence.
- 6.5.134. Embedded mitigation measures to safeguard badger would be implemented during construction, including, pre-work checks by an EcoCoW. An appropriate buffer around the identified sett and construction safeguards to avoid entrapment.
- 6.5.135. All works would be legislatively compliant with regards to the Protection of Badgers Act 1992. The requirement for a development licence is considered unlikely when taking into account embedded mitigation and safeguarding measures listed above.

²⁵ Natural Resources Wales (2023). Badgers – A Guide for Developers. Available at: [Heading 1](#)

- 6.5.136. The predicted impacts of the Proposed Development during the construction phase would be short-term temporary and would be of negligible magnitude at the Local scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

Hazel dormouse

- 6.5.137. Minor / localised sections of hedgerow with no length over 18m in length (totalling 161.5m in 27 locations) are proposed to be removed to facilitate the development.

- 6.5.138. No records of dormouse were returned from within 2km of the Site, however, the Site is located within the known distribution range for dormouse²⁶. Targeted dormouse surveys have not been undertaken to inform the design, this is due to the fact that during the Extended UKHabitat Classification survey hedgerows throughout the Site were noted to be suitable to support dormouse nesting and feeding.

- 6.5.139. It is assessed that there is suitable habitat to support dormouse, however, potential impacts of killing and injury during site clearance will be mitigated using the 'persuasion' approach (Bright *et al*, 2006). This approach is suitable for where:

- Less than 100m of hedgerow will be removed – as long as the remaining habitat is linked to a larger suitable dormouse habitat.
- Less than a 50m wide strip of woodland will be removed – as long as the remaining habitat is linked to a larger suitable dormouse habitat.

- 6.5.140. Given the localised removal, implementation of embedded mitigation measures and the 'persuasion' approach construction of the Proposed Development is unlikely to have any discernible effect on dormouse. The predicted impacts of the Proposed Development during the construction phase would be short-term temporary and would be of negligible magnitude at the Regional scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

Otter

- 6.5.141. No signs or evidence of otter were recorded during the field surveys, however, the size and depth of watercourses located within and adjacent to the Site range from dry ditches and shallow streams to larger streams and rivers with flowing water. The larger watercourses with flowing water, i.e. Candwr Brook and its tributaries, have the potential to support otter commuting, foraging and resting.

- 6.5.142. Otter are known to utilise large home ranges, with male ranges sometimes exceeding 30km and incorporating several typically smaller female territories. As such, otter using the Afon Wysg SAC may also utilise watercourses within the Site, connected to the SAC including Afon Lwyd, Canwdr Brook and their tributaries.

²⁶ People's Trust for Endangered Species (2018). Current dormouse distribution in the UK. Available at: [Hazel dormice range and distribution in the UK](#).

- 6.5.143. 12 watercourse crossings and 11 locations for HDD will be required to facilitate access and cabling for the Proposed Development.
- 6.5.144. Given the requirement for watercourse crossing works and presence of suitable watercourses including Afon Lwyd and Candwr Brook located within and adjacent to the Site, it is considered that there is the potential to adversely impact upon otter through temporary habitat loss, temporary severance of commuting routes, direct mortality of individuals and indirect disturbance.
- 6.5.145. As part of embedded measures, the following will be implemented; standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution Prevention (GPPs), where construction works are required directly within or within 30m of a watercourse, construction works would be preceded by a pre-construction otter survey which would be completed by a suitably qualified ecologist immediately prior to the commencement of construction works, to determine the presence of the species within the working area. The results of this pre-construction check would inform any protection and/or mitigation requirements, and secured by the **oCEMP**. Furthermore, works would be undertaken following PWMS, as outlined within the **oCEMP**. These measures would ensure no direct impacts to otter.
- 6.5.146. A sensitive lighting strategy would be implemented during the construction phase, as detailed within the **oCEMP**; no works will take place between sunset and sunrise (i.e. no night time working) within 50m of any watercourses and any lighting will be directed away from the watercourses and associated terrestrial habitats.
- 6.5.147. Watercourse crossings will be constructed and designed to ensure the flow of water is not disrupted and to allow for mammal passage. It is anticipated that otter would readily pass through the new watercourse crossing structure; as such, it is not anticipated that the watercourse crossing works would result in the fragmentation of otter foraging and commuting habitat.
- 6.5.148. Should signs of otter presence be confirmed, works in or adjacent to the watercourse will only proceed under suitable mitigation measures as advised by the EcoCoW. Appropriate exclusion zones, as directed by the project ecologist, will be implemented if otter holts or shelters are identified. Exclusion zones will comprise 200m from breeding holts and 30-100m from non-breeding holts and shelters. If deemed necessary by the EcoCoW a Mitigation Licence issued by NRW will be sought.
- 6.5.149. Indirect impacts, for example from construction noise or vibration, may result in disturbance; however, these are anticipated to be short in duration. In the event of a pollution and/or sedimentation incident indirect impacts may occur through injury, mortality or habitat loss/degradation, however, embedded mitigation and best practice measures; drainage management, pollution prevention controls, dust prevention and suppression measures, sediment management and sensitive techniques with regards to construction near water, water quality monitoring (pre, during and post-construction) and the presence of an EcoCoW, would prevent adverse impacts from siltation, chemical pollution and dust deposition.

- 6.5.150. With the implementation of embedded mitigation, the predicted impact is temporary short-term of negligible magnitude at the Regional scale. This will lead to a potential effect that is **Negligible** and **Not Significant**.

Fish

- 6.5.151. Embedded mitigation includes buffers of at least 7m from all watercourses with the exception of 12 watercourse crossings and 11 locations for HDD. .
- 6.5.152. Construction of the Proposed Development has the potential to impact upon fish through habitat loss, direct mortality and indirect disturbance.
- 6.5.153. Standard measures to ensure runoff control and pollution prevention to be implemented via the **oCEMP** would also avoid significant impacts on fish populations, if present.
- 6.5.154. Indirect impacts, for example from construction noise or vibration, may result in disturbance; however, these are anticipated to be short in duration.
- 6.5.155. It is anticipated that fish would readily pass through proposed new or upgraded structures; as such, it is not anticipated that the new or upgraded ditch crossings would result in the fragmentation of fish habitat.
- 6.5.156. The predicted impact is temporary short-term adverse of low magnitude at the Regional scale. This will lead to a potential effect that is **Minor to Moderate** adverse which is **Not Significant**.

Aquatic invertebrates

- 6.5.157. Embedded mitigation includes buffers of at least 7m from all watercourses, with the exception of 12 watercourse crossings and 11 locations for HDD. .
- 6.5.158. Construction of the water course crossings to facilitate the Proposed Development has the potential to impact upon aquatic invertebrates through habitat loss, direct mortality and disturbance.
- 6.5.159. Standard measures to ensure runoff control and pollution prevention to be implemented via the **oCEMP** would also avoid significant impacts on aquatic invertebrate populations, if present.
- 6.5.160. The predicted impact is temporary short-term adverse of low magnitude at the Local scale. This will lead to a potential effect that is **Minor adverse** which is **Not Significant**

Terrestrial invertebrates

- 6.5.161. During construction it is assessed that terrestrial invertebrates may be temporarily disturbed/displaced due to vegetation removal and construction noise. However, all vegetation removal will be minimised as practically as possible.

- 6.5.162. Given the amount of suitable habitat available for pollinator species in the vicinity of the Site and wider landscape and due to the temporary nature of the disturbance/displacement the predicted impact is temporary short-term of negligible magnitude at the Local scale. This will lead to a potential effect that is **Negligible** and **Not Significant**.

Effects during Operation

- 6.5.163. Operational effects are defined as effects following the construction of the Proposed Development. Effects may be for the entire duration of the operational lifetime or be temporary and short-term in nature. Some effects may reduce with habituation or remain for the lifetime of the Proposed Development.
- 6.5.164. Potential operational phase impacts associated with the Proposed Development are considered to relate to:
- Implementation of landscaping and habitat creation as part of the Indicative Landscape Strategy;
 - Displacement of ground nesting bird species;
 - Behavioural changes associated with the presence of panels;
 - Disturbance and incidental impacts associated with routine maintenance (e.g., grass and hedgerow cutting);
 - Glint and glare affecting birds overflying the Site during the day and artificial lighting affecting birds and bats at night; and
 - Noise emissions from inverters, transformers, and the substation.
- 6.5.165. There are no additional operational impacts relating to land take other than those already addressed under construction.
- 6.5.166. Maintenance of a solar farm is generally limited to routine cleaning using a soft brush and water and ongoing maintenance of landscaping, habitats and green infrastructure. Occasional repairs and/ or replacements may also be required in the event of faulty or damaged equipment.

Statutory Designated Sites

Severn Estuary SPA, SSSI and Ramsar Site

- 6.5.167. As set out under the assessment of construction impacts, the qualifying features listed in the citation for the Severn Estuary SPA comprise non-breeding populations of Bewick's swan, European white-fronted goose, dunlin, redshank, shelduck, gadwall, curlew, pintail and ringed plover, as well as the waterfowl assemblage. The Ramsar site designation additionally includes breeding lesser black-backed gull and the SSSI citation additionally adds non-breeding snipe, knot and turnstone.

- 6.5.168. Impacts during the operational phase would only occur where qualifying species from the designated areas also utilise habitats within the vicinity of the Site, potentially leading to disturbance and displacement impacts. However, the lack of suitable habitats on Site (i.e. an absence of marshes, mudflats and intertidal areas) preclude there being connectivity with the SSSI for the large majority of listed species. In addition, the separation distance (8.5km) is greater than foraging distance for most qualifying features, e.g. waterfowl (geese and dabbling ducks) have an average winter foraging flight distance of 4.2 ± 3.2 km (Johnson *et al.*, 2014) and curlew (used here as an example of a large wader that may commute inland) has a maximum foraging distance of 3.5km (Mander *et al.*, 2022).
- 6.5.169. This is evidenced in the baseline survey data for the Proposed Development, with snipe and mallard the only qualifying wader or waterfowl species (or assemblage component species) that were recorded during the WBS; albeit only occasionally and in small numbers. The desk study data returned occasional records of redshank, lapwing, white-fronted goose, shelduck, wigeon, teal, pochard, tufted duck, mallard and shoveler from within the search area (Site plus 2km) within the last ten years., but these were mostly from the buffer and not from within the Site itself. The desk study data returned records for three duck species from Ponthir Reservoir (which lies adjacent to the Site) but these species (mallard, teal and tufted duck) are widespread species that would be expected to be present occasionally irrespective of the proximity of the Severn Estuary designated area (i.e. they are considered to be 'wider countryside' not SPA birds). For species with widespread wintering distributions and which may potentially use fields within the Site on occasion (e.g. lapwing (whether 'wider countryside' or SPA birds)) displacement from close proximity of the Proposed Development, due to the presence of panels and other infrastructure, would be expected to have a negligible impact on these mobile species.
- 6.5.170. For all the waterfowl and wader species listed as part of the Severn Estuary designations, any disturbance or displacement impacts on these species' populations as a result of the Proposed Development (operational phase) are considered to be nil or negligible.
- 6.5.171. Based on the typical foraging distances provided above, regular commuting flights over the Site by qualifying species from the designated area would not be expected. Occasional flights overhead may still occur, however, e.g. during spring and autumn migration. It has been hypothesised that the glare from photovoltaic panels can result in birds confusing a solar farm for a waterbody, which could attract waterbirds passing overhead, potentially disrupting migration or leading to collision. However, although this may occur in certain arid/desert regions, a research review did not find strong evidence for the 'lake effect hypothesis' (Anderson *et al.*, 2025)²⁷. The panels of the Proposed Development would be low-profile (<3m in height) and non-intrusive relative to the existing landscape features of hedgerows, trees and buildings, which will help integrate the Proposed Development into the Site and wider area. The Proposed Development

²⁷ Anderson, C.M., Hopkins, A.P. and Anderson, J.T. (2025) Assessing the impact of solar farms on waterbirds: a literature review of ecological interactions and habitat alterations. *Conservation* 5(1).

will, therefore, not provide a novel feature in a uniform landscape as is the case in arid areas where attraction of waterbirds has been noted. Furthermore, the panels themselves would have a non-reflective coating and would have fixed tilt to the south, which would limit the occurrence of glare. A negligible impact is predicted from glint and glare on the listed ornithological features of the designated areas.

- 6.5.172. Lesser black-backed gull was recorded infrequently during the breeding season baseline surveys, with most records being of birds simply passing overhead and so not at risk of adverse impacts from the Proposed Development. Lesser black-backed gulls associated with the Ramsar site are those that breed on Flatholm which, at 29.5km from the Site, is located at the edge of mean foraging distance (14.9 ± 5.9 km) for this species (Thaxter *et al.*, 2005). It is considered more likely that the gulls recorded in the vicinity of the Site are from the large roof-nesting population that breed in industrial areas in towns such as Newport. Disturbance and displacement impacts on lesser black-backed gulls (whether from the Ramsar site or more locally) are likely to be negligible during the operational phase of the Proposed Development given their tolerance of human activity and generalist foraging behaviour and no identifiable impact can be concluded.
- 6.5.173. For the Severn Estuary SPA, Ramsar site and SSSI, the predicted impacts of the Proposed Development during the operational phase would be temporary long-term and would be of nil or negligible magnitude at the International (SPA and Ramsar) and National (SSSI) scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

Newport Wetlands SSSI and NNR

- 6.5.174. The ornithological features listed in the citation for Newport Wetlands SSSI comprise breeding birds (including avocet, redshank, lapwing, water rail, Cetti's warbler, bearded tit, ringed plover and little ringed plover) and wintering species (including shoveler, black-tailed godwit, gadwall, wigeon, shelduck, dunlin, redshank, whimbrel and curlew). The lack of suitable habitat on Site (i.e. an absence of marshes, scrapes, wetlands and reedbeds, etc) preclude there being connectivity with the SSSI for the large majority of listed species.
- 6.5.175. None of the listed ornithological species were recorded during the baseline surveys for the Proposed Development. The desk study data returned occasional records for shelduck, shoveler, wigeon, avocet, redshank and lapwing from the last ten years but all records came from the 2km buffer used in the search, and not from the Site itself. The Site cannot be considered an important area for these species, irrespective of whether the recorded individuals are associated with the SSSI or represent birds from the 'wider countryside' population.
- 6.5.176. The occasional use of watercourses and waterbodies within the 2km buffer of the Site suggests that disturbance or displacement impacts on these species' populations during the operational phase of the Proposed Development would be nil or negligible.

- 6.5.177. Regular commuting flights over the Site by qualifying species from the designated area would not be expected, however occasional flights overhead may still occur e.g. during spring and autumn migration. It has been hypothesised that the glare from photovoltaic panels can result in birds confusing a solar farm for a waterbody, which could attract waterbirds passing overhead, potentially disrupting migration or leading to collision, although a research review did not find strong evidence for the 'lake effect hypothesis' (Anderson et al, 2025). The panels of the Proposed Development would be low-profile (<3m in height) and non-intrusive relative to the existing landscape features of hedgerows, trees and buildings, which will help integrate the Proposed Development into the Site and wider area. The Proposed Development will, therefore, not provide a novel feature in a uniform landscape as is the case in arid areas where attraction of waterbirds has been noted. Furthermore, the panels themselves would have a non-reflective coating and would have fixed tilt to the south, which would limit the occurrence of glare. A negligible impact is predicted from glint and glare on the listed ornithological features of the designated area.
- 6.5.178. For Newport Wetlands SSSI and NNR the predicted impacts of the Proposed Development during the operational phase would be temporary long-term and be of nil or negligible magnitude. This would lead to a potential effect that is **Negligible and Not Significant**.

Non-statutory Designated Sites

B-Lines

- 6.5.179. Habitats which are dominant in the Site comprise agricultural grazed grassland and arable fields. Invertebrates play an important role on agricultural and arable land; supporting food production and farmland ecosystems (control of crop pests, improving health of soil and pollinating crops as well as being a food supply for species such as birds and bats). However, intensive land management and use of pesticides can cause invertebrate populations to decline.
- 6.5.180. Although the operational phase will fragment and partially shade open grassland used by invertebrates, field margins and boundary edges will remain open and can still function as wildlife corridors. In addition, reduced grazing is likely to lessen the impacts of intensive land management and pesticide use, helping to create improved habitat for invertebrates.
- 6.5.181. Furthermore, enhancements for invertebrates are detailed in the **oLEMP**. It is anticipated that invertebrate resource will increase through enhancement of grassland and habitat quality.
- 6.5.182. The predicted impacts of the Proposed Development during the operational phase would be temporary long-term and be of negligible magnitude at the Regional scale. This would lead to a potential effect that is **Negligible and Not Significant**.

Afon Lwyd Grasslands SINC

- 6.5.183. This assessment considers the implementation of landscape proposals on the Afon Lwyd. As part of the biodiversity enhancement proposals for the Proposed Development; eradication, treatment and management of INNS is proposed.
- 6.5.184. Indian balsam and Japanese knotweed were recorded on the banks of the Afon Lwyd, within the designation.
- 6.5.185. These invasive species shade out native species, and during winter months when they die back leave bare banks which can increase sediment input to the watercourse at times of high flow.
- 6.5.186. The treatment, eradication and management of these invasive species will allow native species to re-establish, increasing the biodiversity value of the watercourse and prevent soil erosion during winter high flows; contributing towards overall improvement in water body status.
- 6.5.187. The predicted impact of the Proposed Development during the operational phase would be temporary long-term and would be of low magnitude at the Local scale. This would lead to a potential effect that is **Minor Beneficial** and **Not Significant**.

Ponthir Sewage Works SINC

- 6.5.188. The summary information for Ponthir Sewage Works SINC provides a description of the 'significant assemblage of species' it supports, which includes the following birds: owls [species unspecified], snipe, blackcap, linnet, goldeneye, sandpiper [species unspecified], green woodpecker, goshawk, goosander and kingfisher.
- 6.5.189. The Proposed Development would not impact the habitats within the boundary of the designated area and so any potential impacts would only occur if species associated with the SINC also frequently use the habitats within the Site and the presence of the Proposed Development results in displacement that prevents the continued use of this resource. Only some bird species associated with the SINC are considered likely to utilise fields within the Site and so be potentially impacted. Of the species listed in the summary information for the SINC these would be tawny owl, snipe, linnet and green woodpecker. The baseline surveys for the Proposed Development recorded all four of these species. For the purposes of this impact assessment a precautionary approach is used that assumes the relevant species recorded on-Site are associated with the designated area, even though parts of the Site are over 2km distant and any individuals present in these areas are highly unlikely to contribute to the ornithological assemblage of the SINC.
- 6.5.190. The listed species would not breed within the fields of the Site but may use them for foraging. The use of specific on-Site fields depends on them supporting habitat favourable to the listed species, which under current baseline conditions will vary within and between years. During the operational phase the use of suitable habitat within the Site is expected to continue where this is favourable to a specific species. The evidence suggests that solar farms can hold more farmland birds than on surrounding arable land,

where favourable habitat continues to exist (RSPB, 2025²⁸); although yellowhammer and corn bunting are the species mentioned in this article it is also considered applicable to species such as linnet. Available data also indicates the continued use of the area by owls (The Barn Owl Trust, 2024²⁹; although this reference specifically discusses barn owl it is also considered applicable to tawny owl). A higher abundance of ground-foragers in solar farms compared to grassland control plots has also been proven (Jarcuska *et al*, 2024³⁰), which may be applicable to green woodpecker. Based on this evidence, it can be concluded that for relevant features of the SINC's ornithological assemblage, these species would continue to use the Site during the operational phase.

- 6.5.191. For Ponthir Sewage Works SINC the predicted impacts of the Proposed Development during the operational phase would be temporary long-term and would be of negligible magnitude at the Local scale. This would lead to a potential effect that is **Negligible and Not Significant**.

Afon Lwyd SINC

- 6.5.192. This assessment considers the implementation of landscape proposals on the Afon Lwyd. As part of the biodiversity enhancement proposals for the Proposed Development; eradication, treatment and management of INNS is proposed.
- 6.5.193. Indian balsam and Japanese knotweed were recorded on the banks of the Afon Lwyd, within the designation.
- 6.5.194. These invasive species shade out native species, and during winter months when they die back leave bare banks which can increase sediment input to the watercourse at times of high flow.
- 6.5.195. The treatment, eradication and management of these invasive species will allow native species to re-establish, increasing the biodiversity value of the watercourse and prevent soil erosion during winter high flows; contributing towards overall improvement in water body status.
- 6.5.196. The predicted impact of the Proposed Development during the operational phase would be temporary long-term and would be of low magnitude at the Local scale. This would lead to a potential effect that is **Minor Beneficial and Not Significant**.

²⁸ RSPB (2025) *Solar farms managed for nature can boost bird numbers and biodiversity*. Online article available at: <https://www.rspb.org.uk/whats-happening/news/solar-farms-managed-for-nature-boost-bird-numbers-and-biodiversity> (accessed February 2026)

²⁹ The Barn Owl Trust (2024) *Ground-mounted solar panels and barn owls*. Online article available at: <https://www.barnowltrust.org.uk/barn-owls-ground-mounted-solar-panels/#:~:text=Owls.%20In%20fact%2C%20solar%20PV%20%27farms%27%20have,typically%20at%20a%20height%20from%20whic,h%20Barn> (accessed February 2026)

³⁰ Jarcuska, B., Galffyova, M., Schnurmacher, R., Balaz, M., Misik, M., Repel, M., Fulin, M., Kerestur, D., Lackovicova, Z., Mojzis, M., Zamecnik, M., Kanuch, P. and Kristin, A. (2024) Solar parks can enhance bird diversity in agricultural landscape. *Journal of Environmental Management* 351.

Llantarnam Abbey Bat Roost SINC

- 6.5.197. Emerging evidence (Tinsley et al, 2023) has suggested that foraging and commuting bats may be affected by the presence of solar arrays. Measures outlined in Tinsley et al, including maintaining boundary habitats and including planting to improve foraging resources have been incorporated into the landscape proposals of the Proposed Development.
- 6.5.198. Hedgerow removal during construction totals 161.5m with 27 crossing points,. Residual minor gaps of maximum 18m are consistent with existing farm access (for example) not considered to present a barrier that would obstruct existing bat foraging and commuting routes.
- 6.5.199. The 161.5m lost during construction would be mitigated for elsewhere within the Site, ensuring no net loss of bat foraging and commuting habitat. The remainder of the 2,241.5m hedgerow creation would be an enhancement.
- 6.5.200. It is considered that the illustrative landscape proposals on **Figure 5.5: Indicative Landscape Strategy**, including species diverse grassland, hedgerow planting and woodland planting will enhance the landscape for both foraging and commuting bats. This will be achieved by providing greater connectivity at a landscape scale through linear features and increasing the invertebrate prey resource through increased habitat quality and diversity of a previously homogenous landscape.
- 6.5.201. During the operational phase activities will be generally limited to routine cleaning using a soft brush and water and ongoing maintenance of landscaping, habitats and green infrastructure. Occasional repairs and/ or replacements may also be required in the event of faulty or damaged equipment.
- 6.5.202. Maintenance activities will use existing access tracks, therefore, no intrusive works or additional land-take is required. As a result, there are no predicted adverse impacts on commuting and foraging bats during operation.
- 6.5.203. Given the embedded mitigation in the landscape proposals and the **oLEMP**, namely hedgerow and grassland creation, during the operational phase it is predicted that the impact of the Proposed Development on Llantarnam Abbey Bat Roost SINC would be temporary long-term of low magnitude and the Local Scale. This would lead to a potential effect that is **Minor Beneficial** and **Not Significant**.

Habitats of Principal Importance

- 6.5.204. Embedded mitigation includes the **Indicative Landscape Strategy (Figure 5.5)** which depicts the creation of traditional orchard (62 trees) and hedgerows (2,403m)) enhancement of existing HPIs (woodland, hedgerows and coastal and floodplain grazing marsh).
- 6.5.205. Created and enhanced HPIs would be managed for the lifetime of the Proposed Development by suitably qualified/experienced professionals, informed by a regular ecological monitoring program and biodiversity objectives during the Proposed

Development's operational lifespan. The management of these semi-natural habitats is set out in the **oLEMP**.

- 6.5.206. Potential indirect impacts relate to disturbance associated with routine maintenance including from lighting, noise and pollution (runoff and dust). Standard best practice measures to control pollution would be implemented during any routine maintenance, together with the implementation of a sensitive lighting strategy, which would be secured via the **oCEMP**.
- 6.5.207. Furthermore, the operation of the Proposed Development will not require the application of herbicide and pesticide treatments (apart from the targeted use for treatment of invasive non-native flora species) as are frequently used as part of agricultural farmland systems, and that would likely continue to be used in the absence of the Proposed Development, and so benefit HPIs.
- 6.5.208. Due to the limited number of staff required during operation, human disturbance is unlikely to be sufficiently greater than currently experienced and subsequently, unlikely to result in likely significant effects on other habitats.
- 6.5.209. The impact of the Proposed Development on HPI's would be temporary long-term of medium magnitude at the Regional Scale. This would lead to a potential effect that is **Moderate Beneficial** and **Significant**.
- 6.5.210. Other On-Site Habitats
- 6.5.211. The footprint of a solar development, with infrastructure (e.g., frames) typically taking up less than 5% of the Site area, with the land surrounding and underneath panels available for habitat creation, and therefore habitat loss through operation will be negligible, particularly in the context of baseline ecological value agricultural habitats.
- 6.5.212. Embedded mitigation includes the creation of new habitats, as detailed in the **Indicative Landscape Strategy** shown in **Figure 5.5**. Such habitats would increase the intrinsic biodiversity value of the Site.
- 6.5.213. Created habitats, together with any retained habitats within the Site boundary, would be subject to long-term management by suitably qualified/experienced professionals, informed by a regular ecological monitoring program and biodiversity objectives during the Proposed Development's operational lifespan. The management of these semi-natural habitats is set out within the **oLEMP**.
- 6.5.214. Furthermore, the operation of the Proposed Development will not require the application of herbicide and pesticide treatments (apart from the targeted use for treatment of invasive non-native flora species) as are frequently used as part of agricultural farmland systems, and that would likely continue to be used in the absence of the Proposed Development, and so benefit the other habitats.
- 6.5.215. Due to the limited number of staff required during operation, human disturbance is unlikely to be sufficiently greater than currently experienced and subsequently, unlikely to result in likely significant effects on other habitats.

- 6.5.216. The impact of the Proposed Development on other on-site habitats would be temporary long-term of medium magnitude at the Site Scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

CHEGD fungi

- 6.5.217. Landscape proposals to enhance the botanical diversity of grassland and remove (apart from targeted use for treatment of invasive non-native flora species) the application of herbicide and pesticide treatments have the potential to improve soil health and in turn improve conditions for fungi.

- 6.5.218. The impact of the Proposed Development on other on-site habitats would be temporary long-term of low magnitude at the Local Scale. This would lead to a potential effect that is **Minor Beneficial** and **Not Significant**.

Species and Species Groups

Ground-nesting Birds

- 6.5.219. During the operational phase there is potential for displacement of breeding birds (compared to the baseline) through avoidance of infrastructure by nesting or foraging birds.

- 6.5.220. Such impacts are most likely to occur to any ground-nesting species that have been shown to breed within the fields of the Site. The BBS recorded two such species, skylark and yellow wagtail. Four skylark territories were recorded in large arable fields in the northern part of the Site, whilst one yellow wagtail territory was recorded in a pastoral field, also in the northern part of the Site. Skylark breeding density, when calculated against the whole Site (131.62ha), is estimated at approximately 0.03 pairs per hectare which is considered a very low density, falling below the typical density for grassland and arable habitats of 0.05–0.1 territories per hectare (Donald and Vickery, 2000³¹).

- 6.5.221. Skylarks breed in open areas and avoid nesting close to field edges with trees and hedgerows, and in accordance with this breeding behaviour they have been shown to also avoid the structures associated with solar farms and are deterred from breeding close to the solar arrays of operational projects (Solar Energy UK, 2023³²). However, they will continue to feed in these areas, and where suitable nesting habitat remains in the vicinity skylark may shift nest site to outside the footprint of the array but continue to utilise the solar array area for foraging as part of their territory. Indeed, a comparative

³¹ Donald, P.F. and Vickery, J.A. (2000) The importance of cereal fields to breeding and wintering skylarks *Alauda arvensis* in the UK. Ecology and Conservation of Lowland Farmland Birds, p140–150.

³² Solar Energy UK (2023) Solar Habitat: ecological trends on solar farms in the UK. Online article available at: <https://solarenergyuk.org/wp-content/uploads/2023/06/Solar-Habitat-Report-2023.pdf> (accessed February 2026)

study (Montag *et al.*, 2016³³) found no statistical difference in the number of skylark territories between solar sites and control areas.

- 6.5.222. Whilst solar arrays may result in displacement of skylark nest sites away from these parts of the Site, areas of open grassland will continue to be found on Site and these would offer favourable alternative nesting habitat. Skylark breeding attempts within these areas may actually have the potential to be more productive than those that are found in the current arable fields, due to habitat remaining suitable throughout the breeding season allowing multiple broods, rather than is the case in crops where breeding ceases once the vegetation grows too tall.
- 6.5.223. The other ground-nesting Priority Species recorded on Site was yellow wagtail. This species is highly likely to continue to breed, during the operational phase of the Proposed Development, as grassy tussocks for nesting would continue to be found on Site (and unlike skylark this species will occupy field margins) and habitat suitable for foraging for invertebrates would also be maintained. The continued presence of only one pair on Site would maintain the baseline population.
- 6.5.224. During the operational phase there would be routine maintenance works undertaken, but this would be occasional, localised and relatively brief. Under baseline conditions the Site is subject to farming activity and so a low-level of maintenance and associated human disturbance already exists. In this context, disturbance during the operational phase is expected to have a negligible impact on ground-nesting birds.
- 6.5.225. Taking a precautionary approach, that some displacement of skylark territories may occur, for ground-nesting birds the predicted overall impacts of the Proposed Development during the operational phase would be temporary long-term and would be of low magnitude at the Local scale. This would lead to a potential effect that is **Minor Adverse and Not Significant**.

Breeding Bird Assemblage

- 6.5.226. Excluding skylark and yellow wagtail, eleven other Priority Species of bird were recorded as holding breeding territories on Site, with these species all associated with hedges, trees or gardens: dunnock, song thrush, chaffinch, goldcrest, house sparrow, spotted flycatcher, green woodpecker, magpie, whitethroat, greenfinch and willow warbler. Seven of these species were represented by three or fewer pairs and only dunnock (13), song thrush (12) and chaffinch (11) were estimated as having more than ten pairs. The breeding community of birds is considered to have low (local) value only.
- 6.5.227. There would be minimal loss of hedgerows (removal of 138.5m) and trees (removal of 17) during construction of the Proposed Development, with these features to be retained as much as possible. The level of habitat loss may be sufficient to lead to a small reduction in the overall number of breeding territories during the operational

³³ Montag, H., Parker, G. and Clarkson T. (2016) The effects of solar farms on local biodiversity: a comparative study. Clarkson & Woods and Wychwood Biodiversity. Available online at: https://www.clarksonwoods.co.uk/projects/projects_solarresearch.html (accessed February 2026)

phase compared to the baseline but should this occur, it would only be evident for a minority of breeding species and at a site scale only.

- 6.5.228. During the operational phase there would be routine maintenance works undertaken, but this would be occasional, localised and relatively brief. Under baseline conditions the Site is subject to farming activity and so a low-level of maintenance and associated human disturbance already exists. In this context, disturbance during the operational phase is expected to have a negligible impact on breeding birds.
- 6.5.229. No permanent lighting would be required during the operational phase, with temporary mobile lighting brought onto Site for short periods of time, only when required for maintenance during periods of low light. The substation would have inward facing security lighting installed and this would be operated with passive infrared detectors or would be turned on manually for maintenance in low light conditions or in the event of an emergency. The occasional use of temporary and localised lighting would have a negligible impact on breeding birds (including nocturnal species such as owls).
- 6.5.230. For the overall breeding bird assemblage, the predicted impacts of the Proposed Development during the operational phase would be temporary long-term and would be of negligible to low magnitude at the Local scale. This would lead to a potential effect that is **Negligible** and **Not Significant**.

Bats (commuting and foraging)

- 6.5.231. A study by Tinsley *et al.* (2023)³⁴ concluded that some bat species could be negatively affected by solar PV panels, suggesting that loss and/or fragmentation of foraging/commuting habitat is caused by ground-mounted solar PV panels. It should be noted that no baseline/pre-construction survey information was presented in the study, as such it is not possible to confirm if the habitats sampled were subject to enhancement measures for bats compared to pre-construction baseline, or if any of the Sites included habitat enhancement measures and to what stage these measures were at. Caution should therefore be advised when considering the conclusions of the study.
- 6.5.232. Nevertheless, it is acknowledged that the Proposed Development could have the potential to affect bat distribution. However, the Proposed Development does adopt the measures recommended within the aforementioned paper (i.e. maintaining boundaries and planting vegetation to improve the network with surrounding foraging habitat). Boundary habitats will be largely retained, with the exception of minor removal/widening required for access (totalling approximately 161.5m of hedgerow loss, with no individual length of removal greater than 18m). The minor removal of hedgerow/scrub habitat is not considered to present a barrier that would obstruct existing bat foraging and commuting routes. Bat foraging and commuting habitat would be retained and protected during the operational lifetime through the provision of 7 m

³⁴ Tinsley, E., Froidevaux, J.S.P., Zsebok, S., Szabadi, K.L. and Jones, G. (2023) Renewable energies and biodiversity: impact of ground-mounted solar photovoltaic sites on bat activity. *Journal of Applied Ecology* 60(9), p1752-1762.

buffer surrounding watercourses/ditches (with the exception of new/upgraded crossing points) and at least 5 m buffers surrounding hedgerows/tree lines (with the exception of removal required for access), where no development would be located, which was given as a key mitigation consideration within Tinsley *et al.* (2023).

- 6.5.233. It is considered that the landscaping proposals, shown on **Figure 5.5** including the creation of species diverse grassland, together with hedgerow and woodland planting, would enhance the landscape for both foraging and commuting bats. This will be achieved by providing greater connectivity at a landscape scale through linear features and increasing the invertebrate prey resource through increased habitat quality and diversity.
- 6.5.234. As detailed within **Chapter 4- Proposed Development and Alternatives**, the panels would have a non-reflective coating and no permanent lighting would be required across the Site; temporary mobile task lighting may be required for maintenance during periods of low light, however, this would be brought onto Site for short periods of time and would not be used routinely. The substation would have inward facing security lighting installed. This would be operated with passive infrared detectors or would be turned on manually for maintenance in low light conditions or in the event of an emergency. As a result, artificial lighting levels will remain low and intermittent. Therefore, significant glint and glare effects are not anticipated, and no adverse effects on bats are predicted as a consequence of the proposed lighting scheme.
- 6.5.235. A sensitive lighting strategy would be secured via the **oCEMP**, ensuring that features of value for foraging and commuting bats are not subject to additional lighting during the operational lifetime.
- 6.5.236. Furthermore, the operation of the Proposed Development will not require the application of herbicide and pesticide treatments (apart from targeted use for the treatment and management of invasive, non-native flora) as are frequently used as part of agricultural farmland systems, and that would likely continue to be used in the absence of the Proposed Development, and so benefit invertebrates and in turn benefit foraging bats.
- 6.5.237. The predicted impacts of the Proposed Development during the operational phase on bats (commuting and foraging) would be temporary medium to long-term and would be of medium magnitude and the Regional scale. This would lead to a potential effect that is **Moderate Beneficial** and **Significant**.

Effects during Decommissioning

- 6.5.238. The application for development consent is predicated on the development being decommissioned 40 years, or less, after it has been commissioned.
- 6.5.239. The Site would be restored back to full agricultural use with all equipment and below ground connections removed. The exception is the proposed onsite 132kV substation (and ancillary security measures around the substation compound e.g., perimeter fencing, lighting and CCTV equipment) and associated access to the onsite 132kV

substation and compound will be retained on a permanent basis as this would remain as part of the essential National Grid distribution network infrastructure

- 6.5.240. Impacts arising for decommissioning are considered to be commensurate with those experienced during construction. Any impacts arising from decommissioning are likely to be considered capable of being reversed within a very short period of time following cessation of decommissioning activities. On this basis, the construction phase impact assessment (see 'Effects during Construction' section) is considered to be directly applicable to decommissioning, and these effects are not therefore assessed separately in detail.
- 6.5.241. Should the Proposed Development be consented, the DNS will require that a final Decommissioning Environmental Management Plan (**DEMP**) (to be secured via the **CEMP**) in substantial accordance is prepared prior to commencing the decommissioning phase.
- 6.5.242. The **DEMP** sets the framework for the management of environmental impacts during the decommissioning phase of the Proposed Development. The **DEMP** sets out monitoring and auditing activities which would be used to ensure mitigation measures are carried out, recorded and effective.
- 6.5.243. Updated ecological surveys would be undertaken prior to the commencement of the Proposed Development's decommissioning to record the presence of protected and notable species and habitats and identify potential effects of any necessary protection and mitigation measures to comply with planning policy and wildlife legislation applicable at the time.
- 6.5.244. A suitably qualified and experienced EcoCoW would be appointed prior to the commencement of decommissioning activities and through whom appropriate ecological advice will be provided throughout. The EcoCoW would be responsible for undertaking and/or co-ordinating checks for protected species before providing confirmation that decommissioning activities can commence. The EcoCoW would also maintain a watching brief as necessary throughout the decommissioning phase to ensure compliance with relevant legislation, including adhering to any protected species mitigation measures required.

Summary of Significance of Effects (before Additional Mitigation)

- 6.5.245. **Table 6.11** summarises the significance of effects, before proposed additional mitigation.

Table 6.11: Significance of Effects (before Additional Mitigation)

Receptor	Sensitivity of Receptor	Impact Magnitude	Nature of Impact (Permanent/Temporary)	Effect and Significance
CONSTRUCTION AND DECOMMISSIONING				
Severn Estuary SPA and Ramsar site	International	Nil or Negligible	Temporary (short-term)	Negligible (Not Significant)
Severn Estuary SSSI	National	Nil or Negligible	Temporary (short-term)	Negligible (Not Significant)
Newport Wetlands SSSI and NNR	National	Nil or Negligible	Temporary (short-term)	Negligible (Not Significant)
B-Lines	Regional	Negligible	Temporary (medium-term)	Negligible (Not Significant)
Afon Lwyd Grasslands SINC	Local	Medium	Temporary (medium-term)	Minor to Moderate Adverse (Not Significant)
Ancient Semi Natural Woodland SINC	National	Negligible	Temporary (long-term)	Negligible (Not Significant)
Ponthir Sewage Works SINC	Local	Low	Temporary (short-term)	Minor Adverse (Not Significant)
Afon Lwyd SINC	Local	Medium	Temporary (medium-term)	Minor to Moderate Adverse (Not Significant)
Llantarnam Abbey Bat Roost SINC	Local	Low	Temporary (long-term)	Minor Adverse (Not Significant)

Habitat of Principal Importance: Woodland, wet woodland and lowland mixed deciduous woodland	Regional	Low	Permanent (long-term)	Minor to Moderate Adverse (Not Significant)
Habitat of Principal Importance: Freshwater and rivers	Regional	Low	Temporary (short-term)	Minor to Moderate Adverse (Not Significant)
Habitat of Principal Importance: Farmland	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Habitat of Principal Importance: Lowland grassland	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Habitat of Principal Importance: Hedgerows	Regional	Low	Permanent (long-term)	Minor to Moderate Adverse (Not Significant)
Habitats of Principal Importance: Coastal and floodplain grazing marsh	Regional	Negligible	Permanent (long-term)	Negligible (Not Significant)
Habitats of Principal Importance: Traditional orchard	Regional	Negligible	Temporary (long-term)	Negligible (Not Significant)
Ancient woodland	National	Negligible	Temporary (long-term)	Negligible (Not Significant)
Other on-site habitats	Site	Low	Temporary (long-term)	Negligible (Not Significant)
CHEGD fungi	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
Ground-nesting birds	Local	Low	Temporary (short-term)	Minor Adverse (Not Significant)

Breeding bird assemblage	Local	Negligible	Temporary (short-term)	Minor Adverse (Not Significant)
Bats (commuting and foraging)	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)
Badger: disturbance	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
Hazel dormouse	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)
Otter	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)
Fish	Regional	Low	Temporary (short-term)	Minor to Moderate (Not Significant)
Aquatic invertebrates	Local	Low	Temporary (short-term)	Minor Adverse (Not Significant)
Terrestrial invertebrates	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
OPERATION				
Severn Estuary SPA and Ramsar site	International	Nil or Negligible	Temporary (long-term)	Negligible (Not Significant)
Severn Estuary SSSI	National	Nil or Negligible	Temporary (long-term)	Negligible (Not Significant)
Newport Wetlands SSSI and NNR	National	Nil or Negligible	Temporary (long-term)	Negligible (Not Significant)
B-Lines	Regional	Negligible	Temporary (long-term)	Negligible (Not Significant)
Afon Lwyd Grasslands	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Ponthir Sewage Works SINC	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Afon Lwyd SINC	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Llantarnam Abbey Bat Roost SINC	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Habitats of principal importance	Regional	Medium	Temporary (long-term)	Moderate Beneficial (Significant)
Other On-Site Habitats	Site	Medium	Temporary (long-term)	Negligible (Not Significant)
CHEGD fungi	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)

Ground-nesting birds	Local	Low	Temporary (long-term)	Minor Adverse (Not Significant)
Breeding bird assemblage	Local	Negligible to Low	Temporary (long-term)	Negligible (Not Significant)
Bats (commuting and foraging)	Regional	Medium	Temporary (medium to long-term)	Moderate Beneficial (Significant)

6.6. Additional Mitigation

Construction mitigation

Fish

- 6.6.1. Construction of watercourse crossings will be undertaken following PWMS which will specify the timing of construction works to be outside of the migratory season for brown trout and eel to safeguard individuals potentially present.
- 6.6.2. Where a 'dry crossing technique' is required for the construction of a new or improved crossing point, the section of water between the dams would be inspected for fish and other aquatic life such as eels. Where considered appropriate, a fish rescue plan would be executed. A fish rescue plan would include details of the relevant permissions required from NRW and/or the lead local flood authority, dewatering methods to include the use of fish-safe meshes (default screen aperture size would be 2mm) to be installed over any pumps, monitoring of water pH and the siltation and fish rescue by a suitable experienced ecologist. Dependent on the nature of the ditch and health and safety concerns, different methods may be employed to remove the fish, or a combination of methods, including static netting, hand netting and/or electrofishing. Where netting is used, fine mesh seine netting would be used. The dammed areas/ponds would also be visually inspected to check for the presence of small fish (such as juvenile eel, lamprey, fish fry). Upon capture, fish would be held in suitable sized and leaching-safe capture containers (which will be aerated to maintain welfare considerations) and released downstream of the dam as soon as possible, with the exception of non-native invasive species, which would be humanely dispatched. If the presence of burrowing eels in the banks of the ditches are suspected, the section of bank would be carefully excavated in small sections with soil then placed nearby to water with a means of escape and inspected for the presence of eels.
- 6.6.3. A Fish Monitoring Plan (FMP) will also be implemented to record pre-, during and post-construction fish populations in those watercourses being crossed, which may support fish (for example, Candwr Brook). The FMP will be secured by a suitably worded planning condition.

Aquatic invertebrates

- 6.6.4. Construction of watercourse crossings will be undertaken following PWMS which will specify the timing of construction works to be outside of the migratory season for fish species to safeguard individuals potentially present.

- 6.6.5. Sensitive timing of works involving watercourse crossings to minimise habitat damage and mortality and injury of aquatic invertebrate species.
- 6.6.6. Where a 'dry crossing technique' is required for the construction of a new or improved crossing point, the section of water between the dams must be netted by an ecologist trained in aquatic invertebrate sampling. Aquatic invertebrates caught must be placed upstream of the dam.
- 6.6.7. Any vegetation removed to facilitate the crossing must be translocated along the upstream banks to allow aquatic invertebrates, within the vegetation, to disperse. Vegetation must be left in-situ for two days before being removed to maximise the chance of aquatic invertebrate transfer. This would be carried out under the supervision of an EcoCoW who must confirm the absence of protected or invasive species prior to vegetation removal.

Operational mitigation

- 6.6.8. For most ecological receptors no additional mitigation is considered necessary during the operation of the Proposed Development to mitigate for any impacts (either significant or non-significant). For these receptors, impacts have been addressed as far as reasonably practicable through avoidance and the embedded mitigation of the Proposed Development.
- 6.6.9. The exception is ground-nesting birds, for which mitigation is proposed for skylark.

Ground-nesting birds

- 6.6.10. Fields have been identified within the Site for managing for the benefit of skylark. The current land use of these fields as arable (non-cereal) crops and modified grassland which is considered unfavourable habitat for nesting skylark. In Field 15 the interior of the field (0.18ha) would be managed as botanically diverse grassland and would be enclosed by predator-proof fencing; thus, providing habitat suitable for nesting and foraging. A 50m edge of the field would be spread with sludge (as it currently is) outside the breeding season and managed to a short sward, to provide suitable foraging habitat. Field 3, Field 5 and field south of 10b would be managed as organic set-aside, a habitat found to be very attractive to skylark (Wilson and Browne, 1993)³⁵, and which would provide habitat suitable for nesting and as a food resource by adults (increased number of seed-bearing plants) and chicks (increased number of invertebrates). These measures would create habitat for skylark where they are currently absent and so would provide mitigation should any pairs be displaced from elsewhere on the Site.
- 6.6.11. In addition to these specific fields, there will be areas across the Site in, around, and adjacent to, the photovoltaic arrays where grassland condition will be enhanced (modified grassland enhanced to other neutral grassland – 22.84ha and existing other neutral grassland's condition will be improved). These areas would provide better

³⁵ Wilson, J.D. and Browne, S.J. (1993) Habitat selection and breeding success of skylarks *Alauda arvensis* on organic and conventional farmland. BTO Research Report No. 129. British Trust for Ornithology, Thetford.

foraging for both granivorous and insectivorous species than the current arable fields, including for ground-nesting species (such as skylark and yellow wagtail) and species breeding in adjacent hedgerows and field boundaries. The presence of habitat that would remain suitable throughout the breeding season allowing multiple broods would provide mitigation should any pairs be displaced from elsewhere on the Site.

Enhancements

- 6.6.12. PPW12 states that tree planting should be replaced at a 3:1 ratio. A total of 25 trees are proposed to be removed to facilitate the proposals, therefore, the replanting of 75 trees mitigates for this loss.
- 6.6.13. PPW12 does not state specific for hedgerow replacement, however, 161.5m of hedgerow are proposed to be removed, therefore, like-for-like replacement planting of 161.5m of hedgerow will mitigate for this loss.
- 6.6.14. In addition to the mitigation by design habitat creation and enhancement measures provided through **Figure 5.5: Indicative Landscape Strategy** the following measures will be included as part of the Proposed Development and are classified as providing ecological enhancement, as set out in and secured via the **oLEMP**. These measures have been identified based on the baseline surveys to date (as described above), consultation responses and local/national priorities. The measures include:
- 2,241.50 linear m of hedgerow planting;
 - Approximately 2.6ha new woodland planting;
 - 18no. native hedgerow trees;
 - 18no. orchard trees;
 - Enhancement of approximately 0.18ha low value (modified grassland) grassland to species-rich botanically diverse grassland;
 - Enhancement of approximately 22.84ha existing low value (modified grassland) grassland to other neutral grassland;
 - Enhancement of approximately 9.7ha of arable land to organic set-aside;
 - Enhancement of approximately 4.3ha coastal floodplain grazing marsh;
 - 44 no. general purpose bird boxes (mixture of hole and open-fronted);
 - 4 no. barn owl boxes;
 - 2 no. raptor boxes;
 - 30 no. bat boxes, including minimum;
 - 5 no. hibernation boxes;

- 5 no. colony boxes;
- 10 no. reptile/ amphibian refugia;
- 10 no. insect hotels;
- 10 no. hedgehog boxes.

Ornithology

Breeding Bird Assemblage

- 6.6.15. Additional tree planting that would result in an overall gain in the number of trees on Site compared to the baseline and hence an increase in suitable nesting habitat for tree-nesting species. This would benefit Section 7 species such as goldcrest, greenfinch, spotted flycatcher and willow warbler.
- 6.6.16. In addition, the erection of 40 nest boxes in suitable locations on Site would benefit cavity nesting passerines, whose local populations might otherwise be restricted by a shortage of favourable nest sites. This would include nest boxes of various sizes and comprise a mix of both open-fronted and hole entry nest boxes, including those suitable for Section 7 listed starling and spotted flycatcher. Nest boxes suitable for raptors would also be erected which would aim to attract in Section 7 listed kestrel, which does not currently breed on Site. Additionally, nest boxes would be placed in suitable areas for barn owl (see below).
- 6.6.17. The creation of areas of species-diverse grassland has potential to improve breeding productivity for both granivorous and insectivorous species that forage in field margins, including Section 7 listed house sparrow and dunnock.
- 6.6.18. Four barn owl boxes would be erected on Site in suitable locations close to good foraging areas and away from sources of disturbance. Barn owls do not currently breed on-Site which may be due to a lack of suitable nest sites. Their presence in the wider area suggests that the erection of suitable nest boxes would be successful in establishing breeding pairs on-Site. The four barn owl boxes proposed (expected to be two used for breeding and two as alternatives or roost site for fledged juveniles) would allow for the establishment of two new home ranges on Site, whilst aiming not to increase the local population beyond that which would remain productive based on the available prey resource.
- 6.6.19. The creation of species-diverse grassland and the establishment of a taller sward would be supportive of a higher number of rodents on Site, and would provide a food source for barn owls and other species that prey on small mammals.

Residual Effects

Table 6.12: Residual Significance of Effects (with Additional Mitigation)

Receptor	Sensitivity of Receptor	Impact Magnitude	Nature of Impact (Permanent/Temporary)	Residual Effect and Significance
CONSTRUCTION AND DECOMMISSIONING				
Severn Estuary SPA and Ramsar site	International	Nil or Negligible	Temporary (short-term)	Negligible (Not Significant)
Severn Estuary SSSI	National	Nil or Negligible	Temporary (short-term)	Negligible (Not Significant)
Newport Wetlands SSSI and NNR	National	Nil or Negligible	Temporary (short-term)	Negligible (Not Significant)
B-Lines	Regional	Negligible	Temporary (medium-term)	Negligible (Not Significant)
Afon Lwyd Grasslands SINC	Local	Medium	Temporary (medium-term)	Minor to Moderate Adverse (Not Significant)
Ancient Semi Natural Woodland SINC	National	Negligible	Temporary (long-term)	Negligible (Not Significant)
Ponthir Sewage Works SINC	Local	Low	Temporary (short-term)	Minor Adverse (Not Significant)
Afon Lwyd SINC	Local	Medium	Temporary (medium-term)	Minor to Moderate Adverse (Not Significant)
Llantarnam Abbey Bat Roost SINC	Local	Low	Temporary (long-term)	Minor Adverse (Not Significant)
Habitat of Principal Importance: Woodland, wet woodland and lowland mixed deciduous woodland	Regional	Low	Permanent (long-term)	Minor to Moderate Adverse (Not Significant)

Habitat of Principal Importance: Freshwater and rivers	Regional	Low	Temporary (short-term)	Minor to Moderate Adverse (Not Significant)
Habitat of Principal Importance: Farmland	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Habitat of Principal Importance: Lowland grassland	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Habitat of Principal Importance: Hedgerows	Regional	Low	Permanent (long-term)	Minor to Moderate Adverse (Not Significant)
Habitats of Principal Importance: Coastal and floodplain grazing marsh	Regional	Negligible	Permanent (long-term)	Negligible (Not Significant)
Habitats of Principal Importance: Traditional orchard	Regional	Negligible	Temporary (long-term)	Negligible (Not Significant)
Ancient woodland:	National	Negligible	Temporary (long-term)	Negligible (Not Significant)
Other on-site habitats	Site	Low	Temporary (long-term)	Negligible (Not Significant)
CHEGD fungi:	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
Ground-nesting birds	Local	Low	Temporary (short-term)	Minor Adverse (Not Significant)
Breeding bird assemblage	Local	Negligible	Temporary (short-term)	Minor Adverse (Not Significant)
Bats (commuting and foraging)	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)
Badger	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
Hazel dormouse	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)

Otter	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)
Fish	Regional	Negligible	Temporary (short-term)	Negligible (Not Significant)
Aquatic invertebrates	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
Terrestrial invertebrates	Local	Negligible	Temporary (short-term)	Negligible (Not Significant)
OPERATION				
Severn Estuary SPA and Ramsar site	International	Nil or Negligible	Temporary (long-term)	Negligible (Not Significant)
Severn Estuary SSSI	National	Nil or Negligible	Temporary (long-term)	Negligible (Not Significant)
Newport Wetlands SSSI and NNR	National	Nil or Negligible	Temporary (long-term)	Negligible (Not Significant)
B-Lines	Regional	Negligible	Temporary (long-term)	Negligible (Not Significant)
Afon Lwyd Grasslands	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Ponthir Sewage Works SINC	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Afon Lwyd SINC	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Llantarnam Abbey Bat Roost SINC	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Habitats of principal importance	Regional	Medium	Temporary (long-term)	Moderate Beneficial (Significant)
Other On-Site Habitats	Site	Medium	Temporary (long-term)	Negligible (Not Significant)
CHEGD fungi	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Ground-nesting birds	Local	Negligible	Temporary (long-term)	Negligible (Not Significant)
Breeding bird assemblage (including barn owl)	Local	Low	Temporary (long-term)	Minor Beneficial (Not Significant)
Bats (commuting and foraging)	Regional	Medium	Temporary (medium to long-term)	Moderate Beneficial (Significant)

6.7. Cumulative Effects

Introduction

- 6.7.1. As well as considering potential impacts on ecological receptors for the Proposed Development alone, a cumulative assessment has also been undertaken in which the potential impacts of other relevant projects alongside the Proposed Development are taken into consideration. The cumulative assessment for ecological receptors has been undertaken in reference to CIEEM guidelines for EclA.
- 6.7.2.
- 6.7.3. Three projects have been identified for inclusion in the cumulative impact assessment. These are detailed in **Table 6.13**.

Table 6.13: Projects for Inclusion in the Cumulative Impact Assessment

Reference	Description	Distance	Status
22/P/0446/OUT Torfaen County Borough Council	Proposed Mental Health Specialist Inpatient Services Unit and associated highway, drainage and landscape infrastructure.	Approx. 800m north-west of the Site	Permission granted subject to S106 agreement in June 2023 and is yet to be constructed.
DNS/3239190 Development of National Significance	Pentre Bach Solar Farm. Ground mounted photo voltaic solar farm and energy storage facility, together with associated equipment, infrastructure and ancillary works.	Approx 3.8km south-west of the Site	Consented, subject to conditions
DNS/3276725 Development of National Significance	Mynydd Maen Wind Farm Wind farm of up to 13 turbines along with an improved site entrance, new and improved access tracks, crane hardstandings, control building and substation compound, electricity	Approx 6.3km north-west of the Site	Awaiting determination.

	transformers, underground cabling, and drainage works.		
--	--	--	--

Construction and decommissioning

- 6.7.4. Construction cumulative effects are considered for the projects listed above (that may have construction phases which coincide with that of the Proposed Development).

Afon Lwyd Grasslands SINC

- 6.7.5. The potential for adverse cumulative effects on the Afon Lwyd Grasslands during construction are considered highly unlikely to occur in recognition of the fact that the design of the Proposed Development has implemented buffers around watercourses within the Site (with the exception of watercourse crossings).
- 6.7.6. From a review of the Torfaen Council Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital and that that best practice measures will be implemented during construction to avoid any pollution or sedimentation events into the Afon Lwyd and in turn on the Afon Lwyd Grasslands.
- 6.7.7. The Ecological Impact Assessment for Pentre Bach Solar Farm states that measures to protect SINC habitats would be adopted to prevent adverse impacts on SINC's. Additionally, precautionary measures to protect otter from noise and disturbance are included.
- 6.7.8. The Ecology Chapter of the Mynydd Maen Wind Farm Environmental Statement does not assess impacts on the Afon Lwyd Grasslands. Therefore, it can be reasonably assumed that no cumulative impacts between the Proposed Development and Mynydd Maen Wind Farm are likely to occur.
- 6.7.9. With the implementation of best practice measures and design considerations of the Proposed Development and other Projects cumulative effects during the construction phase on the Afon Lwyd Grasslands are considered unlikely and are scoped out of further assessment.

Ponthir Sewage Works SINC

- 6.7.10. Due to the separation distance between Ponthir Sewage Works SINC and the identified projects (all more than 2km distant) there would be no impact from these projects on the supporting habitats within the SINC.
- 6.7.11. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. However, it can be expected that there would be no connectivity with most of the SINC's listed ornithological features given most are associated with wetland habitats or are woodland passerines/near-passerines with small territories. A potential exception is goshawk, which has a core

range of 3km (SNH, 2016)³⁶. However, it is assumed the consented development is situated within the grounds of the existing hospital and so no impacts on goshawk can be concluded on that basis.

- 6.7.12. At over 3km from Pentre Bach Solar Farm there would not be expected to be any connectivity with Ponthir Sewage Works SINC. Furthermore, the Ecological Impact Assessment for Pentre Bach Solar Farm states that impacts on ornithological receptors would be negligible.
- 6.7.13. The Ornithology Chapter of the Mynydd Maen Wind Farm Environmental Statement does not assess impacts on Ponthir Sewage Works SINC, which is as expected given the more than 7km separation distance, and no impacts on the SINC as a result of the this wind farm project can be concluded.
- 6.7.14. Based on the information available, the cumulative impact is not regarded as being any higher than for the Proposed Development alone and remains minor adverse with no significant effect.

Afon Lwyd SINC

- 6.7.15. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital and that that best practice measures will be implemented during construction to avoid any pollution or sedimentation events into the Afon Lwyd.
- 6.7.16. The Ecological Impact Assessment for Pentre Bach Solar Farm states that measures to protect SINC habitats would be adopted to prevent adverse impacts on SINC. Additionally, precautionary measures to protect otter from noise and disturbance are included.
- 6.7.17. The Ecology Chapter of the Mynydd Maen Wind Farm Environmental Statement does not assess impacts on the Afon Lwyd. Therefore, it can be reasonably assumed that no cumulative impacts between the Proposed Development and Mynydd Maen Wind Farm are likely to occur.
- 6.7.18. With the implementation of best practice measures and design considerations of the Proposed Development and other Projects cumulative effects during the construction phase on the Afon Lwyd are considered unlikely and are scoped out of further assessment.

Llantarnam Abbey Bat Roost SINC

- 6.7.19. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented

³⁶ SNH (2016) Assessing connectivity with Special Protection Areas (SPAs). Guidance: version 3 – June 2016. Scottish Natural Heritage (now NatureScot), Inverness.

development is situated within the grounds of the existing hospital and that due to the exiting nature of the hospital that if any vegetation removal is required that this would not provide connectivity between the SINC.

- 6.7.20. The Ecological Impact Assessment for Pentre Bach Solar Farm states that measures to protect SINC habitats would be adopted to prevent adverse impacts on SINC. With reference to bats the Ecological Impact Assessment states that it is considered that the proposed scheme will have an overall negligible effect on the bat assemblage at the Site.
- 6.7.21. The Ecology Chapter of the Mynydd Maen Wind Farm Environmental Statement does not assess impacts on Llantarnam Abbey Bat Roost. Additionally, the Ecology Chapter states that with the adoption of the embedded mitigation measures and the adoption of industry standard guidance for lighting design, the effect of construction on bats is assessed to be negligible. Therefore, it can be reasonably assumed that no cumulative impacts between the Proposed Development and Mynydd Maen Wind Farm are likely to occur.
- 6.7.22. With the implementation of best practice measures and design considerations of the Proposed Development and other Projects cumulative effects on Llantarnam Abbey Bat Roost SINC during the construction phase on are considered unlikely and are scoped out of further assessment.

Habitat of Principal Importance: Woodland, wet woodland and lowland mixed deciduous woodland

- 6.7.23. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital and that due to the exiting nature of the hospital that no (if any) woodland HPI will be directly or indirectly impacted.
- 6.7.24. The Ecological Impact Assessment for Pentre Bach Solar Farm states that all woodland will be fenced off to remove the existing grazing pressure; concluding a moderate beneficial effect on woodland habitat. Therefore, it can be reasonably assessed that no cumulative impacts between the Proposed Development and Pentre Bach Solar Farm are likely to occur.
- 6.7.25. The Ecology Chapter of the Mynydd Maen Wind Farm Environmental Statement scopes out woodland from detailed assessment; therefore, it can be reasonably assessed that no cumulative impacts between the Proposed Development and Mynydd Maen Wind Farm are likely to occur.
- 6.7.26. With the implementation of best practice measures and design considerations of the Proposed Development and other Projects cumulative effects HPI woodland during the construction phase on are considered unlikely and are scoped out of further assessment

Habitat of Principal Importance: Freshwater and rivers

- 6.7.27. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital and that that best practice measures will be implemented during construction to avoid any pollution or sedimentation events into watercourses.
- 6.7.28. The Ecological Impact Assessment for Pentre Bach Solar Farm states that all watercourses will be fenced off to protect the habitat during construction. Therefore, it can be reasonably assessed that this measure, coupled with embedded mitigation will avoid cumulative impacts between the Proposed Development and Pentre Bach Solar Farm.
- 6.7.29. The Ecology Chapter of the Mynydd Maen Wind Farm Environmental Statement states that the proposed wind farm has very little potential to result in pollution or sedimentation of local watercourses, as these are very minor and rise around the edges of the Site, and impacts would be avoided and reduced through primary and tertiary mitigation to the point where they are unlikely to be significant even at the Site level. Therefore, it can be reasonably assessed that this measure, coupled with embedded mitigation will avoid cumulative impacts between the Proposed Development and Mynydd Maen Wind Farm.
- 6.7.30. With the implementation of best practice measures and design considerations of the Proposed Development and other Projects cumulative effects HPI freshwater and rivers during the construction phase on are considered unlikely and are scoped out of further assessment

Habitat of Principal Importance: Hedgerows

- 6.7.31. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital and that due to the exiting nature of the hospital that no (if any) hedgerow HPI will be directly or indirectly impacted.
- 6.7.32. The Ecological Impact Assessment for Pentre Bach Solar Farm states that all hedgerows will be fenced off to protect the habitat during construction. Therefore, it can be reasonably assessed that this measure, coupled with embedded mitigation will avoid no cumulative impacts between the Proposed Development and Pentre Bach Solar Farm.
- 6.7.33. The Ecology Chapter of the Mynydd Maen Wind Farm Environmental Statement states that the proposed wind farm will result in the removal of 53m of hedgerow, however, hedgerow sections will be reinstated post-construction. Therefore, it can be reasonably assessed that this measure, avoid cumulative impacts between the Proposed Development and Mynydd Maen Wind Farm.
- 6.7.34. With the implementation of best practice measures and design considerations of the Proposed Development and other Projects cumulative effects HPI hedgerows during

the construction phase on are considered unlikely and are scoped out of further assessment.

Ground-nesting birds

- 6.7.35. Note that construction impacts on ground-nesting birds would be short-term temporary and localised and would only have a cumulative impact where construction activities of the different projects are undertaken at the same time.
- 6.7.36. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital and so the impact on ground-nesting birds (taken for the Proposed Development to include skylark and yellow wagtail) and expected to be nil or negligible.
- 6.7.37. The Ecological Impact Assessment for Pentre Bach Solar Farm states that there would be a minor impact on breeding skylark, although it notes that current habitat management is not sensitive to nesting skylarks under baseline conditions.
- 6.7.38. The Ornithology Chapter of the Mynydd Maen Wind Farm Environmental Statement states that construction activity may have an adverse effect on passerine species (including skylark) but that measures would be implemented during construction to ensure legislative compliance (protection of nesting birds). The evaluation concluded there would be a negligible effect on what were classed in the assessment as 'non-focal species – other'.
- 6.7.39. Based on the information available, the cumulative impact is not regarded as being any higher than for the Proposed Development alone and remains minor adverse with no significant effect.

Breeding bird assemblage

- 6.7.40. Note that construction impacts on the breeding bird assemblage would be short-term temporary and localised and would only have a cumulative impact where construction activities of the different projects are undertaken at the same time.
- 6.7.41. From a review of the Torfaen Planning Portal, there are no documents for the consented Mental Health Specialist Inpatient Services Unit. It is assumed the consented development is situated within the grounds of the existing hospital, where only a small number of disturbance-tolerant species are likely to breed. The impact on breeding birds is assumed to be negligible following the implementation of standard embedded mitigation measures to protect nesting birds during construction.
- 6.7.42. The Ecological Impact Assessment for Pentre Bach Solar Farm states that the project would have a negligible impact on generalist, farmland and woodland breeding bird assemblages as the majority of relevant habitat features would be retained.
- 6.7.43. The Ornithology Chapter of the Mynydd Maen Wind Farm Environmental Statement states that construction activity may have an adverse effect on passerine and near-

passerine species (equivalent to the 'breeding bird assemblage' assessed for the Proposed Development) but that measures would be implemented during construction to ensure legislative compliance (protection of nesting birds). The evaluation concluded there would be a negligible effect on what were classed in the assessment as 'non-focal species – other'.

- 6.7.44. Based on the information available, the cumulative impact is not regarded as being any higher than for the Proposed Development alone and remains minor adverse with no significant effect.

Conclusion

- 6.7.45. **No significant residual adverse effects** are predicted to occur upon any receptor as a result of the construction or operation of the Proposed Development, either alone or cumulatively with other developments. Habitat and species-specific measures to be implemented under the **oLEMP**, are expected to provide net beneficial effects associated with the Proposed Development longer term.

In-Combination Effects

- 6.7.46. 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.
- 6.7.47. Ecological receptors are recognised as having potential to experience more than one residual effect. However, the assessment of likely significant effects (**Section 6.5**) inherently includes the consideration of potential impacts on ecological receptors from air quality, dust, noise, lighting and water quality as part of the assessment.
- 6.7.48. Therefore, the in-combination effects on ecological receptors are inherently addressed within the overall assessment and are not assessed further here. Considerations regarding European designated sites are provided within the **Appendix 6.8** Information to Inform a Habitats Regulations Assessment.
- 6.7.49. **Table 6.14** provides a summary of effects, mitigation and residual effects.

Table 6.14: 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 and Decommissioning (cumulative)								
Severn Estuary SPA and Ramsar site	Displacement of qualifying ornithological features	Temporary	N/A	Nil or Negligible	International	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Severn Estuary SSSI	Displacement of qualifying ornithological features	Temporary	N/A	Nil or Negligible	National	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Newport Wetlands SSSI and NNR	Displacement of qualifying ornithological features	Temporary	N/A	Nil or Negligible	National	Negligible (Not Significant)	N/A	Negligible (Not Significant)
B-Lines	Land-take	Temporary	N/A	Negligible	Regional	Negligible (Not Significant)	N/A	Negligible (Not Significant)

Environmental Statement

Ecology

Afon Lwyd Grasslands SINC	Noise, vibration and pollution/sedimentation incidents	Temporary	N/A	Medium	Local	Minor to Moderate Adverse (Not Significant)	N/A	Minor to Moderate Adverse (Not Significant)
Ancient Semi Natural Woodland SINC	Encroachment	Temporary	N/A	Negligible	National	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Ponthir Sewage Works SINC	displacement of ornithological assemblage	Temporary	N/A	Low	Local	Minor Adverse (Not Significant)	N/A	Minor Adverse (Not Significant)
Afon Lwyd SINC	Pollution/sedimentation events	Temporary	N/A	Negligible	Local	Minor to Moderate Adverse (Not Significant)	Treatment of invasive, non-native flora species	Minor Beneficial (Not Significant)
Llantarnam Abbey Bat Roost SINC	Indirect disturbance – noise and vibration	Temporary	N/A	Low	Local	Minor Adverse	Planting of hedgerows; increasing connectivity	Minor Adverse (Not Significant)

						(Not Significant)	y for roosting bats across the Site	Significant)
Habitat of Principal Importance: Woodland, wet woodland and lowland mixed deciduous woodland	Habitat loss	Permanent	N/A	Low	Regional	Minor to Moderate Adverse (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor to Moderate Adverse (Not Significant)
Habitat of Principal Importance: Freshwater and rivers	Pollution/sediment ation events	Temporary	N/A	Low	Regional	Minor to Moderate Adverse (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor to Moderate Adverse (Not Significant)
Habitat of Principal Importance: Farmland	Habitat loss	Temporary	N/A	Negligible	Local	Negligible (Not Significant)	N/A – operational impact has assessed habitat	Negligible (Not Significant)

							enhancements	
Habitat of Principal Importance: Lowland grassland	Habitat loss	Temporary	N/A	Negligible	Local	Negligible (Not Significant)	N/A – operational impact has assessed habitat enhancements	Negligible (Not Significant)
Habitat of Principal Importance: Hedgerows	Habitat loss	Permanent	N/A	Low	Regional	Minor to Moderate Adverse (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor to Moderate Adverse (Not Significant)
Habitats of Principal Importance: Coastal and floodplain grazing marsh	Habitat enhancement	Permanent	N/A	Low	Regional	Negligible (Not Significant)	N/A – operational impact has assessed habitat enhancements	Negligible (Not Significant)

Environmental Statement

Ecology

Habitats of Principal Importance: Traditional orchard	Habitat loss	Temporary	N/A	Negligible	Regional	Negligible (Not Significant)	N/A – operational impact has assessed habitat enhancements	Negligible (Not Significant)
Ancient woodland:	Encroachment	Temporary	N/A	Negligible	National	Negligible (Not Significant)	N/A – operational impact has assessed habitat enhancements	Negligible (Not Significant)
Other on-site habitats	Habitat loss	Temporary	N/A	Negligible	Site	Negligible (Not Significant)	N/A – operational impact has assessed habitat enhancements	Negligible (Not Significant)
CHEGD fungi	Habitat loss	Temporary	N/A	Negligible	Local	Negligible (Not Significant)	N/A – operational impact has assessed habitat	Negligible (Not Significant)

							enhancements	
Ground-nesting birds	Habitat loss, disturbance and displacement	Temporary	N/A	Low	Local	Minor Adverse (Not Significant)	Habitat enhancements	Minor Adverse (Not Significant)
Breeding bird assemblage :	Habitat loss, disturbance and displacement	Temporary	N/A	Negligible	Local	Minor Adverse (Not Significant)	Installation of bird boxes	Minor Adverse (Not Significant)
Bats (commuting and foraging)	Habitat loss, disturbance and displacement	Temporary	N/A	Negligible	Regional	Negligible (Not Significant)	Installation of bat boxes and planting to enhance habitats for commuting and foraging	Negligible (Not Significant)
Badger	Habitat loss, disturbance and displacement	Temporary	N/A	Negligible	Local	Negligible (Not Significant)	Planting to enhance habitats for commuting	Negligible

Environmental Statement

Ecology

							and foraging	(Not Significant)
Hazel dormouse	Habitat loss, disturbance and displacement	Temporary	N/A	Negligible	Regional	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Otter	Habitat loss, disturbance and displacement	Temporary	N/A	Negligible	Regional	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Fish	Disturbance	Temporary	N/A	Low	Regional	Minor to Moderate Adverse (Not Significant)	FMP	Negligible (Not Significant)
Aquatic invertebrates	Disturbance	Temporary	N/A	Low	Local	Minor Adverse (Not Significant)	Sensitive timing of works	Negligible (Not Significant)

Terrestrial invertebrates	Habitat loss, disturbance and displacement	Temporary	N/A	Negligible	Local	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Operation (cumulative)								
Severn Estuary SPA and Ramsar site	Displacement of qualifying ornithological features; glint/glare	Temporary	N/A	Nil or Negligible	International	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Severn Estuary SSSI	Displacement of qualifying ornithological features; glint/glare	Temporary	N/A	Nil or Negligible	National	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Newport Wetlands SSSI and NNR	Displacement of qualifying ornithological features; glint/glare	Temporary	N/A	Nil or Negligible	National	Negligible (Not Significant)	N/A	Negligible (Not Significant)
B-Lines	Habitat loss	Temporary	N/A	Negligible	Regional	Negligible (Not Significant)	N/A	Negligible (Not Significant)

Environmental Statement

Ecology

Afon Lwyd Grasslands SINC	Habitat enhancement	Temporary	N/A	Low	Local	Minor Beneficial (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor Beneficial (Not Significant)
Ponthir Sewage Works SINC	Displacement of ornithological assemblage	Temporary	N/A	Negligible	Local	Negligible (Not Significant)	N/A	Negligible (Not Significant)
Afon Lwyd SINC	Habitat enhancement	Temporary	N/A	Low	Local	Minor Beneficial (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor Beneficial (Not Significant)
Llantarnam Abbey Bat Roost SINC	Habitat enhancement	Temporary	N/A	Low	Local	Minor Beneficial (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor Beneficial (Not Significant)

Environmental Statement

Ecology

Habitats of principal importance	Habitat enhancement	Temporary	N/A	Medium	Regional	Moderate Beneficial (Not Significant)	N/A – operational impact has assessed habitat enhancements	Moderate Beneficial (Not Significant)
Other On-Site Habitats	Habitat creation and enhancement	Temporary	N/A	Medium	Site	Negligible (Not Significant)	N/A – operational impact has assessed habitat enhancements	Negligible (Not Significant)
CHEGD fungi	Habitat enhancement	Temporary	N/A	Low	Local	Minor Beneficial (Not Significant)	N/A – operational impact has assessed habitat enhancements	Minor Beneficial (Not Significant)
Ground-nesting birds	Disturbance and displacement	Temporary	N/A	Low	Local	Minor Adverse (Not Significant)	Species-rich grassland; skylark-specific	Negligible (Not Significant)

							habitat enhancement.	
Breeding bird assemblage	Displacement	Temporary	N/A	Low	Local	Negligible (Not Significant)	Tree and hedgerow planting; provision of nest boxes.	Minor Beneficial (Not Significant)
Bats (commuting and foraging)	Habitat enhancement and glint and glare	Temporary	N/A	Medium	Regional	Moderate Beneficial (Not Significant)	N/A – operational impact has assessed habitat enhancements	Moderate Beneficial (Not Significant)