Pennant Walters

FOEL TRAWSNANT GRID CONNECTION

EIA Report – Volume 1: Main Report



AUGUST 2025

PUBLIC

Pennant Walters

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1 INTRODUCTION

1.1 OVERVIEW OF THE PROJECT

1.1.1. This Environmental Impact Assessment ('EIA') has been prepared by WSP on behalf of Pennant Walters ('the Applicant') who are submitting an application to Planning and Environment Decisions Wales (PEDW) seeking consent for the proposed Foel Trawsnant Wind Farm electricity network infrastructure connection, consisting of 66 kilovolts (kV) overhead line (OHL) and underground cables (UGC). The Project is associated with the Foel Trawsnant Wind Farm and will provide a connection between the wind farm and the wider national grid.

1.1.2. The Project is located in the south of Wales, to the southwest of Llangnwyd, and travels partially through the town of Maesteg (see **Figure 1.1**). The proposed grid connection is centred at coordinates easting (E) 284175, northing (N)187428 and falls within two local authorities - Bridgend County Borough Council (BCBC) which the Project mostly resides, and Neath Port Talbot County Borough Council (NPTCBC), where the start and end sections of the connection are located.

1.1.3. This EIA Report has been prepared to accompany the application for the Project, which comprises:

- 3.9km of overhead lines, including 72 wooden poles;
- 5.1km of underground cable, including cable ducts and 22 joint bay boxes;
- Temporary working areas e.g. construction compound; and
- Watercourse crossing(s).

1.2 EXISTING SITE AND SURROUNDINGS

1.2.1. Starting at the northernmost section, the route begins west of the A4063 as OHL for approximately 1.2km. To the north of Nantyffyllon, the route transitions into UGC, travelling across semi-improved grassland for approx. 250m. It then proceeds south beneath the existing highway network for approx. 5.1km. At Sychbant Farm, the highway network ceases; this is where the route transitions back into OHL and continues south for approximately 2.7km.

1.2.2. The northern section of the proposed OHL travels predominantly through improved grassland and marshy grassland, with some areas encroaching on bracken, broadleaved woodland and scrub. The southern elements of the OHL cross an area of mainly improved and poor semi-improved grassland, with some minor areas of broadleaved woodland, bracken, and marshy grassland. The majority of the UGC is contained within the existing built environment. There is a small section – approximately 250m in length – to the north of Nantyffyllon, which travels through poor semi-improved grassland and areas of bracken.

1.2.3. The nearest residential property is 150m east from the Site boundary, at E 284572, N 189256.

1.3 THE APPLICANT AND THE PROJECT TEAM

1.3.1. This EIA Report has been prepared on behalf of the Applicant by WSP with the support of:

- National Grid Electricity Distribution (designers); and
- Trust for Welsh Archaeology (Archaeology Desk Based Assessment).

1.3.2. WSP is registered with the Institute of Environmental Management and Assessment (IEMA)'s EIA Quality Mark Scheme. The scheme allows organisations that lead the coordination of EIAs in the UK to commit to excellence in their EIA activities and have this commitment independently reviewed.

1.3.3. A statement outlining the relevant experience and qualifications of the competent experts who have prepared this EIA Report is provided in **Appendix 1A**, whilst a full description of the EIA process is provided within **Chapter 2: EIA Approach**.

1.4 PURPOSE OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

1.4.1. The Project is considered a Development of National Significance (DNS) according to the Planning (Wales) Act 2015, the Development of National Significance (Wales) (Regulations) 2016 (as amended).

1.4.2. The requirement for a DNS is confirmed within recent DNS Procedural Guidance (2024)[1] which describes *'the installation of an electric line above ground up to 132kV which is associated with a devolved generation station'* as a DNS according to the regulations, set out above.

1.4.3. In relation to the England and Wales High Court (Administrative Court) Decisions (2019)[2], the Project is considered to be relevant to the following factors:

- *"iii. Functional interdependence - where one part of a development could not function without another, this may indicate that they constitute a single project (Burridge at [32], [42] and [78])"*

1.4.4. The Project is considered to be functionally interdependent with the consented Foels Trawsnant Wind Farm; the wind farm will not be able to properly function without the proposed grid connection. The Environmental Statement (ES) will therefore consider in each ES chapter the in-combination effects between the consented Foels Trawsnant Wind Farm, and the proposed electricity connection (the 'Project').

1.4.5. This EIA Report has been prepared as part of an EIA submission, which is required due to the Project being considered a DNS. This EIA Report has been prepared in accordance with the requirements of the EIA Regulations. The EIA Report provided the environmental information that has been used within the pre-application consultation (PAC) to inform the process of determining the application.

1.4.6. A request for a Scoping Opinion was submitted 22nd November 2024 (DNS Application reference: DNS CAS-02505-N3T6M4). A response was initially received 27th February 2025, with a formal

[1]Welsh Government (2024) Developments of national significance (DNS): guidance. Available at: https://www.gov.wales/developments-national-significance-dns-guidance#:~:text=Explains%20the%20planning%20application%20process%20for%20developments,of%20national%20significance%20%28defined%20categories%20of%20infrastructure%20developments%29.
[2] Wingfield, R (On the Application Of) v Canterbury City Council (2019) EWHC 1975 (Admin). Available at: https://www.bailii.org/ew/cases/EWHC/Admin/2019/1975.html

response received on 14th March 2025 (**Appendix 2B**), including a consultation response from Bridgend County Borough Council and Neath Port Talbot County Borough Council, as well as other statutory consultees. The draft EIA Report was submitted 17th March 2025, and the following consultees responded (**Appendix 2C**):

- Cadw – 29th April 2025; and
- Natural Resources Wales (NRW) – 7th May 2025.

1.4.7. Drawing upon the EIA Scoping Opinion and subsequent consultation responses, the EIA Report includes an assessment of the likely significant environmental effects of the Project.

1.4.8. Further information on the EIA scoping process, as well as information about the approach used to prepare the draft EIA Report, is outlined in **Chapter 2: EIA Approach** of this document.

1.5 SCOPE OF THE EIA REPORT

1.5.1. As set out in Schedule 5, Section 17 of the Town and Country Planning (Environmental Impact Assessment) (EIA) (Wales) Regulations 2017, the following information should be included in the EIA Report:

- A description of the Project comprising information on the site, design, size, and other relevant features of the development;
- A description of the likely significant effects of the Project on the environment;
- A description of any features of the Project, or measures envisaged in order to avoid, prevent, or reduce and, if possible, offset likely significant adverse effects on the environment;
- A description of the reasonable alternatives studied by the applicant or appellant, which are relevant to the Project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the development on the environment;
- A non-technical summary; and
- Any additional information specified in Schedule 4 relevant to the specific characteristics of the development or type of development and to the environmental features likely to be significantly affected.

1.5.2. Column 1 of **Table 1-1** lists those topics that need to be considered when preparing an EIA Report and **column 2** lists where these are included in the EIA Reports supporting this application.

Table 1-1 - Scope of EIA Report

Topics to be assessed under the EIA Regulations	Chapter titles within this EIA Report
Population	Chapter 6 – Landscape and Visual Chapter 7 – Traffic and Transport
Human Health	Chapter 6 – Landscape and Visual

	Chapter 10 – Water Resources and Flood Risk
Biodiversity	Chapter 8 – Ecology
Land	ES Chapter scoped out as significant effects unlikely. A Peat and Soil Survey Report and a Land Quality Phase 1 desk study have been included in the EIA Report, which recommend appropriate mitigation measures. A Coal Mining Risk Assessment has also been produced. These are considered in Chapter 4 – Description of the Project.
Soil	Mitigation measures are captured in a Land Quality Phase 1 desk study, and a Peat and Soil Survey Report. A Coal Mining Risk Assessment has also been produced. These are considered in Chapter 4 – Description of the Project.
Water Environment	Chapter 10 – Water Resources and Flood Risk
Air Quality	ES Chapter scoped out as significant effects unlikely. Standard mitigation measures aimed at reducing air quality impacts are captured within a Construction Environment Management Plan (CEMP), and considered within Chapter 4 – Description of the Project.
Pollutants	Standard mitigation measures aimed at reducing impacts such as noise, are considered within a Noise Vibration Management Plan appended to the CEMP, and considered within Chapter 4 – Description of the Project. The CEMP also outlines best practice measures for avoidance of spillage and contamination during construction.
Climate	N/A – scoped out
Material Assets	N/A – scoped out
Cultural Heritage	Chapter 9 – Historic Environment
Landscape	Chapter 6 – Landscape and Visual
The inter-relationship between the above factors and cumulative effects	These are assessed within each Chapter as relevant

Vulnerability to major accidents or disasters	N/A – scoped out

1.6 STRUCTURE OF THIS EIA REPORT

1.6.1. The EIA Report comprises five volumes:

- Volume 1 (this volume) is sub-divided into the following chapters:
  - Chapter 1: Introduction;
  - Chapter 2: Environmental Impact Assessment Approach, details the approach that has been adopted in preparing the EIA Report;
  - Chapter 3: Design Evolution and Alternatives, details the need for the Project, outlines the main alternatives considered and indicates the main reasons for the preferred choice;
  - Chapter 4: Description of the Project provides a description of the Project;
  - Chapter 5: Planning Policy, provides an overview of key policies and legislation that are relevant to the EIA Report;
  - Chapter 6 to 10 set out the technical assessments for the environmental topics considered in the EIA Report; and
  - Chapter 11 provides a summary of mitigation and residual effects.
- Volume 2 contains the Figures referred to in Volume 1;
- Volume 3 contains the Technical Appendices referred to in Volume 1;
- Volume 4 is a Non-Technical Summary (NTS), which is also available as a standalone document, and summarises the findings of the EIA studies; and
- Volume 5 is a Confidential Appendix containing protected species results.

1.7 OTHER APPLICATION DOCUMENTS

1.7.1. The following documents are included as part of this DNS submission:

- Cover letter requesting consent;
- Pre-Application Consultation (PAC) Report;
- Green Infrastructure Statement;
- Planning Statement; and
- Design and Access Statement.

1.8 AVAILABILITY OF THE ENVIRONMENTAL IMPACT ASSESSMENT

1.8.1. The EIA Report and other documentation will be viewable at www.ftgrid.co.uk.

1.8.2. There will also be there public exhibitions events at the following locations, where the EIA Report will be available to view:

- St David's Church, Church Place, Maesteg, Bridgend CF34 9PA;
- Nantyffyllon Rugby Football Club, Nant Y Ffyrling, Maesteg CF34 0BU; and

- Llangynwyd Village Hall; Bridgend Rd, Llangynwyd, Maesteg CF34 9SW.

1.8.3. Following submission of the application and accompanying final EIA Report to PEDW, notice will be given in accordance with Regulations 19 of the EIA Regulations (Wales). This will include details of the Project, state that this is subject to EIA and provide details of how the EIA Report can be inspected and copies obtained, including any associated cost for hard copies. The notice under Regulation 19 will also provide details of how representations can be made and detail arrangements for public participation in the decision-making process. The notice will be advertised in the Western Mail local newspaper.

2 ENVIRONMENTAL IMPACT ASSESSMENT APPROACH

2.1 THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

2.1.1. The preparation of the EIA Report is one of the key stages in the EIA process, as it presents the assessment of likely significant environmental effects, which PEDW will use to inform their decision about whether consent should be granted for the Project.

2.1.2. The EIA process culminates in the provision of an Environmental Statement (ES) which provides environmental information in accordance with the Town and Country Planning (Environmental Impact Assessment) (EIA) (Wales) Regulations 2017. The ES provides an assessment of the likely significant effects associated with the Project during its construction, operation, and decommissioning.

2.1.3. The environmental aspect assessments have been carried out using the general approach and processes set out in this chapter. In each topic chapter, specific methodologies for those assessments are explained.

2.2 EIA TERMINOLOGY

IMPACTS AND EFFECTS

2.2.1. In some EIA Reports, the terms ‘impacts’ and ‘effects’ are used interchangeably, whilst in others, the terms are given different meanings. The convention used in this EIA Report is to use ‘impacts’ only within the context of the term EIA, which describes the process from scoping through EIA Report preparation to subsequent monitoring and other work.

2.2.2. Otherwise, this document uses the word ‘effects’ when describing the environmental consequences of the Project, which may, for example, come about as a result of physical activities that would take place if the development were to proceed. The environmental changes that occur as a result of these activities may in some cases cause another change, which in turn results in another environmental effect.

2.2.3. The predicted environmental effects are the consequences of the environmental changes for specific environmental receptors.

2.2.4. This EIA Report is concerned with assessing the significance of the environmental effects of the Project, which requires the activities that will be undertaken to be understood and the resultant changes to be identified and quantified, often based on predictive assessment work before reaching a conclusion on the significant environmental effect.

SPATIAL AND TEMPORAL SCOPE

2.2.5. Spatial scope is the area over which changes to the environment are predicted to occur as a result of the Project. In practice, an EIA should focus on those areas within which any identified effects are likely to be significant.

2.2.6. Within this EIA Report, the spatial scope varies between environmental topics and is therefore described in each of the topic chapters.

2.2.7. The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur. As the Project nears the end of its intended operational life, a decision will be taken as to whether or not a life extension, repowering or decommissioning will be required. However, for assessment purposes, the EIA Report assumes the proposed grid connection will remain in situ, as it has the potential to become integrated into the Distribution Network Operator (DNO) wider distribution network.

2.2.8. Therefore, the focus of the assessments is on the potential effects during construction, operation & maintenance, though decommissioning is considered where appropriate. Should the assessment of an individual technical topic deviate from this general approach, it will be clarified within the technical chapter. For example, traffic and transport assessments for developments typically focus on the construction period as this is when there is greatest potential for significant effects to occur because of the increase in the volume of Heavy Goods Vehicles (HGVs). During operation however, traffic is generally restricted to occasional monitoring and maintenance visits which is unlikely to result in significant effects. The potential effect on users of the road network as a result of operational is therefore typically scoped out of detailed assessment. Changes as a result of the Project that occur during construction, operation and/ or decommissioning may result in effects that persist beyond these phases. The effects are typically defined as either being temporary or permanent.

2.3 EIA SCOPING

2.3.1. The EIA scoping process aims to identify the scope and level of detail of information to be provided within the EIA Report. In particular, the process involves identifying the following:

- The people and environmental resources (collectively known as the ‘receptors’) that could be significantly affected by the Project;
- The methodology for the assessment of those effects identified as being potentially significant;
- Environmental effects which have the potential of being significant, and therefore are required to be considered within an Environmental Statement; and
- Environmental effects which are not anticipated to be significant and, therefore, are not required to be considered further within an Environmental Statement.

2.3.2. The preparation of a scoping report is informed by the legislative and policy context that will influence the scheme as well as the environmental information relevant to the Project and its surroundings. It is also informed by the simple rule that, to be significant, an effect must be of sufficient importance that it should influence the process of decision-making about whether consent should be granted for a project or an element of it.

2.3.3. An EIA Scoping Report was submitted on 22nd November 2024 to PEDW, and is included in **Appendix 2A**.

2.3.4. The EIA Scoping Opinion (**Appendix 2B**), as well as additional responses received following Pre-Application Consultation (**Appendix 2C**) have been used to inform and shape the scope of the assessments, based on responses from the local councils and consultees.

2.4 CONSULTATION

EIA SCOPING OPINION AND FURTHER CONSULTATION

2.4.1. PEDW formally issued the Scoping Opinion in response to the Scoping Report on 12th March 2025 (**Appendix 2B**). The draft EIA Report was submitted 17th March 2025, and the following consultees responded during Pre-Application Consultation (**Appendix 2C**):

- Cadw – 29th April 2025; and
- Natural Resources Wales (NRW) – 7th May 2025.

2.4.2. All consultation responses, both statutory and non-statutory, are captured and addressed in the PAC Report of this DNS submission (see **Section 1.7**).

2.4.3. Where specific reference is made to a particular topic, such as Ecology, this is captured and responded to within each individual chapter. General comments regarding the EIA Report are outlined in **Table 2-1** below.

Table 2-1 - Consultation Response: General

Consultee	Scoping Opinion	Response
PEDW	The Applicants should satisfy themselves that the ES includes all the information outlined in Schedule 4 of the 2017 Regulations [regulation 17]	EIA Report has been written and assessed in line with Schedule 4 of the 2017 Regulations [regulation 17]. See **Chapter 2: EIA Approach** for more details.
PEDW	Consideration should be given to whether standalone topic chapters would be necessary for topics that are currently proposed to be considered as part of other chapters, particularly if it is apparent that there are significant effects and a large amount of information for a particular topic.	EIA Report structure remains proportionate, as outlined in the Scoping Report (**Appendix 2A**). The structure of the EIA report is detailed in **Chapter 2: EIA Approach.**
PEDW	The developer is encouraged to liaise with key consultees regarding non-ES application documents which are not a legislative requirement of the DNS regime.	All consultation and responses are captured within the PAC Report.
PEDW	The impacts of construction, operation and decommissioning activities should be considered as part of the assessment where these could give rise to significant environmental effects.	These are considered, where appropriate, in each individual topic chapter (**Chapter 6 – 10**).
PEDW	The Applicant should ensure that relevant schemes identified are addressed in the ES using the tiered approach set out in the Advice:	Appropriate cumulative developments have been captured in **Table 2-3** and **Figure 2-1** of the EIA Report.

	https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment	Individual topic chapters assess cumulative impacts as appropriate.
PEDW	Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES. The ES should address this matter as appropriate.	Transboundary effects are described in **Section 2.7.** It is considered in assessments as part of the EIA methodology and approach; there are no likely significant transboundary effects in relation to the Project.
PEDW	Considered environmental implications for all options, and provide reasons for not opting for least damaging (if applicable)	Alternatives are considered in **Chapter 3: Design, Evolution and Alternatives.**
PEDW	Embedded mitigation to be considered under 'reasonable alternatives considered'.	Alternatives are considered in **Chapter 3: Design, Evolution and Alternatives.**
PEDW	Advised to liaise with LPAs on development proposals that should be included in the cumulative assessments.	The Local Planning Authorities have viewed and responded to the Scoping Report (**Appendix 2A**) and have had the opportunity to review and comment on the draft ES submission. All consultation responses have been captured and addressed in the PAC Report of this DNS submission.
PEDW	Inclusion of EMF impacts during operation	EMF impacts are considered in **Chapter 4: Project Description** and **Appendix 4D: Electric and Magnetic Fields: The Facts**.
PEDW	Consideration given in ES whether the cabling needs to replaced due to it's performance efficacy reducing overtime	The OHL has a lifespan of 40 years, and UGC has a lifespan of 100 years. During the lifespan of the Project, the cables will only need to replaced due to a fault, or increased capacity requirements in the wider distribution network. See **Chapter 4: Project Description.**
PEDW	Robust rationale for selection of overhead and underground cables	Option selection is outline in **Chapter 3: Design Evolution.**

PEDW	Provide clarity of decomissioning stage - very least indicate how decomissioning will be done (clearly show what is left on site and what will be removed).	All components will be left in situ, as they have the potential to integrate into the wider DNO distribution network. See **Chapter 4: Project Description.**

2.5 OVERVIEW OF ASSESSMENT METHODOLOGY

INTRODUCTION

2.5.1. All the topic assessments presented in the draft EIA Report have been undertaken on the Project, as described within **Chapter 4: Description of the Project**.

2.5.2. The assessment of effects has been undertaken by competent experts with relevant specialist skills, drawing on their experience of working on other development projects, good practice in EIA and relevant published information. A list of these experts, their qualifications and competencies have been provided within **Appendix 1A**.

2.5.3. For some topics, use has been made of modelling or other methodologies, as appropriate.

2.5.4. For each topic considered in this EIA Report, where appropriate, the chapters use the following format:

- Introduction;
- Limitations of the Assessment;
- Policy, Legislation and Guidance;
- Consultation;
- Data Gathering Methodology;
- Overall Baseline;
- Scope of the Assessment;
- Embedded Measures;
- Assessment Methodology;
- Assessment of Effects;
- Assessment of Cumulative Effects;
- Mitigation and Residual Effects;
- Conclusions of Significance Evaluation;
- References.

2.6 IDENTIFICATION OF BASELINE CONDITIONS

2.6.1. To determine the baseline conditions that should be used for the assessment of the likely significant effects of the Project, it is necessary to define the current baseline conditions and then to decide whether these conditions are likely to change by the 'assessment years' that are selected for the construction, operation and maintenance of the Project. If this future baseline is more likely to occur that the current baseline, the future baseline is used for the assessment of effects. However, if the

current baseline is just as likely, or even more likely, to occur in the assessment years, the current baseline is used for the assessment.

2.6.2. As the various elements of the Project would be built over a period of 9 months, from an estimated start date of January 2028, it cannot be assumed that the baseline conditions would be the same as the current baseline at the time of construction or during construction or operation. Where relevant, technical chapters, therefore, provide a description of the likely changes to the baseline in the absence of the Project. The baseline is determined for the *'Study Area'* for each environmental topic by a combination of desk-based research, together with field survey work (where required). The Study Area encompasses the Site boundary but may also include land outside this, where effects are likely to extend beyond such geographical limits. Zones of Influence (ZoIs), where the Project could affect off-site areas, are therefore considered where relevant for each technical topic considered in the EIA.

2.6.3. Where relevant, details of the ZoIs are discussed in the baseline section of the environmental topic chapter considered and the basis for the Study Area explained. These chapters also explain the basis for defining the future baseline conditions, where this is appropriate. This is based on the following:

- Changes to the baseline that can be predicted based on reasonable assumptions and modelling calculations, e.g. the application of traffic growth factors based on relevant guidance;
- Information relating to other likely and predictable changes; and
- Information about other relevant developments, including the nature of the development proposals, their likely timing and their location relative to the Project.

2.7 OVERVIEW OF APPROACH TO SIGNIFICANCE EVALUATION METHODOLOGY

INTRODUCTION

2.7.1. One of the requirements of an EIA Report is to set out the conclusions that have been reached on the likely significant environmental effects arising from the Project. Reaching a conclusion about which effects, if any, are likely to be significant is the culmination of an iterative process that involves the following stages:

- Identifying those effects that could potentially be significant;
- Assessing the effects of a proposed development against the baseline conditions; and
- Concluding whether these are likely to be significant.

2.7.2. **Chapters 6 to 10** describe the approaches that have been used, in relation to the stages outlined in the bullet points above, for each of the environmental topics that are considered in this EIA Report.

IDENTIFICATION OF LIKELY SIGNIFICANT EFFECTS

2.7.3. The technical assessments have been carried out on the Project, as summarised within **Chapter 4: Description of the Project** of this draft EIA Report.

2.7.4. The technical assessment undertaken in **Chapters 6 to 10** of this draft EIA Report describe how environmental changes resulting from the Project as assessed to determine the significance of effects, together with the topic-specific approaches that have been used to identify the receptors that could be significantly affected by the Project.

TYPES OF EFFECTS

2.7.5. Paragraph 5 of Schedule 4 of the EIA Regulations states that *'the description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term, and long-term, permanent and temporary, positive and negative effects of the development'*.

2.7.6. Where appropriate, this EIA Report considered these types of effects within the individual topic chapters as relevant. A description of the different types of effects is set out below, with the exception of cumulative effects which are dealt with separately in **Section 2.8**.

Direct Effects

2.7.7. Direct effects are those that result directly from a project. For example, where a machine compresses an area of habitat, this physical activity results in a change to this receptor.

Indirect and Secondary Effects

2.7.8. Indirect and secondary effects are those that result from consequential change caused by a project. As such they would normally occur on a different receptor, later in time or at locations farther away than direct effects. An example would be where an area of habitat disturbed by machinery results in loss of vegetation and soil compaction which increases silted run-off rates into nearby watercourses.

Local, Regional, National and Transboundary Effects

2.7.9. Transboundary effects are those that would affect the environment in another state within the European Economic Area (EEA).

Temporal Effects

2.7.10. As discussed in **Section 2.2**, temporal effects are typically defined as being permanent or temporary as follows:

- Permanent - these are effects that will remain even when a project is complete, although these effects may be caused by environmental changes that are permanent or temporary; and
- Temporary – these are effects that are related to environmental changes associated with a particular activity and that will cease when that activity finishes. Where effects are temporary, they may be defined as short, medium or long-term, the duration of which may depend on the receptor in question and would therefore be defined in technical chapters as appropriate.

SIGNIFICANCE EVALUATION

Overview

2.7.11. The receptors that could be significantly affected by the Project are identified within each topic chapter. The approach that is adopted to determine whether the effects on these receptors are

significant is to apply a combination of professional judgement and a topic-specific significance evaluation methodology that draws on the results of the assessment works that has been carried out.

2.7.12. There is a degree of flexibility within the EIA Report when reporting the significance of effects in terms of the EIA Regulations. This is determined using professional judgment, with reference to the project description and available information about the magnitude and other characteristics of the potential changes that are expected to be caused by the Project, the receptors' sensitivity to these changes, and the effects of these changes on relevant receptors.

2.7.13. In some cases, use of the 'significance test' alone will enable a conclusion to be reached in the 'Scope of the assessment' section of the topic chapter, without the need for more detailed work to assess whether or not a potential effect is likely to be significant. For example, this could be because additional baseline date or detail on the Project description has been obtained which has allowed potential effect to be scoped out after the scoping stage. However, in other cases, effects identified in the 'scope of the assessment' section are taken forward for further assessment in the subsequent section(s) of each topic chapter.

2.7.14. All topic-specific chapters, the methodology follows the approach detailed in this section. However, for some of the topics there is published guidance available about significance evaluation. Where such guidance exists, it has been used to inform the development of the significance evaluation methodologies that are used in this EIA Report. For other topics, it has been necessary to develop methodologies without the benefit of guidance. This has involved technical specialists drawing on their previous experience of significance evaluation in EIA. Having applied the relevant topic-specific significance evaluation methodology, the topic specialists assess the conclusions against the significance evaluation matrix (**Table 2-2**).

2.7.15. While there may be variation depending on the technical topic being considered, significance evaluation generally involves combining information about the sensitivity, importance or value of a receptor, and the magnitude and other characteristics of the changes that affect the receptor. The approach to using this information for significance evaluation is outlined below.

RECEPTOR SENSITIVITY, IMPORTANCE, OR VALUE

2.7.16. The sensitivity or value of a receptor is largely a product of its importance, as informed by legislation and policy, and as qualified by professional judgement. For example, receptors for landscape, biodiversity or the historic environment may be defined as being of international or national importance. Lower-value receptors may be defined as being sensitive or important at a county or district level.

2.7.17. The use of a location or physical element that may be representative of receptors, e.g. people, would also play a part in its classification in terms of sensitivity, importance, or value. For example, when considering effects on the amenities of people, a location used for recreational purposes may be considered more sensitive to change or be valued more than a place of work.

2.7.18. The sensitivity, importance, or value of receptors that may be affected by the Project would be identified on a scale from *very low* to *very high*. For each environmental topic, it is necessary to

provide a detailed rationale that explains how the categories of sensitivity/importance/value detailed in **Table 2-2** have been used.

MAGNITUDE OF CHANGE

2.7.19. The magnitude of change affecting a receptor as a result of the Project would be identified on a scale from *very low* to *very high*. As with receptor sensitivity and value, a rationale is provided in each topic chapter that explains how the categories of environmental change are defined. For certain topics, the magnitude of change would be related to guidance on what levels of change are acceptable (e.g. for noise) and be based on numerical parameters. For other changes, it will be a matter of professional judgement to determine the magnitude of change detailed in **Table 2-2**, using descriptive terms.

DETERMINATION OF SIGNIFICANCE

2.7.20. The significance of effects is determined with reference to information about the nature of the development, the receptors that could be affected and their sensitivity, importance or value, together with the magnitudes of environmental change that are likely to occur.

2.7.21. Significance evaluation of the effects of the Project for many environmental topics can be guided by the use of matrices that combine sensitivity/importance/value and the magnitude of environmental changes as shown in the example in **Table 2-2**. In addition, professional judgment is applied because, for certain environmental topics, the lines between the sensitivities or magnitudes of change may not be clearly defined and the resulting assessment conclusions may need clarifying. It should be noted that as directed by topic-specific guidelines issued by institutions governing a particular discipline, some environmental topics avoid the use of matrices to assess significance.

Table 2-2 - Significance Evaluation Matrix

		Magnitude of change				
		Very high	High	Medium	Low	Very low
Sensitivity/importance/value	Very high	Major (Significant)	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Probably significant)
	High	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)
	Medium	Major (Significant)	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)
	Low	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)
	Very Low	Moderate	Minor	Negligible	Negligible	Negligible

(Probably significant)	(Not significant)	(Not significant)	(Not significant)	(Not significant)

2.7.22. Within the matrix that is used in most significant evaluation exercises, reference is made to:

- Major effects, which will always be determined as being significant in EIA terms;
- Moderate effects, which are likely to be significant, although there may be circumstances where such effects are considered not significant based on professional judgement; and
- Minor or negligible effects, which will always be determined as not significant.

2.7.23. Variations to this approach, which may be applicable to specific environmental topics, will be detailed in the relevant 'assessment methodology' sub-section contained in each environmental topic chapter.

2.7.24. Definitions of how the categories that are used in the matrix are derived for each topic are also set out in each environmental topic chapter, along with the relevant explanation and descriptions of receptor sensitivity, magnitude of change and levels of effect that are considered significant under the EIA Regulations.

2.8 ASSESSMENT OF CUMULATIVE EFFECTS

2.8.1. For each environmental topic that is dealt with in this EIA Report, an assessment is undertaken within each technical chapter of how the environmental effects resulting from the Project could combine with the same topic-related effects generated by other developments to affect a common receptor. To do this, it is important to first identify which other developments need to be included in the cumulative effects assessment ('CEA') under each environmental topic assessment undertaken. The starting point for this is to determine for each environmental topic considered the ZoIs of the Project for each receptor that could be significantly affected.

2.8.2. Identifying the other developments that should be considered in the CEA involves first acknowledging that the availability of information necessary to conduct this will partly depend on the prevailing status of the other relevant developments. Cumulative developments relevant to the Project are shown in **Figure 2-1** and **Table 2-3**.

Table 2-3 - Cumulative Developments

Planning Authority Area	Planning Application Reference	Category	Summary of Development	Approved/ Application
NPTCBC	P2022/0517	Energy/ Wind Farm	Foel Trawsnant Wind Farm associated with Project - consisting of 11 turbines with a maximum tip height of 145m. Amendment to the plans referred to in condition 3 of planning permission reference P2014/0825 to allow for approval of revised plans for the development.	Approved
NPTCBC	P2022/0344	Energy/ Wind Farm	Foel Trawsnant Wind Farm Wind Farm associated with Project - consisting of 11 turbines with a maximum tip height of 145m. Non Material Amendment of planning permission.	Approved
BCBC	P/23/621/APN	Agricultural	Agricultural Storage Building. Prior notification for a new building to store hay and farm machinery.	Approved
BCBC	P2020/1002	Energy/ Wind Farm	Upper Ogmore Wind Farm. Application made to the Welsh Ministers under The Developments of National Significance (Wales) Regulations 2016 Notice for a Development of National Significance (DNS): seven wind turbines - four	Approved

Planning Authority Area	Planning Application Reference	Category	Summary of Development	Approved/ Application
			turbines are up to a maximum tip height of 149.9m, and three turbines are up to a maximum tip height of 130m.	
NPTCBC	P2022/0694	Energy/ Solar	Installation of Solar Farm, with a capacity of 3.80MW, on a former colliery soil heap between the B284 and A48 northwest of Pyle.	Approved
NPTCBC	P2024/0820	Residential	Mixed-use Residential Development, comprising of 600 apartments and 100-bed hotel.	Approved
NPTCBC	P2024/0029	Energy/ Wind Farm	Y Bryn Wind Farm; consisting of 18 turbines with a maximum height ranging between up to 206m, up to 203m, and up to 250m to blade tip.	Application
BCBC	P/12/877/BCB	Community Infrastructure	Create Wildlife & Sustainable Urban Drainage Scheme Ponds To Enhance The Ecological Potential Of The Welfare Park	Approved
BCBC	P/16/291/FUL	Community Infrastructure	Creation Of Community Wood- Land On Reclaimed Colliery & Washery & Tip Site, Inc Tree Planting Create Infrastructure	Approved

Planning Authority Area	Planning Application Reference	Category	Summary of Development	Approved/ Application
BCBC	P/16/128/FUL	Minerals	Restoration of former mine. Alternative restoration & aftercare scheme inc. pumping, earthworks, soil relocation, rights of way.	Application
NPTCBC	P2023/0498	Energy/ Solar	Proposed 50 MW ground mounted photovoltaic solar farm with associated equipment, infrastructure, grid connection and ancillary works.	Application
BCBC	P/19/915/RES	Residential	Residential Development of 405 units. Reserved matters to P/16/366/OUT for 405 residential units, link road and temporary car park	Application

2.8.3. Paragraph 5 (e) of Schedule 4 of the EIA Regulations (Wales) 2017 states that *'the cumulation of effects with existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'*.

2.8.4. Therefore, such developments, where they are located within the ZoI for a given environmental topic, have been subject to CEA. These developments are discussed, as appropriate, in the sub-section of each environmental topic chapter that deals with the assessment of cumulative effects.

2.9 MITIGATION MEASURES

2.9.1. As specified within Schedule 4, Paragraph 7 of the EIA Regulations, appropriate mitigation measures will be identified to avoid, prevent, reduce, or if possible offset identified potential significant environmental effects.

2.9.2. The following will be considered:

- Embedded mitigation –which is built-in to the Project during the design process;
- Any additional mitigation – aimed to avoid, prevent, reduce, or if possible offset significant effects; and
- Enhancement measures.

2.9.3. A key feature of the EIA approach will be to ensure a robust assessment which will address significant issues and provide workable mitigation.

2.10 RESIDUAL EFFECTS

2.10.1. Following the identification of mitigation and monitoring measures to address significant adverse effects, an assessment of the significance of any residual impacts (i.e., those remaining after the implementation of addition mitigation) will be completed.

3 DESIGN, EVOLUTION AND ALTERNATIVES

3.1 INTRODUCTION

3.1.1. The Environmental Impact Assessment (EIA) Regulations states that an EIA Report should include:

- In paragraph 17(3)(d) of Part 5*: "a description of the reasonable alternatives studied by the developer, which are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment";*
- *Paragraph 2 of Schedule 4: "A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."*

3.1.2. The design evolution and consideration of alternatives of the Project is discussed in the sub-sections below.

3.2 SITE SELECTION

SITE SELECTION PROCESS

3.2.1. An initial assessment of the feasibility of the site was conducted using Geographical Information Systems ('GIS'), to look at high-level constraints and key criteria for the proposed grid connection. This process allowed early identification of key technical, environmental, planning and commercial issues, which could either support or potentially hinder the Project.

3.2.2. Some locations were excluded, following this exercise, due to factors including landscape and visual, planning policy, and commercial constraints.

3.2.3. At the conclusion of the initial assessment phase, the final proposed Site was identified as being potentially suitable for development as no significant constraints had been identified.

3.2.4. Potentially suitable sites were evaluated, using the basic assessment criteria as outlined below:

- **Land Availability**: ensuring there is sufficient land available for development;
- **Land Use and Context**: assessing the suitability of the existing land use and ensuring that the chosen site is out with international or national environmental or planning designations;
- **Electricity Grid**: assessing whether the site is within appropriate proximity of a suitable connection point to the electricity grid network;
- **Transport Infrastructure**: ensuring the site is accessible via public road infrastructure to allow the construction, operation and maintenance of a wind farm;
- **Landscape and Visual**: an initial assessment of the landscape and visual effects of the proposed grid connection on important receptors (i.e. ensuring it is not located within a statutory designated landscape and taking into account considerations of landscape sensitivity and potentially sensitive visual receptors); and
- **Nature Conservation Sites**: an initial assessment to determine the distance of statutorily designated sites such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves

('NNRs'), Ramsar Sites, Special Areas of Conservation ('SACs') and Special Protection Areas ('SPAs') from the site.

3.2.5. The conclusion of this feasibility assessment work was that the final proposed Site met the necessary basic assessment criteria and therefore warranted further detailed environmental and technical assessment.

3.2.6. The findings of the feasibility assessment were subsequently built on by undertaking design work for the Project. This included undertaking consultations with relevant stakeholders such as National Resources Wales (NRW), in order to understand their views on a potential grid connection at the Site and to ultimately assist in the evolution of an appropriate, responsibly designed Project.

3.2.7. Assessment was undertaken to understand environmental and technical constraints. This design has evolved as detailed in **Section 3.4**, to the current Project which is illustrated in **Figure 4.1**.

3.3 CONSIDERATION OF ALTERNATIVES

3.3.1. In EIA terms, the requirement of consideration of alternatives is to report on reasonable alternatives that have been considered by an applicant rather than it being a requirement of an EIA to identify and consider alternatives beyond those considered by an applicant.

3.3.2. Specific to the Project, alternatives in respect of layout were considered and the alternatives in respect of these are set out below.

WITHOUT THE PROJECT

3.3.3. A description of the existing baseline conditions and the potential evolution of that baseline is described in each of the technical chapters. Without the Project, the status quo would be expected to remain.

TECHNOLOGY

3.3.4. The proposed grid connection will be used to connect the consented Foels Trawsnant Wind Farm to the wider national grid; without which, the wind farm would not be able to serve its purpose in providing renewable energy. The requirement for renewable energy is accepted at national policy level with wind energy widely recognised as the most mature renewable energy technology currently available. The Site was identified as being appropriately located to transfer electricity from the wind farm to the national grid.

3.4 DESIGN EVOLUTION

3.4.1. The layout of the route has progressed through a number of design iterations, as summarised in **Table 3-1**. A 10m micro-siting allowance is proposed for the OHL pole locations, to build in contingency and avoid encroachment into any environmentally or technically constrained areas. In addition, micro-siting provides scope to mitigate potential geo-environmental and geotechnical constraints.

3.4.2. The design of the Project has evolved following consultations with stakeholders such as Natural Resources Wales (NRW).

3.4.3. Embedded mitigation measures have been incorporated into the design and construction of the Project, to avoid, prevent or minimise significant adverse environmental effects where possible. These embedded mitigation measures are captured and discussed in the relevant technical chapters and a summary of the proposed mitigation measures is presented in **Chapter 11: Summary of Mitigation**.

3.4.4. The proposed gird connection route has evolved in response to a number of environmental and technical constraints, as well as achieving landowner agreements for the siting of wooden poles, the installation of overhead lines and underground cables.

3.4.5. **Table 3-1** identifies the main iterations of the route design and the rationale for such changes.

Table 3-1 - Design Iterations

Design Iteration	Rationale / Summary
Route 1 August 2013	The initial plan was for an overhead connection through the Penhydd and Margam forest blocks heading to south. This reflected a connection offer from Western Power Distribution to Pennant Walters, which at the time was for 132kV connection. The route connected into the existing electricity network southwest of Llangynwyd. This route served as the starting point for consideration of the Project.
Route 2 March 2014	This iteration was prepared following feedback from Natural Resources Wales who requested that the northern section of the route (from Foel Trawsnant to the Neath Road) be undergrounded through the Penhydd forest via an existing forest track to minimise effects on forestry operations.
Route 3 2016	No route change – but Western Power Distribution modified their offer from 132kV to 66kV. In addition, the underground route was modified to align with the proposed bellmouth on the Neath Road which would serve the Foel Trawsnant Wind Farm.
Route 4 2016 to 2018	The southern end of the route, south of the Neath Road, was revised to avoid and minimise effects on sites of archaeological or historic importance, including the Y Bwlwarcau Hillfort (GM059).
Route 5 2019	In 2019 a wind farm development "Y Bryn" came forward on the Penhydd and Margam forest blocks (awarded to Coriolis via a competitive tender). To minimise effects on this wind farm the use of the existing track through the Penhydd forest as a connection route was no longer an option. As a result, an overhead line connection further east was taken forward, but still within the Penhydd Forest.

Route 6 2019 to 2023	In the northern part of the route, a series of iterative alignments to the east were required to further minimise effects on the "Y Bryn" wind farm and to avoid ongoing or planned forestry operations within Penhydd Forest. In the southern part of the route, similar iteratives alignments to the east were required to avoid impacts on the Y Bryn wind farm, and also to avoid ancient woodland and to minimise effects on forests.
Route 7 (final route) 2023 to 2024	This final iteration introduced the use of undergrounding cables. Whilst this is significantly more expensive, it was considered the most straightforward method to achieve a connection which by this point had taken over a decade to negotiate and design. The resultant route design involved: • 350m (approx.) of overhead line from the Foel Trawsnant wind farm site to a location north west of Nantyffyllon at which point in transitions to underground cables laid in roads and lanes, from Kings Terrace heading south. • Once south of Maesteg the connection reverts back to an overhead line on private land. • The alignment of the route at the southern end of the connection has been designed to minimise effects on residential properties whilst also positioning the wood poles as close to field boundaries as possible to minimise effects on agricultural operations. It also reflects agreements reached with landowners.

3.5 SUMMARY

3.5.1. As outlined above, environmental and technical issues (such as cumulative effects with nearby developments) have been addressed during the development of the Project design, which is based on a thorough understanding and appreciation of local character and circumstances. The final design of the Project was the result of several stages of design iteration, informed by analysis of the environmental baseline, commercial considerations and comprehensive consultation.

3.5.2. The approach to mitigation is set out in **Chapter 2: EIA Approach**; the general project description is outlined **in Chapter 4: Description of the Project**. Where necessary, additional mitigation measures to address specific environmental effects are set out within technical **Chapters 6 to 10** and summarised in **Chapter 11: Summary of Mitigation.**

4 DESCRIPTION OF THE PROJECT

4.1 INTRODUCTION

4.1.1. Paragraph 1 of Schedule 4 of the EIA Regulations states that the scheme description should include:

a) "A description of the location of the development;
b) A description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
c) A description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;
d) An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation, and quantities and types of waste produced during the construction and operation phases)."

4.1.2. These requirements are addressed in the sub-sections below.

4.2 DEVELOPMENT DESCRIPTION

SITE LOCATION

4.2.1. The Project is situated in south Wales, to the southwest of Llangnwyd, and centred at Grid Reference (E) 284175, (N) 187428. The application Site boundary covers an area of 22.5 hectares (ha). The proposed grid connection is approximately 9km in length, split into the following sections:

- 1.2km northern OHL;
- 5.1km UGC; and
- 2.7km southern OHL.

4.2.2. The Project falls into two local authorities - Bridgend County Borough Council (BCBC) which the Project mostly resides, and Neath Port Talbot County Borough Council (NPTCBC), where the start and end sections of the connection are located.

EXISTING SITE AND SURROUNDINGS

4.2.3. The Project is located within South Wales near the town of Maesteg, as described in **Section 1.2** and shown in **Figure 4-1.**

4.2.4. To the west of the Project, the surrounding area consists mainly of fields and woodland. To the east of the route there are residential properties and commercial facilities including Maesteg Fire Station, Nantyffyllon RFC, Tesco Superstore, Aldi, various schools and farms. Due to the majority of these being within the area of UGC section of the route, the visibility of the OHL will be limited for most of these receptors. Maesteg Golf Club is within close proximity to the UGC section of the route at the B4282. There are also a number of main roads within the surrounding area of the Project including the A4063 and the B4282.

4.2.5. The Project comprises of the infrastructure listed in **Table 4.1,** and shown in **Appendix 4C** (OHL poles, cable trenches and joint bays), and **Figure 4.1** (temporary construction compound).

Table 4-1 - Key Features of the Project

Component	Description
Cable	Length: 27.5km Dimensions: 630mm diameter Description: Cu Cable (not oil filled)
Overhead Line Poles	Quantity: 72 wooden poles (at 36 locations) Height: • 10 poles at 11m • 42 poles at 12m • 10 poles at 13m • 4 poles at 14m • 6 poles at 15m
Cable Trenches	Length: 5.1km Dimensions: ~1.5m depth, and between 600mm to 1.5m wide.
Joint Bay Boxes	Quantity: 22 Dimensions: ~2m depth, and 5m x 3m
Temporary Construction Compound	Approximately centred on (E) 283826 (N) 193954 Dimensions: ~20m by 20m Maximum Compound Footprint: ~0.04ha
Watercourse Crossings	Number: One temporary dam

Overhead Line Poles

4.2.6. An OHL would be carried on wooden H-poles, consisting of two single wooden poles (most likely Scots Pine) joined by a crossarm with bracing. At the termination points only, two sets of H-poles will be located side-by-side. Terminal ends may be located at the start and end of the underground section of the connection.

4.2.7. Whilst the intention is for the route to be as straight as possible, there will be some deviation to avoid environmental features, such as trees. At points of deviation, angle poles will be used; these are likely to be H-pole structures. In all locations where the line deviates, there will be the requirement to provide cable stays to the poles. The poles are not typically stayed, and do not require concrete foundations. However, pre-cast kicking blocks will be installed below ground, to provide the poles with adequate structural support.

4.2.8. The height of the wooden poles will mostly be 12m above ground level, with a maximum height not exceeding 15m above ground (see **Table 4-1**). An assumed minimum clearance to trees from the conductors is 4m from the nearest part of the tree.

4.2.9. The poles are designed to carry the conductor wires. It is currently proposed to install a single circuit made up of one conductor per phase. Telemetry and monitoring capabilities, such as fault detection, will be provided by a microwave link. The poles will carry the cross arms onto which the insulators are attached. Poplar conductor wire will be used for all the OHL sections. Span length between poles will be between 90m to 130m. The actual span between poles will be influenced by topography and the surrounding environment.

4.2.10. The construction and maintenance of OHL will be in accordance with NGED (2024) Policy Document: OH6/4[3].

Electric and Magnetic Fields (EMFs)

4.2.11. Electric and Magnetic Fields (EMFs) arise from generation, transmission, distribution and use of electricity and will occur around power lines. All overhead power lines produce EMFs. These tend to be highest directly under a line and decrease to the sides at increasing distance. Although putting cables underground eliminates the electric field, they still produce magnetic fields, which are highest directly above the cable.

4.2.12. The Project has a relatively low voltage of 66kV, and has been designed and phased so that there will be no significant effects related to EMFs. For more information, refer to **Appendix 4D: Electric and Magnetic Fields: The Facts.**

Cable Trenches

4.2.13. Underground cabling work will involve placing cables within ducts; the ducts themselves will be within a trench. An open cut method will be used, where the duct is laid directly into a trench of up to 1.5m depth (see **Appendix 4C**). The ducts are placed at the bottom of the trench, and the excavation around the cables is then filled with sand before the remaining excavation is backfilled with the excavated material. Cables are jointed at approximately 250m intervals. The joint boxes are generally 1-2m deep and 5m x 3m. Once the cable ducts are laid, the cable will then be pulled through.

4.2.14. The creation of trenches, laying of cable ducts and pulling of cable will be in accordance with NGED (2021) Standard Technique: CA6A/7[4].

4.2.15. Any tracks or roads to be trenched for underground cabling will be returned to at least their previous condition; no track or road widening is anticipated.

[3] NGED (2024) Policy Document: OH6/4, Construction, Maintenance and Replacement of Low Voltage Overhead Services. Available at: https://www.nationalgrid.co.uk/documents/tech-info/overhead-construction
[4] NGED (2021) Standard Technique: CA6A/7, Relating to the Installation of Underground Cables. Available at: https://www.nationalgrid.co.uk/documents/tech-info/underground-cable-construction/66000-volt

Cable and Duct Material

4.2.16. The cable will be made of copper, and will not be oil filled.

4.2.17. The ducts will be PVC, the manufacturer's specification is stated below, and within **Appendix 4C**:

- Ducts will comply with ENATS 12-24 (Class 1 & 2) Industry Standard 'Technical specification for plastic ducts for buried electric cables';
- PVC has a higher chemical resistance than PE to hydrocarbon permeation and chlorine induced oxidation;
- Calcium – zinc are used as stabilizers for the selected PVC duct, rather than lead (which has been used in manufacturing PVC ducts historically);
- Both (PE and PVC) provide exceptional chemical resistance and longevity especially compared to more traditional materials such as clay or ductile iron. The lifetimes of the PVC ducts is expected to be in excess of 100 years. PVC duct has better weathering performance than PE; and
- Ducts are buried underground and therefore are not exposed to excessive UV radiation that could cause some degradation of the material.

4.2.18. If physical damage to the conductive cable material occurred during operation (such as due to damage caused accidentally by a third party) this would be identified through planned maintenance/ testing or reactive maintenance in response to operational issues and replaced as needed.

4.2.19. The Applicant has undertaken a geoenvironmental Preliminary Risk Assessment (PRA), including a Phase 1 site walkover for Land Quality (**Annex B of Appendix 4A**). This recommends appropriate mitigation and best practice measures. No significant risks to land or water quality are anticipated due to the leaching or release of contaminants from cable or ducts.

Temporary Construction Compound

4.2.20. One temporary construction compound to be located within the northern section of the Site and will comprise an area measuring 20m x 20m. It will be enclosed by appropriate security fencing and contain a single storey welfare unit powered by an on-site generator. A ReconDalek will be deployed within the compound for overnight security; where appropriate 24hr security will be provided once high-valued material is delivered. The ground surface will mostly be covered by geogrid matting (or similar). The location of the temporary construction compound is shown on **Figure 4-1**.

4.2.21. Poles and cables will be stored at the temporary construction compound. Poles will be transported to the works area, and laydown within the Site boundary on the day of installation.

4.2.22. A portable welfare facility will temporarily be located along the route as appropriate (i.e. where works are being completed, and when the temporary construction compound is not within a practical distance).

Watercourse crossings

4.2.23. The Nant Sychbant crossing will be undertaken through installing a temporary dam and laying the cable through an open cut method. Standard best-practice measures will be proposed in the CEMP to manage spillages and the generation of additional sediment being generated along the riverbed.

Micro-siting

4.2.24. Micro-siting refers to the precise locating of infrastructure, in this instance OHL poles. The Project has a micro siting allowance of 10m, and an application boundary buffer of 12.5m either side of the grid connection route.

4.2.25. Any such repositioning will be limited so as not to involve encroachment into any environmentally or technically constrained areas. In addition, micro-siting provides scope to mitigate potential geo-environmental and geotechnical constraints. The following can potentially be achieved through carefully designed micro-siting:

- Micro-siting of pole locations and underground cable route and use of alternative access routes and lay down areas to avoid/minimise direct disturbance to archaeological sensitive locations and adverse changes to setting of historic assets;
- Temporary fencing off historic assets within the vicinity of the Project to avoid impacts during construction activities; and
- Minimising vegetation loss where this would adversely affect the setting of historic assets.

4.2.26. Where environmental and technical constraints may fall within a micro-siting area, further encroachment on such areas can be restricted in any condition attached to the grant of consent (e.g., micro-siting may be restricted in a particular direction if this encroaches upon a buffer around a water course).

Site access

4.2.27. Access to the Site will be primarily provided via the existing access track for the consented Foel Trawsnant Wind Farm, travelling northwards from the B4282 road through the forestry and connecting to the proposed construction compound for the Project, as shown in **Figure 7A.1** and **Figure 7B.2**.

4.2.28. No new access tracks will be constructed. Access will be from the existing highway network, as well as the forestry track which is part of the consented Foel Trawsnant Wind Farm. The minimal number of vehicles required for erection of the poles will travel within the Site boundary, and use geo-grid matting or similar where appropriate.

4.2.29. General access along the Site for the OHL sections will be provided via existing farmers gates. The minimal number of vehicles required for erection of the poles (approximately 5 vehicles) will travel within the Site boundary, and use geo-grid matting or similar where appropriate (i.e. poor weather conditions creating soft ground). The underground section of the Project will be accessed via the existing road network.

General Construction Traffic

4.2.30. There will be no abnormal loads required for the construction of the Project. General construction traffic will include flatbed trucks and Heavy Goods Vehicles (HGVs) delivering plant and equipment (e.g. overhead line poles and cable) as well as vans and cars associated with construction staff movement. Most construction traffic will travel along the B4282 turning off onto the existing forestry track towards the proposed construction compound. The access routes for vehicles will vary depending on the origin of the contractors and materials.

Temporary and Permanent Land Take

4.2.31. The indicative temporary and permanent land take is shown in **Table 4-3** (where, "temporary" refers to the area required during construction works, whilst "permanent" refers only to the Project footprint post-construction).

Table 4-2 - Indicative Temporary and Permanent Land Take Areas

Feature	Indicative Temporary Land Take Areas (ha)	Indicative Permanent Land Take Areas (ha)
Abercerdin Wood	0.53	N/A
Caerau West	1.35	N/A
Cwm Cerdin	0.50	N/A
Gilfach Uchaf	1.33	N/A
Nant-y-Castell Grasslands	0.15	N/A
Hedgerows	0.10	N/A
Rivers	0.16	N/A
Tree Removal	N/A	0.01

Sustainable Resource Use and Waste Management

4.2.32. No stone or concrete is required for the Project, as no new access tracks are being built, and none is required for the construction of the OHL and UGC works. Any tracks or roads to be trenched for underground cabling will be returned to at least their previous condition; no track or road widening is anticipated.

4.2.33. Where soils would be excavated, they would be stored on site in accordance with the Construction Environmental Management Plan (CEMP) (see **Appendix 4A**) which will be updated prior to construction. Excavated materials will then be used to re-fill trenches. Any surplus excavated material, which is expected to be minimal, would be removed from site in HGVs and taken to an appropriate waste recycling or disposal facility.

4.2.34. The Project will only result in a very small permanent land take, which is unlikely to result in significant environmental effects in relation to land.

4.2.35. With regards water, the key environmental effects would be the use of water during the construction and operational phases, the potential increase in flood risk and the disturbance of surface and groundwater as a result of construction activities. With regards to construction works, the water resource would be managed in accordance with the CEMP. With regards to surface and groundwater, any effects are considered in **Chapter 10: Water Resources and Flood Risk** of this draft EIA Report.

4.2.36. The potential effects of the Project on biodiversity are considered in **Chapter 8: Ecology** of this draft EIA Report, within which appropriate environmental measures are set out in order to minimise the potential damage to habitats and species during the construction, operation and decommissioning.

Proposed Programme and Hours of Working

4.2.37. It is anticipated that that works will begin in January 2028 and take 9 months to complete. The works required and the order of their completion are listed as follows:

- Six months for trenching and laying the ducts;
- One month for cable pull through and jointing works; and
- Two months for erecting overhead line poles.

4.2.38. The works will mainly take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate.

4.2.39. NGED as the developers, will agree either a road closure with the local highways' authority and/or implement appropriate traffic management measures for the works associated with the highways.

4.3 ENVIRONMENTAL MANAGEMENT

CONSTRUCTION

4.3.1. The contract between NGED and the civil engineers involved in construction of the Project will specify the measures to be taken to avoid or reduce the potential environmental effects arising from the construction process. These measures will consist of three main types:

- Firstly, conditions to be adhered to under development consent;
- Secondly, the requirements of Natural Resources Wales (NRW); and
- Thirdly, any other relevant environmental measures identified in this ES.

4.3.2. A copy of any conditions associated with the planning consent will be incorporated into the contract with the company constructing proposed grid connection, and the company will be required to adhere to these. The developer should retain the services of specialist advisers on e.g. Ecological Clerk of Works (ECoW) for Ecology, to be called on as required to advise on specific issues. More detailed information on the role of such specialist advisors during construction is provided in the relevant technical sections, where appropriate.

4.3.3. A minimum buffer of 5m from any construction activities from top of bank will be implemented to protect the identified watercourses and associated habitat.

Construction Environmental Management Plan

4.3.4. A CEMP provides an overview of the standard construction management measures that would be implemented as part of the Project (**Appendix 4A**). As such it aims to ensure that construction activities for the Project are carried out in accordance with legislation and best practice for minimising the effects of construction on the environment and local communities.

4.3.5. The CEMP will be produced, and subsequently updated, prior to the commencement of works, and its objectives will be to:

- Provide a mechanism for delivering many of the embedded environmental measures described in the ES;
- Ensure compliance with legislation through setting out the need for consultation with 'consultation bodies', and by obtaining necessary consents and licences from relevant bodies;
- Provide a framework for monitoring and compliance auditing and inspection to ensure the environmental measures included in the scheme are being implemented;
- Ensure environmental best practices are adopted throughout the construction stage;
- Provide a framework for dealing with adverse effects as they occur; and
- Ensure a prompt response should unacceptable adverse effects be identified during the works.

4.3.6. A Noise and Vibration Management Plan and Land Quality Phase 1 Desk Study will be appended as part of the CEMP (**Annex A** and **Annex B** respectively), presenting results of survey efforts and best practice measures to avoid any significant effects.

Coal Mining Risk Assessment

4.3.7. Given the surrounding environment and historical land use of south Wales, a Coal Mining Risk Assessment (CMRA) has been produced (**Appendix 4B**). This outlines any nearby historic coal mining shafts and/ or entries. Measures to reduce risk during construction and operation are considered within the CMRA.

Dust and Air Quality

4.3.8. Given the adoption of the environmental measures which are outlined below, it is not expected that the change in air quality will be significant. Air quality affects arising from exhaust emissions from construction plant would be so low as to be not significant. Neither dust nuisance or air quality be assessed as part of the EIA. This was confirmed in the scoping process.

4.3.9. The main standard measures for managing dust during construction are:

- Adequate dust suppression facilities will be used on-site. If required, this will include the provision of on-site water bowsers with sufficient capacity and range to dampen down all areas that may lead to dust escape;
- Any on-site storage of aggregate or fine materials prone to dust generation will be managed using enclosures and screening, if required, so that dust escape from the Development Site is avoided. Sheeting can also be provided for the finer materials that are prone to 'wind whipping';
- Where required, HGVs entering and exiting the Site will be fitted with adequate sheeting to totally cover any load carried that has the potential to be 'wind whipped' from the vehicle;
- Vehicles used on-site will be regularly inspected and maintained, to minimise vehicle emissions and the risk of leaking diesel or hydraulic fluids;
- Good housekeeping or 'clean up' arrangements will be employed so that the Site is kept as clean as possible. There will be regular inspections of the working areas and immediate surrounding areas to ensure that any dust accumulation, litter or spillages are removed/cleaned up as soon as possible; and
- A site liaison person will investigate and take appropriate action where complaints or queries about construction arise.

OPERATION

4.3.10. The Project will integrate the consented Foel Trawsnant Wind Farm with the current DNO via a 66kV connection. It will remain active for the duration of the wind farm's operation, assumed to be up to 30 years. However, it is noted the duration of the proposed overhead line and underground cable could extend beyond 30 years, dependant on potential future uses.

4.3.11. In the normal course of operation there is no requirement to inspect UGCs, although they are regularly tested at the joint bays.

4.3.12. During the operation phase for OHL, duties are limited to resilience tree cutting to retain clearance distances and regular inspection. Pole inspections will be carried out in line with company policies and procedures.

4.3.13. Conductors and insulators have a design life of approximately 40 years. Faults on an OHL are infrequent. When they do occur, the vehicles used are likely to be similar to those needed for the construction of the line. Fault repair is quick and relatively straightforward.

4.3.14. The underground cable has a lifespan of approximately 100 years, and will only need to be replaced if the capacity of the wider distribution network increases, or there is a fault.

DECOMMISSIONING

4.3.15. Following the operational phase, the connection (underground and overground), including cables and ducts will be left in situ as it has the potential to become integrated into the DNO's wider distribution network. This would also avoid further disruption to the surrounding environment.

5 PLANNING POLICY

5.1 INTRODUCTION

5.1.1. **Chapter 5** sets out the key planning and renewable energy policies and other material considerations applicable to the Project, which have informed the siting and design process.

5.1.2. Each technical chapter (**Chapters 6 – 11**) of this Environmental Statement provides a summary of the key legislation relevant to the specific environmental assessment. The Planning Statement also considers the Project in the context of the relevant planning and renewable energy policies.

5.2 PLANNING POLICY CONTEXT

5.2.1. In terms of policy, legislation and guidance, the following International, UK and Welsh energy legislation, policy, and strategies have been taken into consideration:

- International Agreements
  - Paris Agreement 2015; and
  - Glasgow Climate Pact 2021.
- UK energy and legislation and policy
  - Climate Change Act 2008 (as amended);
  - Energy Act (2008, 2011, 2013, 2016);
  - UK Renewable Energy Strategy (2009);
  - Clean Growth strategy (2017);
  - Net Zero Strategy: Build Back Greener (2021);
  - British Energy Security Strategy (2022);
  - Powering up Britain – March 2023 Energy Security Secretary Statements; and
  - Carbon Budget Delivery Plan (March 2023).
- Welsh energy and legislation and policy
  - Energy Wales: A Low Carbon Transition (2012);
  - Wellbeing of Future Generations (Wales) Act 2015;
  - Environment Wales (Act) 2016 (as amended);
  - Policy Statement: Local Ownership Of Energy Generation In Wales – Benefitting Wales Today And For Future Generations (2020);
  - Energy Generation in Wales Report 2021 (2022);
  - Programme for Government (2021);
  - Net Zero Wales (2021); and
  - Energy Generation Targets For Wales: Statement To Assembly Members (2017) And 2023 Update

5.2.2. With specific regard to the grid connection, the following legislation and policy are considered to be particularly relevant to the Project:

- NPS EN-1;
- Future Wales: National Plan 2040;
- Planning Policy Wales Edition 11 (2021); and
- Technical Advice Notes.

5.2.3. The key policies considered have briefly been discussed below; however, further details relating to the policies highlighted are discussed within the Planning Statement associated with this Environmental Statement.

CLIMATE CHANGE ACT (2008)

5.2.4. The Climate Change Act (2008) (amended 2019)[5] made it the duty of the Secretary of State (SoS) to ensure that the Net UK carbon account for 2050 is at least 100 per cent lower than the 1990 baseline. Further to this, the Climate Change Act also gave powers to the SoS to be able to set carbon budgets, with an underlying objective to achieve net-zero targets by 2050.

THE ENVIRONMENT (WALES) ACT 2016

5.2.5. The Environment (Wales) Act 2016[6] also aims to achieve net-zero targets. The Environment Act *'puts in place the necessary framework to plan and manage Wales' natural resources in a more proactive, sustainable, and joined up way'*.

5.2.6. In terms of renewable energy, the Environment Act set a target for Welsh energy consumption to comprise 70% renewable energy by 2030.

CLIMATE EMERGENCY

5.2.7. A Climate Emergency was declared by the Welsh Government in April 2019[7], highlighting the Welsh government's commitment to achieving a carbon-neutral public sector by 2030 and the need to coordinate action to help other areas of the economy move away from the use of fossil fuels. Prosperity for All: A Low Carbon Wales[8], published in March 2019, sets out key policies and proposals to help Wales achieve the goal.

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[5] UK Government (2008). Climate Change Act 2008. (Online) Available at: https://www.legislation.gov.uk/ukpga/2008/27/contents (Accessed 07 February 2025).
[6] The Welsh Government (2016). The Environment (Wales) Act 2016. (Online) Available at: https://www.legislation.gov.uk/anaw/2016/3/contents (Accessed 07 February 2025).
[7] The Welsh Government (2019). Climate Emergency Declaration. (Online) Available at: https://www.gov.wales/welsh-government-makes-climate-emergency-declaration (Accessed 07 February 2025).
[8] The Welsh Government (2019). Prosperity for all: A low carbon Wales. (Online) Available at: https://www.gov.wales/low-carbon-delivery-plan (Accessed 07 February 2025).

5.2.8. Prosperity for All: A Low Carbon Wales sets *'the foundations for Wales to transition to a low carbon nation'*, the plan sets out how Wales aims to meet the first carbon budget, and the 2020 interim targets using 76 existing pieces of Policy from the Welsh and UK Governments, and the EU where *'decarbonisation is integrated either as a direct outcome or a wider benefit'*.

5.3 THE LEGISLATIVE PLANNING FRAMEWORK

NATIONAL POLICY STATEMENTS

5.3.1. National Policy Statements (NPS) apply to both England and Wales and "*comprise the government's objectives for the development of nationally significant infrastructure in a particular sector and state"*.

5.3.2. The following National Policy Statements are of relevance to Project:

- Overarching NPS for Energy (EN-1)[9].

Overarching National Policy Statement for Energy (EN-1)

5.3.3. A revised version of NPS EN-1 came into force on 17th January 2024. EN-1 sets out national policy for energy infrastructure and provides the primary policy for decision by the Secretary of State.

5.3.4. The following sections are considered pertinent to the Project:

- Section 2; and
- Section 3.

5.3.5. Further information regarding the Project and NPS EN-1 is found within Section 4.2 of the Planning Statement.

FUTURE WALES: THE NATIONAL PLAN 2040

5.3.6. Future Wales: The National Plan 2040 (FWNP)[10] was published in February 2021 and sets out the national development framework for development in Wales up to 2040. FWNP sets out a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate resilience, developing strong ecosystems, and improving the health and well-being of communities.

5.3.7. Future Wales was prepared to provide a clear, long-term spatial direction for Government policy, action and investment in Wales, it sets out a framework for addressing key national priorities through the planning system; it is stated that *'Wales is abundant in opportunities to generate renewable*

[9] Department of Energy and Climate Change (2024). Overarching National Policy Statement for Energy (EN-1). (Online) Available at: https://www.gov.uk/government/collections/national-policy-statements-for-energy-infrastructure (Accessed 07 February 2025).
[10] The Welsh Government (2021). Future Wales: The National Plan 2040. (Online) Available at: https://www.gov.wales/future-wales-national-plan-2040 (Accessed 06 February 2025).

energy, and the Welsh Government is committed to maximising this potential' as such, Future Wales has set the target for 70% of electricity consumption to be generated from renewable energy by 2030.

5.3.8. Future Wales recognises the role that Wales can play in supporting the use of renewable energy, the plan recognises on page 48 that *"Wales can become a world leader in renewable energy technologies"*. It is further recognised that Wales' potential for wind, tidal, and solar energy generation and commitment and willingness to support both large and community-scaled projects provide *"a strong lead for renewable energy development […] support the renewable sector, attract new investment and reduce carbon emissions"*.

5.3.9. It is also highlighted (via Policy 18) that the Welsh Government is supportive of both on- and off-shore wind infrastructure; further to this, the government is supportive of associated infrastructure (cables).

5.3.10. Page 99 of the FWNP states that *'the Welsh Government acknowledges the significant challenge that grid infrastructure and capacity will have on the potential for new on-shore and off-shore renewable energy developments across Wales. We are committed to working with energy networks and developers to identify opportunities and barriers as well as working collaboratively to find solutions'.*

5.3.11. The following FWNP Policies of relevance to the Project are listed below:

- Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure; and
- Policy 18 – Renewable and Low Carbon Energy Developments of National Significance.

5.3.12. Further information setting out how the highlighted policies are of relevance to the Project is situated within section 4.3 of the Planning Statement.

PLANNING POLICY WALES (EDITION 12)

5.3.13. Planning Policy Wales (Edition 12)[11] was published in July 2024 and sets out the land use planning policies of the Welsh Government. The PPW is also supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters.

5.3.14. It is stated that the primary objective of PPW is to *'ensure that the planning system contributes towards the delivery of sustainable development and improved the social, economic, environmental, and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, and other key legislation'*.

5.3.15. In paragraph 3.30, PPW states that *"in 2019, the Welsh Government declared a climate emergency in order to coordinate action nationally and locally to help combat the threats of climate change. The*

[11] The Welsh Government (2024). Planning Policy Wales (Edition 12). (Online) Available at: https://www.gov.wales/planning-policy-wales (accessed 06 February 2025)

planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system and the sustainable management of natural resources."

5.3.16. Paragraph 5.7.7 goes on to state that *"the benefits of renewable and low-carbon energy, as part of the overall commitment to tackle the climate emergency and increase energy security, is of paramount importance".*

5.3.17. There are many references to the electricity grid and energy storage, which is considered of relevance to the Project. These are:

- The need for appropriate energy infrastructure is contextualised within paragraph 5.7.2, which states *"overall power demand is expected to increase as a result of growing electrification of transport and heat."* This is further solidified by the PPW stating that "*in order to ensure future demand can be met, significant investment will be needed in energy generation, transmission and distribution infrastructure".*
- Paragraph 5.7.8 states that *"an effective grid network is required to fulfil the Welsh Government's renewable and low carbon ambitions".*
- Paragraph 5.7.9 states that the *"Welsh Government's preferred position on new power lines is that, where possible, they should be laid underground. However, it is recognised that a balanced view must be taken against costs which could render otherwise acceptable projects unviable".*

TECHNICAL ADVICE NOTE

5.3.18. TAN 5 provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation within Wales. It sets out the key principles of planning for nature conservation for both local development plans and when deciding planning applications that may affect nature conservation.

5.3.19. Further information relating to TAN 5 is held within Section 4.3 of the Planning Statement.

5.4 THE DEVELOPMENT PLAN

5.4.1. As the Project is situated within two Local Authorities, the proposal will be assessed against both Local Development Plans and associated Planning Practice Guidance (PPG). These include:

- Bridgend County Borough Council Replacement Local Development Plan (RLDP), adopted March 2024[12]; and

[12] Bridgend County Borough Council (2014). Bridgend County Borough Council Replacement Local Development Plan. (Online) Available at: https://www.bridgend.gov.uk/residents/planning-and-building-control/replacement-local-development-plan/adopted-bridgend-replacement-local-development-plan-2018-2033/ (Accessed 07 February 2025.

- Neath Port Talbot County Borough Council (NPTCBC) Local Development Plan (LDP) adopted January 2016[13].

BRIDGEND COUNTY BOROUGH COUNCIL REPLACEMENT LOCAL DEVELOPMENT PLAN (RLDP), ADOPTED MARCH 2024

5.4.2. The Replacement Local Development Plan (RLDP) was adopted in March 2024. This Plan replaced the previous Local Development Plan (LDP 2006 – 2021). The RLDP sets out key policies and land use allocations that will be used to shape and guide development taking place within Bridgend County Borough.

5.4.3. Objective 3j of the RLDP highlights the importance of facilitating renewable energies, and their associated infrastructure, within the County Borough, stating that the plan aims to *'promote developments that are well located and designed to assist in meeting energy demand with renewable and low carbon sources in accordance with the energy hierarchy for planning (set out in PPW) […] thereby helping to both mitigate the causes of climate change and tackle the 'climate emergency' declared by Welsh Government and Council'*.

5.4.4. The following Policies are considered pertinent to the Project:

- Policy DNP 1: Development in the Countryside;
- Policy DNP 4: Special Landscape Areas;
- Policy DNP 5: Local and Regional Nature Conservation Sites;
- Policy DNP 6: Biodiversity, Ecological Networks, Habitats and Species;
- Policy DNP 7: Trees, Hedgerows, and Development;
- Policy SP13: Decarbonisation and Renewable Energy; and
- Policy SP18: Conservation of the Historic Environment.

5.4.5. These highlighted policies are further discussed within the Planning Statement.

NEATH PORT TALBOT COUNTY BOROUGH (NPTCBC) COUNCIL LOCAL DEVELOPMENT PLAN (LDP), ADOPTED JANUARY 2016

5.4.6. The Neath and Port Talbot County Borough Council Local Development Plan was adopted in January 2016 and covers the plan period of 2011 – 2026. The LDP aims to guide sustainable growth by providing new housing, improving infrastructure, and protecting the environment. It focuses on transforming the area into a vibrant community with a diverse economy and provides the basis for decisions on land use planning in the County Borough.

[13] Neath Port Talbot County Borough Council (2016). Neath Port Talbot County Borough Council (NPTCBC) Local Development Plan (Online) Available at: https://www.npt.gov.uk/planning-and-building-control/planning-policy/ (Accessed on 07 February 2025).

5.4.7. Section 2.2 of the LDP sets out the Plan's key objective; OB19 states that the County Borough aims to *'make a proportionate contribution towards the energy needs for Wales with a focus on renewable energy'*. The following policies are considered relevant to the Project:

- Policy SP 1: Climate Change;
- Policy SP 15: Biodiversity and Geodiversity;
- Policy EN 2: Special Landscape Areas;
- Policy EN 6: Important Biodiversity and Geodiversity Sites;
- Policy SP 16: Environmental Protection; and
- Policy SP 18: Renewable and Low Carbon Energy.

5.4.8. These highlighted policies are further discussed within the Planning Statement.

OTHER MATERIAL CONSIDERATIONS

5.4.9. It is considered that the following PPG documents are also applicable to the Project:

- SPG 19: Biodiversity and Development (July 2014) (BCBC)[14]
- SPG: Landscape and Seascape (May 2018) (NPTCBC)[15]
- SPG: Biodiversity and Geodiversity (May 2018) (NPTCBC)[16]

5.4.10. Further information regarding these documents are held with the Planning Statement.

5.4.11. For further information relating to topic-specific policies, these are addressed within the relevant technical chapter (**Chapters 6 – 11**) of this draft EIA report.

[14] Bridgend Borough Council (2014). SPG 19: Biodiversity and Development. Available at: https://uat.bridgend.gov.uk/residents/planning-and-building-control/local-development-plan/supplementary-planning-guidance/ [Accessed March 2025]
[15] Neath Port Talbot County Borough Council (2018). SPG: Landscape and Seascape. Available at https://media.npt.gov.uk/media/j42dzulp/spg_landscape_seascape_may18.pdf?v=20241209172432 Accessed March 2025].
[16] Neath Port Talbot County Borough Council (2018). SPG: Biodiversity and Geodiversity. Available at: https://media.npt.gov.uk/media/nqpnpgge/spg_biodiversity_geodiversity_may18.pdf?v=20241209172432 [Accessed March 2025]

6 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

6.1 INTRODUCTION

6.1.1. This chapter presents the Landscape and Visual Impact Assessment (LVIA) which considers the potential landscape and visual effects associated with the construction and operation of the Project.

6.1.2. The objective of this LVIA has been to determine the landscape and visual effects of the Project on the existing landscape resource and visual amenity. The LVIA has been prepared by Chartered landscape architects at WSP and should be read in conjunction with the Project Description in **Chapter 4: Description of the Project**.

6.1.3. This chapter is supported by a number of Figures and Technical appendices contained within **Volume 2: Figures** and **Volume 3: Appendices**, comprising:

- Figure 6.1: Zone of Theoretical Visibility Plan;
- Figure 6.2: Public Rights of Way Plan and Viewpoint Location Plan;
- Figure 6.3: Local Landscape Character Plan;
- Figure 6.4: LANDMAP Visual and Sensory Aspect Areas;
- Figure 6.5: Landscape Designations Plan;
- Figures 6.6 - 6.12: Viewpoints 1-7 (inclusive);
- Appendix 6A: LVIA Methodology and Glossary;
- Appendix 6B: Landscape Character Baseline Descriptions and Sensitivity Assessments;
- Appendix 6C: Viewpoint/ Visual Baseline and Sensitivity Descriptions;
- Appendix 6D: Local Landscape Character Assessment and LANDMAP VSAA Assessment; and
- Appendix 6E: Visual Assessment.

6.1.4. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES. The preliminary assessment is based on information obtained to date. It should also be read with respect to relevant parts of the following chapters:

- **Chapter 8: Ecology**, which assesses the effects of the Project on ecology assets and habitats.
- **Chapter 9: Historic Environment**, which assesses the effects of the Project on the setting of heritage assets.

6.2 LIMITATIONS OF THIS ASSESSMENT

6.2.1. The following limitations and assumptions have been made:

ASSUMPTIONS

- There will be localised tree removal for the construction of the northern part of the underground section (UGC), where underground cable transitions from open grassland to existing road (**Figure 8.5**). The LVIA assumes all other existing vegetation within the Study Area would be retained;

- It is assumed the construction phase would last for 9 months, commencing January 2028 subject to planning consent and completion of construction for the consented Foels Trawsnant Wind Farm. The sequence of events would likely be as follows:
  - Six months for the installation of the ducting for the underground route section;
  - One month for the cable pull through and jointing works; and
  - Two months for erecting the overhead line poles.
- If lay down areas are required, the intention is to utilise areas of hardstanding where available;
- The site access routes to the compound would be via the existing Foel Trawsnant Wind Farm track through forestry and would not require any alterations. All other accesses would be through existing field gates which would require no hedge removal; and
- Equipment would likely comprise an excavator to cut trenches within the highway to install the ducting, a cable plough may be used for the underground sections outside the highway boundaries and HGV vehicles required to transport the poles for the overhead lines.

LIMITATIONS

- Viewpoints have been taken from publicly accessible locations only. Therefore, when establishing the views from dwellings and/ or buildings, this has been based on information from a combination of desk-top studies, site work and professional judgement;
- Although field surveys have been carried out, not every landscape and visual and sensory receptor has been visited in the field and professional experience has been applied to the judgements made in the LVIA and accompanying appendices;
- In terms of visual effects analysis, it is considered that screening provided by vegetation cover would not remain constant throughout the year. The assessment of effects is based on an estimate of worst-case scenario winter views, where deciduous wooded species have lost their leaves, with a filtering branch structure remaining; and
- Effects on Cultural Heritage assets/ designations (e.g. listed buildings, scheduled ancient monuments, conservation areas and historic parks & gardens) are not considered in this report unless they are a tourist destination.
- Whilst significant effects have been identified for two residential properties, they are at the lower end of significance and therefore a Residential Visual Amenity Assessment (RVAA) is not required.

6.3 POLICY, LEGISLATION AND GUIDANCE

6.3.1. A summary of the relevant landscape legislation is given in **Table 6-1**.

Table 6-1 - Legislation relevant to the LVIA

Legislation	Legislative context
Wellbeing of Future Generations (Wales) Act 2015[17]	The Act puts in place seven well-being goals to help ensure that public bodies are all working towards the same vision of a sustainable Wales. In relation to landscape matters, the most relevant well-being goal is the achievement of 'a resilient Wales', which seeks to maintain and enhance a biodiverse natural environment. Planning Policy Wales Edition 12 recognises that this goal can be supported by protecting sufficient scales, extent and connectivity of, and between, landscapes and habitats to enable them to withstand the pressures of change and protect and enhance biodiversity and to promote opportunities for social and economic activity based on valuing and enabling access to the natural, historic and built environment
Environment (Wales) Act 2016[18]	This Act requires, under Section 6 – Biodiversity and resilience of ecosystems duty, that a public authority must seek to maintain and enhance biodiversity and promote the resilience of ecosystems. This requirement could be interpreted to include landscape as part of the ecosystems approach.

6.3.2. A summary of the relevant landscape legislation is given in **Table 6-2**.

Table 6-2 - Landscape planning policy relevant to the LVIA

Policy	Policy context
National planning policy	
Planning Policy Wales, Edition 12[19]	**General LVIA issues are included in Chapter 6** - Distinctive and Natural Places and more specifically within Section 6.3 Landscape. **Paragraphs 6.3.12 and 6.3.13** relate to non-statutory designations such as Special Landscape Areas that define local areas of high landscape importance, which may be unique, exceptional or distinctive to the area. Planning authorities should apply these designations where there is good reason to believe that normal planning policies cannot provide the necessary protection.

[17] National Assembly for Wales. (2015). Well-being of Future Generations (Wales) Act 2015. (Online). Available at: https://www.futuregenerations.wales/about-us/future-generations-act/.

[18] National Assembly for Wales. (2016). Environment (Wales) Act 2016. (Online). Available at: https://www.legislation.gov.uk/anaw/2016/3/contents/enacted.

[19] Welsh Government. (2024). Planning Policy Wales, Edition 12. (Online). Available at: https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf

Policy	Policy context
	Paragraphs 6.3.20 and 6.3.21 concerns the use of LANDMAP and its role in informing landscape assessments needed to inform local authorities in making local policy, guidance and decision making. LANDMAP and any associated landscape character assessments (including the register of historic landscapes in Wales) should be used to inform local landscape policies and SPG, and to help identify or revise SLAs.
Future Wales - The National Plan 2040[20]	Future Wales is the National Development Plan for Wales setting the direction of development in Wales to 2040. Future Wales does not contain statements on all land use planning issues, which are set out in Planning Policy Wales (PPW). **Policy 17** –Supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs and there is a presumption in favour of large-scale wind energy development (including repowering) in these areas, subject to the criteria in policy 18. Policy 17 also states that "*New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities. The Welsh Government will work with stakeholders, including National Grid and Distribution Network Operators, to transition to a multi-vector grid network and reduce the barriers to the implementation of new grid infrastructure*".
Local planning policy	
The Site is located within local authorities - Bridgend County Borough Council (BCBC) and Neath and Port Talbot County Borough Council (NPTCBC). The majority of the route lies within Bridgend with only the end sections of the OHL crossing the boundary into Neath Port Talbot.	
Bridgend Replacement Local Development Plan 2018-2033	**Policy DP1 – Development in the Countryside** "The policy states '*All development outside defined settlement boundaries must ensure that the integrity of the countryside is conserved and enhanced.*' The Policy goes on to state that there is a presumption against development in the countryside, with 14 listed exceptions including: *7) Transportation and/or utilities infrastructure to enable implementation of LDP allocations*

[20] Welsh Government. (2021). Future Wales - The National Plan 2040. (Online). Available at: https://gov.wales/future-wales-national-plan-2040-0

Policy	Policy context
(Adopted March 2024)[21]	The Policy continues *'Countryside development must be of a sustainable form with prudent management of natural resources and respect for the cultural heritage of the area. Where development is acceptable in principle in the countryside it must, in the first instance and where possible, utilise existing buildings and previously developed land'* The Policy notes also state *'The countryside must be protected for its own sake (i.e. for its beauty, landscape quality, natural resources, and its agricultural, ecological, geological, physiographic, historical, archaeological and recreational value). Development in the countryside should benefit the rural economy, whilst maintaining or enhancing the environment. Therefore, new building in the countryside outside defined settlements or areas allocated for development in the LDP will be strictly managed*" **Policy DP4 – Special Landscape Areas.** The policy lists a total of 9 Special Landscape Areas (SLAs). The Policy states: "*Development in SLAs will only be permitted where:* *1) It retains or enhances the character and distinctiveness of the SLA;* *2) The design of the development reflects the building traditions of the locality in its form, materials and details, and/or assimilates itself into the wider landscape; and* *3) The Project is accompanied by a Landscape Impact Assessment (LIA), which takes into account the impact of the development and sets out proposals to mitigate any adverse effects.* *Where development is necessary, and could result in a significant landscape impact, a landscaping scheme will also be required and appropriate mitigation and enhancement measures must be provided. The settings of SLAs will be protected with consideration of the views from those areas to the settlements of the County Borough. New development within settlements must be designed to provide an attractive transition between the urban area and the countryside*" **Policy DP7 – Trees, Hedgerows and Development** The Policy States "*Development that would adversely affect trees, woodlands and hedgerows of public amenity or natural/cultural heritage value, or that provide important ecosystem services, will not normally be permitted.* *Development proposals on sites containing or adjacent to, trees will be required to assess the trees in line with BS 5837:2012 Trees in relation to design, demolition and construction. The assessment must include:*

[21] Bridgend Replacement Local Development Plan 2018-2033 (Adopted March 2024). (Online). Available at: https://www.bridgend.gov.uk/residents/planning-and-building-control/replacement-local-development-plan/adopted-bridgend-replacement-local-development-plan-2018-2033/

Policy	Policy context
	1) a tree survey; 2) an arboriculture impact assessment; 3) an arboriculture method statement; 4) and/or a tree protection plan. *Where trees are to be replaced a scheme for tree replacement must be agreed prior to the commencement of development, including details of planting and aftercare. If tree works are recommended, the works must comply with BS 2998:2010 Tree Works - Recommendations"* **Policy SP18 – Conservation of the Historic Environment** The Policy States "*The County Borough has a rich and diverse built heritage and historic environment. Development proposals must protect, conserve, and, where appropriate, preserve and enhance the significance of historic assets, including their settings. In particular, there is a general presumption in favour of the preservation or enhancement of the significance of historic assets and their settings including:* *1) World Heritage Sites; 2) Scheduled Monuments; 3) Archaeologically Sensitive Areas and Archaeological Remains; 4) Listed Buildings; 5) Conservation Areas; 6) Historic Parks and Gardens; 7) Historic Landscapes* *Any application for listed building or conservation area consent will need to be accompanied by a Heritage Impact Statement in accordance with the Historic Environment (Wales) Act 2016*".
Neath Port Talbot County Borough Council Local Development Plan 2011-2026 (Adopted Jan 2016)[22]	**Policy EN2 – Special Landscape Areas** The Policy states "*In order to protect areas of high landscape quality, the following Special Landscape Areas are designated (6No SLA's listed -refer to Policy). Development within the designated Special Landscape Areas will only be permitted where it is demonstrated that there will be no significant adverse impacts on the features and characteristics for which the Special Landscape Area has been designated*".

GUIDANCE

6.3.3. A summary of the technical guidance for the LVIA, but not limited to, is given in **Table 6-3**.

[22] Neath Port Talbot County Borough Council Local Development Plan 2011-2026 (Adopted January 2016). (Online). Available at: https://www.npt.gov.uk/planning-and-building-control/planning-policy/adopted-ldp-2011-2026/

Table 6-3 – Technical guidance relevant to the LVIA

Technical guidance document	Context
Guidelines for Landscape and Visual Impact Assessment (Third Edition)[23]	The third edition of this guidance (known as 'GLVIA3') which is produced by the Landscape Institute and Institute of Environmental Assessment is widely regarded by landscape and planning professions as the 'industry standard' together with best practice and professional experience. GLVIA3 provides the framework within which the remaining sections of the ES have been undertaken with the detailed implications for the methodology by which the LVIA has been undertaken being set out in **Section 6.10** and in **Appendix 6A.**

6.4 CONSULTATION

6.4.1. Consultation with BCBC and NPTCBC took place on 7th February 2025 where the initial landscape and visual viewpoint locations were presented and agreed (subject to verification on Site). The viewpoints have been selected to represent the nature and type of visual amenity from a given area or direction of view. It is not offered as the 'only view' but is used to inform a greater understanding of the extent of visibility and the nature of change. The LVIA Site visit was conducted on 12th and 13th February 2025.

6.5 DATA GATHERING METHODOLOGY

STUDY AREA

LVIA Study Area

6.5.1. A Zone of Theoretical Visibility (ZTV) based upon 1m Digital Surface Model (DSM) LiDAR data, with a viewer height set at 1.6m has been prepared to describe areas within which there would be potential for views of the Project. The ZTV has been calculated based on varying heights of the OHL grid poles being between 11-15m above ground level (ABGL). The Zone of Theoretical Visibility is shown on **Figure 6.1**

6.5.2. The extent of the Study Area was determined through review of the ZTV and was verified in the field to understand the setting of the Project and the extent of likely significant landscape and visual effects upon receptors. A Study Area of 3km was considered appropriate beyond which the potential for significant effects on landscape character and/or visual receptors is judged to have substantially reduced based on the nature of the Project.

[23] Landscape Institute and the Institute of Environmental Management and Assessment, (2013). Guidelines for Landscape and Visual Impact Assessment. 3rd edition. London. Routledge

6.5.3. A summary of the organisations that have supplied data, together with the nature of that data is outlined in **Table 6-4**.

Table 6-4 - Data sources used to inform the LVIA

Organisation	Data provided	Data sources
Ordnance Survey (OS)	Ordnance Survey Mapping	Ordnance Survey (2024) MAPSHOP. Scale 1:50,000 mapping Baseline information on the landscape context including topography, drainage, settlement pattern, land use, tree cover, promoted recreational routes, transport network and infrastructure.
Google Earth Pro	Aerial photography and Street View.	Provides baseline information and Street View images on the landscape context including drainage, settlement pattern, land use, tree cover, transport network and infrastructure.
Natural Resources Wales	National Landscape Character Areas	**National** Natural Resource Wales, (2021). *National Character Areas NLCA*. Available online at: https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en [Accessed 30/01/2025]. High-level baseline information on landscape character which sets the context for local LANDMAP data.
	LANDMAP Visual and Sensory Aspect Areas (VSAA)	**Regional** Baseline information on landscape character in Wales, recorded and evaluated in a nationally consistent data set. Natural Resources Wales. (2024). Using LANDMAP in Landscape and Visual Impact Assessments GN46. (Online). Available at https://naturalresourceswales.gov.uk/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en
	Open Access Land	Natural Resource Wales, (2021). *Open Access - Open Country*. Available online at: https://datamap.gov.wales/maps/new#/ [Accessed 30/01/2025].
Bridgend County	Landscape Character	LUC, (2013). Landscape Character Assessment for Bridgend County Borough. Available online at: https://www.bridgend.gov.uk/media/1149/bridgend-landscape-character-assessment.pdf [Accessed 30/01/2025].

Organisation	Data provided	Data sources
Borough Council	Public Rights of Way.	Bridgend County Borough Council (2024). Web Mapping. Available online at: https://maps.bridgend.gov.uk/webmap9/Map.aspx?MapName=OSWMTSBasemap [Accessed 30/01/2025].
	Local Development Plan	Bridgend County Borough Council (2017) Replacement Bridgend Local Development Plan 2018 to 2033. Available at: https://www.bridgend.gov.uk/residents/planning-and-building-control/replacement-local-development-plan/adopted-bridgend-replacement-local-development-plan-2018-2033/
Neath Port Talbot County Borough Council	Landscape Character	Neath Port Talbot LandMap (2004) Landscape Assessment. Available at: https://media.npt.gov.uk/media/ponjgtte/spg_landmap_landscape_assessment_2004.pdf?v=20241209172433
	Local Plan	Neath Port Talbot LandMap (2016) Adopted LDP. Available at: https://www.npt.gov.uk/planning-and-building-control/planning-policy/adopted-ldp-2011-2026/
Sustrans	National Cycle Network.	Sustrans, (2021). *National Cycle Network Map*. Available online at: http://www.sustrans.org.uk/ncn/map [Accessed 30/01/2025].

DEVELOPMENTS RELEVANT TO THE CUMULATIVE ASSESSMENT

6.5.4. The study area for the cumulative assessment is 3km to coincide with the study area for the Project. Cumulative developments are shown on **Figure 2.1**.

6.5.5. A number of cumulative developments have been scoped out for the LVIA. Developments which are located beyond the 3km have been scoped out as follows:

- P/16/291/ FUL (Approved);
- P2020/1002 (Approved);
- P2022/0537 (Approved);
- P2022/0694 (Approved);
- P/16/128 FUL (Application); and
- P/19/915/RES (Application).

6.5.6. The following developments have been scoped out for the reasons outlined below:

- P2024/0820 – Mixed Use Residential Development. Scoped out due to no ZTV coverage;
- P/12/877/ BCB – Community Park located in the area of UGC section. There would be no significant landscape and visual effects and therefore has been scoped out; and

- P/23/621/APN – Agricultural building. This type of development is already present within the landscape therefore there would be no significant landscape and visual effects and therefore has been scoped out.

6.5.7. The magnitude of change for cumulative developments effects will be assessed the same way as the main LVIA assessment, with magnitude recorded as high, medium, low or negligible (or intermediatory values). The additional level of effect which is the derived from adding the Project to the baseline of consented/ application developments will then be assessed. The combined magnitude and combined level of effect will then be assessed for the Project in combination with consented developments. Finally, the combined magnitude and combined level of effect for the Project in combination with consented and application developments will be assessed.

6.5.8. In total two cumulative developments are relevant to the LVIA and are included in **Table 6-5** below.

Table 6-5 - Developments within 3km included in the CLVIA

Ref.	Name of Development	Description of Development	Location
P2022/0344 & P2022/0517	Foel Trawsnant (approved Wind Farm)	Wind Farm associated with Project - consisting of 8 turbines with a maximum tip height of 145m.	The proposed Foel Trawsnant Wind Farm site is located approximately 2.3km to the northwest of Maesteg, Bridgend. The Project enters the site from the southeast.
P2024/0029	Y Bryn Windfarm Bridgend / Neath Port Talbot (Application)	Wind Farm consisting of 18 turbines with a maximum height ranging between up to 206m, up to 203m, and up to 250m to blade tip	Approx 0.9km west of UGC and to the south of the proposed northern OHL

6.6 BASELINE OF LANDSCAPE RECEPTORS

THE PROJECT SITE AND IMMEDIATE SURROUNDING AREA

6.6.1. The Project site is located to the west of Maesteg in south Wales. The majority of the route falls within the county of Bridgend; however, the northern and southern sections of the Project crosses into Neath Port Talbot County.

6.6.2. Starting at the northern-most section, the route begins as OHL west of the A4063 for approximately 1.2 kilometres (km). To the north of Nantyffyllon, the route then transitions into UGC, mainly following the existing highway network south for approx. 5.1 km. At Sychbant Farm, the highway network ceases; this is where and the route transitions back into OHL and continues south for approx. 2.7km.

6.6.3. The proposed northern section of OHL travels predominately through improved grassland and marshy grassland, with some areas encroaching on bracken, broadleaved woodland and scrub. Views to the north are curtailed by the rising topography of Foel Trawsnant and Foel y Dyffryn, and to the south and west where the topography rises towards the coniferous slopes of Mynydd Penhydd, Pen Diggwylfa and Rhiw Tor Cymry. To the east of the proposed northern OHL the topography descends towards the valley bottom floor where the northern part of the Maesteg settlement lies and where visibility of the proposed northern OHL is restricted due to the change in landform. To the east beyond the settlement of Maesteg, the topography rises towards the peak of Mynydd Pwll-yr Iwrch where theoretical visibility of the proposed OHL returns and extends further to the south where there is another hillside, Garth Hill.

6.6.4. The majority of the UGC is contained within the existing built environment. There is a small section – approx. 250m in length – to the north of Nant-y-ffyllon which travels through poor semi-improved grassland and areas of bracken prior to connecting to existing tracks.

6.6.5. The proposed southern section of OHL crosses an area of mainly improved and poor semi-improved grassland, with some minor areas of broadleaved woodland, bracken and marshy grassland.

6.6.6. There is a minor road which runs through the landscape which serves some scattered residential properties and there are private roads leading to scattered properties and farmsteads.

6.6.7. The topography to the west of the proposed southern OHL rises towards the hillside of Waun Lluest wen and Mynydd Margam where the landcover comprises coniferous forestry. West of the central section of the proposed southern OHL lies Y Bwlwarcau fort which is a designated Scheduled Ancient Monument and where a Long-Distance Route (Cistercian Way) passes by to the south.

6.6.8. To the north and east of the proposed southern OHL lies the southern part of the settlement Maesteg and the hillside of Moel Troed-y-Rhiw. There is also a circular hillside with coniferous forest plantation which restrict views to the east of the central section of the proposed southern OHL. Within the northern part of this forest area and screened from view is Llangynwyd Castle. South of the proposed southern OHL the topography rises towards the hillside summit of Moel Ton Mawr which comprises coniferous forestry which also extends further east. The landform and coniferous forestry restrict views further to the south.

6.6.9. There are a number of Public Rights of Way (PRoW) as shown on **Figure 6.2** including some long-distance paths and National Cycle Routes. There are three areas of open access land within the northern part of the study area - Foel Trawsnant, Foel y Dyffryn and Mynydd Pwll-y-lwrch as shown on **Figure 6.4.**

DESIGNATIONS

STATUTORY DESIGNATIONS

6.6.10. There are no statutory landscape designations, such as National Parks or National Landscapes, within the Site or Study Area.

NON-STATUTORY DESIGNATIONS

6.6.11. There are two locally designated Special Landscape Areas (SLAs) as defined by BCBC Designation of Special Landscape Areas – March 2010[24] within the Study Area and 2 SLAs as defined by NPTCBC Landscape and Seascape SPG (May 2018)[25]. The key characteristics of these SLAs are outlined in **Table 6-6** below along with a reference viewpoint/s where these have been identified.

Table 6-6 - Description and landscape qualities of SLAs

SLA reference and relevant viewpoint	Description and landscape qualities
SLA 1: Foel y Dyffryn (BCBC) Viewpoint 1	The proposed northern OHL is located towards the southern boundary of SLA. The SLA is described as being *'A relatively small area of distinctive upland landscape to the west of Dyffryn and Caerau it provides a visual backdrop to the setting of the urban area along the valley floor. Generally north-east facing, the uplands range from 120m to 350 AOD. Its upland qualities and character are further reinforced by borrowed views to the Brecon Beacons to the north. Its vegetation cover is typically rough grassland, mainly upland heath, interspersed with wetland and boggy areas which are local Biodiversity Action Plan target habitats. It also includes populations of marsh fritillary butterfly. The proximity to the urban edge of its eastern boundaries introduces visual and sensory detractors and is typified by a range of urban fringe management issues – fly tipping, illegal biking, conflict with landowners and farmers'*. There is one visual and sensory aspect areas as outlined with the LANDMAP database that covers this SLA (Mynydd baedan (CYNONVS473) and has an overall evaluation of High.
SLA 3: Western Uplands (BCBC) Viewpoint 3, 4 & 5	The proposed southern OHL and part of the underground route is located towards the northwestern part of the SLA. The SLA is described as '*A fairly extensive upland area abutting Neath Port Talbot in the west. It comprises a series of northeastern facing slopes, ranging from 120m to 350m AOD, typically rough grazing. It has a number of plantations and small woodlands that contribute to the overall character and quality of the area reflected in a number of the LANDMAP aspect area evaluations – VS473 – Mynydd Baedan (High), LH009 – riparian woodland (High) part of Parc Slip (CL019) (High). The geography of the landscape is typical*

[24] BCBC SLA https://www.bridgend.gov.uk/media/3102/sd87.pdf
[25] NPTCBC SLA https://media.npt.gov.uk/media/j42dzulp/spg_landscape_seascape_may18.pdf?v=20241209172432

SLA reference and relevant viewpoint	Description and landscape qualities
	of much of the area, showing evidence of glaciation – classic u-shaped valley with truncated side valleys. Despite the presence of coal measures and other stone quarrying the area retains a largely rural, agricultural character. *Important historic and cultural associations reflected in landscape archaeology including the settlement of Llangynwyd and its hinterland largely important, despite proximity of industrial towns it retains a distinct rural form and character. The main visual detractors relate to the interface of the SLA with the southern edge of Maesteg, Pont Rhyd-y-cyff, Aberkenfig and Cwmfelin.'* There are 3 visual and sensory aspect areas (VSAA) as outlined with the LANDMAP database that cover this SLA (Mynydd baedan CYNONVS473; Conifer to west of study area CYNONVS731 and Llynfi valley CYNONVS884. The overall evaluations for the visual and sensory aspect areas within this designated area comprise one high area and two moderate values.
SLA 4: Margam (NPTCBC)	A small section of the proposed southern OHL is located towards the central eastern edge of the SLA. The features and characteristics of the SLA are described as follows: • *Mynydd Margam is a broad, low-lying plateau of NE dipping Productive Coal Formation mudstones and coals between South Wales Pennant Formation escarpment and E-W Millstone Grit ridge to the South, dissected by shallow, alluvium filled valleys of tributaries and the main Cynfig valley. It includes mine workings and the proposed deep mine.* • *Cultural features in the landscape include evidence of prehistoric and later agricultural practices, rural settlements and contemporary forestry activities.* • *It is an evolved landscape containing multi-period cultural expressions untrammelled by industrial exploitation - extensive archaeological evidence of land husbandry, now given over to forestry interspersed with some small farms and thus is a comparatively rare example of a surviving relict landscape.* • *The SLA, which contains Margam Park, with its exceptional examples of architecture; its history as a major Cistercian Abbey and the wider monastic landholdings, provides a combination of high-grade historic visitor attraction and a variety of multi-period pleasure grounds. It contains cultural elements dating from pre-history through every period up to the 21st century.* • *Whilst the SLA contains areas of forested upland these are important to the overall historical context of the area and*

SLA reference and relevant viewpoint	Description and landscape qualities
	could be managed to enhance the landscape quality of the wider area. • *The scenic quality of the area is enhanced by the historic buildings of the Park and the backdrop of scarp creating a sheltered setting which link visually and provide the integrity of the whole. The sense of place for the park is initially prompted with boundary walls and entrance gates. The historic core and deer park make this area unique within the County.*
SLA 6: Foel Trawsnant (NPTCBC)	A small section of the proposed northern OHL is located towards the southern part of the SLA. The features and characteristics of the SLA are described as follows: • *SLA 6 covers the steep, exposed, upland slopes in NE-SW striking N and NE dipping sandstones and coals of the South Wales Pennant Formation Llynfi-Brithdir Beds (Lower Pennant Measures).* • *It forms part of the eastern highlands complex and is one location within the relict landscape of mixed periods which is not covered in conifer plantations.* • *There is no development and the area feels exposed and bleak, access is via foot and bridle paths.* • *The simple landscape features and pattern, upland grazing to 271m AOD creates a local sense of place and distinctiveness.*

6.6.12. The Project is, at some point, located within each of these SLA's. The SLA's will be used to determine the sensitivity of each Landscape Character Area/ Visual and Sensory Aspect area that is carried forward into the Landscape assessment.

NATIONAL LANDSCAPE CHARACTER

6.6.13. Natural Resources Wales (NRW) has developed a series of National Landscape Character Areas (NLCA). These NLCA profiles provide a broad range of information including key characteristics of a given area, description of the natural and cultural features that shape the landscapes, change over time, the current key drivers for ongoing change, a broad analysis of each area's characteristics and ecosystem services, and an array of opportunities for positive environmental change.

6.6.14. The Site and Study Area is located within the South Wales Valleys National Landscape Character Area (NLCA37)[26]. The relevant key characteristics of the NLCA37 character area as follows:

- Extensive Upland Plateaux;
- Numerous steep-sided valleys;
- Ribbon urban and industrial areas in valleys;
- Extensive remains of heavy industry;
- Contrast of urban valley activity next to quiet uplands;
- Large blocks of coniferous plantation and deciduous woodland fringes;
- Heather, rough grassland and steep bracken slopes;
- Improved pastures on some lower valley sides;
- Field boundaries;
- Transport routes restricted to valleys; and
- Iconic cultural identity.

6.6.15. The NLCA covers an extensive area, and in order to provide a proportionate assessment with the scale of the change proposed, landscape character will be defined at a local level, using Bridgend County Landscape Character Areas, Neath Port Talbot Character areas and LANDMAP Visual and Sensory Aspect Areas, for the remainder of this assessment.

LOCAL LANDSCAPE CHARACTER

Introduction

6.6.16. There are three Landscape Character Areas (LCAs) within Bridgend as identified within the Landscape Character Assessment for Bridgend County Borough July 2013[27] which coincide with the ZTV and LVIA Study Area as shown in **Figure 6.3** as follows:

- LCA 1 – Llangynwyd Rolling Uplands and Forestry;
- LCA 2 – Llynfi Valley Floor and Lower Slopes; and
- LCA 3 – Llynfi & Garw Uplands and Forestry.

6.6.17. Only a small area of LCA 2 lies within the Study Area. The Project would not directly impact this LCA and ZTV coverage is limited. This LCA has therefore been scoped out of the assessment.

6.6.18. There are also 12 LCAs within Neath Port Talbot as identified within Neath Port Talbot Landmap Landscape Assessment December 2004[28] which coincide with the ZTV and LVIA Study Area as follows:

- LCA 3 – Margam Country Park;
- LCA 4 – Coedhirwaun;

[26] NLCA 37 - https://naturalresources.wales/media/682625/nlca37-south-wales-valleys-description-1.pdf
[27] Local Landscape Character Areas Bridgend - https://www.bridgend.gov.uk/media/1149/bridgend-landscape-character-assessment.pdf
[28] Neath Port Talbot LandMap Landscape Assessment https://media.npt.gov.uk/media/ponjgtte/spg_landmap_landscape_assessment_2004.pdf?v=20241209172433

- LCA 5 - Coedhirwaun Scarp and open scarp tops;
- LCA 7 – Mynydd Margam;
- LCA 8 - Goytre Valley;
- LCA 9 – Cefn Cethin;
- LCA 10 - Mynydd Bycham;
- LCA 11 – Cwm Afan and Cwm Pelenna;
- LCA 12 – Mynydd Penhydd;
- LCA 13 – Foel Trawsnant;
- LCA 14 – Foel Fawr; and
- LCA 18 - Mynydd Resolfen, Craig-y-Llyn & Mynydd Ynyscorrwg.

6.6.19. LCA 3 and 10 lie completely outwith the ZTV and so have been scoped out of the assessment. LCA's 4, 5, 8, 9, 11, 12, 14 and 18 have minimal to low ZTV coverage with some areas lying within forested areas reducing the visibility towards the Project, therefore these have also been scoped out of the assessment.

6.6.20. The following LCAs have been taken forward into the assessment and are described in **Appendix 6B**:

- LCA 1 – Llangynwyd Rolling Uplands and Forestry;
- LCA 3 – Llynfi Valley Floor and Lower Slopes;
- LCA 7 – Mynydd Margam; and
- LCA 13 – Foel Trawsnant.

LANDMAP

Introduction

6.6.21. LANDMAP is an all-Wales landscape resource, designed to record and evaluate landscape characteristics, qualities and influences in a nationally consistent data set. There are five datasets that make up LANDMAP, which in turn are divided into aspect areas. The five datasets are referred to as Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape. Collectively the five spatial datasets combined define the landscape character of an area.

6.6.22. While the approach is meant to enable a consistent approach to defining landscape character, not all datasets contain the same level of information. The Visual & Sensory Aspect Areas (VSAA)[29] will be used as a baseline for this assessment, having the most relevance to the LVIA and the greatest level of detail. Where there are other important aspects that contribute to the overall landscape character, such as historic and cultural assets, these will be referred to in the baseline text.

[29] NRW LANDMAP - https://smnr-nrw.hub.arcgis.com/apps/c7770d2881394c899123bae210afe370/explore

6.6.23. The VSAA that are located in the study area are shown on **Figure 6.4.**

6.6.24. The following VSAA's within the study area have been scoped out as they lie outwith the ZTV:

- Mynydd Emorch and Mynydd Bycham (NPTVS139);
- Margam Country Park (NPTVS403);
- Cwm Dyffryn (NPTVS916); and
- Margam Opencast (NPTVS001).

6.6.25. The following VSAA's within the study area have been scoped out due to a minimal ZTV coverage or are areas that lie within forested areas and therefore would have limited views towards the Project:

- Upland settlements (NPTVS215);
- Mynydd Penhydd (NPTVS366);
- Cefn Cethin (NPTVS448);
- Foel Fawr (NPTVS465);
- Coedhirwaun (NPTVS543);
- Mynydd y Gelli (NPTVS547);
- Margam Scarp (NPTVS811);
- Mynydd Bromil & Scarp tops (NPTVS897);
- Cwm Afan and Cwm Pelenna farmed sides (NPTVS920);
- Cwm Afan and Cwm Pelenna (NPTVS936);
- Mynydd Nant y bar / Mynydd Blaenafan (NPTVS962);
- Garw and Caerau Forest (CYNONVS813); and
- Llynfi valley (CYNONVS884).

6.6.26. The VSAAs carried through to the assessment are as follows and described in **Appendix 6B**:

- Mynydd baedan (CYNONVS473);
- Foel Trawsnant (NPTVS358);
- Mynydd Margam (NPTVS927);
- Maesteg (CYNONVS351);
- Conifer to west of study area (CYNONVS731); and
- Garth hill (CYNONVS811).

6.7 BASELINE OF VISUAL RECEPTORS

6.7.1. Visual receptors are "*the different groups of people who may experience views of the development*" (GLVIA3, para 6.3). Whilst it is the people living, working, passing through or enjoying recreational activities in the area who actually see the view and enjoy the visual amenity, it is the places they may occupy that are mapped and described as the 'receptors' of the views. In order to identify those receptors who may be affected, ZTV studies, baseline desk study and field-based observations have been carried out.

6.7.2. The key visual receptors who are likely to experience views of the Project within the Study Area have been identified as follows:

- Residential receptors – including scattered individual properties and settlements;
- Recreational receptors – people using the network of PRoWs, open access land, users of National Cycle Routes and visitors to outdoor recreation/tourist areas; and
- Transport receptors – people travelling through the area on major and minor roads.

6.7.3. The following representative viewpoint locations have been considered when establishing the effect of the Project upon the visual amenity of the receiving environment. The viewpoints represent the main visual receptor groups found within the study area based on ZTV modelling.

6.7.4. For the purposes of this assessment a total of seven viewpoints were taken, at varying distances and directions from the Site. The viewpoints are all representative of one or more receptor types, as well as being illustrative of restricted views in some instances. The seven viewpoints identified are outlined below described in **Appendix 6C:**

- Viewpoint 1 – Footpath MAE/15/2;
- Viewpoint 2 – Bridleway MAE/77/6;
- Viewpoint 3 – Footpath MAE/50/2;
- Viewpoint 4 – Cistercian Way Long Distance footpath/ Bridleway LDM/17/1;
- Viewpoint 5 – Footpath LDM/12/1;
- Viewpoint 6 – Minor Road, Llangynwyd; and
- Viewpoint 7 – Junction of A4063 and Brynheulog Road and National Cycle Route 885.

6.7.5. The visual baseline and assessment is to be read in conjunction with **Figure 6.2** which shows the viewpoint locations and PRoWs including National Cycle Network, long distance routes, footpaths, bridleways and byways.

6.7.6. Open access land, Historic Parks and Gardens, Country Parks are shown on **Figure 6.5.** The Historic Parks and Garden/ Country Park are outwith the ZTV and are therefore scoped out of the assessment.

6.8 FUTURE BASELINE

6.8.1. The Project will integrate the consented Foel Trawsnant Wind Farm with the current national network via a 66kV connection. It will remain active for the duration of the wind farm's operation; for the purposes of the assessment, it is assumed to be up to 30 years. However, it is noted the duration of the proposed overhead line and underground cable could extend beyond 30 years, dependant on potential future uses. The approximate time periods associated with the Project, and whether they are predominantly long-term or short-term are listed as follows:

- Construction: up to 9 months, broken down into the following activities:
  - Six months for trenching and laying the ducts ;
  - One month cable pull through and jointing works; and

- Two months for erecting overhead line poles.
- Operation: up to 30 years (long-term).

6.8.2. Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the DNOs wider distribution network. This would also avoid further disruption to the surrounding environment.

6.8.3. The LVIA considers that during this period of 30 years, the predicted future baseline and evolution of landscape and visual receptors is unlikely to change significantly under the current regime of landscape and forestry management and maintenance. However, land management, and consequently landscape character, is dependent on a number of economic and environmental factors including the future effects of climate change and human adaptation which are difficult to predict at a local level and not a matter for this assessment. It is however likely that mitigation and adaptation in response to changing climate and biodiversity pressures will continue to have an influence on this area in the form of increased renewable energy and other environmental changes which are likely to alter the landscape baseline as follows:

- Change resulting from an increased reliance on renewable energy, including wind farm development; and
- Change to current levels of forestry and woodland, which may increase.

6.9 EMBEDDED MITIGATION

6.9.1. The Project has been developed through an iterative design process which considered balanced environmental, technical and economic factors. Minimising the number of potential visual receptors and reducing landscape effects by avoiding the requirement to create corridors through forested areas where possible, ensuring the Project is generally backdropped by existing forestry and/ or elevated topography and following the existing topography reflecting the guidance provided in the Holford Rules[30].

LIKELY CONSTRUCTION PHASE EFFECTS

6.9.2. The construction of the Project would include the following aspects which may have an effect on landscape features, the character of the landscape and on visual amenity, associated with the construction of the Project:

- Presence and movement of construction machinery and vehicles;
- Creation of temporary compound;
- Pole foundations; and

[30]National Grid (2025); The Holford Rules. Available at: https://www.nationalgrid.com/sites/default/files/documents/13795-The%20Holford%20Rules.pdf

- Minor tree removal for the construction of the UGC just to the southwest of Pen-y-lan residential property to the northwest of Kings Terrace (**Figure 8.5**).

CONSTRUCTION MITIGATION

Design Solutions and Assumptions

6.9.3. The presence of construction machinery and compound within the landscape will be temporary in nature and any ground disturbance as a result will be reinstated to its previous state at the end of construction. The tree removal is minor and therefore would not result in a loss of substantial landscape features.

6.9.4. The UGC will be placed within ducts and take approximately six months to complete. The works have been assumed to take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week.

6.9.5. The construction of the OHL sections will take approximately 2 months. This will require HGV's to transport the poles; see Chapter 7: Traffic and Transport for further details.

Mitigation During Construction

6.9.6. The mitigation of effects on the landscape and visual resource during construction are those integral to the construction process under the 'Considerate Contractors' process that is now routinely followed, such as tidy site management to reduce visual clutter associated with the works, and use of construction lighting in accordance with best practice to minimise lighting intrusion to surrounding sensitive receptors.

6.9.7. Construction works will also be undertaken in line with the Construction Environmental Management Plan (CEMP) (**Appendix 4A**) which includes measures to mitigate negative landscape and visual effects during construction such as the restriction of construction traffic to designated routes, to avoid damage to the road corridor such as the creation of wheel ruts and ensure these are cleared-up and reinstated.

6.9.8. The temporary construction compound (see **Figure 4.1**) will be used for the construction of the proposed northern and southern OHL. Poles will be stored at the compound; on the day of installation, poles will be transported to the works area and laydown within the Site boundary.

LIKELY OPERATIONAL PHASE EFFECTS

6.9.9. The main potential for operational effects of the Project on landscape and visual receptors would be created by the following aspects:

- Presence of an OHL route. The height of the wooden poles will be between 11-15m above ground level; and
- Potential for localised tree pruning/cutting to retain clearance distances.

Design Solutions and Assumptions

6.9.10. Landscape and visual mitigation of the Project is embedded in the route selection process which gives substantial weight to potential effects on landscape character, landscape designations and visual amenity.

6.9.11. In the normal course of operation there is no requirement to inspect UGCs, although they are regularly tested at the joint bays. Underground cables have an approximate lifespan of 100 years.

6.9.12. Overhead line conductors and insulators have a design life of approximately 40 years. Faults on an OHL are infrequent. When they do occur, the vehicles used are likely to be similar to those needed for the construction of the line. Fault repair is quick and relatively straightforward.

Operation Phase Mitigation

6.9.13. No specific mitigation measures have been identified due to the limited potential for landscape and visual effects arising from the Project, and the nature of the landscape where screening planting would not be appropriate. The implementation of a CEMP would ensure that best practice standards are used during the construction and reinstatement periods which would assist in minimising landscape and visual effects.

Decommissioning

6.9.14. Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the DNOs wider distribution network. This would also avoid further disruption to the surrounding environment.

6.10 ASSESSMENT METHODOLOGY

6.10.1. This section gives a brief overview of the methodology used within this LVIA. It is to be read in conjunction with the detailed methodology provided in **Appendix 6A.**

6.10.2. This LVIA presents the assessment of impacts associated with the Project and their likely effects upon the landscape and visual amenity.

LANDSCAPE

6.10.3. Landscape assessment considers the effects of change and development on landscape as a resource in its own right.

6.10.4. The character of the landscape derives from a combination of physical factors, natural processes and human intervention. Landscape effects are a combination of the physical changes to the fabric of the landscape arising from the Project and perceptual changes – the way these physical changes alter how the landscape is perceived.

6.10.5. The landscape assessment considers the effect of the Project on the landscape, including effects on significant individual elements of the landscape, and effects on characteristic combinations or patterns of elements and how these are perceived to affect its character and quality.

VISUAL AMENITY

6.10.6. Visual assessment is concerned with the views that are available to people who may be affected by the Project, and their perception and responses to changes in these views.

6.10.7. Visual effects arise from changes in the composition and character of views available in the area affected. The assessment considers the likely change that would be experienced, including the effects both on specific views and on general visual amenity – the pleasantness of the view or outlook – that the people affected enjoy.

6.10.8. For the purposes of assessment, whilst it is the people living, working, passing through or enjoying recreational activities in the area who actually see the views and enjoy the visual amenity, it is the places they may occupy that are mapped and described as the visual receptors.

ASSESSMENT OF EFFECTS

6.10.9. The level of landscape and visual effects are evaluated through the combination of sensitivity and magnitude of change. The sensitivity is derived from combining the value of the receptor with its susceptibility to the type of change proposed. The magnitude of change is derived from combining the size or scale of change, the duration and the reversibility of the effect.

6.10.10. The combination of Sensitivity and Magnitude is then evaluated to determine the overall level of effect significance. The combination of sensitivity and magnitude and resulting levels of effect are illustrated in **Table 6-7** below.

Table 6-7 - Evaluation of Landscape and Visual Effects

Magnitude of Change	Landscape and Visual Sensitivity		
	High	Medium	Low
High	Major	Major to Moderate	Moderate to Minor
Medium	Major to Moderate	Moderate	Minor
Low	Moderate to Minor	Minor	Minor
Negligible	Minor to Negligible	Minor to Negligible	Negligible
Zero	None / No View		

6.11 ASSESSMENT OF RESIDUAL LANDSCAPE EFFECTS

6.11.1. Landscape Effects are defined by the Landscape Institute in GLVIA 3, paragraphs 5.1 and 5.2 as follows:

- *"An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern ... is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. ... The area of landscape that should be covered in assessing landscape effects should include the site itself and the full extent of the wider landscape around it which the Project may influence in a significant manner."*

6.11.2. These effects are assessed by considering the landscape sensitivity (value and susceptibility) against the magnitude of change. The type of effect can also be described as temporary or permanent, direct or indirect, cumulative and positive, neutral, or negative.

6.11.3. The residual landscape effects, assessed here, are those effects remaining after all of the proposed design mitigation has been taken into account. An assessment of the cumulative landscape effects, taking account of other relevant operational and consented development and any relevant current applications has been undertaken as detailed in **Appendix 6D and 6E** and summarised in **Table 6-14** and **6-15.**

6.11.4. In considering the effects of the Project (magnitude of change) on landscape character and visual receptors, the following scenarios will be assessed:

- Construction Phase – during the construction period, assuming a maximum perceived change situation (i.e., when construction activity is at its peak), noting how long that period is likely to last; and
- Operational Phase (Winter Year 1)

6.11.5. Decommissioning effects would reflect those arising as a result of construction but may happen at different times or not at all in the case of the UGC. An assessment of the decommissioning effects has been scoped out.

LOCAL CHARACTER AREAS

6.11.6. The sensitivity for LCAs is included within **Appendix 6B** and summarised in the in **Table 6-8** below:

Table 6-8 - Effects on Local Landscape Character

Character Area	Sensitivity
LCA 1: Llangynwyd Rolling Uplands and Forestry	High-Medium Sensitivity
LCA 3: Llynfi & Garw Uplands and Forestry	Medium Sensitivity
LCA 7: Mynydd Margam	Medium Sensitivity
LCA 13: Foel Trawsnant	Medium Sensitivity

6.11.7. The assessment of effects on LCAs are set out in **Appendix 6D** and are summarised in **Table 6-9** below:

Table 6-9 - Assessment of effects on Local Landscape Character Areas Summary Table

Local Character Area	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
LCA 1: Llangynwyd Rolling Uplands and Forestry	Medium	Medium	**Moderate and Significant** (northern and southern OHLs).	**Moderate and Significant** (northern and southern OHLs).
LCA 3: Llynfi & Garw Uplands and Forestry	Low (northern OHL) – Negligible (southern OHL).	Low (northern OHL) and Low-Negligible (southern OHL).	Minor (northern OHL) to Minor to Negligible (southern OHL) and not significant	Minor and not significant (northern OHL) and Minor - Minor to Negligible and not significant (southern OHL)
LCA 7: Mynydd Margam	Negligible	Negligible	Minor to Negligible and not significant (southern OHL)	Minor to Negligible and not significant
LCA 13: Foel Trawsnant	Medium	Medium	Moderate and not significant	Moderate and not significant

LANDMAP VISUAL AND SENSORY AREAS

6.11.8. The sensitivity for LANDMAP VSAA are included within **Appendix 6B** and summarised in the in **Table 6-10** below:

Table 6-10 - Sensitivity of LANDMAP VSAA Summary Table

Reference	LANDMAP VSAA	Sensitivity
18	CYNONVS473 – Mynydd baedan	High-Medium Sensitivity
3	NPTVS358 – Foel Trawsnant	Medium Sensitivity
14	NPTVS927 – Mynydd Margam	Medium-Low Sensitivity
17	CYNONVS351 – Maesteg	Low - Medium Sensitivity
19	CYNONVS731 – Conifer to west of study area	Medium – Low Sensitivity
20	CYNONVS811 – Garth Hill	Medium Sensitivity

6.11.9. The assessment of effects on LANDMAP VSAAs are set out in **Appendix 6D** and are summarised in **Table 6-11** below:

Table 6-11 - Assessment of effects on LANDMAP VSAA Summary Table

Reference	LANDMAP VSAA	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
18	CYNONVS473 – Mynydd baedan	Medium (northern and southern OHLs).	Medium (northern and southern OHLs).	**Moderate and Significant** (northern and southern OHLs).	**Moderate and Significant** (northern and southern OHLs).
3	NPTVS358 – Foel Trawsnant	Medium (northern OHL)	Medium (northern OHL)	Moderate and not significant	Moderate and not significant
14	NPTVS927 – Mynydd Margam	Negligible (southern OHL)	Negligible (southern OHL)	Minor to Negligible and not significant (southern OHL)	Minor to Negligible and not significant
17	CYNONVS351 – Maesteg	Medium-Low (UGC).	Zero	Moderate to Minor and not significant	Zero
19	CYNONVS731 – Conifer to west of study area	Low	Negligible	Minor and not significant	Minor to Negligible - Negligible and not significant
20	CYNONVS811 – Garth Hill	Low (northern OHL) – Negligible (southern OHL).	Low (northern OHL) and Low-Negligible (southern OHL).	Minor (northern OHL) to Minor to Negligible (southern OHL) and not significant	Minor and not significant (northern OHL) and Minor to Minor to Negligible and not significant (southern OHL)

6.12 ASSESSMENT OF RESIDUAL VISUAL EFFECTS

6.12.1. Visual effects are assessed by considering the sensitivity of the receptor (people in the landscape) and the magnitude of change that would affect the view or overall visual amenity. They are defined by the Landscape Institute in GLVIA 3, paragraphs 6.2 as follows:

- *"An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity. The concern here is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements."*

6.12.2. In determining the level of effect, the sensitivity to change and magnitude of effect are combined and assessed to give a final judgement on the overall level of the effects on visual receptors. The results of this assessment are set out in **Appendix 6C** and summarised in **Table 6-12** below:

Table 6-12 - Sensitivity of Viewpoint/ Visual receptors Summary Table

Viewpoint	Sensitivity of receptors
Viewpoint 1 – Footpath MAE/15/2	High-Medium sensitivity. (Footpath users)
Viewpoint 2 – Bridleway MAE/77/6	High-Medium sensitivity (Views experienced by visitors of the Keepers of the Colliery landmark and users of the footpath/ bridleway)
Viewpoint 3 – Footpath MAE/50/2	High – Medium sensitivity (users of the footpath and nearby residents)
Viewpoint 4 – Cistercian Way Long Distance footpath/ Bridleway LDM/17/1	High-medium sensitivity (users of the Long-distance footpath and Bridleway)
Viewpoint 5 – Junction of Minor Road and Footpath LDM/12/1	High-Medium sensitivity (Residents/ Users of the footpath) and Medium (Road users)
Viewpoint 6 - Minor road, Llangynwyd	High sensitivity (Residents) and Medium (Road users).
Viewpoint 7 - Junction of A4063 and Brynheulog Road and National Cycle Route 885	High-Medium sensitivity (Residents), Medium-Low (NCR and Recreational users) and Low (Road users).

6.12.3. The assessment of effects on the Viewpoints and visual receptors are described in **Appendix 6E** and summarised in **Table 6-13** below:

Table 6-13 - Assessment of effects on Viewpoint/ Visual receptors Summary Table

Viewpoint	Magnitude during Construction	Magnitude during Operation	Level of Effect during construction	Level of Effect during operation
Viewpoint 1 – Footpath MAE/15/2	Medium (northern OHL).	Medium (northern OHL).	**Major to Moderate and Significant** (northern OHL)	**Major to Moderate and Significant** (northern OHL)
Viewpoint 2 – Bridleway MAE/77/6	Low (northern OHL) – Negligible (southern OHL).	Medium-Low (northern OHL) and Low-Negligible (southern OHL).	Moderate to Minor – Minor and not significant (northern OHL), Minor to Negligible and not significant (southern OHL)	Moderate and not significant (northern OHL) and Moderate to Minor - Minor – Minor to Negligible and not significant (southern OHL).
Viewpoint 3 – Footpath MAE/50/2	Medium (southern OHL).	Medium (southern OHL).	**Major to Moderate – Moderate and Significant** (southern OHL)	**Major to Moderate – Moderate and Significant** (southern OHL)
Viewpoint 4 – Cistercian Way Long Distance footpath/ Bridleway LDM/17/1	Medium (southern OHL).	Medium (southern OHL).	**Major to Moderate – Moderate and Significant** (southern OHL)	**Major to Moderate – Moderate and Significant** (southern OHL)
Viewpoint 5 – Junction of Minor Road and Footpath LDM/12/1	Medium-Low (southern OHL).	Medium-Low (southern OHL).	Moderate and not significant (southern OHL)	Moderate and not significant (southern OHL)
Viewpoint 6 - Minor road, Llangynwyd	Negligible (southern OHL).	Low – Negligible (southern OHL).	Minor to Negligible and not significant (Residents and Road users) – southern OHL	Minor (Residents) and Minor-Minor to Negligible (Road users) and not significant – southern OHL
Viewpoint 7 - Junction of A4063 and Brynheulog Road and	Low – Negligible (northern OHL).	Low (northern OHL).	Minor (Residents), Minor – Minor to Negligible (NCR and Recreational Users) and Minor	Moderate to Minor – Minor (Residents), Minor (NCR, Recreational

National Cycle Route 885			– Negligible and not significant (Road users) (northern OHL)	Users and road users) (northern OHL)

6.13 SUMMARY OF LANDSCAPE, VISUAL AND CUMULATIVE EFFECTS

6.13.1. A summary of the landscape and visual effects are provided in **Tables 6-14 and Table 6-15** respectively.

6.13.2. The information set out in the tables lists the main receptors included in this assessment and provides a summary of the landscape and visual effects of the Project as well as the cumulative effects as follows:

- Receptor Name;
- Sensitivity: The sensitivity of the receptor is recorded ranging from high, medium, low and negligible (or intermediatory values) in accordance with the methodology in **Appendix 6A**.
- LVIA Assessment ('Stand-alone' of Primary Effect):
  - Magnitude: The magnitude of change for the Project is recorded, ranging from high, medium, low and negligible (or intermediatory values) in accordance with the methodology; and
  - Level of Effect: The level of effect resulting from the Project is recorded (taking account of the sensitivity and magnitude in accordance with the methodology). Those levels of effect shown in bold relate to significant effects in accordance with the relevant EIA Regulations.
- Cumulative Assessment (CLVIA):
  - Magnitude (Consented Development): The magnitude of change, taking account relevant consented development recorded ranging from high, medium, low and negligible (or intermediatory values) in accordance with the methodology;
  - Additional Level of Effect: Adding the Project to the baseline of consented development;
  - Consented Cumulative Level of Effect: The level of effect, taking account of the other consented development and the Project, is recorded (taking account of the sensitivity and magnitude in accordance with the methodology). Those levels of effect shown in bold relate to significant effects in accordance with the relevant EIA Regulations and the development contributing most to the cumulative effects is recorded in brackets;
  - Magnitude (Application Development): The magnitude of change, taking account relevant consented development recorded ranging from high, medium, low and negligible (or intermediatory values) in accordance with the methodology;
  - Additional Level of Effect: Adding the Project to the application development; and
  - Application Cumulative Level of Effect: The level of effect, taking account of the consented, application developments and the Project, is recorded (taking account of the sensitivity and magnitude in accordance with the methodology). Those levels of effect shown in bold relate to significant effects in accordance with the relevant EIA Regulations and the wind farm contributing most to the cumulative effects is recorded in brackets.

Table 6-14 - Summary Effects Table for Landscape Receptors

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	Consented: Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	Application Combined Level of Effect
Local Landscape Character Areas									
LCA 1: Llangynwyd Rolling Uplands and Forestry	High-Medium	Construction and Operation Medium (northern and southern OHLs).	Construction and Operation **Moderate and Significant** (northern and southern OHLs).	High-Medium	**Moderate and Significant** (northern and southern OHLs).	**Major to Moderate and Significant** (Foel Trawsnant Windfarm)	High	**Moderate and Significant** (northern and southern OHLs).	**Major and Significant** (Foel Trawsnant and Y Bryn Windfarms)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
LCA 3: Llynfi & Garw Uplands and Forestry	Medium	Construction Low (northern OHL) – Negligible (southern OHL). Operation Low (northern OHL) and Low-Negligible (southern OHL).	Construction Minor (northern OHL) to Minor to Negligible (southern OHL) and not significant Operation Minor and not significant (northern OHL) and Minor - Minor to Negligible and not significant (southern OHL)	High - Medium	Minor and not significant (northern OHL) and Minor - Minor to Negligible and not significant (southern OHL)	**Major to Moderate and Significant** (Foel Trawsnant Windfarm)	High	Minor and not significant (northern OHL) and Minor - Minor to Negligible and not significant (southern OHL)	**Major and Significant** (Foel Trawsnant and Y Bryn Windfarms)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	Consented: Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	Application Combined Level of Effect
LCA 7: Mynydd Margam	Medium	Construction Negligible (southern OHL) Operation Negligible. (southern OHL)	Construction Minor to Negligible and not significant (southern OHL) Operation Minor to Negligible and not significant (southern OHL)	Negligible	Negligible and not significant (southern OHL)	Minor to Negligible and not significant (Foel Trawsnant Windfarm)	High-Medium	Minor to Negligible and not Significant (southern OHL)	**Major to Moderate and Significant** (Y Bryn Windfarm)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
LCA 13: Foel Trawsnant	Medium	Construction Medium (northern OHL) Operation Medium. (northern OHL)	Construction Moderate and not significant (northern OHL) Operation Moderate and not significant (northern OHL)	High	Moderate and not significant (northern OHL)	**Major and Significant** (Foel Trawsnant Windfarm)	High-Medium	Moderate and not significant (northern OHL)	**Major and Significant** (Foel Trawsnant and Y Bryn Windfarms)
LANDMAP VSAA									

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
CYNONVS473 – Mynydd baedan	High - Medium	Construction and Operation Medium (northern and southern OHLs).	Construction and Operation **Moderate and Significant** (northern and southern OHLs).	High-Medium	**Moderate and Significant** (northern and southern OHLs).	**Major to Moderate and Significant** (Foel Trawsnant Windfarm)	High	**Moderate and Significant** (northern and southern OHLs).	**Major and Significant** (Foel Trawsnant and Y Bryn Windfarms)
NPTVS358 – Foel Trawsnant	Medium	Construction and Operation Medium (northern OHL)	Construction and Operation Moderate and not significant (northern OHL)	High	Moderate and not significant (northern OHL)	**Major and Significant** (Foel Trawsnant Windfarm)	High-Medium	Moderate and not significant (northern OHL)	**Major and Significant** (Foel Trawsnant and Y Bryn Windfarms)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	Consented: Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	Application Combined Level of Effect
NPTVS927 – Mynydd Margam	Medium	Construction Negligible (southern OHL) Operation Negligible (southern OHL)	Construction Minor to Negligible and not significant (southern OHL) Operation Minor to Negligible and not significant (southern OHL)	Negligible	Negligible and not significant (southern OHL)	Minor to Negligible and not significant (Foel Trawsnant Windfarm)	High-Medium	Minor to Negligible and not significant (southern OHL)	**Major to Moderate and Significant** (Y Bryn Windfarm)
CYNONVS351 – Maesteg	Low - Medium	Construction Medium-Low (UGC). Operation Zero	Construction Moderate to Minor and not significant (UGC) Operation Zero	Zero	Zero	Zero	Zero	Zero	Zero

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	Consented: Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	Application Combined Level of Effect
CYNONVS731 – Conifer to west of study area	Medium - Low	Construction Low (northern & southern OHL) Operation Negligible (northern & southern OHL)	Construction Minor and not significant (northern & southern OHL) Operation Minor to Negligible - Negligible and not significant (northern & southern OHL)	Medium-Low	Minor to Negligible - Negligible and not significant (northern & southern OHL)	Moderate to Minor and not significant (Foel Trawsnant Windfarm)	Medium	Minor to Negligible - Negligible and not significant (northern & southern OHL)	Moderate to Minor and not significant (Foel Trawsnant and Y Bryn Windfarm)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
CYNONVS811 – Garth Hill	Medium	Construction Low (northern OHL) – Negligible (southern OHL). Operation Low (northern OHL) and Low-Negligible (southern OHL).	Construction Minor (northern OHL) to Minor to Negligible (southern OHL) and not significant Operation Minor and not significant (northern OHL) and Minor to Minor to Negligible and not significant (southern OHL)	High-Medium	Minor and not significant (northern OHL) and Minor to Minor to Negligible and not significant (southern OHL)	**Major to Moderate and Significant** (Foel Trawsnant Windfarm)	High	Minor and not significant (northern OHL) and Minor to Minor to Negligible and not significant (southern OHL)	**Major and Significant** (Foel Trawsnant and Y Bryn Windfarms)

Table 6-15 - Summary Effects Table for Visual Receptors

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	Consented: Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	Application Combined Level of Effect
Viewpoint 1 – Footpath MAE/15/2	High-Medium Sensitivity (Footpath users)	Construction and Operation Medium (northern OHL).	Construction and Operation **Major to Moderate and Significant** (northern OHL)	High	**Major to Moderate and Significant** (northern OHL)	**Major – Major to Moderate and Significant** (Foel Trawsnant)	High	**Major to Moderate and Significant** (northern OHL)	**Major – Major to Moderate and Significant** (Foel Trawsnant and Y Bryn Windfarm)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
Viewpoint 2 – Bridleway MAE/77/6	High-Medium Sensitivity (Views experienced by visitors of the Keepers of the Colliery landmark and users of the footpath/ bridleway)	Construction Low (northern OHL) – Negligible (southern OHL). Operation Medium-Low (northern OHL) and Low-Negligible (southern OHL).	Construction Moderate to Minor – Minor and not significant (northern OHL), Minor to Negligible and not significant (southern OHL) Operation Moderate and not significant (northern OHL) and Moderate to Minor - Minor – Minor to Negligible and not significant (southern OHL).	High-Medium	Moderate and not significant (northern OHL) and Moderate to Minor - Minor – Minor to Negligible and not significant (southern OHL).	**Major – Major to Moderate and Significant** (Foel Trawsnant Windfarm)	High	Moderate and not significant (northern OHL) and Moderate to Minor - Minor – Minor to Negligible and not significant (southern OHL).	**Major – Major to Moderate and Significant** (Foel Trawsnant and Y Bryn Windfarm)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	Consented: Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	Application Combined Level of Effect
Viewpoint 3 – Footpath MAE/50/2	High – Medium Sensitivity (users of the footpath and nearby residents)	Construction and Operation Medium (southern OHL).	Construction and Operation **Major to Moderate – Moderate and Significant (southern OHL)**	Zero	Zero	Zero	Medium	**Major to Moderate – Moderate and Significant (southern OHL)**	**Major to Moderate - Moderate and Significant** (Y Bryn Windfarm)
Viewpoint 4 – Cistercian Way Long Distance footpath/ Bridleway LDM/17/1	High-medium. (users of the Long-distance footpath and Bridleway)	Construction and Operation Medium (southern OHL).	Construction and Operation **Major to Moderate – Moderate and Significant** (southern OHL)	Medium-Low	**Major to Moderate – Moderate and Significant** (southern OHL)	**Major to Moderate – Moderate and Significant** (P)	High-medium	**Major to Moderate – Moderate and Significant** (southern OHL)	**– Major to Moderate - Moderate and Significant** (Y Bryn Windfarm)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
Viewpoint 5 – Junction of Minor Road and Footpath LDM/12/1	High-Medium (Residents/ Users of the footpath) and Medium (Road users)	Construction and Operation Medium-Low (southern OHL).	Construction and Operation Moderate and not significant (southern OHL)	Medium-Low	Major to Moderate – Moderate and Significant (southern OHL)	Moderate and Not Significant (P & Foel Trawsnant Wind Farm)	High-medium	Major to Moderate – Moderate and Significant (southern OHL)	**Major to Moderate - Moderate and Significant** (Y Bryn Windfarm)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (P) and other Development					
	Sensitivity	**Magnitude (Standalone)**	**Level of Effect (Standalone)**	**Magnitude** (Consented)	**Additional Level of Effect**	**Consented: Combined Level of Effect**	**Magnitude** (Applications)	**Additional Level of Effect**	**Application Combined Level of Effect**
Viewpoint 6 - Minor road, Llangynwyd	High (Residents) and Medium (Road users).	Construction Negligible (southern OHL). Operation Low – Negligible (southern OHL).	Construction Minor to Negligible and not significant (Residents and Road users) – southern OHL Operation Minor (Residents) and Minor-Minor to Negligible (Road users) and not significant – southern OHL	Zero	Zero	Zero	Low	Minor (Residents) and Minor-Minor to Negligible (Road users) and not significant – (southern OHL)	Moderate to Minor - Minor and not significant (Y Bryn Windfarm)

Viewpoint 7- Junction of A4063 and Brynheulog Road and National Cycle Route 885	High-Medium (Residents), Medium-Low (NCR and Recreational users) and Low (Road users).	Construction Low – Negligible (northern OHL). Operation Low (northern OHL).	Construction Minor (Residents), Minor – Minor to Negligible (NCR and Recreational Users) and Minor – Negligible and not significant (Road users) (northern OHL) Operation Moderate to Minor – Minor (Residents), Minor (NCR, Recreational Users and road users) (northern OHL)	Medium	Moderate to Minor – Minor (Residents), Minor (NCR, Recreational Users and road users)	**Major to Moderate and Significant (Residents)** (Foel Trawsnant Windfarm) and Moderate to Minor (NCR, Recreational Users) Minor (Road Users) and not significant	High-medium	Moderate to Minor – Minor (Residents), Minor (NCR, Recreational Users and road users)	**Major – Major to Moderate and Significant (Foel Trawsnant and Y Bryn Windfarm) (Residents), Moderate and Significant** (NCR, Recreational Users) and Moderate to Minor-Minor (Road users) and not significant

6.14 CONCLUSIONS OF SIGNIFICANCE EVALUATION

LANDSCAPE CHARACTER SIGNIFICANT EFFECTS OF THE PROJECT

6.14.1. The Project is considered to have a **Moderate and Significant level of effect** at construction and operation stages on LCA 1: Llangynwyd Rolling Uplands and on LANDMAP Visual and Sensory Aspect Area CYNONVS473 Mynydd Baedan (which in part cover the same geographic area) as a result of the UGC (construction phase only) and both the northern and southern OHLs. This LCA and VSAA have a High-Medium Sensitivity. The northern OHL lies within the Foel y Dyfrryn SLA and the southern OHL lies within the Western Uplands SLA. The character area attributes are a strongly rural and tranquil landscape with some panoramic views to more distant hillsides. The construction phase would introduce vehicle movement and construction machinery which would impact the tranquillity. There would also be some direct impacts including a small area of tree removal for the UGC.

6.14.2. The operational phase would result in both the proposed northern and southern OHLs being noticeable in the landscape which in the absence of existing overhead line powerlines, would significantly affect the landscape character to the north and south of the settlement of Maesteg, extending over a small – medium geographic extent. Within the character area the OHLs would be perceived in conjunction with existing pylon lines, telecommunications masts and the settlement of Maesteg and in this context the Project would be less noticeable, and significant effects would be avoided.

VISUAL SIGNIFICANT EFFECTS OF THE PROJECT

6.14.3. The Project is considered to have a **Major to Moderate and Significant level of effect** at both construction and operation phases on users of Footpath MAE/15/2 (represented by Viewpoint 1) as a result of the proposed northern OHL. During the construction phase there would be visibility of construction machinery, vehicle movements and the compound area. The footpath, which forms part of a wider local network, passes beneath the proposed northern OHL route and therefore would require a temporary diversion during construction along with several other footpaths/ bridleway in the area. The movement, visual intrusion and noise of construction activity and any diversions along main roads shall have a temporary adverse effect on users of the footpath. At operation there would be near distant views of the northern OHL. From the eastern section of the footpath the northern OHL would be seen in context with the settlement of Maesteg in the valley below whilst from other sections of the footpath the OHL would be visible against hillsides with few manmade features.

6.14.4. The Project is considered to have a **Major to Moderate - Moderate and Significant level of effect** at both construction and operation phases on users of Footpath MAE/50/2 and nearby residents (represented by Viewpoint 3) and users Cistercian Way Long Distance footpath/ Bridleway LDM/17/1 (represented by Viewpoint 4) as a result of the proposed southern OHL. During the construction phase there would be visibility of construction machinery, vehicle movements and lay down areas and therefore there would be a temporary adverse effect on the views experienced and the sense of local tranquillity.

6.14.5. At operation, residents particularly Cae Emi Farm and Lluest-wen, along with users of the footpaths/ bridleways would experience noticeable views of the proposed southern OHL over a wide horizontal field of view. Where viewed in conjunction with existing overhead powerlines and

telecommunications masts, the Project would be less noticeable and significant effects but would be at the lower end of significance and be no greater than moderate adverse.

6.15 REFERENCES

Baseline information on the landscape context including topography, drainage, settlement pattern, land use, tree cover, promoted recreational routes, transport network and infrastructure.

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7 TRAFFIC AND TRANSPORT

7.1 INTRODUCTION

7.1.1. This chapter of the ES sets out the assessment of likely significant traffic and transport effects of the Project. The chapter sets out a summary of relevant policy and baseline information for the traffic and transport study area, identifies highways receptors and presents an assessment of effects and identifies mitigation measures to minimise the impact of the Project on highways receptors.

7.1.2. This chapter is accompanied by two appendices as follows:

- **Appendix 7A** – Outline Construction Traffic Management Plan (CTMP); and
- **Appendix 7B** – Outline Public Rights of Way Management Plan (PRoWMP).

7.1.3. This chapter should be read in conjunction with the project description provided within **Chapter 4: Description of the Project**.

7.2 LIMITATIONS OF THIS ASSESSMENT

7.2.1. To ensure transparency within the EIA process, the following limitations and assumptions have been identified relating to the traffic and transport assessment.

7.2.2. Information, such as the locations of specific Project access points and the locations of materials suppliers, is currently not known. Therefore, the traffic and transport assessment is based on reasonable assumptions and currently known information. As the Project design and programming develops and further information becomes available through the appointment of contractors, the Outline CTMP and Outline PRoWMP will be updated into 'full' versions which will be consulted upon and agreed with the relevant local highway authorities (LHAs) to ensure that appropriate mitigation is in place to minimise the impacts of construction traffic and facilitate safe and efficient movements.

7.2.3. As set out in detail within **Section 7.6**, this traffic and transport assessment has, in part, been based on Department for Transport (DfT) average annual daily flow (AADF) data[31] from count point locations on the local road network (LRN) within the traffic and transport study area. Ideally, manual count data from 2019 or from 2023 (post COVID pandemic in the UK and its associated travel restrictions) would be used as reasonably recent and accurate data. However, only one road to be assessed has 2019 manual count data (Neath Road (B4282)). As other DfT count point locations on LRN roads have older and/or estimated traffic data, this is a potential limitation on the robustness of the traffic and transport baseline traffic flow data. Therefore, Automatic Traffic Counts (ATCs) were commissioned to obtain 2025 traffic data to supplement the assessed DfT data. Two ATCs (ATC Site 2 and 3) were undertaken in locations that are approximately comparable to the DfT count data (count IDs 99578 and 30640) (both sets of data are summarised in turn within **Table 7-3** and **Table 7-4**). This allows for a comparison between the DfT count data growthed to 2025 and the recorded

[31] Department for Transport, (2025). Road traffic statistics. Available online at: https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints [Accessed February 2025]

2025 ATC traffic flow data in these locations (the method for growthing data is set out within **Section 7.7**). Overall, the comparison shows that in both locations the DfT count traffic flows (growthed to 2025) overestimated total traffic flows, by 6% and 8% respectively, and underestimated HV traffic flows, by 13% and 27% respectively. Overall, the DfT data is therefore shown to be robust for the assessment undertaken as the difference in total traffic flow variation is within the 10% daily variation of traffic flow and the HV flows are underestimated within the DfT data which will overstate the impact of the Project construction HVs. .

7.3 POLICY, LEGISLATION AND GUIDANCE

POLICY

7.3.1. **Table 7-1** lists the key relevant national and local policy and plans to the Project in relation to traffic and transport.

Table 7-1 – National and Local Planning Policies

Policy reference	Policy issues
Planning Policy Wales (PPW) Section 4.1: Transport (2024)	Section 4.1 - This policy provides guidance on the integration of land use, planning and transport matters to promote more sustainable transport choices for people and freight, thus reducing the need to travel, particularly by private transport.
National Planning Statement EN-1 (2023)	This guidance sets out the methodologies to be used should the development in question be considered to give rise to significant transport effects. Travel Plans should be provided should the development generate significant numbers of vehicle movements during operation.
TAN 18 Transport (2007)	Paragraph 9.16 - Many proposed developments will require access to the existing highway network. The type of access provided should reflect the type and nature of the road and the volume and character of traffic likely to use the access. Paragraph 9.18 - The extra trips generated by a proposed development may bring forward the need for transportation improvements in the vicinity of the scheme and beyond.
Neath Port Talbot County Borough Council Local Development Plan (2011-2026) (2016)	Policy SP 20 - This policy states that proposals will be resisted if they are considered to cause unacceptable impact on highway safety.
	Policy TR2 - This policy states that a proposal will only be permitted if: "The development does not compromise the safe, effective and efficient use of the highway network and does not have an adverse impact on highway safety or create unacceptable levels of traffic generation".
	Policy TR 4 - This policy states that proposals that would inhibit the use of certain freight facilities will be resisted "unless it can be demonstrated that the use of the route for movement of freight is not realistic or necessary".

Policy reference	Policy issues
	Achieving Sustainable Accessibility objectives - Objective 21: *"Increase accessibility, promote active travel and encourage a shift to more sustainable modes of transport for people and freight."* Objective 22: *"Reduce impacts of traffic growth and congestion and promote the efficient and effective use of the transport network."*
Bridgend County Borough Council Local Development Plan 2018-2033 (2024)	PLA6 – *"New development proposals must be located in areas which can be effectively accessed so that the impact of road freight movement on the environment is minimised."* "The following transport corridors are identified as the main routes in the County Borough for the movement of people and goods": PLA6(1), M4 PLA6(2), Lynfi PLA6(3), Garw PLA6(4), Ogmore PLA6(5), Aberkenfig-Brynmenyn PLA6(6), Pyle-Aberkenfig PLA6(7), Pencoed-Pyle PLA6(8) Porthcawl-Cornelly" developments must not result in adverse impact on the main transport corridors within the County Borough, where adverse impacts are predicted these must be mitigated.

LEGISLATION

7.3.2. As set out in the CTMP (**Appendix 7A)** there are various legislations regarding the co-ordination and notification of street works and movement of goods. The full CTMP will set out the works required for the construction of the Project and the contractor will comply with the LHA procedures and legislation regarding traffic management and accommodation works.

TECHNICAL GUIDANCE

7.3.3. A summary of the technical guidance referenced in the projection of the traffic and transport assessment is as follows:

- Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (EATM) (IEMA, 2023) which is the current guidance for assessing potentially significant environmental impacts.[32]

7.4 CONSULTATION

7.4.1. A traffic and transport scoping chapter was produced as part of the ES scoping documentation. With regard to traffic and transport, the following is a summary of responses from the local authorities:

- NPTCBC – Noted that there is an agreement to install Permissive PRoWs for the lifetime of the Foel Trawsnant Windfarm and that the Project interacts with the proposed permissive Bridleway.

[32] Davis, S., Hoare, D., Howard, R. and Ross, A., (2023). Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Road Traffic and Movements (EATM).

The response, also, confirmed Footpath 73.PT. interacts with the Project and notes that the Public Right of Way (PRoW) *'shall be protected at all times and any damage caused to the Right of Way shall be rectified to the satisfaction of this authority. No alteration or change to the condition to the PRoW is to be undertaken without further consultation with the Countryside Team.'*

- BCBC – confirmed agreement with the methodology proposed within Section 3.6 of the traffic and transport scoping chapter (**Appendix 2A**) which included elements of the Project to be scoped out of the assessment and a commitment to produce a CTMP and PRoWMP to provide a framework for packages of measures to minimise the impact of the Project in the construction phase on the highway and PRoW networks.

7.4.2. This chapter is accompanied by an Outline CTMP (**Appendix 7A**) and Outline PRoWMP (**Appendix 7B**) and therefore addresses the provided local authority comments.

7.5 DATA GATHERING METHODOLOGY

7.5.1. Baseline data collection has been undertaken to obtain information over the traffic and transport study area. The description of the baseline conditions presented in **Section 7.6** is based on currently available data from within the study area. A summary of the data sources referenced is provided in **Table 7-2**.

Table 7-2 – Data sources used to inform the traffic and transport assessment

Source	Description
Google Maps[33]/Streetview/Google Earth Pro	Mapping data and imagery.
Neath Port Talbot Council[34]	PRoW information.
Bridgend County Borough Council[35]	PRoW and highways status information.
National Rail[36]	Rail service information.
First Bus[37]	Bus service information.
Bus Times[38]	Bus service information.

[33] Google, (2025). Google Maps. Available online at: https://www.google.co.uk/maps [Accessed February 2025].
[34] Neath Port Talbot Neath Port Talbot County Borough Council (2016) Online mapping (online) Available at: https://maps.npt.gov.uk/rights_of_way/index.html [Accessed February 2025]
[35] Bridgend County Borough Council (2024) Bridgend County Borough Council: Web Mapping https://maps.bridgend.gov.uk/webmap9/Map.aspx?MapName=OSWMTSBasemap [Accessed February 2025]
[36] National Rail, (2025). National Rail. Available online at: https://www.nationalrail.co.uk/ [Accessed February 2025].
[37] FirstBus, (2025). Timetables (online). Available at: https://www.firstbus.co.uk/south-west-wales/plan-journey/timetables [Accessed February 2025]
[38] BusTimes, (2025). 202 Port Talbot – Neath via Maesteg (online). Available at: https://bustimes.org/services/202-port-talbot-neath-via-maesteg [Accessed May 2025]

Source	Description
Sustrans[39]	National Cycle Network (NCN) route information.
Bing Maps[40]	Mapping data including OS map layer.
DfT[31]	Traffic flow data.
DfT[41]	Trip End Model Presentation Program
WSP (in-house WSP tool known as Collision – Analysis – UK Wide Dashboard – which uses DfT STATS 19 data)[42]	Highways collision data.
Crashmap[43]	Highways collision data.
Welsh Government, Natural Resources Wales[44]	Open Access Land (OAL) information.
Welsh Government, DataMapWales[45]	Highways speed limit data.
Intelligent Data Collection Limited	ATCs (traffic surveys) undertaken in March 2025

7.6 OVERALL BASELINE

7.6.1. This section briefly outlines the transport network in the vicinity of the Project.

STRATEGIC ROAD NETWORK

7.6.2. The nearest roads on the strategic road network (SRN), which is maintained by the Welsh Government, are the M4, (south of the Project) and the A465 (northwest of the Project). The M4 provides connections to the east and west and the A465 to the northeast.

LOCAL ROAD NETWORK

7.6.3. This section describes the LRN within the traffic and transport study area. The traffic and transport study area spatial scope is further defined within **Section 7.7**, in summary it consists of LRN roads on the proposed construction traffic routes, which connect the Project access points to each other and the SRN. The LRN roads within the study area are identified in **Figure 7.1**.

[39] Sustrans, (2025). The National Cycle Network (online). Available at: https://www.sustrans.org.uk/national-cycle-network/ [Accessed February 2025]
[40] Bing Maps and Ordnance Survey data (2025) Bing Maps Ordnance Survey Layer (online) Available at: https://www.bing.com/maps/ [Accessed February 2025]
[41] Department for Transport (2023) Trip End Model Presentation Program (TEMPro) Version 8.1 Available at: https://www.gov.uk/government/publications/tempro-downloads
[42] In-house WSP tool known as Collision – Analysis – UK Wide Dashboard – which uses DfT STATS 19 data
[43] Department for Transport data published by www.crashmap.co.uk (2025) crashmap data: Great Britain 1999-2023 (verified) (online) Available at: https://www.crashmap.co.uk [Accessed February 2025]
[44] Welsh Government, Natural Resources Wales (2016) DataMapWales Open Access – Open Country (online) Available at: https://datamap.gov.wales/layers/inspire-nrw:NRW_OPEN_COUNTRY_2014 [Accessed February 2025]
[45] Welsh Government, DataMapWales (2025) Roads affected by changes to the speed limit on restricted roads (online) Available at: https://datamap.gov.wales/maps/roads-affected-by-changes-to-the-speed-limit-on-re/view#/ [Accessed May 2025]

A4063

7.6.4. The section of A4063 within the traffic and transport study area, routes between the M4 and Neath Road (B4282), a distance of approximately 12.3km. It is a dual carriageway road between the A4061/A4063 roundabout and the A4063/B4281 roundabout, the rest of the A4063 on the study area route is single carriageway road. Within the study area, the road is subject to a 50mph speed limit on the dual carriageway section and a 20mph to 30mph speed limit for the single carriageway sections. For the dualled section, southbound vehicular traffic from the Project have to travel approximately 1.5km along the A4063 before being able to make a U-turn at the nearest roundabout to the south. This section of the A4063 has streetlighting and intermittent footway provision. There are signalised pedestrian crossings along the road.

Neath Road (B4282)

7.6.5. The section of Neath Road (B4282), within the traffic and transport study area, routes between an unnamed road south of Maesteg Golf Club to A4063 (Commercial Street) and is a single carriageway road. The road section within the traffic and transport study area is approximately 900m in length. The western section of the road is subject to the national speed limit (NSL) of 60mph, and the eastern section is subject to a 20mph speed limit as the road routes through an urban residential area. Neath Road (B4282) has footways on both sides of the carriageway, streetlighting and bus stops. The Neath Road (B4282) / A4063 / Llynfi Road crossroads is a signalised junction with pedestrian phases.

Unnamed Road to Sychbant Farm

7.6.6. There is a narrow single-track road which routes between a private access track and a priority junction with Neath Road (B4282). The road is subject to the NSL and is predominately rural without footways and street lighting. From the B4282 the road routes in a southwest direction for approximately 2.4km.

Llan Road

7.6.7. Llan Road routes west from the Llan Road/A4063/Station Road junction to the Llan Road/A4063/Bryn Celyn junction and is approximately 2.51km in length. It routes mainly through rural areas, however both terminuses route through residential areas. Llan Road routes through a small settlement to the east of Llangynwyd. It is evident that some turning movements on junctions with Llan Road in the vicinity of the settlement are restricted in visibility. Llan Road is a single carriageway subject to a 20mph and 30mph speed limit; it has very narrow single-track sections and is marked as ‘unsuitable for HGVs’ in some sections. Llan Road has some streetlighting and intermittent footway provision in the residential areas at either end though is predominantly without footway or streetlighting.

Unnamed Road 1 - west of Llangynwyd (Llan Road to near Pentre Farm)

7.6.8. Unnamed road 1 routes west from Llan Road it is subject to the NSL aside from on approach to the settlement at its eastern end. It is a narrow single-track road without footways and streetlighting. At the northern extent of this road is a private access track connecting to the unnamed road to Sychbant Farm.

Unnamed Road 2 - west of Llangynwyd (approximately 730m south of Pentre Farm to Unnamed Road 3)

7.6.9. Unnamed road 2 routes through a rural area in a northeast-southwest orientation. It is a narrow single-track road without footways and streetlighting

Unnamed Road 3 - west of Llangynwyd (Unnamed Road 2 to Unnamed Road near Green Meadow Bus Stop)

7.6.10. Unnamed Road 3 routes through a rural area between the unnamed road 2 and the unnamed road near Green Meadow bus stop. It is a narrow single-track road without footway or streetlighting and is subject to the NSL.

7.6.11. Unnamed Road near Green Meadow bus stop routes through a rural area between the unnamed road 3 and the A4063. It is a narrow single-track road without footway or streetlighting. There is a gated section of the road extending approximately 630m at its western extent. At its priority junction with the A4063 there is a bus stop.

Heol Ty Gwyn

7.6.12. Heol Ty Gwyn is approximately routes between Neath Road (B4282) and Garnwen Road. It is a single carriageway road subject to a 20mph speed limit. Hoel Ty Gwyn has streetlighting and footway on both sides of the carriageway, the footway varies in width. There is a series of parking bays parallel to the carriageway.

Garnwen Road

7.6.13. Garnwen Road routes between Heol Ty Gwyn and Davies Terrace, through a residential area. It is a single carriageway road subject to a 20mph speed limit. It has streetlighting and has footway both sides of the carriageway.

Davies Terrace

7.6.14. Davies Terrace routes between Garnwen Road and Nantyffyllon Terrace and is approximately 70m in length. It is a single carriageway road subject to a 20mph speed limit and has streetlighting. Footway is present on both sides of the carriageway.

Kings Terrace and Unnamed Road

7.6.15. Kings Terrace is connected to Davies Terrace via an unnamed road. Both roads provide access to a residential area to the west of Davies Terrace / Nantyffyllon Terrace. The road is single carriageway subject to a 20mph speed limit, with footway on both sides and streetlighting. Google maps streetview indicated both sides of the carriageways are used for on-street car parking.

PUBLIC TRANSPORT

7.6.16. The nearest railway stations to the Project are Maesteg, Maesteg (Ewenny Road) and Garth (Bridgend) which are all on the same railway line. They are served by services to Cardiff Central and Ebbw Vale Town. The railway station locations are shown in **Figure 7.2**.

7.6.17. The three stations are managed by Transport for Wales. Maesteg railway station has 12 car parking spaces[36].

7.6.18. The nearest bus stops to the Project are on the B4282 (Neath Road) and the A4063. The local bus services that route near the Project are stated below, the routes of these services are shown in **Figure 7.2:**

- **70 (Firstbus)** – operates between Cymmer and Bridgend, with a minimum of 13 services per day per direction Monday to Saturday and ten services per direction on Sunday;
- **71 (Firstbus)** – operated between Cymmer and Bridgend, Monday to Saturday with 11 services per day per direction;
- **202 (Forge Travel)** – operated between Port Talbot and Neath, Monday to Saturday with a minimum of four services per day per direction; and
- **X3 (Firstbus)** – operates between Port Talbot and Maesteg, Monday to Saturday with eight services per day per direction.

ACTIVE TRAVEL

7.6.19. The nearest NCN route[39] to the Project is the 885 which currently routes between Maesteg and Cymmer. The majority of the 885 route is off-carriageway with some sections of on-carriageway route. At Cymmer there is connection to NCN route 887, which links to Port Talbot, Aafan Forest Park and other NCN routes. Route 885 is planned to connect south to Bridgend; however, this section is still under development. The section of route 885 near the Project is shown in **Figure 7.2.**

7.6.20. In general, within the traffic and transport study area there are footway provided within urban areas and no footway provision through rural areas.

7.6.21. There are PRoWs in the vicinity of the Project, those that interact with the Project are outlined within the accompanying PRoWMP (**Appendix 7B**).

TRAFFIC FLOW DATA

7.6.22. Traffic flow data has been sourced from DfT traffic counts and ATCs for locations within the traffic and transport study area. The locations of the DfT traffic counts used and ATCs are shown in **Figure 7.1**.

7.6.23. For DfT traffic count locations, ideally, manual count data from 2019 or from 2023 (post the COVID pandemic in the UK and its associated travel restrictions) would be used as reasonably recent and accurate data. However, only one road to be assessed has 2019 manual count data (Neath Road (B4282)), other LRN roads have older and/or estimated traffic data. For the assessment within this ES chapter the available DfT count data for LRN roads has been utilised for the latest available data (excluding data between 2020 and 2022 as this period does not reflect 'normal' travel conditions due to the COVID pandemic UK travel restrictions). **Table 7-3** summarises the latest available data. This shows for each survey site (the 'Count ID') the road and location of the traffic count survey on that road, the date and type of the traffic count (where stated as 'estimated', this is based on the previous year's AADF), the daily traffic flow (AADF) for all vehicles and just HGVs.

Table 7-3 – Baseline Traffic Flow Data: DfT Count Points

Count ID	99578	99579	91272	30640	950829	950844
Road	A4063	A4063	A4063	A4063	Neath Road (B4282)	Unnamed Road to Sychbant Farm
Location	Tondu between	Between the B4281	Between Llangynwyd	Maesteg (north of	Between Heol Ty	Between Keir Hardie

Count ID	99578	99579	91272	30640	950829	950844
	Bryn Road and the B4281	and the M4 Junction 36	and Coytrahen	Llan Road north)	Gwyn and the A4063)	Road and Neath Road (B4282)
Date and Type of Count	2023 - estimated	2023 - estimated	2023 - estimated	2023 - estimated	2019 - manual count	2017 - manual count
AADF - all vehicles	15,235	14,462	11,679	11,536	9,145	60
AADF HVs	471	577	409	293	180	1

Data source: DfT Road Traffic Statistics[31]; growth rates derived using TEMPro[41]

7.6.24. As the available DfT data is limited, as noted previously in **Section 7.2**, the DfT data has been supplemented by ATC survey counts undertaken on the LRN at three key locations in March 2025. **Table 7-4** summarises the March 2025 ATC traffic flow data. The raw data is available on request.

Table 7-4 - Baseline Traffic Flow Data: March 2025 ATCs

ATC ID	ATC Site 1	ATC Site 2	ATC Site 3
Road	Garnwen Road	A6043	A6043
Location	Between Heol Ty Gwyn and Davies Terrace	Between Llan Road north and the B4282	Tondu between Bryn Road and Iron Way
AADF - all vehicles	2,850	10,683	14,446
AADF HVs	77	377	540

Data source: ATC surveys undertaken in March 2025 by Intelligent Data Collection Limited

HIGHWAY COLLISION DATA

7.6.25. Personal Injury Accident (PIA) data has been sourced from Crashmap[43] (DfT data published by www.crashmap.co.uk) and WSP's in-house tool known as Collision – Analysis – UK Wide Dashboard – which uses DfT STATS 19 data[42]. The latest available and verified five-year period of PIA data is 2019-2023 inclusive.

7.6.26. The purpose of assessing recorded PIAs is to determine if there is a history of accidents in proximity to the Site and to investigate any patterns or contributing factors to the accidents recorded. Clusters of accidents could indicate that improvements are required to enable development on the Site to come forward. Consideration, during this assessment, has been given to accidents involving vulnerable road users (cyclists / pedestrians).

7.6.27. The impact of casualties differs according to the severity of the injuries sustained:

a) Fatal: any death that occurs within 30 days from causes arising out of the accident.

b) Serious: records casualties who require hospital treatment and have lasting injuries, but who do not die within the recording period for a fatality.

c) Slight: injury severity is defined as injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.

7.6.28. **Figure 7.3** shows the PIA study area. **Table 7-5** summarises the recorded accidents on links and junctions in the PIA study area. No accidents were recorded between 2019 and 2023 on: Garnwen Road and Kings Terrace.

Table 7-5 – PIA Summary: 2019 - 2023

Link/Junction	Casualty Injury Severity			Total	Average Accident Rate Per Annum	No. PIA with Vulnerable Road User Casualties*
	Slight	Serious	Fatal			
A4063 – between the M4 and Neath Road (B4282)	29	9	3	41	8.2	3 x pedestrian (slight) 1 x pedestrian (fatal) 1 x cyclist (serious) 1 x cyclist (fatal)
Llan Road	0	1	0	1	0.2	1 x cyclist (serious)
Unnamed Road (west of LLangynwyd)	0	1	0	1	0.2	-
Neath Road (B4282) including junctions with Heol Ty Gwyn & A4063	5	1	0	6	1.2	1 x cyclist (serious)
Heol Ty Gwyn	2	0	0	2	0.4	-
Davies Terrace	1	0	0	1	0.2	-

*Vulnerable road users are pedestrians and cyclists, where these vulnerable road users are child has also been noted.
Data source: Department for Transport data published by www.crashmap.co.uk

7.6.29. In total, 52 accidents were recorded in the PIA study area between 2019 and 2023, three of which resulted in a fatality (all located on the A4063), 12 of which resulted in serious injuries and 37 in slight injuries. Approximately 80% of accidents in the study area occurred along the A4063, along the approximately 12.3km section in the PIA area. Six accidents involved vulnerable road user casualties, which resulted in two fatal accidents, one accident resulting in serious injuries and three injuries rated slight in severity.

7.7 SCOPE OF THE ASSESSMENT

7.7.1. The scope of the traffic and transport was set out within the ES Scoping Report Chapter 3 Traffic and Transport (**Appendix 2A**) and agreed by BCBC in their scoping response. For reference **Table 7-6** summarises the elements scoped out of the traffic and transport assessment.

Table 7-6 – Elements scoped in and out of the assessment of traffic and transport effects

Project Element	Scoped In or Scoped Out and Rationale
Impacts of construction traffic during the construction phase of the Project on highways that form the traffic and transport study area during the construction phase.	Scoped in – as further detailed within this **Section 7.7**
Impacts on the PRoW/OALs/Other Routes with Public Access (ORPAs).	Identified within the accompanying **Appendix 7B** Outline PRoWMP along with mitigation measures to minimise impacts.

Project Element	Scoped In or Scoped Out and Rationale
Impacts on the highway due to in carriageway works and crossing of highways by the Project.	Identified within the accompanying **Appendix 7A** Outline CTMP along with mitigation measures to minimise impacts.
Impacts during the construction phase on navigable waterways and the rail network.	Scoped out – as none are crossed by the Project route.
Impacts during the operational phase of the development.	Scoped out – due to minimal traffic movements generated during this phase. (as further detailed within this **Section 7.7**).
Impacts during the decommissioning phase of the development.	Scoped out - due to the lower traffic movements generated during this phase than in the construction traffic phase (as further detailed within this **Section 7.7**).
Impacts resulting from AIL movements of the movement of hazardous loads.	Scoped out – as none are anticipated as part of the Project.

TEMPORAL SCOPE

7.7.2. EATM advises that the greatest environmental change will generally be when the project traffic is at the largest proportion of the total flow. As set out below, the phase of the Project that will generate the most traffic movements will be the construction phase, therefore only the construction phase has been assessed with respect to traffic and transport effects as this represents the worst-case scenario of traffic and transport effects.

Construction Phase

7.7.3. The construction phase of the development represents the worst-case phase of development for traffic and transport effects and therefore is the basis for the assessment of likely significant traffic and transport effects.

7.7.4. **Section 7.10** sets out the anticipated construction traffic movements based on known information, to allow an assessment of a reasonable worst-case scenario of peak construction traffic flow for the Project's construction phase.

7.7.5. The year in which the peak daily construction traffic movements is anticipated to occur will be the year of assessment of traffic and transport effects (the future year). It is currently anticipated that construction will commence in January 2028 and is expected to be nine months in duration.

7.7.6. The baseline traffic flows set out in **Table 7-3** (sourced from DfT AADF data) have been growthed (increased based on forecasts of future traffic), using growth factors derived from the DfT's TEMPro to 2025 (the current year). The traffic flows have been growthed to 2025 in order to create a baseline traffic flow which is aligned to the year the ATCs were undertaken. Each DfT AADF has been growthed using the DfT's TEMPro version 8.1 to the current year, 2025, the results of which are summarised in **Table 7-7**. The growth rates were derived for the Bridgend authority area using the 'Core' scenario.

Table 7-7 – 2025 Baseline Traffic Flows: DfT Count Data

Count ID	99578	99579	91272	30640	950829	950844
Road	A4063	A4063	A4063	A4063	Neath Road (B4282)	Unnamed Road to Sychbant Farm
Location	Tondu between Bryn Road and the B4281	Between the B4281 and the M4 Junction 36	Between Llangynwyd and Coytrahen	Maesteg (north of Llan Road north)	Between Heol Ty Gwyn and the A4063)	Between Keir Hardie Road and Neath Road (B4282)
TEMPro Growth Rate to 2025	2023 to 2025 = 1.0120	2023 to 2025 = 1.0120	2023 to 2025= 1.0120	2023 to 2025 = 1.0120	2019 to 2025 = 1.0380	2017 to 2025 = 1.0522
2025 AADF - all vehicles	15,418	14,635	11,819	11,674	9,493	63
2025 AADF HVs	477	584	414	297	187	1

7.7.7. For the three locations where ATCs were undertaken in March 2025, the traffic data did not require growthing as the data already represents 2025 traffic flows (these traffic flows are presented in **Table 7-4**).

7.7.8. The 2025 baseline traffic flows, sourced from both the DfT AADF and the ATCs, have been growthed to 2028, the future year. The resultant 2028 baseline traffic flows are presented in **Table 7-8**. The percentage change between the 2028 baseline traffic flow and 2028 baseline traffic flow with the addition Project peak construction traffic is assessed (in **Section 7.10**) against the EATM Rule 1 and Rule 2 thresholds, to determine which highways sections required detailed assessment.

Table 7-8 – 2028 Baseline Traffic Flows

Count ID/ATC ID	99578	99579	91272	30640	950829	950844	ATC Site 1	ATC Site 2	ATC Site 3
Road	A4063	A4063	A4063	A4063	Neath Road (B4282)	Unnamed Road to Sychbant Farm	Garnwen Road	A6043	A6043
Location	Tondu between Bryn Road and the B4281	Between the B4281 and the M4 Junction 36	Between Llangynwyd and Coytrahen	Maesteg (north of Llan Road north)	Between Heol Ty Gwyn and the A4063)	Between Keir Hardie Road and Neath Road (B4282)	Between Heol Ty Gwyn and Davies Terrace	Between Llan Road north and the B4282	Tondu between Bryn Road and Iron Way
TEMPro Growth Rate: 2025 to 2028	1.0365	1.0365	1.0365	1.0365	1.0365	1.0365	1.0365	1.0365	1.0365
2028 AADF - all vehicles	15,981	15,170	12,251	12,101	9,840	65	2,954	11,074	14,974
2028 AADF HVs	494	605	429	307	194	1	79	391	560

Operational Phase

7.7.9. During the operational phase, traffic movements associated with the Project will be minimal, comprising trips for inspection, repair and maintenance purposes. Vehicles used for repair work are likely to be similar to those used during construction, however, these would be infrequent. The operational phase has been scoped out of the assessment of traffic and transport effects, this methodology has been agreed with BCBC via their scoping response.

Decommissioning Phase

7.7.10. The operation life of the Project is anticipated to be up to 30 years. Post operation the above and below ground infrastructure is assumed to remain in situ. Therefore, the development traffic movements associated with the Project decommissioning phase will be lower than those associated with the construction phase. The decommissioning phase has been scoped out of the assessment of traffic and transport effects, this methodology has been agreed with BCBC via their scoping response.

SPATIAL SCOPE

7.7.11. The spatial scope of the assessment (the traffic and transport study area) is based on the proposed construction traffic routes (shown in **Figure 7.1**), the routes on the LRN that construction traffic will use to access the Project access points. **Section 7.6** provides a summary description of the relevant transport context of the study area.

7.7.12. Transport receptors are the users or beneficiaries of the highways network assets and facilities. EATM identifies the following key user groups: non-motorised users, PRoW users, motorists/freight vehicles, public transport and emergency services. The EATM further identifies sensitive locations or users that may be affected:

- *“People at home;*
- *People at work;*
- *Sensitive and/or vulnerable groups (including young age; older age; income; health status; social*
- *disadvantage; and access and geographic factors);*
- *Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools);*
- *Retail areas;*
- *Recreational areas;*
- *Tourist attractions;*
- *Collision clusters and routes with road safety concerns: and*
- *Junctions and highway links at (or over) capacity”.*

7.7.13. Each of the DfT traffic count locations (identified within **Table 7-3**) and ATC locations (identified within **Table 7-4**) will represent the highways receptors on associated sections of the LRN within the traffic and transport study area. Data is not available for every link in the study area, however, in general the roads without traffic data will have low baseline traffic flows as they are various unnamed single-track roads and management measures are set out in the Outline CTMP (**Appendix 7A**) to minimise impacts on these roads.

LIKELY SIGNIFICANT TRAFFIC AND TRANSPORT EFFECTS

7.7.14. The potential likely significant traffic and transport effects of the Project that are identified within EATM are summarised below:

- Severance: the separation of people from places and other people and places or impede pedestrian access to essential facilities;
- Driver delay: traffic delays to non-development traffic;
- Non-motorised user amenity: the effect on the relative pleasantness of a pedestrian journey resulting from changes in traffic flow, traffic composition and pavement width/separation from traffic;
- Non-motorised user delay: the ability of people to crossroads as a result of changes in traffic volume, composition and speed, the level of pedestrian activity, visibility and general physical conditions of the Project;
- Fear and intimidation: the change in fear and intimidation levels experienced by people as a result of an increase in traffic volume and its proximity or the lack of protection caused by such factors as narrow pavement widths; and
- Road safety: the risk of accidents occurring where the Project is expected to produce a change in the character of traffic.

7.7.15. These effects will be assessed within this traffic and transport chapter for highway sections that are identified as requiring detailed assessment.

7.7.16. EATM, also, identifies the potential likely significant traffic and transport effects of the following:

- Impacts of Abnormal Indivisible Loads (AILs)[46]; and
- Impacts of Hazardous Loads.

7.7.17. These effects are scoped out of the assessment (as stated in the ES Scoping Report Chapter 3 Traffic and Transport and agreed by BCBC in their scoping response (**Appendix 2A** and **2B** respectively)) as no AIL or hazardous load movements are anticipated to be required for the Project.

7.8 EMBEDDED MEASURES

7.8.1. Two supporting documents have been prepared which include the key management and mitigation measures which related to traffic and transport:

- An Outline CTMP (**Appendix 7A**) - a CTMP sets out details of the impacts of the Project construction traffic on the road network and the mitigation measures and management strategy for the effects. The Outline CTMP will be developed into a full CTMP in consultation and agreement with the relevant local authority officers.
- An Outline PRoWMP (**Appendix 7B**) – a PRoWMP sets out details of the impacts of the Project on the PRoW network and the mitigation measures and management strategy for the effects. The Outline PRoWMP will be developed into a full PRoWMP in consultation and agreement with the relevant local authority officers.

[46] AILs are long, wide or heavy loads that cannot reasonably be divided into smaller/lighter loads for road transport. In the UK there are set thresholds for these criteria. For a summary of criteria see National Highways (2024) Abnormal Loads and the ESDAL system https://nationalhighways.co.uk/road-safety/abnormal-loads-and-the-esdal-system/

7.8.2. In addition, a Construction Environment Management Plan (CEMP) has been developed as part of the EIA (**Appendix 4A**).

7.9 ASSESSMENT METHODOLOGY

7.9.1. As outlined in **Section 7.7**, EATM outlines that the greatest environmental change will generally be when the project traffic is at the largest proportion of the total flow. Therefore, the assessment of traffic and transport effects, within this ES, will be undertaken for the construction phase of the Project.

7.9.2. EATM sets out two rules to establish the need for an environmental assessment of traffic and transport effects on highways receptors, relating to the proportional change in traffic flows on highways with the Project traffic:

- "*Rule 1: Include highway links where traffic flows will increase by more than 30% (or where the number of heavy goods vehicles will increase by more than 30%).*
- *Rule 2: Include highway links of high sensitivity where traffic flows have increased by 10% or more*".

7.9.3. Rule 1 and Rule 2 will be used to identify highways within the traffic and transport study area that required detail assessment within the EIA.

7.9.4. EATM outlines that predicted traffic flow increases below 10% are generally considered to be not significant as daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flows below this level are, therefore, assumed to result in not significant environmental effects.

DETERMINATION OF RECEPTOR SENSITIVITY

7.9.5. Each highway section that forms part of the construction traffic route will be assigned a receptor sensitivity of high, medium, low or negligible based on the guidance provided within EATM and professional judgement. This includes consideration of proximity of sensitive receptors to the roads to be used by construction traffic and the highway environment, as summarised in **Table 7-9**.

Table 7-9 – Receptor sensitivity summary

Sensitivity	Description/Reason	Receptor
High.	Highway links with a high sensitivity to changes in traffic flows includes routes: ▪ With sensitive receptors alongside them (such as schools, colleges and playgrounds); and/or ▪ Where there are land uses which result in high volumes of pedestrian/cycle users and the road is narrow and/or footway provision is poor or non-existent and/or existing traffic volumes are high for the type of road resulting in congestion and road safety issues.	Occupants of land uses alongside the highway link and users of the highway link.
Medium.	Highway links with a medium sensitivity to changes in traffic flows include routes: ▪ With some sensitive receptors alongside them (such as retail areas); and/or	Occupants of land uses alongside the highway link and users of the

Sensitivity	Description/Reason	Receptor
	▪ Where there are land uses which result in some pedestrian/cyclist users, road design and footway provision is adequate/appropriate and/or existing traffic volumes can be accommodated for the type of road by approaching capacity.	highway link.
Low.	Highway links with low sensitivity to changes in traffic flows include routes: ▪ With no sensitive receptors and some land uses alongside and no/very limited pedestrian/cyclist users and/or road design and footway provision is appropriate and existing traffic volumes can be accommodated for the type of road.	Occupants of land uses alongside the highway link and users of the highway link.
Negligible	Highway links with negligible sensitivity to changes in traffic flows include routes: ▪ With no sensitive receptors and very few land uses alongside them, which have no direct access or are sufficiently set back from the carriageway, and no/very limited pedestrian/cyclist users and existing traffic volumes can be accommodated for the type of road.	Users of the highway link.

7.9.5. For highways links where the sensitivity is judged as 'High' or 'Medium', Rule 2 is applied (sensitive areas where traffic flows are predicted to increase by 10% or more). For highway links where the sensitivity is judged as 'Low' or 'Negligible', Rule 1 is applied (areas where traffic flows are predicted to increase by more than 30% or where the number of heavy goods vehicles (HGVs, also referred to as 'Heavy Vehicles' [HVs]) is predicted to increase by more than 30%).

DETERMINATION OF MAGNITUDE OF CHANGE

7.9.6. For each highway section that forms part of the construction traffic route, the magnitude of change will be determined (high, medium, low or negligible) based on the guidance provided within EATM and professional judgement. These criteria are summarised in **Table 7-10**.

Table 7-10 – Magnitude of change summary

Traffic and Transport Impact	Magnitude of Change			
	High	Medium	Low	Negligible
Severance	Change in total traffic or HGV flows over 91%.	Change in total traffic or HGV flow of 61% to 90%.	Change in total traffic or HGV flows of 31% to 60%	Change in total traffic or HGV flows of less than 30%.
	Context should, also, be considered including the local population and number of local facilities potentially impacted. EATM states caution should be applied when applying these thresholds to highway links with low baseline flows.			
Driver Delay	High increase in queuing at junctions and/or congestion on road links.	Medium increase in queuing at junctions and/or congestion on road links.	Low increase in queuing at junctions and/or congestion on road links.	Low or no increase in queuing at junctions and/or congestion road links.
Non-motorised User Amenity	A halving or doubling of traffic flow (or HGV flow) can be used as a broad threshold when considered in the local context and applied with caution. Assignment of magnitude is based on a variety of factors including general level of pedestrian activity, visibility, and physical conditions such as traffic flow, traffic composition, crossing points and pavement width/separation from traffic.			
Non-motorised User Delay	Generally, increases in traffic may lead to greater delay, though is dependent on the level of non-motorised users' activity in the area. Magnitude is assigned on pedestrian delay experienced when crossing highways links considering a range of factors including crossing type, pedestrian flows, traffic levels, visibility and general highway condition.			
Fear and Intimidation	Magnitude is assigned based on the scoring system provided in EATM (which is dependent on 18hr average HGV traffic flow and vehicle speed). The scores comprise extreme (71+); great (41 to 70); moderate (21 to 40) and small (0 to 20).			
	Two step change in level score of fear and intimidation.	One step change in level score of fear and intimidation and >400 average 18hr vehicle increase or >500 HGV 18hr vehicle increase	One step change in level score of fear and intimidation and <400 average 18hr vehicle increase or <500 HGV 18hr vehicle increase.	No change to step in level score of fear and intimidation.
Road Safety	Magnitude is assigned by reviewing exiting collision patterns and trends based upon existing personal injury accident records and the forecast increase in traffic that may change the risk of serious and fatal injuries.			

SIGNIFICANCE OF EFFECT

7.9.7. Significance of likely traffic and transport impacts will be derived by considering the receptor sensitivity and the magnitude of change as defined within **Table 7-11** (shading denotes significant impacts).

Table 7-11 – Traffic and transport significance evaluation matrix

Receptor Sensitivity	Magnitude of Change			
	High	Medium	Low	Negligible
High	Major (Significant)	Major (Significant)	Moderate (Significant)	Negligible (Not Significant)
Medium	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)
Low	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)
Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

CUMULATIVE EFFECTS

7.9.8. As outlined previously, TEMPro will be used to growth the baseline traffic flow data to the future year of assessment, 2028. DfT's TEMPro[41] forecasts of traffic growth take into account national projections of population, employment, housing, car ownership and trips rates. Therefore, TEMPro should account for all cumulative and anticipated development within the local plans at the time of its production.

7.9.9. Consideration will be given as to whether any of the identified receptor locations are likely to be subject to cumulative effects due to traffic and transport effects generated by other proposed developments in the area that are not included within the TEMPro growth factor (i.e. recently approved development that was not part of a local plan allocation or the construction phases of nearby local developments). The cumulative assessment for traffic and transport effects is presented in **Section 7.11**.

7.10 ASSESSMENT OF EFFECTS

CONSTRUCTION TRAFFIC GENERATION AND DISTRIBUTION

7.10.1. Several elements of the Project will generate construction traffic movements through the construction programme. These movements will include both HV and LV movements. Calculations have been undertaken to estimate the construction traffic generation of the following Project elements:

- OHL works mobilisation (the set-up of a construction compound);
- OHL line survey;
- OHL tree cutting;
- OHL access accommodation works;
- OHL material deliveries to compound;
- OHL conductor wire delivered to accesses;
- OHL pole erection;
- OHL conductor wire pulling;
- Scaffolding;
- UGC access accommodation works;
- UGC materials deliveries;

- UGC civils works;
- UGC installation;
- Reinstatement; and
- Temporary staff at the construction compound.

7.10.2. Assumptions have been undertaken as to the number of days that each activity will occur, and likely traffic generated per day. This traffic generation has been distributed across the assumed nine-month construction programme. In order to generate a 'worst-case' scenario, traffic has been assumed to occur on five days per week, as opposed to the anticipated 5.5 days. **Table 7-12** summarises the average daily two-way traffic generation per week of the construction phase, demonstrating the peak construction traffic occurs across only nine weeks of the nine-month construction programme, between weeks 18 and 26. It should be noted that two-way traffic generation includes the trip to the Site and the return journey, for example an HV delivering materials would constitute two trips or traffic movements as the HV needs to return to its origin. Trips have been rounded to an even number to reflect this.

7.10.3. **Table 7-12 – Estimated Two-way Construction Traffic Generation**

Week	Weekly Construction Traffic Movements			Average Daily Construction Traffic Movements		
	HV	LV	Total	HV	LV	Total
1	10	100	110	2	20	22
2	74	126	200	16	26	42
3	74	68	142	16	14	30
4	104	98	202	22	20	42
5	104	98	202	22	20	42
6	146	98	244	30	20	50
7	102	60	162	20	12	32
8	44	56	100	10	12	22
9	44	56	100	10	12	22
10	44	96	140	10	20	30
11	44	96	140	10	20	30

Week	Weekly Construction Traffic Movements			Average Daily Construction Traffic Movements		
	HV	LV	Total	HV	LV	Total
12	48	108	156	10	22	32
13	44	66	110	10	14	24
14	52	76	128	10	16	26
15	52	76	128	10	16	26
16	52	76	128	10	16	26
17	52	76	128	10	16	26
18	120	86	206	24	18	42
19	120	86	206	24	18	42
20	120	86	206	24	18	42
21	120	86	206	24	18	42
22	120	86	206	24	18	42
23	120	86	206	24	18	42
24	120	86	206	24	18	42
25	120	86	206	24	18	42
26	120	86	206	24	18	42
27	76	86	162	16	18	34
28	8	50	58	2	10	12
29	8	50	58	2	10	12
30	8	50	58	2	10	12

Week	Weekly Construction Traffic Movements			Average Daily Construction Traffic Movements		
	HV	LV	Total	HV	LV	Total
31	10	50	60	2	10	12
32	10	50	60	2	10	12
33	10	50	60	2	10	12
34	10	50	60	2	10	12
35	10	50	60	2	10	12
36	10	50	60	2	10	12
37	10	50	60	2	10	12
38	10	50	60	2	10	12
39	10	50	60	2	10	12

Note: some values may not sum due to rounding.

7.10.4. Some traffic movements will occur between the SRN and the construction compound and the Project access points and some traffic movements will be inter-site. For example, the peak week of construction traffic has been estimated to occur during the following activities overlapping:

- UGC cable materials deliveries;
- UGC civils works;
- UGC installation; and
- Temporary staff at the construction compound.

7.10.5. The UGC materials deliveries traffic will route from the SRN to the construction compound. The UGC civils works activities will consist of delivery movements of the construction material to the Project access points along with staff movements and other material deliveries between the SRN, the compound and the Project access points.

SENSITIVITY OF RECEPTOR

7.10.6. Each of the DfT count locations (set out in **Table 7-3)** and ATC locations (set out in **Table 7-4**) have been assigned a sensitivity based on the criteria set out in **Table 7-9**, as summarised in **Table 7-13**.

Table 7-13 – Highway Receptor Sensitivity

Count ID / ATC ID	Road and Location	Applicable Area	Sensitivity	Rationale
99578	A4063 - Tondu between Bryn Road and the B4281	A4063 - between the B4281 and the northern extent of Tondu	Low	The road routes through an urban area with residential and some commercial/hospitality land uses on either side of the carriageway. Near the B4281 there are no footways but pedestrians are prohibited. Other sections of the A4063 have footway provided.
99579	A4063 - Between the B4281 and the M4 Junction 36		Negligible	The road section is dual carriageway without sensitive receptors adjacent to the carriageway.
91272	A4063 - Between Llangynwyd and Coytrahen	A4063 - Between Llangynwyd and the northern extent of Tondu	Medium	The majority of this section of the A4063 routes through a rural area. However, it does route through the settlement of Coytrahen which is of medium sensitivity due to having narrow footway provision in some locations.
30640	A4063 - Maesteg (north of Llan Road north)	A4603 – between Llangynwyd and Neath Road (B4282)	High	There are high and medium sensitivity receptors adjacent to the carriageway such as education land uses and retail areas.
950829	Neath Road (B4282) - Between Heol Ty Gwyn and the A4063)		Low	Neath Road (B4282) within the study area routes through urban areas and has footway provision.
950844	Unnamed Road to Sychbant Farm - Between Keir Hardie Road and Neath Road (B4282)	Unnamed Road to Sychbant Farm from Neath Road (B4282)	Medium	The road routes through a rural area, without footways, there are a small number of trip attractor in the area which may result in pedestrian movements, particularly the Maesteg gold club.
ATC Site 1	Garnwen Road - Between Garnwen Terrace and Davies Terrace	Garnwen Road, Heol Ty Gwyn and Davies Terrace	Medium	The section routes through an urban area and has medium and high receptors adjacent to the carriageway such as a community hospital and playground. There is footway on a minimum of one side of the road however there are no controlled crossing points along this route section.
ATC Site 2	A4063 - Between Llan Road north and the B4282	A4603 – between Llangynwyd and Neath Road (B4282)	High	There are high and medium sensitivity receptors adjacent to the carriageway such as education land uses and retail areas.
ATC Site 3	A4063 - Tondu	A4063 - between the	Low	The road routes through an urban area with residential and some commercial/hospitality

Count ID / ATC ID	Road and Location	Applicable Area	Sensitivity	Rationale
	between Bryn Road and Iron Way	B4281 and the northern extent of Tondu		land uses on either side of the carriageway. Near the B4281 there are no footways but pedestrians are prohibited. Other sections of the A4063 have footway provided.

7.10.7. For receptors identified in as negligible or low the EATM Rule 1 applies, for receptors identified as medium or high EATM Rule 2 applies.

MAGNITUDE OF CHANGE

7.10.8. **Table 7-14** sets out the magnitude of change of the calculated peak daily (24-hour) development's construction traffic on the identified highways links and presented:

- 2028 future year baseline traffic (without the Project construction traffic) AADF for all motor vehicles and for HVs only;
- the estimated 2028 future year baseline traffic with the Project construction traffic AADF for all motor vehicles and for HVs only;
- the percentage change in AADF for all motor vehicles and for HVs only; and
- sets out if each highways link requires detailed assessment based on the EATM Rule 1 and Rule 2 thresholds. Where a highways link percentage change exceeds the EATM threshold it is set out in red.

Table 7-14 – Magnitude of Change

Count ID / ATC ID	Road and Location	2028 Baseline		2028 With Project Construction Traffic		2028 with Project Traffic Compared to 2028 Baseline		Requires Detailed Assessment
		AADF – All Motor Vehicles	AADF – HVs Only	AADF – All Motor Vehicles	AADF – HVs Only	% Change in AADF – All Motor Vehicles	% Change in AADF – HVs Only	
99578	A4063 - Tondu between Bryn Road and the B4281	15,981	494	16,020	516	0.25%	4.49%	No
99579	A4063 - Between the B4281 and the M4 Junction 36	15,170	605	15,209	627	0.26%	3.67%	No
91272	A4063 - Between Llangynwyd and Coytrahen	12,251	429	12,290	451	0.32%	5.17%	No
30640	A4063 - Maesteg (north of Llan Road north)	12,101	307	12,142	331	0.34%	7.74%	No
950829	Neath Road (B4282) - Between Heol Ty Gwyn and the A4063)	9,840	194	9,881	217	0.41%	**12.29%**	**Yes**
950844	Unnamed Road to Sychbant Farm - Between Keir Hardie Road and Neath Road (B4282)	65	1	91	16	**39.73%**	**1375.30%**	**Yes**
ATC Site 1	Garnwen Road - Between Garnwen Terrace and Davies Terrace	2,954	79	2,980	94	0.88%	**18.88%**	**Yes**
ATC Site 2	A4063 - Between Llan Road north and the B4282	11,074	391	11,113	413	0.35%	5.68%	No
ATC Site 3	A4063 - Tondu between Bryn Road and Iron Way	14,974	560	15,013	582	0.26%	3.96%	No

SIGNIFICANCE OF EFFECT

7.10.9. As identified in **Table 7-14** three receptors require detailed assessment as follows:

- Neath Road (B4282) - Between Heol Ty Gwyn and the A4063);
- Unnamed Road to Sychbant Farm -Between Keir Hardie Road and Neath Road (B4282); and
- Garnwen Road - Between Garnwen Terrace and Davies Terrace.

7.10.10. As the traffic and transport impact relates to the construction of the Project, the duration is temporary, with the peak HV flow being for a period of four weeks.

Neath Road (B4282) - Between Heol Ty Gwyn and the A4063)

7.10.11. This receptor is identified as of low sensitivity and therefore EATM Rule 1 applies. The percentage change in total traffic, with the addition of the Project traffic, does not exceed the threshold however, the percentage change in HVs does exceed the 30% threshold. As such a further assessment of likely traffic and transport impacts is set out below:

- Severance – the change in HVs flows at this location is 12.29%, therefore based on the criteria in

- **Table** 7-10 the magnitude of change is negligible. The significance of the effect is therefore negligible (**Not Significant**);
- Driver delay – an addition of 24 HVs would result in approximately three additional HVs per hour assuming a ten-hour working day, approximately one HV every 20 minutes in the peak week. The HV increase would be unlikely to result in delay to drivers and the total increase in traffic is well below 10% therefore the magnitude of change is low. The significance effect is therefore minor (**Not Significant**);
- Non-motorised user amenity and delay – Neath Road has footway provision within the traffic and transport study area. An addition of 24 HVs would result in approximately three additional HVs per hour assuming a ten-hour working day, approximately one HV every 20 minutes in the peak week is not likely to cause a significant impact on non-motorised user amenity at this location. The percentage change in total traffic and HV traffic do not result in a doubling in traffic levels, therefore the magnitude of change is low therefore the significance of effect is negligible (**Not Significant**);
- Fear and intimidation – the impact on fear and intimidation is likely to be negligible due to no step change in the level of fear and intimidation score estimated on this road section with the introduction of the Project construction traffic based on known information. The magnitude of change is therefore negligible and the significance of the effect is therefore negligible (**Not Significant**); and
- Accidents and safety – while the section of Neath Road (B4282) within the study area has an average accident rate above one (1.2) for the last five years of available data there is not a hotspot to suggest that the level of increase in traffic due to the Project would exacerbate an existing highways issue. Two accidents occurred along Neath Road (B4282)'s length and two at each of the Neath Road (B4282)/Heol Ty Gwyn and Neath Road (B4282) / A4063 junctions. Therefore, the magnitude of change is considered to be low and the significance of the effect is therefore negligible (**Not Significant**).

Unnamed Road to Sychbant Farm -Between Keir Hardie Road and Neath Road (B4282

7.10.12. This receptor is identified as of medium sensitivity and therefore EATM Rule 2 applies. The percentage change in total traffic, with the addition of the Project traffic, and of HVs does exceed the threshold however this is due to the very low baseline flows on this link. It is therefore not appropriate to assess this link using the criteria set out within **Table 7-10**, instead the nature of the road has been considered alongside the baseline traffic flow and the context that peak day traffic would be an increase of 26 vehicle movements of which 15 would be HV movements. Given that this route is single track with low traffic flow levels there is unlikely to be significant effects on driver delay, severance, pedestrian delay fear and intimidation or road safety. The increase in HV proportion of the traffic may result in pedestrian amenity effects. This link will require appropriate mitigation which is outlined in **Section 7.12**.

Garnwen Road - Between Garnwen Terrace and Davies Terrace.

7.10.13. This receptor is identified as of medium sensitivity and therefore EATM Rule 2 applies. The percentage change in total traffic, with the addition of the Project traffic, does not exceed the threshold however, the percentage change in HVs does exceed the 10% threshold. As such a further assessment of likely traffic and transport impacts is set out below:

- Severance – the change in HVs flows at this location is 18.88%, therefore based on the criteria in **Table 7-10** the magnitude of change is negligible. The significance of the effect is therefore negligible (**Not Significant**);
- Driver delay – an addition of 15 HVs would result in approximately two additional HVs per hour assuming a ten-hour working day, approximately one HV every 30 to 40 minutes in the peak week. The HV increase would be unlikely to result in delay to drivers and the total increase in traffic is well below 10% therefore the magnitude of change is low. The significance effect is therefore minor (**Not Significant**);
- Non-motorised user amenity and delay – Garnwen Road has footway provision within the traffic and transport study area on a minimum of one side of the carriageway. An addition of 15 HVs would result in approximately two additional HVs per hour assuming a ten-hour working day, approximately one HV every 30 to 40 minutes in the peak week is not likely to cause a significant impact on non-motorised user amenity at this location. The percentage change in total traffic and HV traffic do not result in a doubling in traffic levels, therefore the magnitude of change is low therefore the significance of effect is minor (**Not Significant**);
- Fear and intimidation – the impact on fear and intimidation is likely to be negligible due to no step change in the level of fear and intimidation score estimated on this road section with the introduction of the Project construction traffic based on known information. The magnitude of change is therefore negligible and the significance of the effect is therefore negligible (**Not Significant**); and
- Accidents and safety – Garnwen Road has no accidents recorded within the last five years of available date. As set out in **Table 7-5**, Heol Ty Gwyn has two accidents (not including the junction with Neath Road, where two additional accidents occurred) and Davies Terrace has one accident recorded, these roads are applicable to the Garwen Road data point. Across these roads for the last five years of available data there is not a hotspot to suggest that the level of increase in traffic due to the Project would exacerbate an existing highways issue. Therefore, the magnitude of change is considered to be low and the significance of the effect is therefore minor (**Not Significant**).

7.11 ASSESSMENT OF CUMULATIVE EFFECTS

7.11.1. Potentially significant developments within 5km of the Project are shown on **Figure 2.1**. These developments have been interrogated to establish any likely cumulative effects regarding traffic and transport. Of the potentially significant developments within 5km of the Project only two have significant traffic generation on road sections with the Project traffic and transport study area:

- Foel Trawsnant Wind Farm (planning reference: P2014/0825); and
- Y Bryn Wind Farm (planning reference: P2024/0029).

7.11.2. The Foel Trawsnant Wind Farm will be fully constructed prior to any grid connection works (the Project) construction. Therefore, the construction traffic generations of the two developments will not overlap. Therefore, there are no cumulative traffic and transport effects with the consented Foel Trawsnant Wind Farm development and the Project.

7.11.3. The Y Bryn Wind Farm traffic and transport ES chapter outlines a 23-month construction programme commencing in 2025. This would result in the construction activities ending within 2027 which would not overlap the Project's construction phase. Should the development overrun into 2028 it is noted

that peak construction traffic generation for the Y Bryn Wind Farm is anticipated to occur within month four or five of the construction phase and therefore any overlap with the Project would be at an intensity less than the Y Bryn Wind Farm peak construction traffic. Overall, there are no cumulative traffic and transport effects with the Y Bryn Wind Farm development and the Project.

7.12 MITIGATION AND RESIDUAL EFFECTS

7.12.1. One road section requires specific mitigation to address potential significant effects:

- Unnamed Road to Sychbant Farm.

7.12.2. The additional mitigation measures for this road link will be incorporated within the full CTMP, to include the following.

7.12.3. The Contractor will consult / agree with the LHA for suitable mitigation measures for Unnamed Road to Sychbant Farm, along with the other narrow single-track roads proposed to be utilised by the Project construction traffic via the development and approval of the full CTMP. This will allow location specific mitigation to be put in place. This will minimise traffic and transport impacts on these road links and therefore result in this effect being reduced to **Not Significant.**

7.12.4. The following sections of the A4063 are should also be highlighted for specific mitigation measures, despite not exceeding the EATM threshold for detailed assessment, based on the transport context of the receptor:

- A4063 - Between Llangynwyd and Coytrahen; and
- A4063 - Maesteg (north of Llan Road north and south of Llan Road north).

7.12.5. Restriction of construction traffic movements on the A4063 Maesteg (north of Llan Road north and south of Llan Road north) during peak school pick up and drop off times, to be discussed and agreed with the LHA to prevent Project construction traffic impacting on school children.

7.12.6. The section of the A4063 between Llangynwyd and the northern extent of Tondu should be highlighted, as part of mitigation measures, regarding its accident record and mitigation implemented such as driver information and training/awareness. This would be secured through the full CTMP.

7.12.7. It is noted that there will be additional traffic and transport effects resulting from the construction of UGC within the highway boundary of some roads within the study area. The exact nature of underground cabling construction works is to be confirmed between NGED and LHAs These impacts will require mitigation that will be secured through the full CTMP. Appropriate mitigation regarding these highways works will be agreed with the LHA during the development of the full CTMP.

7.13 CONCLUSIONS OF SIGNIFICANCE EVALUATION

7.13.1. The assessment of traffic and transport effects has been undertaken based on a reasonable estimate, based on currently available information regarding the Project, of peak day construction traffic, therefore presents an approximate worst-case daily traffic generation. It should be noted that all traffic and transport impacts will be temporary in nature, due to them occurring within the construction phase of the Project.

7.13.2. With the implementation of the full CTMP and full PRoWMP there will be a package of measures in place to minimise the traffic and transport effects of the Project construction traffic. These mitigation measures will need to include specific measures to address the various single-track roads proposed to be used by Project construction traffic. With appropriate mitigation and management in place the impact of the Project on traffic and transport is likely to be **Not Significant**.

7.14 REFERENCES

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8 ECOLOGY

8.1 INTRODUCTION

8.1.1. This Chapter provides an assessment of potentially significant effects of the Project with respect to Ecology and specific ecological features. This Chapter should be read in conjunction with:

- The description provided in **Chapter 4: Description of the Project**; and
- The relevant parts of the following chapters where common receptors have been considered and where there is an overlap or relationship between the assessments of effects:
  - **Chapter 6: Landscape and Visual Impact Assessment** (due to the association between removing, replacing and creating habitats and the Project's ability to achieve a Net Benefit for Biodiversity (NBB) (Welsh Government, 2024)[47]; and
  - **Chapter 10: Water Resources and Flood Risk** (due to the close association between ecological features and local hydrology).

8.1.2. Within this Chapter, the 'Project' refers to construction of an Overhead Line (OHL) proposed to connect the Foel Trawsnant Wind Farm and the wider national grid. The area to be covered by the OHL is hereafter referred to as the 'Site' and is shown in red on **Figure 8.1**. The Survey Area is the wider area subject to the Phase 1 habitat survey shown in blue on **Figure 8.1**.

8.2 LIMITATIONS OF THIS ASSESSMENT

8.2.1. The following limitations and assumptions relating to the collection of the ecological baseline data are relevant to the assessment:

- Ecological survey data is typically valid for 18-24 months unless otherwise specified, for example if conditions are likely to change more quickly due to ecological processes or anticipated changes in management (Chartered Institute of Ecology and Environmental Management (CIEEM), 2019[48]). In this case, all ecological survey data has been collected in 2024 or 2025 and therefore can confidently contribute towards our understanding of the current ecological baseline of the Site.
- Habitat and botanical surveys are seasonally limited and throughout the spring and summer period certain botanical species will be more or less evident at different times (i.e. depending on the flowering season). The most recent habitat surveys (WSP, 2025[49]) were carried out in September 2024. An earlier habitat survey was also carried out in May 2024 (CSA

[47] Achieving a Net Benefit for Biodiversity (NBB) is a requirement for all new developments as per Planning Policy Wales (PPW, 2024). Welsh Government (February 2024) Planning Policy Wales Edition 12.

[48] CIEEM (2019). Advice Note: On the Lifespan of Ecological Reports & Surveys. CIEEM.

[49] WSP (2025) Foel Trawsnant Grid Connection. Preliminary Ecological Appraisal. February 2025.

Environmental, 2024a[50]). It is considered that sufficient information has been gathered to enable an assessment of the habitat types present, in line with standard Phase 1 habitat categories, and the potential for these to support protected or notable species.

- Records held by local biological record centres and local recording groups are generally collected on a voluntary basis, therefore, the absence of records does not demonstrate the absence of species, it may simply indicate a gap in recording coverage.
- The Phase 1 habitat survey was carried out over a period of three days, as such, only a selection of all species that occur within the Site (and within suitable buffers) will have been recorded. However, through use of desk study information to supplement survey data, it is considered that an accurate assessment of the potential for the Site to support protected species or those of conservation concern was possible.
- The extended Phase 1 habitat map (**Figure 8.4**) has been reproduced from field notes and plans. Whilst this provides a sufficient level of detail to fulfil the requirements of a Preliminary Ecological Appraisal (PEA), the maps are not intended to provide exact locations of key habitats.
- Survey data collected up to June 2025 has been used to inform the assessment, conclusions and recommendations in this Chapter (dated August 2025). It is not expected that further survey data will change the assessment made within the Chapter. However, data will be collected post-submission for surveys so that a full suite of data can be presented within a supplementary report. Surveys which are completed and / or currently underway are listed below:

    - Bat activity surveys using static bat detectors are being carried out monthly (April to October 2025). The results from the April, May and June 2025 static bat detectors are referred to within this Chapter. This comprises a suite of automated/static surveys each month and one transect survey in the form of a 'night-time bat walkover' (NBW) undertaken in June 2025. Additional data will be collected from July to October and presented in a supplementary report;
    - Otter *Lutra lutra* surveys are being undertaken with the surveys spread across different times of the year to account for seasonal variation in otter activity. Otter surveys undertaken in April and June 2025 are included within this Chapter. A second otter survey will be undertaken in October 2025 to account for seasonal variability with the results presented in a supplementary report; and
    - An initial bird scoping visit was undertaken to determine the ornithology surveys required at the Site. The suite of surveys subsequently recommended comprised winter raptor roost surveys undertaken in February and March 2025, breeding raptor surveys to be undertaken from April to July 2025, moorland bird surveys to be undertaken from April to July 2025, and nightjar *Caprimulgus europaeus* surveys to be undertaken in June and July 2025. Vantage Point flight activity surveys are to be undertaken from April to July 2025. All ornithology survey data collected up to June 2025 for the Chapter submission will be used to inform the

[50] CSA Environmental (2024a). Preliminary Ecological Appraisal - Foel Trawsnant Wind Farm. October 2024.

assessment. As mentioned, supplementary data is not expected to significantly change conclusions, though additional data will be captured in a supplementary report.

8.2.2. It is considered that a combination of the data on the habitats present on the Site with the survey data collated in this Chapter will provide sufficient information on bats, birds and otters for an assessment of significant effects. Precautionary assumptions have been made to account for incomplete survey data. Precautionary mitigation will be applied where there are any data gaps.

8.3 POLICY, LEGISLATION AND GUIDANCE

8.3.1. The following legislation (**Table 8.1**), planning policy (**Table 8.2**) and technical guidance (**Table 8.3**) are relevant to informing an EIA with respect to Ecology, hereafter referred to as an 'Ecological Impact Assessment (EcIA)'.

Table 8-1 - Legislation relevant to the biodiversity assessment

Legislation	Legislative context
The Conservation of Habitats and Species Regulations 2017 (as amended)[51]	The Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") transposes the Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) into English and Welsh law. This also transpose elements of the EU Wild Birds Directive in England and Wales. The Habitats Regulations provides for the designation and protection of European sites, the protection of certain species (referred to as European Protected Species or EPS) and the adaptation of planning and other controls for the protection of European sites. Note that the Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to reflect the UK's exit from the EU. These largely carried forward the provisions and terminology of the 2017 Habitats Regulations, and so the term 'European site' is currently retained and for all practical purposes the definition is essentially unchanged. The UK European sites are no longer legally part of the 'Natura 2000' network of protected sites, with this being replaced in the UK by the 'National Site Network' which comprises all existing Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and any new SACs and SPAs designated under the 2019 Regulations (Ramsar sites do not form part of the network). For this reason, and to avoid confusion, all sites which belong to the 'National Site Network' are hereafter referred to as 'International Sites'. This also has relevance if compensation measures are required for an adverse effect, as the relevant metric is the overall coherence of the 'National Site Network'. The 2019 Regulations establish management objectives for the 'National Site Network' which contribute to the conservation of UK habitats and species

[51] Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") has been amended by (*inter alia*) the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

Legislation	Legislative context
	that are also of pan-European importance, and to the achievement of their favourable conservation status within the UK.
The Environment (Wales) Act 2016	The Act makes provisions within Wales for the planning and managing of natural resources at the national and local level. Section 6 of the Act introduces the biodiversity and resilience of ecosystems duty whereby public authorities are required to seek to maintain and enhance biodiversity so far as it is consistent with the proper exercise of those functions. Section 7 of the Act introduces a list of living organisms and types of habitat in Wales, known as Priority Species or Priority Habitats, which in Wales are considered of key significance to sustain and improve biodiversity.
The Wildlife and Countryside Act 1981 (as amended) (WCA)	This Act consolidates and amends existing national legislation to implement the Bern Convention. This piece of legislation remains the primary UK mechanism for statutory site designations (e.g. Sites of Special Scientific Interest, SSSI) and the protection of individual species listed under Schedules 5 and 8 of the Act, each subject to varying levels of protection.
Countryside & Rights of Way Act 2000	This Act details further measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation.
The Hedgerows Regulations 1997	The Hedgerows Regulations is intended to protect important countryside hedges from damage or destruction.
Protection of Badgers Act 1992	The Protection of Badgers Act provides protection to badgers and their places of shelter (setts).

Table 8-2 - Planning policy relevant to the biodiversity assessment

Policy	Policy context
National planning policy	
Future Wales: The National Plan	The Welsh national development framework sets the direction for development in Wales to 2040 and includes a Habitats Regulations Assessment. Policy 9 – Resilient Ecological Networks and Green Infrastructure outlines measures to ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure.
Planning Policy Wales – Chapter 6 Distinctive and	Chapter 6 of Planning Policy Wales (PPW[52]) sets out the Welsh Government's objectives for Distinctive and Natural Places theme of

[52] Welsh Government. (2024). Planning Policy Wales (PPW). (Edition 12) 2024.

Policy	Policy context
Natural Places (12th Ed.; 2024)	planning policy. The topics covered comprise historic environment, landscape, biodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface) risks. In particular, the Biodiversity and Resilience of Ecosystems section puts emphasis on planning authorities to have regard for the State of Natural Resources Report (SoNaRR) and Area Statements published by Natural Resources Wales (NRW). In this chapter, a 'stepwise approach' is introduced as a means of demonstrating that a NBB has been achieved by Projects. As part of achieved NBB, planning authorities must also consider ecosystem resilience following the DECCA Framework.
Planning Policy Wales – Stepwise approach	Biodiversity enhancements that achieve NBB must be delivered following the implementation of the 'stepwise approach' of firstly avoiding, then minimising, mitigating and, as a last resort, compensating for adverse impacts on the environment that occur as part of a development. Therefore, compensation should only be considered as a last resort, where it has been demonstrated clearly that adverse effects on the environment cannot be avoided or fully mitigated. If compensation is necessary, this must be delivered on-site where possible but off-site compensation can be sought if demonstrated that this is not possible. This approach will encourage the consideration of features that may not necessarily be protected, but are crucial for ecosystem functioning, leading to more joined up spaces for nature.
Planning Policy Wales – DECCA Framework	NRW have developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016. This is referred to as DECCA and comprises the objectives listed: ▪ **Diversity** – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits. ▪ **Extent** – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance. ▪ **Condition** – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc. ▪ **Connectivity** – this refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.

Policy	Policy context
	▪ **Adaptability to change** – ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience. NRW define ecosystem resilience as *"An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people".*
Technical Advice Note 5 (TAN5) Nature Conservation and Planning (2009)	Welsh Government (WG) policy on positive planning for nature conservation and developments affecting designated sites and habitats, along with protected priority habitats and species. It brings together advice on sources of legislation relevant to various nature conservation topics which may be encountered by local planning authorities. It sets out the key principles of planning for nature conservation and addresses nature conservation in development control procedures. It also deals with the conservation of protected and priority species. It also outlines that developments that may adversely impact on sites designated for their national nature conservation interest will generally not be permitted.
Local planning policy	
Replacement Neath Port Talbot (NPT) Local Development Plan (LDP) 2023-2038	The LDP identifies the key issue **NKI 2 Nature Emergency** with respect to Biodiversity and has the following related vision: ***'The nature emergency is being positively addressed**: NPT will be delivering on-going net benefit for biodiversity, geodiversity and soils and will be promoting the resilience of ecosystems as a result of development proposals over the plan period'.* In one of its objectives **(NO2)**, the LDP aims to *'Achieve a net biodiversity benefit and enhanced ecosystems resilience from new developments across the county borough'.*
Replacement Bridgend Local Development Plan 2018 to 2033	The LDP identifies the key issue **SPG 19 Biodiversity and Development** and sets out a Green Infrastructure Approach.

Table 8-3 - Technical guidance relevant to the biodiversity assessment

Technical guidance document	Context
Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2024)	Sets out the industry standard approach to EcIA for assessing the potential effects of a project on ecological receptors.

8.4 CONSULTATION

8.4.1. The assessment has been informed by consultation with NRW. This Chapter has taken account of:

- An EcIA Scoping Opinion request submitted to NRW in November 2024;
- Response from NRW in the form of a Scoping Opinion in January 2025; and
- Ecology advice from NRW on the Pre-Application Consultation (PAC) in May 2025.

8.4.2. In November 2024, WSP issued a Scoping Report (**Appendix 2A**) which set out the overall approach that would be taken in an EcIA for the Project. This assessed the potentially significant effects of the Project with respect to Ecology and the potential Zone of Influence (ZoI) for these effects. NRW responded in the form of a Scoping Opinion on 10 January 2025 (**Appendix 2B**).

8.4.3. The Scoping Opinion considered that the Project is likely to give rise to significant effects in the absence of mitigation. It highlighted the requirement for an Environmental Statement (ES), with an Ecology Chapter (referred to as the 'Chapter') which should include the following elements for further consideration:

- Sites of Importance for Nature Conservation (SINCs) for which habitat loss/degradation is anticipated;
- Priority Habitats for which habitat loss/degradation is anticipated;
- Roosting bats;
- Foraging and commuting bats;
- Otter;
- Dormouse *Muscardinus avellanarius*;
- Water vole *Arvicola amphibius*;
- Great crested newt (GCN) *Triturus cristatus* – ensuring that all waterbodies within 250 m are identified and a GCN environmental DNA (eDNA) survey is undertaken where appropriate; and
- Terrestrial ornithology.

8.4.4. The Scoping Opinion advised that the Chapter include information regarding *'species specific impacts in the short, medium and long term together with any details of retention, mitigation and/or compensation measures proposed to offset the impacts identified'*.

8.4.5. Where the potential for significant impacts is identified, a 'Conservation Plan' was recommended to be prepared for receptors for which potential significant impacts are identified as a result of the Project. This would secure any long-term mitigation, compensation, management and monitoring activities.

8.4.6. In March 2025, WSP issued a draft ES which set out the methodology and assessed the potentially significant effects of the Project with respect to Ecology and the ZoI for these effects. NRW responded via the PAC on 7 May 2024. **Table 8.4** summarises the advice from NRW and the response:

Table 8-4 – Pre-Application Consultation Response

Consultee	Scoping Opinion	Response
Natural Resources Wales – Ecology	1) Additional bat survey (comprising additional survey for trees to be impacted by the development) required, the associated reports to be submitted,	Additional bat survey undertaken in the form of close inspection tree surveys and a nighttime bat walkover. The close inspection tree surveys were undertaken on the 29 April 2025. The nighttime bat

	and results utilised to inform mitigation proposals as appropriate.	walkover was undertaken on the 3 June 2025. The results of these surveys are summarised in Section 8.8 and **Appendix 8 G**.
	2) Relevant drawings and plans to show: a. the location and size of buffers / stand offs to sensitive habitat features for bats, water vole and including otter as required. b. all areas of habitat removal, identifying the location, extent and nature of the habitat to be removed;	The location and exclusion buffers (where works are excluded or limited) for sensitive receptors (water vole, otter, bats and bird) are shown on **Figure 8.11**. Temporary habitat removal will take place within the Site boundary shown on **Figure 8.4.**
	3) Principles of a conservation plan for water vole.	The principles of a conservation plan for water vole is provided in **Appendix 8K.**

8.4.7. In addition to the above, NRW stated they are likely to advise the determining body that conditions for the following are required:

- *Implementation of the Environmental Statement;*
- *A Construction Environmental Management Plan (CEMP) including details of lighting during construction; and*
- *A Conservation Plan for Water Vole.*

8.5 DATA GATHERING METHODOLOGY

8.5.1. The Site has been subject to numerous previous surveys and assessment work, all of which have been consulted in order to have a comprehensive understanding of the ecological baseline of the Site. Full details of the previous surveys and assessment work, as well as figures showing locations, are included within the following reports:

- **Appendix 8A:** WSP (2025) Foel Trawsnant Grid Connection. Preliminary Ecological Appraisal. February 2025;
- **Appendix 8B:** CSA Environmental (2024a). Preliminary Ecological Appraisal - Foel Trawsnant Wind Farm. October 2024;
- **Appendix 8C:** CSA Environmental (2024b). Dormouse Survey Report - Foel Trawsnant Wind Farm, Maesteg. November 2024;
- **Appendix 8D:** CSA Environmental (2024c). Water Vole Survey Report - Foel Trawsnant Wind Farm. November 2024;
- **Appendix 8E:** CSA Environmental (2024d). Great Crested Newt Report - Foel Trawsnant Wind Farm, Maesteg. November 2024;
- **Appendix 8F:** WSP (2025) Foel Trawsnant Grid Connection. Otter Survey Report. August 2025;
- **Appendix 8G:** WSP (2025) Foel Trawsnant Grid Connection. Bat Survey Report. August 2025;
- **Appendix 8H:** WSP (2025) Foel Trawsnant Grid Connection. Net Benefit for Biodiversity Report. August 2025;
- **Appendix 8I:** WSP (2025) Foel Trawsnant Grid Connection. Ornithology Report. July 2025;

- **Confidential Appendix 8J:** WSP (2025) Foel Trawsnant Grid Connection. Ornithology Report – Protected Species Results. July 2025; and
- **Appendix 8K:** WSP (2025) Foel Trawsnant Grid Connection. Principles of a Conservation Plan – Water Vole. August 2025.

8.5.2. The Study Area considered when assessing the overall ecological baseline encompassed the total area for which desk study and field survey data were collected during the above ecological assessments. The level and type of data collection varied across the Study Area due to the presence of multiple ecological features and potential impact pathways. The CIEEM Guidelines for Ecological Impact Assessment for the UK and Ireland were used to determine the extent of the Study Area (CIEEM, 2024). The Study Area comprised:

- The land within the Site boundary and the immediate surrounding area, referred to as the 'Survey Area' (as shown on **Figure 8.1**). The Survey Area was 250m from the Site for all receptors, extended to waterbodies within 500m of the Site for GCN;
- Statutory designated sites within 10km of the Site boundary (as shown on **Figure 8.2**);
- Non-statutory designated sites up to 2km from the Site boundary (as shown on **Figure 8.3**);
- Habitats of conservation importance up to 1km from the Site boundary, including waterbodies within 500m (as shown on **Figure 8.6**); and
- Desk study records of protected and notable species up to 2km from the Site boundary.

8.5.3. The Study Area was defined on a precautionary basis to ensure that the ZoIs[53] relevant to all ecological features were covered during baseline data collection activities. ZoIs are the areas within which a Likely Significant Effect (LSE) associated with the Project may be identified for a particular ecological feature.

8.6 SCOPE OF THE ASSESSMENT

8.6.1. The CIEEM guidelines recognise that an EcIA cannot consider in detail every individual species or habitat that may potentially be present at a Site or affected by a development. The EcIA process therefore aims to focus the assessment on those ecological features that could be 'significantly' affected by the Project (i.e. where the effects on the ecological features are of sufficient concern that they could influence the decision on whether or not planning permission should be consented), or for which the development could result in the contravention of relevant legislation. The EcIA process therefore includes a 'scoping' stage (which excludes those ecological features that cannot be 'significantly' affected[54]) and a 'detailed assessment' stage, which examines more closely the potential effects of the Project on those ecological features that could be subject to 'significant' effects. Detailed assessments may also be undertaken where it is considered appropriate to examine the predicted effects on a feature in more detail, for example due to consultee comments.

[53] The ZoI in this context is the area over which an individual ecological feature may be subject to a potentially significant effects resulting from changes in the baseline environment due to the Project.
[54] Based on the results of desk-studies, field surveys, consultations, the importance of the ecological feature, the presence (or not) of pathways for effects, and the measures incorporated into the scheme to avoid effects occurring.

This section summarises the approach to the EcIA scoping stage. The outcomes of the scoping stage, i.e. features scoped, out is provided in **Table 8.11**.

8.6.2. All the activities and consequent environmental changes associated with the construction and operation of the Project, as set out in **Chapter 4: Description of the Project** have been considered.

SPATIAL SCOPE

8.6.3. The spatial scope of the assessment covers the area of the Project contained within the Site boundary and overhead line (OHL) / grid connection corridor, together with the ZoIs that have formed the basis of the Study Area.

8.6.4. Through an understanding of the activities associated with the Project and the resulting environmental change, it is possible to identify ecological features that cannot be subject to potentially significant effects due to an absence of effect pathways, or certainty that incorporated measures will be entirely successful in preventing a significant effect occurring. In order to identify such ecological features, all the activities and consequent environmental changes associated with the construction and operation of the Project have therefore been considered.

8.6.5. The construction and operation of the Project may result in the following environmental changes, which have the potential to cause significant effects on ecological features at or near the Site. Many of these aspects will operate additively or synergistically to affect ecological features.

Construction

- Permanent or temporary habitat loss;
- Habitat degradation;
- Noise, vibration and visual disturbance from construction traffic and personnel;
- Changes in air quality – dust;
- Changes in light levels;
- Removal of trees;
- Introduction or spread of invasive non-native species (INNS); and
- Direct mortality during construction.

Operation

- Collision risk with OHL.

8.6.6. Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the wider distribution network. Therefore, the decommissioning stage has been scoped out of this assessment.

8.7 ECOLOGICAL IMPACT ASSESSMENT

8.7.1. This section sets out the methodology that will be followed to assess the potential ecological impacts of the Project, considering both the construction and operational phases. The construction phase includes enabling works, clearance, earthworks and construction activities.

8.7.2. Assessment methods for all potentially significant effects upon ecological features are based on the methodology described in the Guidelines for Ecological Impact Assessment in the UK (CIEEM, 2024[55]).

8.7.3. The importance and sensitivity of ecological features have been evaluated with reference to the quality or extent of designated sites or habitats, habitat or species rarity, the extent to which they are threatened throughout their range, their rate of decline, and their legal status. This level of importance was then qualified at a relevant geographical scale.

8.7.4. Effects were deemed significant if they are anticipated to affect the structure and function of a site, or impact upon the conservation status of a habitat, species or constituents of a species assemblage:

- Establishing the Study Area and Survey Area;
- Collating information on the baseline studies and evaluation of ecological receptors;
- Identification of Important Ecological Features (IEFs);
- Identification and characterisation of potential impacts;
- Identification and assessment of potentially significant effects upon IEFs; and
- Identification and assessment of residual effects.

IDENTIFICATION OF IMPORTANT ECOLOGICAL FEATURES

8.7.5. The value of sites, species and habitats will be evaluated in line with CIEEM guidelines with reference to their importance in terms of conservation value (which relates to the need to conserve representative areas of different habitats and the generic diversity of species populations) and their legal status. For the purposes of this assessment, sites, species populations, species assemblages and habitats will be valued using the following geographical scale:

- International;
- National (UK or Wales);
- County;
- Local;
- Of value/significance within the context of the Project (Site); and
- Negligible.

8.7.6. Guidelines on EcIA note the difficulty of devising valuation criteria that can be consistently applied to designated sites, species and habitats in the same way in all parts of the country. It recommends an approach to valuation that involves teasing apart the different values that can be attached to the ecological features under consideration. However, it is beneficial to give examples of the sorts of criteria used in the valuation process, and these are summarised in **Table 8.5** below.

[55] CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK.

Table 8-5 - Examples of Criteria used to Evaluate Important Ecological Features

Level of Value	Definition
International	An internationally important site, e.g. SPA, SAC, or Ramsar site (or a site considered worthy of such designation); a regularly occurring population of an internationally important species (listed on Annex IV) of the Habitats Directive); 1% of the known international population of a particular species.
National/UK or National/Wales	A nationally designated site, e.g. National Nature Reserve (NNR), SSSI, Ancient Woodland, or a site considered worthy of such designation; a viable area of a habitat type listed in Annex 1 of the Habitats Directive, or smaller areas of such habitat which are essential to maintain the viability of a larger habitat; any regularly occurring population of a nationally important species, e.g. listed on Schedules 5 and 8 of the WCA,; a feature identified to be of Principal Importance Under Section 7 of the Environment Wales Act 2016, 1% of the known UK population of a particular species.
County	Viable areas of key habitat identified in Local Biodiversity Action Plans (LBAPs) or Priority Habitat, or smaller areas of such habitat which are essential to maintain the viability of a larger whole, a site designated as a Wildlife Site or a SINC, a regularly occurring, locally significant number of a nationally important species.
Local	Designated sites including Local Nature Reserves (LNRs) designated in the local context. Trees that are protected by Tree Preservation Orders (TPOs) and areas of habitat that are considered to enrich the habitat resource in the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.
Site	Habitats or species with some nature conservation value which, however, do not meet the criteria for attaining value at the Local level.
Negligible	No intrinsic natural conservation value associated with the habitat. Generally, these are areas of hardstanding or buildings.

8.7.7. It is impractical and inappropriate for an assessment of the ecological effects of a development to consider every species and habitat that may be affected. Instead, it focuses on IEFs which are the species and habitats present within the ZoI of the Project that are of sufficiently high value that certain impacts upon them, as a result of the Project, could result in a significant effect. In the case of this assessment, IEFs will be scoped in where pathways for potentially significant effects lie within the relevant ZoI, where an IEF holds value at a County level or above and/or where there are relevant legal considerations. All ecological features that were determined to be of ecological importance at a 'Local', 'Site' or 'Negligible' level were scoped out of the assessment at this stage.

8.7.8. The description and valuation of ecological features will consider any likely changes including, for example, trends in the population size or distribution of species, likely changes to the extent of habitats, and the effects of other Projects or land-use changes. Due consideration will be given to ecological features scoped out of this assessment (i.e. those nature conservation sites, species and

habitats below County importance) throughout the construction and operation period, with regard to legislative protection and good practice with mitigation provided, where required, as recommended within the WSP PEA report (WSP, 2025[56]).

MAGNITUDE OF POTENTIAL IMPACTS

8.7.9. Impacts arising from the Project can be permanent or temporary, direct or indirect, and can be cumulative. These factors are brought together to assess the magnitude of the impact on particular IEFs and, wherever possible, the magnitude of the impact is quantified. Professional judgement is then used to assign the impacts on the IEFs to one of four classes of magnitude, defined in **Table 8.6** below.

Table 8-6 - Magnitude of Potential Impacts

Magnitude	Definition
High	An impact that causes a permanent or long-term effect on the extent or size or integrity of a site, habitat, species assemblage or community, population or group. If adverse, this is likely to threaten its sustainability; if beneficial, this is likely to enhance its conservation status.
Medium	Impact causes a permanent or long-term effect on the extent or size or integrity of a site, habitat, species assemblage or community, population or group or a short-term effect that will adversely affect the integrity of a receptor in a permanent manner. If adverse negative effect, this is unlikely to threaten its overall sustainability; if positive, this is likely to be sustainable but is unlikely to significantly enhance its conservation status.
Low	Impact causes a permanent or temporary, long-term reversible or short-term effect on a site, habitat, species assemblage or community, population or group whose magnitude is detectable but will not threaten/change its conservation status.
Negligible	Impact causes a short-term reversible effect on the extent, size or integrity of a site, habitat, species assemblage or community, population or group that is within the normal range of natural variation and has no discernible lasting effect.

8.7.10. Potential impacts are characterised initially in the absence of any mitigation, except where this is integral to the design of the Project (embedded measures).

[56] WSP (2025) Foel Trawsnant Grid Connection. Preliminary Ecological Appraisal.

DEFINING SIGNIFICANCE OF EFFECT

8.7.11. The significance of the predicted effects on receptors arising from the identified impacts of the Project is assessed. Significance is assessed as Adverse, Beneficial or Not Significant on the integrity of an IEF and/or the conservation status of IEFs within a given geographical area.

8.7.12. In considering the integrity and conservation status of the receptor, the key considerations are:

- Will any site/ecosystem processes be removed or changed or subject to disturbance?
- What will be the effect on the nature, extent, structure and function of component habitats?
- What will be the effect on the average population size and viability of component species?

8.7.13. In determining the significance of a potential effect, the above factors, including the value of the feature, magnitude of the potential impact, and the duration of the impact are considered.

8.7.14. Where possible, the assessment of these parameters needs to be expressed quantitatively and to be based on research and published information. However, it is also recognised that many ecological effects are complex and poorly understood, so professional and qualitative judgements are often required to prescribe the significance of the effect.

SOURCE-PATHWAY-RECEPTOR APPROACH

8.7.15. The source-pathway-receptor approach will be used to understand the mechanisms by which the Project could result in potentially significant effects upon IEFs. The approach starts by identifying potential sources of effects, defining the ZoI, and then mapping the progression of the effect along potential mitigation pathways. Where it was observed that an effect was potentially connected, via a pathway, to an ecological resource, an analysis was undertaken to assess the implications for the resource, including the likely sensitivity of the resource.

8.7.16. In order for an effect to occur, all three elements of the concept must be in place. The absence or removal of one of the elements of the concept means there is no likelihood for the effect to occur.

8.7.17. Habitats and species which may be impacted by the Project are considered to be within the relevant ZoI. The ZoI is assessed according to the anticipated construction work methods and the extent to which they can affect IEFs within and outside the boundaries of the Project. The ZoI for each ecological feature will vary depending on the nature of the ecological feature being considered and in accordance with published guidance where available.

8.8 CURRENT BASELINE

8.8.1. The ecological baseline conditions were defined during the WSP PEA (WSP, 2025[57]) and the various ecological surveys (listed in Section 8.5) that have been carried out to inform the Project. As part of the WSP PEA, an ecological desk study was carried out. The ecological desk study was completed with information requested from the South East Wales Biodiversity Records Centre

[57] WSP (2025) Foel Trawsnant Grid Connection. Preliminary Ecological Appraisal.

(SEWBReC) in addition to an assessment of aerial imagery and Ordnance Survey mapping. The Preliminary Ecological Appraisal was carried out over three days in September 2024 and covered the entire Survey Area (**Figure 8.1**).

8.8.2. Bat, bird and otter surveys have taken place between February and June 2025 (**Figure 8.7; Figure 8.8; Figure 8.9; Figure 8.10)**. The results from these surveys and reports are considered to present a relevant and current baseline as ecological survey data has been collected within the typical 18-24 month window for ecological validity (CIEEM, 2019[58]).

STATUTORY SITES

8.8.3. During the desk study, three international statutory designated sites were identified within 10km of the Site. These comprised Glaswelltiroedd Cefn Cribwr/Cefn Cribwr Grasslands SAC, Kenfig/Cynffig SAC and Blackmill Woodlands SAC. The Study Area was extended to 30km for international statutory designated sites designated for supporting bats. One additional international statutory designated site was identified within 30km of the Site. This comprised the Limestone Coast of South West Wales SAC. A brief description of these sites and the distance they lie from the Site is provided in **Table 8.7** and shown on **Figure 8.2**. Full descriptions can be found within the WSP PEA. The desk study did not return any national statutory designated sites within 2 km of the Site.

8.8.4. During the WSP PEA, it was considered that there were no impact pathways present between any international statutory designated site and the Site.

8.8.5. These international statutory designated sites are of **international conservation importance**.

Table 8-7 - International statutory designated sites within 10km of the Site

Site name	Designation	Size (ha)	Approximate distance and orientation from the Site	Description
Glaswelltiroedd Cefn Cribwr/Cefn Cribwr Grasslands	SAC	58.19	4.3km south	The site is designated for the following Annex I habitat that is a primary reason for selection of this site: ▪ Purple moor-grass *Molinia caerulea* meadows on calcareous, peaty or clayey-silt-laden soils. The following Annex II species is also present as a qualifying feature, but not a primary reason for site selection: ▪ Marsh fritillary butterfly *Euphydryas aurinia*.

[58] CIEEM (2019). Advice Note: On the Lifespan of Ecological Reports & Surveys. CIEEM.

Site name	Designation	Size (ha)	Approximate distance and orientation from the Site	Description
Kenfig/Cynffig	SAC	1190.8	6.1km south-west	The site is designated for the following Annex I habitats that are a primary reason for selection of this site: ▪ Fixed coastal dunes with herbaceous vegetation ("grey dunes"). ▪ Humid dune slacks. ▪ Hard oligo-mesotrophic waters with benthic vegetation of musk-grass *Chara spp.* The following Annex I habitat is also present as a qualifying feature, but not a primary reason for site selection: ▪ Atlantic salt meadows *Glauco-Puccinellietalia maritimae.* The site is designated for the following Annex II species that are a primary reason for selection of this site: ▪ Petalwort *Petalophyllum ralfsii.* ▪ Fen orchid *Liparis loeselii.*
Blackmill Woodlands	SAC	70.56	8.2km south-east	The site is designated for the following Annex I habitat that is a primary reason for selection of this site: ▪ Old sessile oak *Quercus petraea* woods with holly *Ilex* and hard fern *Blechnum.*
Limestone Coast of South West Wales	SAC	1583.86	26km west	Annex I habitats that are a primary reason for selection of this site: ▪ Vegetated sea cliffs of the Atlantic and Baltic Coasts. ▪ "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")". Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site ▪ European dry heaths. ▪ Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia). ▪ Caves not open to the public. ▪ Submerged or partially submerged sea caves.

Site name	Designation	Size (ha)	Approximate distance and orientation from the Site	Description
				Annex II species that are a primary reason for selection of this site: ▪ Greater horseshoe bat *Rhinolophus ferrumequinum*. ▪ Early gentian *Gentianella anglica*. Annex II species present as a qualifying feature, but not a primary reason for site selection: ▪ Petalwort.

NON-STATUTORY SITES

8.8.6. A total of 22 non-statutory nature conservation sites were located within 2km of the Site. These are shown on **Figure 8.3**.

8.8.7. Of these, the WSP PEA identified five SINC sites which would be directly impacted by the Project as they lie within the Site. Furthermore, an additional five SINCs lie within 50 m of the Site and are therefore vulnerable to air quality related impacts during construction in the absence of mitigation.

8.8.8. A brief description of the 10 SINC sites where impacts are anticipated and the distance they lie from the Site are provided in **Table 8.8**. Full descriptions of all SINCs within 2km can be found within the WSP PEA. The remainder have been scoped out of the EcIA and the reader should refer to the WSP PEA for their details.

8.8.9. The nature conservation value for SINC sites is considered to be of **County conservation importance**.

Table 8-8 - Non-statutory designated sites within 2km of the Site

Site name	Designation	Approximate distance from the Site	Description
Abercerdin Wood	SINC	Within the Site.	Broad-leaved semi-natural woodland, unimproved neutral grassland, semi-improved neutral grassland, acid/neutral geological outcrop.
Caerau West	SINC	Within the Site.	Marsh/marshy grassland, flush spring and acid/neutral flush, sphagnum blanket bog, sphagnum wet modified bog, wet dwarf shrub heath, dry heath acid mosaic, dry dwarf shrub heath, semi-improved acid grassland, scattered bracken *Pteridium aquilinum*.

Site name	Designation	Approximate distance from the Site	Description
Cwm Cerdin	SINC	Within the Site.	Broad-leaved semi-natural woodland, unimproved neutral grassland, tall herb fern interspersed in improved grassland.
Gilfach Uchaf	SINC	Within the Site.	Marsh/marshy grassland, semi-improved acid grassland, acid dry dwarf shrub heath, natural acid/neutral rock exposure.
Nant-y-Castell Grasslands	SINC	Within the Site.	Unimproved neutral grassland, dense continuous bracken.
Sychbant Fields	SINC	0.2 km west	Dry dwarf shrub heath (acid).
Y Parc (south)	SINC	0.4 km north	Broad-leaved semi-natural woodland, marsh/marshy grassland, semi-improved neutral grassland, dense continuous scrub, wet dwarf shrub heath, blanket bog, unimproved neutral grassland.
Waun-y-Gilfach woods	SINC	0.4 km east	Broad-leaved semi-natural woodland, marsh/marshy grassland.
Y Parc (north)	SINC	0.4 km north	Broad-leaved semi-natural woodland, wet and dry dwarf heath with scattered bracken, semi-improved acid grassland, unimproved neutral grassland, wet modified *Sphagnum* bog, marsh/marshy grassland, dense continuous scrub.
Cwm Sychbant	SINC	0.4 km north	Semi-improved neutral grassland, broad-leaved seminatural woodland, marsh/marshy grassland, dense continuous bracken, coniferous plantation.

OTHER HABITATS OF CONSERVATION IMPORTANCE

8.8.10. A total of 39 parcels of Ancient Woodland Inventory (AWI) were identified within 1km of the Site as part of the desk study. Of these, one AWI parcel - an Ancient Semi-Natural Woodland (ASNW) - was identified in the southern extent of the Survey Area, spanning both banks of the Nant Lluest-Wen, which flows through the Site.

8.8.11. AWI parcels are irreplaceable habitats and are of **National conservation importance** due to the significant amount of time that it would take to mitigate for the removal of a parcel.

8.8.12. Eight Priority Habitats were identified within the Survey Area during the Phase 1 habitat survey carried out as an element of the WSP PEA:

- Lowland dry acid grassland;

- Lowland fen;
- Purple moor-grass and rush pasture;
- Wet woodland;
- Lowland mixed deciduous woodland;
- Hedgerows; and
- Rivers (including the Nant Lluest-Wen and Nant y Castell).

8.8.13. Temporary loss of habitat anticipated within parcels of Priority Habitat. These Priority Habitats comprise wet woodland, lowland dry acid grassland, lowland fen, lowland mixed deciduous woodland, and purple moor-grass and rush pasture.

8.8.14. There is also potential for habitat degradation via air quality impacts and/or hydrological pollution (rivers).

8.8.15. The network of Priority Habitats within Wales is of **County conservation importance**, reflected by their inclusion on Section 7 of the Environment (Wales) Act 2026. The conservation value of specific habitats within the Site is discussed in **Table 8.9** below.

ON-SITE HABITATS

8.8.16. A total of 19 Phase 1 habitat types were identified within the Survey Area during the Phase 1 habitat survey, carried out as part of the WSP PEA. They are mapped on **Figure 8.4** and are listed in **Table 8.9** along with areas in hectares (or length for linear features). A description of the dominant and notable species, along with the composition and management of each habitat, is provided within the WSP PEA report. Alpha-numeric codes used in this section cross-refer to the JNCC Phase 1 habitat survey classification (JNCC, 2016[59]). The order of the habitat descriptions below reflects their ordering in the Phase 1 habitat survey manual and does not reflect habitat importance. The conservation value of specific habitats within the Site is discussed in **Table 8.9** below.

[59] Joint Nature Conservation Committee (JNCC) (2016). Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough.

Table 8-9 - Phase 1 Habitat Areas within the Survey Area and their conservation value

Phase 1 Habitat	Habitat description	Nature conservation value	Area (ha)	Length (m)	% of Site Area
A1.1.1 – Broadleaved woodland – Semi-natural	Five parcels of semi-natural broadleaved woodland were recorded within the Survey Area. Four of which have been classified as Priority Habitats, including one parcel of upland oakwoods and one wet woodland in poor condition. Two parcels of lowland mixed deciduous woodland, one of which was also listed as ancient woodland and forming part of the Cwm Cerdin SINC, were present in the Survey Area.	All parcels which qualified as Priority Habitats have **County importance**. This also includes the woodland parcel which lies within Cwm Cerdin SINC. The ancient woodland parcel has **National importance**.	3.59	-	7.93
A1.1.2 – Broadleaved woodland – Plantation	One parcel of plantation broadleaved woodland has been recorded within the Survey Area comprising mature and semi mature hazel *Corylus avellana*, beech *Fagus sylvatica* and sessile oak.	This habitat has **Site importance**.	0.45	-	0.99
A1.2.2 – Coniferous woodland – Plantation	Two parcels of coniferous woodland plantation have been identified within the Survey Area comprising mature larch *Larix decidua*.	This habitat has **Site importance**.	0.11	-	0.25
A1.3.2 – Mixed woodland – Plantation	One area of plantation mixed woodland was identified in the far south of the Survey Area. Species were dominated by larch and sessile oak. This habitat parcel is considered likely to have been planted following felling.	This habitat has **Site importance**.	0.35	-	0.76

Phase 1 Habitat	Habitat description	Nature conservation value	Area (ha)	Length (m)	% of Site Area
A2.1 – Scrub – Dense/continuous	Parcels of dense/continuous scrub were identified within the southern section of the Survey Area. The majority of these formed field boundaries, comprising dense gorse *Ulex europaeus* scrub. One of these parcels was on an earth bank.	This habitat has **Site importance**.	0.27	-	0.46
A2.2 – Scrub – Scattered*	A small parcel of scattered scrub was identified in the northern section the Survey Area, where scattered gorse was present over bracken. In the southern section, a parcel of scattered willow scrub was identified with semi-mature trees present.	This habitat has **Site importance**.	0.11	-	0.23
A3.1 – Broadleaved parkland/scattered trees	Several lines of trees were identified within the Survey Area, all in the southern section. These lines of trees formed boundary features between fields, watercourses and roads. Each of these lines of trees was assessed as qualifying as the Priority Habitat 'hedgerows,' and may qualify as Important Hedgerows under the Hedgerows Regulations 1997.	These habitats have **County importance**.	-	502.72[60]	-

[60] Broadleaved parkland/scattered trees in this case were present as a linear feature and therefore have been measured in metres.

Phase 1 Habitat	Habitat description	Nature conservation value	Area (ha)	Length (m)	% of Site Area
B1.2 – Acid grassland – Semi-improved	Semi-improved acid grassland was recorded in the northern and southern section of the Survey Area. In the northern section, the semi-improved acid grassland was sheep-grazed, with abundant common bent *Agrostis capillaris* and occasional sheep's-fescue *Festuca ovina*. Heath species, including heather *Calluna vulgaris*, heath bedstraw *Galium saxatile*, bell heather *Erica cinerea*, and bilberry *Vaccinium myrtillus*, were recorded throughout the habitat parcel. The semi-improved acid grassland in the northern section of the Site was identified according to DataMapWales as a Priority Habitat, comprising lowland dry acid grassland and upland heathland. Given the abundance of species present, the habitat was assessed as qualifying as the Priority Habitat 'lowland dry acid grassland'. Semi-improved acid grassland in the southern section was also sheep grazed. Perennial rye-grass *Lolium perenne* was abundant, indicating improvement. Sweet vernal-grass *Anthoxanthum odoratum* and sheep's fescue were occasional, and common bent was rare. Species indicative of acidic conditions, such as tormentil *Potentilla erecta* and sheep's sorrel *Rumex acetosella* were recorded.	The semi-improved acid grassland in the northern section of the Site habitat has **County importance.** The semi-improved acid grassland in the southern section of the Site was not considered to qualify as a Priority Habitat and has **Local importance.**	5.00	-	11.05
B4 – Improved grassland	Improved grassland was also recorded in the Survey Area. Much of the habitat was dominated by perennial rye-grass, with a short, homogenous sward height. Some areas of improved grassland were less grazed, with a	This habitat has **Site importance**.	17.78	-	39.25

Phase 1 Habitat	Habitat description	Nature conservation value	Area (ha)	Length (m)	% of Site Area
	taller sward height and with sweet-vernal grass and creeping bent *Agrostis stolonifera* also recorded.				
B5 – Marshy grassland	Marshy grasslands were identified in the northern and southern sections of the Survey Area. Cattle and sheep-grazing was evident within some of the habitat parcels. A range of species were recorded including purple moor-grass, soft rush, Yorkshire-fog *Holcus lanatus*, marsh thistle *Cirsium palustre*, rosebay willowherb *Chamaenerion angustifolium*, and common ragwort *Jacobaea vulgaris*. Some of the marshy grassland parcels were identified in DataMapWales as qualifying as the Priority Habitat 'upland flushes, fens and swamps'. However, as the habitat was assessed during the Phase 1 habitat survey as being species-poor, it was found not to qualify as Priority Habitat. A parcel of marshy grassland was identified around a minor stream in the northern section of the Survey Area. The tall sward height was dominated by soft rush, with occasional purple moor-grass, Yorkshire-fog, and foxglove *Digitalis purpurea*. DataMapWales identified this area as belonging to the Priority Habitat 'lowland fens and reedbeds'. The habitat parcel was assessed as being a poor-quality lowland fen and thus qualifying as a Priority Habitat.	The areas of marshy grassland identified during the Phase 1 survey as Priority Habitat have **County importance**. The species-poor marshy grassland habitats which do not qualify as Priority Habitat are of **Local importance**.	12.08	-	26.68
B6 – Poor semi-improved grassland	Sheep-grazed poor semi-improved grassland was identified in the northern and southern sections of the Survey Area.	This habitat has **Site importance**.	3.50	-	7.74

Phase 1 Habitat	Habitat description	Nature conservation value	Area (ha)	Length (m)	% of Site Area
C1.1 – Bracken – Continuous	Dense, continuous bracken was identified throughout the Survey Area.	This habitat has **Site importance**.	0.96	-	2.12
C1.2 – Bracken – Scattered*	Scattered bracken habitats were present in the southern section of the Survey Area.	This habitat has **Site importance**.	0.90	-	-
C3.1 – Other tall herb and fern – ruderal	Parcels of tall herb and fern – ruderal habitat were recorded in the southern section of the Survey Area.	This habitat has **Site importance**.	0.09	-	0.20
G2 – Running water	Running water habitats were found throughout the Survey Area. This included streams of various size and depth. A wet ditch with a slow flow was also recorded. All running water within the Site was classified as the Priority Habitat 'river'.	All river habitat within the Site has **County importance**.	-	1,688.11	-
HS - Hardstanding	Small areas of unvegetated roads formed the hardstanding habitats, all within the southern section of the Survey Area.	These areas have **Negligible importance**.	0.14	-	0.31
J2.1.2 – Species-poor intact hedge	Several species-poor intact hedges were recorded, all within the southern section of the Survey Area. This included hedgerows with no signs of recent flaying and an unmanaged relict hedgerow. Species within the hedgerows included hazel, blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna* and bramble *Rubus fruticosus* agg.	All Priority Habitat hedgerows form part of the hedgerow network of **County importance**.	-	559.68	-

Phase 1 Habitat	Habitat description	Nature conservation value	Area (ha)	Length (m)	% of Site Area
	The hedgerows within the Site qualify as 'hedgerow' Priority Habitat and may qualify as Important Hedgerows under the Hedgerows Regulations 1997.				
J2.5 – Wall	Dry stone walls were recorded throughout the Survey Area. These were mostly in poor condition, and were collapsed in places and vegetated with grasses, ferns and bramble.	This habitat has **Site importance**.	-	764.40	-
J2.6 – Dry ditch	One dry ditch was recorded in the northern section of the Survey Area, within an area of marshy grassland. In the southern section of the Survey Area a dry ditch was recorded north of Nant Lluest-Wen SINC and appeared to be seasonally wet with some stones in the bed. The dry ditches do not qualify as Priority Habitats.	This habitat has **Site importance**.	-	272.93	-
Total			**42.29**	**3787.84**	**100**
*A2.2 and C1.2 represent scattered habitats overlaid over another habitat type, therefore, these are subtracted from the total area.					

PROTECTED SPECIES

BATS

8.8.26. A total of 31 records of at least eight different bat species were returned during the desk study comprising:

- Brown long-eared bat *Plecotus auritus*;
- Common pipistrelle *Pipistrellus pipistrellus*;
- Daubenton's bat *Myotis daubentonii*;
- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Natterer's bat *Myotis nattereri*;
- Noctule bat *Nyctalus noctule*; and
- Soprano pipistrelle *Pipistrellus pygmaeus*.

8.8.27. The desk study also returned records of bats that were not identified to species level: pipistrelle bat species *Pipistrellus* sp., myotis bat species *Myotis* sp. and unknown bat species *Chiroptera* sp.

8.8.28. The closest bat record was for a myotis bat 428m east of the southern section of the Site.

8.8.29. During the Phase 1 habitat survey, a daytime bat walkover (DBW) was carried out, which identified trees within the Survey Area with suitability to support roosting bats. There were no buildings or structures identified within the Survey Area with potential to support roosting bats.

8.8.30. Three trees (T1-T3) were identified during the Phase 1 habitat survey which had the potential to support roosting bats. A further assessment of trees during the aerial (close) inspection survey assessed these three trees for their suitability to support roosting bats and identified an additional tree (T4). These were all in the southern section of the Survey Area, between the Nant Lluest-Wen and Nant y Castell watercourses, shown on **Figure 8.4**. A description is provided of each below:

- Tree 1 was a mature sessile oak adjacent to a fence line. A tear-out wound was identified on the south side of the tree, extending upwards into two chambers and downwards;
- Tree 2 was along the same tree line to the east. Again, it was a mature sessile oak with a tear-out wound;
- Tree 3 was slightly to the south and was the westernmost sessile oak in the tree line. It was twin-stemmed and on the south stem a wound hosted an active bees' nest which could extend further beyond this. On the north stem there were two woodpecker *Dendrocopos major* holes with old nest material inside; and
- Tree 4 was a sessile oak and was located immediately to the north between tree T1 and T2. A knothole was identified on the southern side of the tree, which extended upwards.

8.8.31. The aerial (close) inspection survey assessed three trees (T2, T3 and T4) as having 'PRF-I' suitability (as per good practice survey guidance (Collins, 2023[61])) for supporting roosting bats, i.e., roosting suitability for individual or very small numbers of bats and unlikely to be used as a maternity or hibernation roost. On further inspection, it was found that one tree (T1) had no suitability for supporting roosting bats as the feature previously identified did not extend far enough back into the tree to provide adequate roosting opportunity. The suitability of T1 to support roosting bats was described as 'none' as per good practice survey guidance.

8.8.32. These trees will not be subject to complete removal, however, two of the trees identified (T2 and T4) are likely to be impacted by lopping of branches to support the installation of the OHL.

8.8.33. The Survey Area provides some suitable habitat for foraging and commuting bats in the form of woodland edge habitat and linear habitats such as running water, tree lines and hedgerows.

8.8.34. Of the species recorded in the desk study, soprano pipistrelle, common pipistrelle and brown long-eared bats are widespread species of bat across the south-west of England and South Wales. Daubenton's bats are a widespread species in many geographies across the south-west of England and South Wales, although are not abundant in all areas. Lesser horseshoe bats have a rarer or restricted distribution. Natterer's bats are widespread in many geographies, but not as abundant in all. Greater horseshoe bat is listed as a very rare species (Reason, P.F. and Wray, S., 2023[62]).

8.8.35. In order to determine and understand bat activity within the Survey Area, four automated static detectors (Song Meter Mini Bats) were installed in pre-determined locations (shown on **Figure 8.8**). These detectors were deployed for a minimum of five nights in each month in accordance with the current good practice guidance (Collins, 2023). The automated detectors were set to commence recording at least 30 minutes before sunset and cease recording 30 minutes after sunrise.

8.8.36. To supplement the automated static detector survey, a NBW was also carried out in June. This involved two surveyors walking two pre-determined transect routes along suitable bat commuting and foraging corridors (shown on **Figure 8.8**). During each transect, the surveyors noted the bat species which had been heard and seen, including the time, location, and, where possible, behaviour type and direction of flight. Surveyors also stopped at pre-determined listening spots for approximately 5 minutes per stop. The survey began at 22:00, at least 30 minutes after sunset (as per guidance), and continued for approximately two hours. One hour was spent on each transect. The results of the surveys are shown on **Figure 8.9.**

8.8.37. During these surveys at least nine bat species were recorded within the Site during the bat activity surveys using static automated bat detectors. These species comprised:

[61] Collins J. (ed.) (2023) Bat Surveys for Professional Ecologists, Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London.

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

- Common pipistrelle;
- Soprano pipistrelle;
- Nathusius' pipistrelle *Pipistrellus nathusii*;
- Myotis bat species;
- Noctule;
- Serotine *Eptesicus serotinus*;
- Leisler's bat *Nyctalus leisleri*;
- Brown long-eared; and
- Lesser horseshoe.

8.8.38. During the April automated static surveys, the highest bat activity levels were recorded on Static 1 which was deployed within a coniferous tree line on the underground section of the Site which is proposed for removal. The lowest bat activity levels were recorded on Static 3 which was the most southernly deployed static within a glade of forestry. Statics 1-3 identified common pipistrelle as the most recorded bat, with other bat species recorded at relatively low numbers. Conversely, Static 4 identified low numbers of common pipistrelles with most recordings identified as soprano pipistrelle. Furthermore, at Static 4, there was a relatively high proportion of brown long-eared bats compared to the rest of the Site. Static 4 is located on a field boundary immediately to the north of the ancient woodland located towards the centre of the Site.

8.8.39. During the May surveys, the highest bat activity levels were recorded on Static 2 which was deployed within a line of trees bordering an agricultural field in the northern extent of the southern section of the Site. The lowest bat activity levels were recorded on Static 3. Common pipistrelle was the most recorded bat across all of the statics within the Site, with relatively high numbers of soprano pipistrelle and species of Myotis bats recorded on Statics 2 and 4.

8.8.40. During the June surveys, the highest bat activity levels were recorded on Static 2, and the lowest levels were recorded on Static 3. Common pipistrelle was the most recorded bat across Statics 1, 3 and 4. Soprano pipistrelle was the most recorded bat on Static 2, with common pipistrelles and species of Myotis bats close behind in frequency. Static 2 also identified three recordings of lesser horseshoe bat.

8.8.41. During the NBW, a total of 83 bat recordings were processed within the 2-hour survey. Only a proportion of the bats listed above were identified. These included, in order of frequency; common pipistrelle, soprano pipistrelle, Leisler's bat, noctule and species of Myotis bats. The survey identified commuting and foraging activity along hedgerows, tree lines and along the edge of the ancient woodland parcel.

8.8.42. The results of the automated static survey data for April, May and June 2025 are used to inform this Chapter. Further automated static results are currently underway for the months July - September 2025 and data from these surveys and will be provided in a supplementary report. The results of further surveys are not expected to change the precautionary assessments and mitigation provided within this Chapter.

8.8.43. Bats are protected by legislation at the national level. Based on the desk study results and the habitats present on Site, the bat assemblage using the Site for foraging, commuting and roosting

purposes is considered to be of **County conservation importance**. This is based on surveys to date and awaits completion of further assessment in the months July-September.

Badger

8.8.44. Two records of badger *Meles meles* within 2km of the Site were returned by the desk study in the last 10 years. The nearest badger record was 1.09km east of the southern section of the Site.

8.8.45. No evidence of badger was present during the field survey. However, suitable habitat for commuting, foraging and sett-building existed within the Survey Area [redacted] Furthermore, evidence of a badger latrine was recorded connecting to a mammal track within the Northern section of the Site during a bird survey carried out on 9th July 2025 [redacted]

8.8.46. While badgers are protected under legislation at the national level, they are common and widespread in South Wales. The results of the desk study confirm widespread presence locally, and it is reasonable to assume that the Site is suitable for supporting badgers. For this reason, badger social groups potentially occupying habitat on Site are considered to be of **Site conservation importance**.

8.8.47. Due to the legal protection afforded to this species, measures to avoid impacts to badger will form part of the mitigation for the Project.

Dormouse

8.8.48. One record of dormouse *Muscardinus avellanarius* within 2km of the Site was returned by the desk study in the last 10 years, 1.8km east of the southern section of the Site.

8.8.49. Dormouse surveys conducted by CSA Environmental in support of the Project in 2024 found no dormice or evidence of dormice. Dormice are therefore considered likely absent from the Survey Area (CSA Environmental, 2024b[63]) and, as such, have been scoped out of the assessment. Given the suitability of the habitat within the Site for dormice, precautionary measures to avoid impacts to dormice will form part of the mitigation for the Project as detailed within the WSP PEA.

Otter

8.8.50. A total of three records of otter within 2km of the Site were returned by the desk study in the last 10 years. The nearest otter record was 873m west of the northern section of the Site.

8.8.51. During the PEA, watercourses throughout the Survey Area were considered to be suitable to support commuting and resting otter, with watercourses in the southern section of the Survey Area also suitable to support foraging otter due to the likely presence of fish. Riparian habitats, notably the woodland habitats adjacent to watercourses in the southern section of the Survey Area, were also considered suitable to support commuting and resting otter.

[63] CSA Environmental (2024c). Dormouse Survey Report - Foel Trawsnant Wind Farm, Maesteg. November 2024.

8.8.52. There was no evidence of otter within the Site during the field survey, and no potential resting sites were identified, although a thorough search of all watercourses and a buffer appropriate to otter was beyond the scope of this survey and was therefore not conducted.

8.8.53. Otter surveys were carried out as per good practice guidance (Chanin, 2003[64]; and South Wales Otter Trust, 2024[65]) within 200m up and down-stream of the Site. One survey of each of the watercourses was carried out over three dates: 23 April, 12 May and 20 June 2025. The surveys were undertaken to establish whether otter were present or likely absent from the Site and make recommendations as to how the Project should account for these species with respect to legislation and policy.

8.8.54. An assessment of the habitat suitability for otter was undertaken within the Site, as part of the presence/likely absence surveys. All suitable watercourses for supporting otter and associated surrounding habitat within the Site were surveyed. Watercourses assessed as having potential of supporting otter and subject to survey are shown on **Figure 8.7** and comprised:

- Watercourse 1: Nant y Ffyllon; centered at approx SS 84654 93233.
- Watercourse 2: Nant Lluest-wen; centered at approx SS 84510 88904.
- Watercourse 3: Nant y Castell; centered at approx SS 84629 88725.
- Watercourse 4: Nant Sychbant; centered at approx SS 84287 90356.

8.8.55. No field signs, such as resting sites were identified during the surveys within Watercourses 1, 2 or 3. The watercourses were considered suitable for commuting otter and adjacent woodland parcels surrounding Watercourses 1 and 2 provided resting suitability, however, foraging opportunities were limited across all watercourses.

8.8.56. Several potential resting sites and a potential otter footprint were identified during the surveys within Watercourse 4. All the potential resting sites were located > 30m from the area of impact (where a temporary dam will be required within the underground section of the OHL) with the closest potential resting site recorded 58m north-west from the Site. On the limits of the otter survey area, it should be noted that a confirmed resting site was recorded, [redacted] which suggests that otters are using the watercourse for foraging and commuting. Due to the small scale and short duration of works, and the presence of intermediate woodland habitat, it is not expected any disturbance will result during the works.

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

[65] South Wales Otter Trust. (2024). Otter Protection: Best Practice Guidance for Developers, Ecologists and Planning Authorities (UK).

8.8.57. A second survey will be undertaken in September and additional data will be captured in a supplementary report. The supplementary data collected during this survey is not expected to change the assessment or conclusions in this Chapter.

8.8.58. Otters are protected under legislation at the national level. Otters are widespread within Wales, although there is evidence indicating a recent population decline[66]. In this context, given the desk study results and habitats present on Site, otters are considered to be of **County conservation importance**.

Water vole

8.8.59. There were no records of water vole within 2km of the Site returned by the desk study in the last 10 years.

8.8.60. Slow-moving waterbodies within both the northern and the southern sections of the Survey Area were considered suitable to support water vole. Suitable vegetation to support water vole was identified, with exposed areas of banks that would provide suitable burrowing habitat.

8.8.61. CSA Environmental (2024c[67]) carried out two water vole surveys within the Survey Area in 2024. The first of these surveys identified evidence of water vole in [redacted] the Site. It was considered likely that water voles are present in the surrounding areas due to the suitability of the habitat, which includes acid and marshy grassland. The second of the two water vole surveys found water vole signs in this area to be lower in frequency (CSA Environmental, 2024c). The water vole surveys did not identify any evidence of water voles in the southern section of the Site.

8.8.62. Water voles are protected under legislation at the national level and are declining in Wales. Water voles have restricted distribution across Wales. In this context, given the presence of water vole on Site and habitats present, water voles are considered to be of **National conservation importance**.

OTHER MAMMALS

8.8.63. One record of brown hare *Lepus europaeus* was returned during the desk study, 1.7km south-east of the southern section of the Survey Area. Although no evidence of brown hare was observed during the field survey, the Survey Area has habitats considered suitable to support brown hare, with a mosaic of grass fields and hedgerows, and some woodland edges.

8.8.64. A total of ten records of hedgehog *Erinaceus europaeus* within 2km of the Site were returned by the desk study in the last 10 years. Nine of these were in residential areas around the Survey Area, with one in coniferous woodland west of the southern section of the Survey Area. Although no evidence

[66] Kean EF, and Chadwick EA 2021. Otter Survey of Wales 2015-2018. NRW Report No: 519, NRW.

[67] CSA Environmental (2024c). Water Vole Survey Report - Foel Trawsnant Wind Farm. November 2024.

of hedgehog was observed during the field survey, habitats within the Survey Area are considered suitable to support hedgehogs including grasslands, hedgerows, and woodlands.

8.8.65. CSA Environmental identified two records of harvest mouse *Micromys minutus* 0.01km east of the Site in 2008 and 2009 (CSA Environmental, 2024a). Although no evidence of harvest mouse was observed during the field study, marshy grassland habitats within the Survey Area were considered suitable to support harvest mouse.

8.8.66. Brown hares, hedgehogs and harvest mice are afforded protection through legislation and/or policy up to the national level. Brown hare and hedgehog numbers are stable across Wales (Mammal Society, 2021[68]). There is deficient data to assess the population trends of harvest mice (Mammal Society, 2021). Owing to the extent of similar or more suitable habitat outside the Site, any populations of these three species within the Site are considered to be of **Site conservation importance**.

PROTECTED AND NOTABLE BIRDS

8.8.67. In total, the desk study returned 906 records of 53 protected and/or notable bird species within 2km of the Site.

8.8.68. A total of 22 of these species are listed on Schedule 1 of the WCA, with 21 bird species listed on Part 1 (protected at all times) of Schedule 1, and one bird species - pintail *Anas acuta* - listed on Part 2 (protected during the close season) of Schedule 1. Examples of those listed on Part 1 include barn owl *Tyto alba,* marsh harrier *Circus aeruginosus,* and merlin *Falco columbarius.* Honey buzzard *Pernis apivorus*, also listed on Schedule 1, is known to be present within the wider area.

8.8.69. Nightjar, listed on Annex 1 of the Birds Directive, is known to be present in the wider area around the Site, and forages in open areas adjacent to forests.

8.8.70. A total of 31 bird species (of the 53 species returned from the desk study) are listed as Priority Species in accordance with Section 7 of the Environment (Wales) Act 2016. These include curlew *Numenius arquata,* lapwing *Vanellus vanellus*, and yellowhammer *Emberiza citrinella.*

8.8.71. During the Phase 1 habitat survey, seven bird species were sighted or heard. These species were:

- Dipper *Cinclus cinclus*;
- Red kite *Milvus milvus* (Schedule 1 of the WCA);
- Swift *Apus apus* (listed on the Birds of Conservation Concern 4 Wales (BoCC4W), Red List (BoCC, 2022)) [69];
- House martin *Selichon urbicum* (BoCC4W – Amber List);
- Skylark *Alauda arvensis* (Priority Species, BoCC4W – Amber List);

[68] Mammal Society (2021). The State of Mammals in Wales - A report by the Mammal Society for Natural Resources Wales.
[69] Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. & Taylor, R.C. 2022. Birds of Conservation Concern Wales 4: the population status of birds in Wales

- Wheatear *Oenanthe oenanthe* (BoCC4W – Amber List); and
- Meadow pipit *Anthus pratensis* (BoCC4W – Red List).

8.8.72. An initial scoping survey for birds was undertaken in January 2025. During the survey an ornithologist assessed the suitability of habitats on Site for supporting protected or notable species of birds. Habitats were recorded suitable for supporting species of raptor, with habitat suitable for supporting moorland species, including nightjar. A suite of surveys is underway, comprising winter raptor surveys, breeding raptor surveys, Vantage Point flight activity surveys, moorland bird surveys and nightjar surveys.

8.8.73. Survey work completed to date comprises Vantage Point surveys from two locations (including winter and breeding season surveys), with 24 hours of observation completed from each; three moorland bird survey visits to the Site plus 500m buffer; one nightjar survey of suitable habitat in the Site plus 500m buffer; and three breeding raptor walkover survey visits to the Site plus 2km buffer. The surveys were undertaken in accordance with the following best practice guidance: NatureScot (2017); an adapted version of the Brown and Shepherd (1993) method outlined in Gilbert et al (1998), and Bird Monitoring Methods (Gilbert et al, 1998)[70]. Full information on the methodologies is provided in **Appendix 8I**.

8.8.74. A summary of target species activity from the surveys completed up until 13th June 2025 is provided below. All results considered to be confidential will be detailed within the **Confidential Appendix 8J** as part of the final ornithological report. The ornithological survey area is shown on **Figure 8.10**, with the full results in **Appendix 8I**.

Vantage Point Surveys

8.8.75. Only one target species (red kite) has had more than 10 flights recorded to date.

8.8.76. There were 14 flights of red kite recorded (totalling 14 individual flights). Flight activity was widely distributed around the areas of plantation woodland south of both the northern Site (Afan Forest Southeast Circular) and southern Site (Upper Craig Yr Aber Woods), mainly to the south and southeast of the proposed northern and southern OHL routes but crossing the Site on occasion. Flight activity was concentrated in the months of May, which coincides with the core breeding period where adults are focused on feeding their young.

8.8.77. There was one incidental record of red kite: one of a bird foraging in a sheep grazed field during a survey undertaken in mid-May.

[70] NatureScot (previously Scottish Natural Heritage). 2017. *Recommended bird survey methods to inform impact assessment of onshore wind farms*. SNH, Battleby.

Wintering Raptor Surveys

8.8.78. Only one target species was recorded during the wintering VP surveys: goshawk *Accipiter gentilis*, with a single flight recorded.

Breeding Vantage Point Surveys

8.8.79. Four target species were recorded during the breeding season VP surveys: goshawk, red kite, kestrel *Falco tinnunculus* and merlin *Falco columbarius*.

Breeding Wader Assemblage

8.8.80. The breeding wader assemblage comprised solely of a single snipe *Gallinago gallinago.* A single snipe territory was recorded in a wet ditch <10m from the Site, bordering a sheep grazed field on the southern section of the Site (**Figure 8.10**).

Moorland and Nightjar surveys

8.8.81. Nightjar were recorded >100m south from the northern Site within the Afan Forest Southeast Circular and >400m south west from the southern Site in the Upper Craig Yr Aber Woods. No nightjars have been recorded within or immediately adjacent to either the northern or southern areas of the Site.

Breeding Raptors

8.8.82. No species listed on Annex 1 of the Birds Directive or Schedule 1 of the WCA were recorded during the three breeding raptor surveys completed to date.

8.8.83. Secondary raptor/owl species recorded comprised buzzard *Buteo buteo* with raven *Corvus corax* also recorded during the raptor surveys. No secondary raptor/owl species or raven nest sites were found, although it is considered that buzzard were breeding within the raptor Survey Area as birds were seen carrying food to possible nest sites in the Upper Craig Yr Aber Woods.

8.8.84. The habitats within the Site were considered suitable for common and widespread breeding birds. Owing to extent of similar habitat outside the Site, and the opportunistic nature of nesting birds, any populations of common and widespread breeding birds within the Site are considered to be of **Local conservation importance** or below.

8.8.85. It was considered that some species listed on Schedule 1 of the WCA, such as red kite and honey-buzzard may nest in the habitats in the southern section of the Site. Furthermore, habitats were identified with suitability for supporting moorland species including nightjar. Owing to the declining status of these species they are considered to be of **National conservation importance**.

AMPHIBIANS

8.8.86. Six records of common frog *Rana temporaria,* four records of common toad *Bufo bufo*, and six records of palmate newt *Lissotriton helveticus* within 2km of the Site were returned during the desk study.

8.8.87. The Site is on the boundary of the known range of GCN in Wales (French et al., 2014[71]). GCN surveys were undertaken in 2024. This included a desktop study and pond scoping visits with nine identified water bodies occurring within a 500m range of the Site. These ponds are identified on the Pond Plan (CSA/7086/105) in the GCN Survey Report (CSA Environmental, 2024d[72]) and on **Figure 8.6.**

8.8.88. The pond scoping exercise identified two ponds, which were completely dry and therefore a Habitat Suitability Index (HSI) Assessment was not undertaken. A further pond was scoped out of assessment due to its location to the east of the residential area of Maesteg, which forms a significant barrier to GCN dispersal to the Project. Landowner permission was not granted for the HSI assessment and eDNA sampling of two ponds within a golf course. The HSI assessment undertaken on four ponds all resulted in poor scores.

8.8.89. The eDNA surveys carried out by CSA Environmental returned negative results for GCN in four suitable ponds within 500m of the Site (CSA Environmental, 2024d). Therefore, it is considered very unlikely that GCN will be present within the Survey Area and, as such, have been scoped out from further assessment.

8.8.90. The two ponds where landowner permission was not granted for survey are shown on the Pond Plan (CSA/7086/105) in the GCN Survey Report (CSA Environmental, 2024d[73]). The two ponds are located over 250m from the Project. They are located in a section of the Site close to the underground section of the Project which will follow the existing hardstanding highway, and so minimal disturbance will result to surrounding terrestrial habitats. The terrestrial habitats associated with these ponds are considered unlikely to be affected by the Project. Furthermore, a desk study found that previous survey work had been undertaken at these ponds, as part of proposals for the Y Bryn Wind Farm in 2023. No evidence of GCN was found at this time.

8.8.91. During the Phase 1 habitat survey, no amphibians nor evidence of amphibians were identified, however, suitable terrestrial habitat for common and widespread amphibian species (e.g. common frog and common toad) existed within the Survey Area in the form of scrub, grassland, and woodland habitat. Brash piles adjacent to the woodland ride in the southern section of the Survey Area were recorded as potential refugia. Slow flowing waterbodies are also suitable for breeding common and widespread amphibians, in both the northern and southern sections of the Survey Area.

8.8.92. Common or widespread amphibians (e.g. common toad, common frog, and palmate newt *Lissotriton helveticus* are afforded a level of protection by legislation at a national level. Amphibians are widespread in Wales, although there is evidence indicating decline of several native amphibian

[71] French GCA, Wilkinson JW, Fletcher DH, and Arnell AP Amphibian and Reptile Conservation Trust (2014). Quantifying the Status of Great Crested Newts in Wales. Natural Resources Wales.
[72] CSA Environmental (2024d). Great Crested Newt Report - Foel Trawsnant Wind Farm, Maesteg. November 2024.

[73] CSA Environmental (2024d). Great Crested Newt Report - Foel Trawsnant Wind Farm, Maesteg. November 2024.

species including all native species of newt and common toad (Humphreys, E., et al., 2011[74]). Common frog populations have been recorded as stable since the 1970s. Owing to the extent of similar or more suitable habitat outside the Site, the amphibian population within the Site is considered to be of **Local conservation importance**.

REPTILES

8.8.93. Fifteen records of adder *Vipera berus,* 20 records of common lizard *Zootoca vivipara*, nine records of grass snake *Natrix helvetica*, and six records of slow worm *Anguis fragilis* within 2km of the Site were returned by the desk study in the last 10 years. The nearest common lizard record was 21m west of the southern-most point of the Site. All other reptile records were at least 1.2km from the Site.

8.8.94. No evidence of reptiles was identified during the field survey. The habitats within the Survey Area were considered to provide suitability to support reptile species, with lower suitability in the southern section of the Survey Area due to a short sward height within grassland fields. As the habitats on Site are suitable for reptiles, they are assumed to be present although they are unlikely to occur at high densities in the habitats affected.

8.8.95. Brash piles adjacent to the woodland ride in the southern section of the Survey Area and stone walls throughout the Survey Area were considered to be potential refugia.

8.8.96. Reptiles are protected by legislation at a national level. Reptiles are widespread in Wales, although there is evidence indicating decline of all native reptile species (Humphreys, E., et al., 2010[75]). Owing to the extent of habitat within the Site with suitability for supporting reptiles, the reptile population within the Site is considered to be of **County conservation importance**.

FISH

8.8.97. One record of a fish within 2km of the Site was returned by the desk study in the last 10 years. This species was the brown trout *Salmo trutta* and the record was 596m east of the Site, within the Afon Llynfi. Streams within the Site are hydrologically connected to the Afon Llynfi. The streams within the southern section of the Site are considered suitable to support brown trout. However, due to the low flow and dense vegetation in the streams in the northern section of the Site, these are not considered suitable to support brown trout.

8.8.98. Brown trout are protected under the Salmon and Freshwater Fisheries Act 1975. Owing to the restricted extent of habitats within the Site, the fish population within the Site is considered to be of **Local conservation importance**.

[74] Humphreys, E., Toms, M., Newson, S., Baker, J. and Wormald, K. (2011). An examination of reptile and amphibian populations in gardens, the factors influencing garden use and the role of a 'Citizen Science' approach for monitoring their populations within this habitat. British Trust for Ornithology.

[75] Humphreys, E., Toms, M., Newson, S., Baker, J. & Wormald, K. 2010. An examination of reptile and amphibian populations in gardens, the factors influencing garden use and the role of a 'Citizen Science' approach for monitoring their populations within this habitat.

INVERTEBRATES

8.8.99. A total of 50 invertebrate species which are listed as Priority Species in accordance with Section 7 of the Environment (Wales) Act 2016 were returned during the desk study within 2km of the Site. These species included small heath *Coenonympha pamphilus*, anomalous *Stilbia anomala*, autumnal rustic *Eugnorisma glareosa*, flounced chestnut *Anchoscelis helvola*, neglected rustic *Xestia castanea*, sallow *Cirrhia icteritia*, and small phoenix *Ecliptopera silaceata.*

8.8.100. Habitats considered suitable to support many of these invertebrate species were present within the Survey Area. For example, heathland supports small heath, woodland fringes support autumnal rustic, woodland supports flounced chestnut, and woodlands with willowherbs support small phoenix. Watercourses on Site were also considered suitable for supporting common and widespread aquatic invertebrates. In general, the areas of woodland, scrub, grassland and watercourses present with the Survey Area were considered suitable to support mainly common invertebrate species. Habitats suitable to support some of the Priority Species returned by the desk study are present within the Survey Area.

8.8.101. Owing to the extent of similar or more suitable habitat outside the Site, the terrestrial and aquatic invertebrate population within the Site is considered to be of **Site conservation importance**.

NOTABLE PLANTS

8.8.102. Three notable plant species were returned during the desk study including bluebell *Hyacinthoides non-scripta*, listed on Schedule 8 of the WCA. Two additional notable plant species that are Priority Species in accordance with Section 7 of the Environment (Wales) Act 2016 were also returned - chamomile *Chamaemelum nobile* and pennyroyal *Mentha pulegium*.

8.8.103. No notable plant species listed on Schedule 8 of the WCA or Section 7 of the Environment (Wales) Act 2016 were identified during the field survey and, although the field survey was carried out over a short period of time, it was carried out during the optimal season for botanical survey. Bluebell was recorded during the field survey, however, this was the hybrid between the native and non-native bluebell which is not protected by the WCA. The field survey was carried out towards the end of the optimal season for botanical survey and would be expected to have recorded the majority of any notable plant species should they have been present, with the exception of any early flowering plants such as the native bluebell which, as such, may have been present within the woodland habitats in the Survey Area, but undetected.

8.8.104. Owing to lack of notable plants being recorded within the Survey Area, they are scoped out from further assessment.

INNS

8.8.105. Ten INNS listed on Schedule 9 of the WCA were returned during the desk study within 2 km of the Site: curly waterweed *Lagarosiphon major,* entire-leaved cotoneaster *Cotoneaster integrifolius*, Himalayan cotoneaster *Cotoneaster simonsii*, hollyberry cotoneaster *Cotoneaster bullatus*, Indian balsam *Impatiens glandulifera*, Japanese knotweed *Reynoutria japonica,* variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum,* montbretia *Crocosmia x crocosmiiflora*, rhododendron *Rhododendron ponticum* and wall cotoneaster *Cotoneaster horizontalis.* Curly

waterweed and Indian balsam are listed on Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019 which supersedes Schedule 9 for those INNS listed on it.

8.8.106. During the field survey, two plant INNS were recorded within the Site: Japanese knotweed and Indian balsam. Furthermore, all habitats within the Survey Area were considered suitable to support INNS.

8.8.107. Eighteen records of harlequin ladybird *Harmonia axyridis*, an invertebrate species considered to be invasive, were also returned during the desk study.

FUTURE BASELINE

8.8.108. Determining a future baseline draws upon information about the likely future use and management of the Site in the absence of the Project, known population trends (for species), climate change and any other Projects (consented or otherwise) that may act cumulatively to affect ecological features.

8.8.109. The State of Mammals in Wales report (Mammal Society, 2021[76]) identifies that badger, dormouse, brown hare and hedgehog numbers are stable across Wales, with otter numbers increasing. Although for certain species, such as otter, other data sources indicate decline (NRW, 2021[77]). The State of Mammals in Wales report finds that there is deficient data to assess the population trends of bats and harvest mice. This was because of changes in survey methodology over time and a general lack of monitoring information.

8.8.110. The Plant Atlas summary report (BSBI, 2020[78]) identified that INNS are increasing in abundance within Wales. As INNS have been identified within the Site, these are likely to spread further and increase in abundance if left unmanaged and eventually will degrade the Site's conservation value.

8.8.111. In the absence of further data or analysis, the future baseline in the absence of the Project is unlikely to be markedly different from the current baseline, as land use/management within the Site is anticipated to remain largely unchanged. It is therefore considered appropriate to use the current baseline for the purpose of this assessment.

8.9 EMBEDDED MEASURES

8.9.1. A range of environmental measures have been embedded into the Project as outlined in **Chapter 11: Summary of Significant Effects**. Embedded measures are measures that will be implemented as part of the Project regardless of the requirement for ecological mitigation/assessment outcomes, for example as a result of legislative requirements and/or standard best practice and, as such, the

[76] Mathews, F; Smith, B; Harrower, C & Coomber, F. 2020 *The state of mammals in Wales: a report by the Mammal Society for Natural Resources Wales.* London, The Mammal Society.

[77] NRW (2021). NRW Evidence Report Otter Survey Wales 2015-2018. Available at: https://cdn.cyfoethnaturiol.cymru/media/694539/osw-6th-report-final.pdf

[78] Walker, K.J., Stroh, P.A., Humphrey, T.A., Roy, D.B., Burkmar, R.J. & Pescott, O.L. 2023. Britain's Changing Flora. A Summary of the Results of Plant Atlas 2020. Durham: Botanical Society of Britain and Ireland.

subsequent EcIA assumes they are in place. **Table 8.10** outlines how these embedded measures influence the assessment.

Table 8-10 – Summary of Embedded Measures

Potential impact	Zone of Influence (ZoI)	Embedded measures	Ecological Features Impacted	Compliance mechanism
Construction				
Habitat loss (temporary)	Within the construction footprint.	By applying the step-wise approach and the DECCA framework, habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. Disturbance to features that could support reptiles or amphibians (e.g. scrub, dense tussocky grassland, rocks) will be kept to a minimum, and works in these areas will take place outside the hibernation period for those species. The construction compounds for the consented wind farm development will be used for the construction of the OHL. Poles will be stored at the construction compound and transported to the works area on the day of installation. See **Chapter 4: Description of the Project** and **Chapter 6: Landscape and Visual** for more information on habitats lost.	Direct and temporary habitat loss within construction zone; temporary loss of habitat for protected species including bats, badgers, otter, brown hare, hedgehog, harvest mouse, reptiles, amphibians, birds, invertebrates and plant species of notable interest. Temporary loss of habitat within parcels of ancient woodland, SINC and Priority Habitat.	Construction Environmental Management Plan (CEMP)
Habitat degradation	Hydrological pollution and contamination incidents within 2km.	See embedded measures to manage pollution associated with air quality, hydrology, noise, vibration and visual. Construction works would be undertaken using all necessary and practical measures to minimise the release of	Priority Habitat, ancient woodland and SINCs within 2km. Habitats with hydrological connections to the Project, within 2km, including those that	CEMP

		additional sediment-laden run-off into nearby watercourses.	support protected or notable species. Impacts to watercourses: Nant-y-Castell, Nant Lluest-wen (leading into Nant Sychbant and Nant y Cerdin) and any associated protected species.	
Habitat fragmentation	Within the construction footprint.	Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. The OHL would be located predominantly in open grassland fields. Micro-siting will be used to avoid impacts to hedgerows, tree lines and watercourse, avoiding direct impacts to these habitats. See Chapter 4: Description of the Project and Chapter 6: Landscape and Visual for more information on habitats lost.	Habitat fragmentation within the construction zone for protected species including bats, badgers, otter, brown hare, hedgehog, harvest mouse, reptiles, amphibians, birds and invertebrates	CEMP
Noise, vibration and visual disturbance from construction traffic and personnel	Construction footprint and up to 250m from construction zone.	Construction works would be undertaken using all necessary and practical measures to minimise the noise, vibration and visual disturbance. Construction works will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate. Full measures to address noise, vibration and visual disturbance are detailed in the CEMP (**Appendix 4A**).	Temporary disturbance to otters. Otters are highly mobile and may be sensitive to disturbance at up to 200m when breeding (Scottish National Heritage[79]). Other protected species such as bats, badgers, water vole, brown hare, hedgehog, harvest mouse, reptiles, amphibians and breeding birds are also susceptible to disturbance.	Noise and Vibration Management Plan via CEMP

[79] https://www.nature.scot/doc/standing-advice-planning-consultations-otters

Changes in air quality - dust	Statutory designated sites, non-statutory designated sites and important habitats within 50m of construction footprint.	Due to the nature of the Project, impacts arising from dust generation have been assessed as being minimal (see **Chapter 4: Description of the Project**). There will be little to no demolition and earthworks will be undertaken only for the underground works under existing roads.	Priority Habitat, ancient woodland and SINCs within 50m of the Project.	Dust management via CEMP
Changes in light levels	Changes in lighting within and immediately adjacent to the Project during construction.	Construction works are currently programmed to start January 2028 for a total of 9 months. There will be no nighttime working with works taking place between 07:00 and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate During the winter months when day length is shorter some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.	Direct impact to protected species such as bats, otter and birds.	CEMP
Removal of trees	Within the construction footprint.	Whilst the intention is for the OHL route to be as straight as possible, there will be some deviation to avoid environmental features, such as trees. At points of deviation, angle poles will be used; these are likely to be H-pole structures. The trees with bat suitability will not be removed however two of the trees identified (T2 and T4) are likely to be impacted by lopping of	Direct and permanent loss of trees with bat roosting suitability and commuting habitat such as linear habitat (e.g., boundary trees/hedgerows).	CEMP, Precautionary Method of Works (PMoW[80]) included in the CEMP, and Ecological Clerk of Works (ECoW)[81].

[80] A Method Statement outlining measures to avoid or reduce impacts to IEFs.
[81] An ECoW oversees vegetation clearance and other construction activities, ensuring works follow a PMoW.

		branches. It is currently anticipated that trees within one location will require removal (**Figure 8.5**).		
Introduction or spread of INNS	Within the construction footprint.	Biosecurity measures, such as boot wash stations, will be implemented throughout construction to avoid the introduction or spread of INNS	Habitats including Priority Habitat, ancient woodland and SINCs	CEMP, PMoW and ECoW
Direct mortality during construction.	The area within the temporary and permanent construction.	A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained features, designated haul routes and ecological supervision (ECoW). Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate This will largely avoid the hours of darkness, particularly in the summer when species are most active.	Incidental mortality or injury of protected species during vegetation and site clearance.	CEMP, PMoW and ECoW
Operation				
Direct mortality due to collision impact (birds)	Within the operation footprint (OHL route).	Micro siting of the OHL route from the nearest point of linear/foraging features considered likely to be well-used birds such as treelines, woodland, and some waterbodies.	Potential killing or injury to birds in flight, through direct collision with OHL.	Embedded in design

8.9.7. Environmental measures required to avoid or reduce ecology impacts will be incorporated into a Conservation Plan. The Conservation Plan will set out the objectives for biodiversity protection, mitigation, monitoring and habitat enhancement (where applicable). It will set out a timetable for ecological measures throughout the lifetime of the Project, including any pre-construction measures that are required. The Conservation Plan will be agreed with the planning authority at the pre-construction stage either as part of the CEMP or as a standalone document.

8.10 NOT SIGNIFICANT EFFECTS

8.10.1. The following pathways for potentially significant effects have been assessed as Not Significant following incorporation of embedded measures at the construction stage:

- Air quality – dust emissions;
- Hydrological pollution;
- Habitat fragmentation;
- Noise, vibration and visual disturbance;
- Changes in light levels;
- Introduction or spread of INNS; and
- Habitat degradation as a result of pollution associated with air quality, hydrology, noise, vibration, visual disturbance, lighting and/or the introduction/spread of INNS.

8.10.2. In addition, a review of literature did not present information on collision impacts to bats resulting from OHLs. The literature covered impacts resulting to bats from collision with wind turbines. Collision risk with bats during operation has therefore been scoped out of further assessment in this Chapter. Nevertheless, the embedded measures to reduce direct mortality due to collision impact to birds during operation may also benefit bats.

8.10.3. As linear features within the Site (such as tree lines, hedgerows, woodland corridors and watercourses) will be retained and protected, disturbance or fragmentation impacts to foraging and commuting bats have been scoped out. **Figure 8.11** shows the location of protective exclusion buffers (where works are excluded / restricted) to these habitats that will be implemented during construction.

8.10.4. Taking embedded measures into account, and the implementation of a CEMP, the risk of air pollution created during the construction phase of the Project is highly unlikely. This was scoped out at the Scoping stage (**Appendix 2A** and **2B**). General site good practice recommendations to avoid dust impacts will be detailed in a CEMP.

8.10.5. The implementation of a CEMP mitigates against the risk of hydrological pollution created during the construction phase of the Project, making it highly unlikely to occur. Hydrological pollution can be mitigated following full measures detailed in **Chapter 10: Water Resources and Flood Risk**.

8.10.6. There will be no nighttime working. Working hours will take place between 07:00 and 19:00 hours on weekdays and 07:00 and 13:00 on Saturdays (starting January 2028 for 9 months). In exceptional circumstances there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate. If any ad hoc lighting is required, for example during the winter months when day length is shorter, it will be controlled to prevent incidental spillage onto features that may

be used by nocturnal species. Details of these measures will be outlined in a CEMP (**Appendix 4A**). Refer to **Chapter 4: Description of the Project.**

8.10.7. The introduction or spread of INNS will be controlled within the Site, the details of which will be outlined in a CEMP (**Appendix 4A**) and PMoW/Method Statement.

8.10.8. The following IEFs have been scoped out for potentially significant effects, following the consideration of embedded measures:

- Glaswelltiroedd Cefn Cribwr/Cefn Cribwr Grasslands SAC; Blackmill Woodlands SAC and Kenfig/Cynffig SAC; and
- Limestone Coast of South West Wales SAC as linear and foraging habitats will be retained and protected with only a limited amount of tree loss at one location, therefore impacts to bats utilising habitats with functional connectivity to the SAC are not expected to result.

8.10.9. The consideration of embedded measures when assessing significance of effects, have led to the further scoping out of the following IEFs:

- Lighting impacts on SINCs, Priority Habitats and ancient woodland;
- Lighting impacts on bats, otters, water vole and birds (excluding ad hoc lighting impacts not within embedded measures);
- SINC sites with hydrological connectivity;
- Other mammals, invertebrates, breeding birds and amphibians; and
- Notable plants.

COMPLIANCE WITH POLICY

8.10.10. To ensure compliance with PPW (2024[82]), it is necessary to demonstrate that the Project will achieve a NBB by following both the stepwise approach and the DECCA framework.

8.10.11. THE STEPWISE APPROACH

8.10.12. The stepwise approach, as mentioned in the PPW (2024[83]), entails firstly avoiding, then minimising, mitigating and, as a last resort, compensating for adverse impacts on the environment that occur as part of a development. Therefore, compensation should only be considered as a last resort, where it has been demonstrated clearly that adverse effects on the environment cannot be avoided or fully mitigated. If compensation is necessary, this must be delivered on-site where possible but off-site compensation can be sought if demonstrated that this is not possible.

8.10.13. THE DECCA FRAMEWORK

8.10.14. PPW (2024[84]) instructs planning authorities to take account, and promote the resilience, of ecosystems when assessing planning applications.

[82] Welsh Government. (2024). Planning Policy Wales (PPW). (Edition 12) 2024.
[83] Welsh Government. (2024). Planning Policy Wales (PPW). (Edition 12) 2024.
[84] Welsh Government. (2024). Planning Policy Wales (PPW). (Edition 12) 2024.

8.10.15. NRW has developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016[2]. This is referred to as DECCA and comprises the objectives listed:

- Diversity – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits;
- Extent – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance;
- Condition – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc; and
- Connectivity – this refers to the links between and within habitats which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.

8.10.16. Ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience. NRW define ecosystem resilience as "*An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people*".

8.10.17. NRW has a duty to ensure that the environment and natural resources of Wales are sustainably maintained, sustainably enhanced and sustainably used. Article 4 of the Natural Resource Body for Wales (Establishment) Order 2012 (Welsh Government, 2012) sets a general purpose for NRW to pursue the Sustainable Management of Natural Resources (SMNR) in the exercise of its functions. In order to achieve this, NRW applies a set of nine principles: adaptive management, scale, collaboration and engagement, public participation, evidence, multiple benefits, long term (consequences of actions), preventative action, and building resilience.

8.10.18. Importantly, the objective of the SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide and, in so doing, meet the needs of present generations of people without compromising the ability of future generations to meet their need, and contribute to the achievement of the well-being goals of the Well-being of Future Generations Act 2015.

8.10.19. As per policy guidance, habitat loss will be minimised as far as possible and temporarily lost habitats will be replaced as soon as possible. Where habitats are planned for temporary removal, Priority Habitats, SINC or ancient woodland will be translocated following construction. Trees removed will be replaced at a 3:1 ratio.

8.10.20. Wildflower creation areas will be incorporated into the design as part of achieving these ratios. These areas will be focused for recreating lost habitat on a like-for-like basis. This will include planting rush pasture with purple moor-grass and acid grassland species to help recreate Priority Habitat and replace temporarily lost / impacted SINC habitat.

8.10.21. Furthermore, some retained habitats will be enhanced for biodiversity. This will include the enhancement of existing improved grassland habitat by planting with species-rich seed mixes and managing appropriately to maintain botanical diversity, i.e., a single late-summer cut with removal of arisings. The benefits will be realised during the operational phase and offset the short-term adverse effects. The measures discussed are outlined in more detail in **Appendix 8H**: Net Benefit for Biodiversity Report, with habitats enhanced for biodiversity shown on **Figure 8.11**. The measures will be incorporated into a Conservation Plan. The Conservation Plan will set out the objectives for biodiversity protection, mitigation, monitoring and habitat enhancement. The Conservation Plan will be agreed with the planning authority at the pre-construction stage either as part of the CEMP or as a standalone document.

8.11 ASSESSMENT OF EFFECTS

8.11.1. Potentially significant effects upon ecological features are largely determined by spatial and temporal factors. Spatial factors include where the IEF lies in relation to the Site; its proximity, relevant ZoI and whether or not there are effect pathways. Temporal factors consider the period of time over which the Project will be carried out and the impact of this on IEFs.

8.11.2. **Table 8.11** identifies IEFs and whether they are scoped in or out of further assessment based on their level of value and the presence of pathways for potentially significant effects, following the application of embedded measures (**Table 8.10**). IEFs are scoped in where potentially significant effects upon the relevant feature occur. IEFs will be scoped in where these pathways for potentially significant effects lie within the relevant ZoI and where an IEF holds value at a County level or above.

Table 8-11 - IEFs which have been scoped in or out for further assessment

Important Ecological Feature (IEF)	Level of value	Pathways for potentially significant effects upon ecological features – construction	Pathways for potentially significant effects upon ecological features – operation	Scoped in/out
Glaswelltiroedd Cefn Cribwr/Cefn Cribwr Grasslands SAC	International	**No pathways for potentially significant effects upon ecological features identified.**		Out
Blackmill Woodlands SAC	International	**No pathways for potentially significant effects upon ecological features identified.**		Out
Kenfig/Cynffig SAC	International	**No pathways for potentially significant effects upon ecological features identified.**		Out
Limestone Coast of South West Wales SAC	International	**No pathways for potentially significant effects upon ecological features identified.**		Out
SINCs: Abercerdin Wood SINC, Caerau West SINC, Cwm Cerdin SINC, Gilfach Uchaf SINC, Nant-y-Castell Grasslands SINC	County	**Habitat loss** – resulting from temporary removal of habitats to make way for the Project. **Direct mortality or injury of associated species.**	No pathways for potentially significant effects upon ecological features identified.	**In**

Important Ecological Feature (IEF)	Level of value	Pathways for potentially significant effects upon ecological features – construction	Pathways for potentially significant effects upon ecological features – operation	Scoped in/out
Priority Habitats[85] – lowland deciduous woodland, lowland dry acid grassland and purple-moor grass and rush pastures.	County	**Habitat loss** – resulting from temporary removal of habitats to make way for the Project. **Direct mortality or injury of associated species.**	No pathways for potentially significant effects upon ecological features identified.	**In**
Ancient Woodland	National	**Habitat loss** – resulting from removal of habitats to make way for the Project. **Direct mortality or injury of associated species.**	No pathways for potentially significant effects upon ecological features identified.	**In**
All other habitats within the Survey Area boundary, excluding Priority Habitats and ancient woodland	Site/Negligible	**No pathways for potentially significant effects upon ecological features identified.** All other habitats within the Survey Area boundary hold a nature conservation value of less than County importance and have been scoped out of the assessment.		Out

[85] Priority Habitats overlap Phase 1 broadleaved semi-natural woodland, semi-improved acid grassland, marshy grassland, broadleaved parkland/scattered trees, running water and species-poor intact hedgerows. These habitats are therefore assessed together.

Important Ecological Feature (IEF)	Level of value	Pathways for potentially significant effects upon ecological features – construction	Pathways for potentially significant effects upon ecological features – operation	Scoped in/out
Bats	County	**Habitat loss** – of suitable habitat for roosting, foraging and commuting bats, including tree removal. **Direct mortality or injury** – during clearance of suitable vegetation. **Changes in light levels** – changes in lighting during construction.	No pathways for potentially significant effects upon ecological features identified.	**In**
Badger	Site	**No pathways for potentially significant effects upon ecological features identified.** Badgers hold a nature conservation value of less than County importance and have been scoped out of the assessment. Compliance with legislation will be applied for this species, including a pre-works check.		Out
Otter	County	**Habitat degradation** – resulting from pollution and contamination incidents associated with air quality and hydrology. **Changes in light levels** – changes in lighting during construction. **Disturbance** – to otter and/or commuting or resting habitats.	No pathways for potentially significant effects upon ecological features identified.	**In**
Water vole	National	**Habitat degradation** – resulting from pollution and contamination incidents associated with air quality and hydrology.	No pathways for potentially significant effects upon ecological features identified.	**In**

Important Ecological Feature (IEF)	Level of value	Pathways for potentially significant effects upon ecological features – construction	Pathways for potentially significant effects upon ecological features – operation	Scoped in/out
		Direct mortality – during clearance of suitable vegetation **Changes in light levels** – changes in lighting during construction. **Disturbance** – to commuting or resting habitat.		
Other mammals (brown hare, hedgehog and harvest mouse)	Site	**No pathways for potentially significant effects upon ecological features identified.** Other mammals holding nature conservation value of less than County importance have been scoped out of the assessment. Compliance with legislation will be applied for relevant species.		Out
Reptiles	County	**Habitat loss** – of suitable habitat for reptiles. **Direct mortality** – during clearance of suitable vegetation.	No pathways for potentially significant effects upon ecological features identified.	**In**
Amphibians (excluding GCN)	Local	**No pathways for potentially significant effects upon ecological features identified.** Amphibians holding nature conservation value of less than County importance have been scoped out of the assessment. Compliance with legislation will be applied for relevant species.		Out

Important Ecological Feature (IEF)	Level of value	Pathways for potentially significant effects upon ecological features – construction	Pathways for potentially significant effects upon ecological features – operation	Scoped in/out
Breeding birds (common / widespread)	Local	**No pathways for potentially significant effects upon ecological features identified.** Breeding birds holding nature conservation value of less than County importance have been scoped out of the assessment. Compliance with legislation will be applied for relevant species.		Out
Protected or notable birds (including barn owl, goshawk, honey buzzard, nightjar)	National	**Habitat loss** – of suitable commuting and foraging habitat for barn owl **Changes in light levels** – changes in lighting during construction. **Disturbance** – resulting from construction activities in proximity to suitable roosting sites	**Direct mortality** – resulting from overhead line collision incidents	**In**
Fish	Local	**No pathways for potentially significant effects upon ecological features identified.** Fish holding nature conservation value of less than County importance have been scoped out of the assessment. Compliance with legislation will be applied for relevant species.		Out
Invertebrates	Site	**No pathways for potentially significant effects upon ecological features identified.** Invertebrates hold a nature conservation value of less than County importance and have been scoped out of the assessment. Compliance with legislation will be applied for relevant species and mitigation such as wildflower seeding and habitat creation will enhance the Site for this species group.		Out

Important Ecological Feature (IEF)	Level of value	Pathways for potentially significant effects upon ecological features – construction	Pathways for potentially significant effects upon ecological features – operation	Scoped in/out
INNS – Japanese knotweed and Indian balsam	N/A	INNS are not of conservation importance and therefore are scoped out of the assessment. However, measures to mitigate the illegal spread of INNS have been considered as part of the embedded measures of this report.		Out

8.12 PREDICTED EFFECTS AND THEIR SIGNIFICANCE

8.12.1. **Table 8.12** below provides the characterisation of unmitigated impacts on IEFs. A summary of the findings of the assessment of potential effects without mitigation, followed by residual effects with mitigation, is then provided. The assessment is made following the inclusion of embedded measures.

Table 8-12 - Characterisation of the unmitigated impact on the IEF

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
Construction impacts				
Habitat loss: SINCs	Temporary loss of SINC habitat: ▪ 0.53Ha of Abercerdin Wood SINC; ▪ 1.35Ha of Caerau West SINC; ▪ 0.50Ha of Cwm Cerdin SINC; ▪ 1.33Ha of Gilfach Uchaf SINC; and ▪ 0.15Ha of Nant-y-Castell Grasslands SINC. Temporary loss to habitats will result during wooden pole placement and trench digging. The width of the trench will depend upon the final specification but will be in the region of 600mm widening to 1.5m closer to the surface.	Temporary loss of species-rich habitats and associated species. The temporary loss will be restricted to a linear habitat corridor within a larger SINC unit. Any losses associated with the footprint of the wooden poles will be minimal as the habitat will be reinstated immediately after construction with no permanent habitat loss resulting. The effect without mitigation is predicted to	A Conservation Plan will be devised in consultation with the Local Planning Authority (LPA). This will incorporate habitat creation, management and monitoring of the habitats present within the Site. The Conservation Plan will include enhancement of existing habitats. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. The turf layer will be translocated during construction following an appropriate methodology to avoid soil compaction. This will include topsoil	The magnitude of change in the short-term is predicted to be low, leading to a temporary adverse effect on the habitat affected. The magnitude of change in the long-term is predicted to be negligible on a feature of County conservation importance. The effect is expected to be Not Significant in EIA terms, following the application of the mitigation outlined.

[86] Embedded measures have been applied before the assessment of effects. This is because the embedded measures will be implemented as part of the Project regardless of the requirement for ecological mitigation/assessment outcomes.

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		be medium, leading to a temporary adverse effect. The temporary loss of habitat is small in comparison to the SINC habitat retained within the wider Site.	and subsoil being stripped and stored separately for reinstatement, to give a better chance of maintaining floral diversity. It will be stored in a secure location and will be immediately reinstated following the completion of the trench digging. There will be no loss of floral diversity within the turf layer as it will be reinstated with appropriate aftercare if required (e.g. watering in dry weather).	
Habitat loss: Priority Habitat	Temporary loss of Priority Habitats: ▪ 0.06Ha of wet woodland; ▪ 0.73Ha of lowland dry acid grassland; ▪ 0.02Ha of lowland fen; ▪ 0.34Ha of lowland mixed deciduous woodland; and ▪ 1.64Ha of purple moor-grass and rush pasture; Temporary loss to habitats will result during wooden pole placement and trench digging. The width of the trench will depend upon the final specification but will be in the region of 600mm widening to 1.5m closer to the surface.	Temporary loss of species-rich habitats and associated species. The temporary loss will be restricted to a linear habitat corridor within a larger Priority Habitat unit. Any losses associated with the footprint of the wooden poles will be minimal as the habitat will be reinstated immediately after construction with no permanent habitat loss resulting.	A Conservation Plan will be devised in consultation with the LPA. This will incorporate habitat creation, management and monitoring of the habitats present within the Site. The Conservation Plan will include enhancement of existing habitats Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. The turf layer will be translocated during construction following an appropriate methodology to avoid soil compaction. This will include topsoil	The magnitude of change in the short-term is predicted to be low, leading to a temporary adverse effect on the habitat affected. The magnitude of change in the long-term is predicted to be negligible on a feature of County conservation importance. The effect is expected to be Not Significant in EIA terms, following the

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		The effect without mitigation is predicted to be medium, leading to a temporary adverse effect. The temporary loss of habitat is small in comparison to the Priority Habitat retained within the wider Site.	and subsoil being stripped and stored separately for reinstatement, to give a better chance of maintaining floral diversity. It will be stored in a secure location and will be immediately reinstated following the completion of the trench digging. There will be no loss of floral diversity within the turf layer as it will be reinstated with appropriate aftercare if required (e.g. watering in dry weather).	application of the mitigation outlined.
Habitat loss: Ancient woodland	Temporary loss of 0.19Ha of ancient woodland. No direct loss of trees will result, however, a 4m minimum clearance is required to trees from the conductors/poles. If trees encroach within 4m of a pole, trimming will be required.	The OHL would be located predominantly in open grassland, however, a small temporary loss of ancient woodland will result. This loss is small in comparison to the ancient woodland within the wider Site and will not involve any tree removal. There will be temporary disturbance to soil and ground-floral species during trench digging. The effect without mitigation is predicted to	A Conservation Plan will be devised in consultation with the LPA. This will incorporate habitat creation, management and monitoring of the habitats present within the Site. The Conservation Plan will include enhancement of existing habitats Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. The turf layer will be translocated during construction following an appropriate methodology to avoid soil compaction. This will include topsoil	The magnitude of change in the short-term is predicted to be low, leading to a temporary adverse effect on the habitat affected. The magnitude of change in the long-term is predicted to be negligible on a feature of National conservation importance. The effect is expected to be Not Significant in EIA terms, following the application of mitigation. In the long-term, habitat

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		be medium, leading to a temporary adverse effect. The temporary loss of habitat is small in comparison to the ancient woodland retained within the wider Site.	and subsoil being stripped and stored separately for reinstatement, to give a better chance of maintaining floral diversity. It will be stored in a secure location and will be immediately reinstated following the completion of the trench digging. There will be no loss of floral diversity within the turf layer as it will be reinstated with appropriate aftercare if required (e.g. watering in dry weather).	creation and enhancement will increase the area of ancient woodland.
Bats: Habitat loss	Temporary loss of suitable habitat for roosting, foraging and commuting bats (e.g. temporary removal to grassland habitats). Tree removal will be required at one location only (**Figure 8.5**) and will affect 0.01Ha of tree habitat at this location. No tree removal will take place in ancient woodland with existing gateways used for access, avoiding the need to disturb linear features for bats.	Temporary loss of suitable roosting habitat for bats resulting from tree removal. Temporary reduction of foraging and commuting habitat within the wider Site. This could result in a short-term negative impact on local bat populations through a small reduction in amount of prey availability and foraging opportunities. The effect without mitigation is predicted to	Habitats lost will be reinstated, as to be detailed in the Conservation Plan. No impacts to bat roosts are anticipated based on the survey results to date (no bat roosts have been recorded). However, in the event that direct effects upon bat roosts cannot be avoided, this will be subject to a licence administered by NRW and implementation of a licensed method statement. Mitigation will avoid a net reduction in habitat suitability for bats, which is achievable given the suitability of habitat across the wider Site.	The magnitude of change in the short-term is predicted to be low as a significant amount of habitat will remain across the wider Site. Habitat loss will be minimised as far as possible and residual losses will be compensated. Any changes as a result of the construction in the medium to long-term are predicted to be negligible on a feature of County conservation importance.

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		be medium, leading to a temporary adverse effect. Nevertheless, a significant amount of habitat will remain in the wider area.	Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. Exclusion buffers (where works are excluded/restricted) to protect bat flight lines and linear habitats are shown on **Figure 8.11.** At these locations, a 5m buffer from important habitats will be implemented through use of micro-siting. This means the habitat will be retained and protected during construction and operation.	This effect is expected to be Not Significant in EIA terms, providing the appropriate mitigation outlined is followed to ensure legal compliance with respect to effects upon bats is followed.
Bats: Direct mortality or injury	Direct mortality or injury of bats during clearance of suitable habitat in the absence of mitigation. Tree removal will be required at one location only (**Figure 8.5**) and will affect 0.01Ha of tree habitat at this location.	No bats or roosts recorded during Potential Roost Feature (PRF) aerial inspections undertaken (**Appendix 8G**). Due to the mobile nature of bats using PRFs on a transient basis, a low risk of direct mortality or injury resulting from tree removal, should a bat be present, could temporarily reduce the local bat population.	Any trees assessed as having potential to support roosting bats will be subject to PRF aerial inspection surveys to determine the presence or likely absence of roosting bats ahead of removal. Any trees assessed as PRF-I (e.g. suitable for individual bats or very small numbers) will be soft felled under supervision of an ECoW. Any trees assessed as PRF- M (e.g. suitable for multiple bats and may therefore be used by a maternity colony) will potentially require a licence application, should bats be roosting.	The magnitude of change in the short-term is predicted to be low as mitigation measures will avoid direct mortality or injury to bats. Any changes as a result of the construction in the medium to long-term are predicted to be of negligible magnitude and would result in no change to the status of the County importance bat populations

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		Temporary disturbance of suitable habitat for roosting or foraging bats could result during construction activities affecting foraging or breeding behaviour. Owing to the limited number of trees being removed this is not considered to be significant for the Site bat roosting populations, even in the absence of mitigation.	In the event that direct effects upon bat roosts cannot be avoided, this will be subject to a licence administered by NRW and implementation of a licensed method statement. Enhancement of habitats within the Site to promote foraging and commuting for bats will be confirmed in a Conservation Plan. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. This includes 5m buffers to protect bat flight lines and linear habitats.	on Site. This effect is expected to be Not Significant in EIA terms, providing appropriate mitigation as outlined to ensure legal compliance with respect to effects upon bats is followed.
Bats / otters: Changes in light levels	Changes in light levels during construction impacting species (e.g. bats or otters).	Working hours will mainly be in daylight however some additional task lighting may be required. Changes in ad hoc light levels could result in disturbance effects to species. This could temporarily disrupt nocturnal species foraging, commuting or	During the winter months, when day length is shorter, and bat activity is likely to be low, site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species. Should additional lighting be required this will be task specific and will restrict light spill onto retained adjacent habitats.	The magnitude of change in the short-term is predicted to be low. Taking the mitigation measures into account, any changes as a result of the construction are predicted to be of low magnitude. In the medium to long-term any changes are predicted to be of negligible

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		breeding behaviour in the areas where construction activities are taking place. The effect without mitigation is predicted to be low, leading to a temporary adverse effect.	Enhancement of habitats within the Site to promote foraging and commuting for bats and otters will be confirmed in a Conservation Plan. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**.	magnitude and would result in no change to the status of the County importance bat and otter populations. The effect is expected to be Not Significant in EIA terms, providing appropriate mitigation to ensure legal compliance are followed.
Otter: Disturbance to otter and/or commuting or resting habitats. Direct mortality or injury.	The OHL is required to cross the Nant Sychbant watercourse which is suitable for supporting otters (see **Figure 8.7** and **Figure 8.11**). At this location, a temporary dam will be used to install cable through an open cut in the side of the bank. Impacts to all other watercourses will be avoided through micro-siting; this will involve the OHL crossing the majority of watercourses and not directly impacting them. The wooden poles will be spaced out between 90m and 130m allowing room for micro-siting of poles at sensitive locations.	No evidence of otters within Watercourses 1-3 was recorded during the otter surveys undertaken at the Site. Potential and confirmed resting sites were recorded at Watercourse 4, where the temporary dam will be installed, however, the potential and confirmed resting sites were all located over 30m from the temporary dam location. Owing to the mobile nature of otters, there is a low risk that disturbance, direct mortality or injury	A pre-works survey will take place immediately ahead of works at the Nant Sychbant watercourse. If the otter surveys identify a confirmed otter holt or resting site within the relevant ZoI, a licence will be required from NRW before works can proceed. This will detail appropriate measures to remove/reduce impacts to otters. Specific measures to minimise and avoid impacts to otter will be provided in a PMoW. A suitability experienced ecologist will supervise works at this location. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, this includes a 30m	The magnitude of change in the short-term is predicted to be low. Any changes as a result of the construction are predicted to be of low magnitude and are not expected to result in changes to the status of the County importance otter populations on Site. In the medium to long-term, the effect is expected to be Not Significant in EIA terms, providing appropriate mitigation to ensure legal compliance with respect to effects upon otters.

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		could result to otter during construction activities at the Nant Sychbant watercourse, should a holt or resting site be present within the ZoI of the temporary dam. This could affect foraging, commuting and feeding behaviours of otter on Site. Disturbance to otter and/or commuting or resting sites could affect otter populations within the wider area as otters have large ranges. The magnitude of change without mitigation is predicted to be low, leading to a temporary adverse effect that would be short in duration.	exclusion buffer where works are restricted or excluded in sensitive locations (e.g. in proximity to resting sites (potential and / or confirmed). Potential enhancement locations shown on **Figure 8.11**. Consideration will be given to the long term management of habitat adjacent to Nant y Ffyllon, Nant Lluest-wen, Nant y Castell and Nant Sychbant, to create an un-managed vegetative buffer along the banks, at least 5m from the bank.	
Water vole: Habitat loss (temporary);	Temporary habitat loss, mortality or injury and disturbance could result to water vole during vegetation clearance where populations have been recorded in the northern section of the Site.	Water vole populations have been recorded to the north of the Site (CSA Environmental (2024c). Trench digging and placement of wooden	A pre-construction survey of the footprint of the Site and a suitably sized area (250m radius based on the ZoI of disturbance impacts) will be conducted to ascertain any new water vole habitats within the Site and to	The magnitude of change is predicted to be medium in the short-term. In the medium to long-term, the magnitude of change is predicted to be low on an

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
Direct mortality or injury; and Disturbance.		poles could result in temporary habitat loss, mortality or injury and / or disturbance. This could affect the population assemblages on the Site and breeding success in the absence of mitigation. The effect without mitigation is predicted to be high due to the risk of direct mortality or injury taking place, leading to a temporary adverse effect that would be short in duration.	gain an up-to-date picture of locations of water vole populations immediately prior to construction. Confirmed water vole habitat that will be impacted by the Project will be subject to a licence application with NRW. Specific measures to minimise and avoid impacts to water vole will also be provided in a PMoW. To ensure long-term protection measures for water vole, a Conservation Plan will be devised in consultation with the LPA. The 'Principles of a Conservation Plan for Water Vole' are provided in **Appendix 8H** and include the following measures: ▪ Site management and ecological oversite during construction to maintain shelter and foraging resources for water vole; ▪ Minimum exclusion buffers (including use of temporary fencing) from construction activities to protect the watercourses and associated habitat identified for supporting water vole;	ecological feature of National importance. The effect is expected to be Not Significant in EIA terms, providing the appropriate mitigation outlined to ensure legal compliance which will be required through licensing with NRW, are followed.

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
			▪ Management of the potential risks from increased human presence and pollution; ▪ Restrictions on construction activities where water vole may be present to avoid the sensitive breeding season (construction to take place between February to April); ▪ Maintenance or improvement of water quality during and post construction; ▪ Post construction monitoring of water vole populations and habitats; and ▪ A suitability experienced ecologist will supervise works at this location to minimise the risk of direct mortality or injury. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. A 5m exclusion buffer where working restrictions from confirmed water vole habitat will be applied and is shown on **Figure 8.11.**	

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
Reptiles: Habitat loss (temporary); Direct mortality or injury.	Temporary removal of suitable habitat for reptiles within the Site during digging of trenches and positioning of OHLs.	The Project has the potential to result in temporary habitat loss, and direct mortality or injury to reptiles during construction. This could result from vegetation clearance or moving log piles or refugia. The temporary negative effect on population size from direct mortality and disturbance could impact breeding success on Site and removal of vegetation could reduce the suitable habitat available for reptiles. The effect without mitigation is predicted to be medium due to the risk of direct mortality or injury taking place, leading to a temporary adverse effect that would be short in duration.	A pre-works check for reptiles will be carried out prior to habitat removal. This will be carried out by a suitably experienced ecologist. Any reptiles discovered during construction will be moved out of harm into adjacent suitable vegetation by the suitably experienced ecologist. A two-stage cut will also be implemented to minimise the risk of killing and injury of reptiles. This will be defined in a Method Statement. Potential refugia/hibernacula will be dismantled during the active season. No clearance of hibernacula will take place between October – March inclusive. To provide enhancement for this species, a Conservation Plan will be devised in consultation with the LPA. This will incorporate long-term management and monitoring of the habitats present within the Site and will include 'reptile friendly' cutting of associated habitats.	The magnitude of change in the short-term is likely to be low. In the medium to long-term, the effect is expected to be Not Significant in EIA terms, providing appropriate mitigation to ensure legal compliance with respect to effects upon reptiles.
Protected or notable	Habitat loss and disturbance to bird breeding sites could occur during	Limited numbers of target birds have been recorded	No evidence of breeding protected or notable birds (e.g. Schedule 1 WCA	Following the application of mitigation, the magnitude

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
birds (including barn owl, goshawk, honey buzzard, nightjar): Habitat loss (temporary); Disturbance.	construction (e.g. removal of scrub, trees or grassland habitats).	during surveys to date. Results include red kite flight activity within the Site but no evidence of nests. Nightjar were recorded within woodland outside the Site. No evidence of breeding of protected or notable birds has been recorded within the Site. Habitat loss and disturbance to breeding sites is therefore unlikely. However, there remains a low risk that disturbance could result in a negative effect on breeding success during the season when the temporary habitat loss takes place due to the mobile nature of birds and the potential for new nest sites to be constructed. This has the potential to impact population size in the area. The effect without mitigation is predicted to	birds) has been recorded. As a precautionary measure, limitations to the movement of vehicles along the access roads in woodlands to the south will be applied, where there is potential for nests, should a breeding raptor nest be recorded ahead of works. Vegetation clearance within sensitive locations for birds will take place out of the breeding bird season. The OHL will be micro-sited away from sensitive locations. Nightjar have been recorded to the south of the Site, within woodland outside the Project area. It is not anticipated that disturbance during construction will result for this species owing to the distance between the nightjar locations and the construction footprint. Furthermore, nightjar are active at night when construction works will not be taking place.	of change in the short-term is predicted to be low. The effect is therefore assessed as Adverse on an ecological feature of National importance. In the medium to long-term, the effect is expected to be Not Significant in EIA terms.

Impact	Characterisation of unmitigated impact on the feature	Effect without mitigation[86]	Secondary or tertiary mitigation measures	Significance of effects of residual impacts (after mitigation)
		be low (as no breeding on Site) and would be short in duration leading to a temporary adverse effect on birds.		
Operation				
Protected or notable birds (including barn owl, goshawk, honey buzzard, nightjar): Direct mortality due to collision impact	Direct mortality due to collision impact with the OHL.	Direct mortality due to collision impact could reduce the numbers of birds in the area and affect the breeding success of protected or notable birds. This could impact population assemblages for sensitive species. The effect without mitigation is predicted to be medium, leading to a temporary adverse effect on birds.	The following mitigation measures will avoid / minimise collision impacts to birds: ▪ Use of bird flight diverters on the OHL to improve visibility for birds and reduce collision events. ▪ Habitat management under OHL route to discourage sensitive species. ▪ 5m stand-off exclusion buffers from sensitive habitats (e.g. woodlands and trees lines) to reduce collision risk. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.	Following the application of mitigation, the magnitude of change in the short-term is predicted to be low. The effect is therefore assessed as Adverse on an ecological feature of National importance. In the medium to long-term, the effect is expected to be Not Significant in EIA terms.

8.13 ASSESSMENT OF CUMULATIVE EFFECTS

8.13.1. Consideration has been given as to whether any of the IEFs that have been taken forward in this Chapter are likely to be subject to cumulative effects as a result of the Project and by other developments. This includes the consideration of effects that are not significant, as a number of minor effects on an ecological feature from multiple projects may result in a significant cumulative effect.

8.13.2. Cumulative effects would generally be either:

- Cumulative 'ZoI' effects whereby two or more developments affect the same specific receptor (e.g. two developments in the same river catchment); or
- Cumulative effects on the total resource (or population) of an ecological feature in a region due to two or more developments (e.g. two developments affect the same habitat type in a region, reducing its overall area).

8.13.3. Assessment of these is complex and relies on the definition of a reasonable scope for cumulative effects, and the availability of a reasonable baseline for other developments. However, the same principles of assessment apply, i.e. an effect would have to be significant at the 'County' level to be significant in EcIA terms. In addition, the assessment focuses on those occasions where two 'not significant' effects might operate cumulatively to result in a significant effect (rather than where the effects of one development on an ecological feature are already, on their own, considered significant).

8.13.4. The developments within 5km of the Site which are considered as part of the cumulative assessment are detailed within **Table 8.13**. Developments are omitted from the assessment where they are considered small scale and residential such as a garage extension or tree removal within a residential property.

Table 8-13 - Cumulative assessment

Planning Reference	Site Address	Proposal	Decision	Decision Date	Potential cumulative effects
P2022/0517	Foel Trawsnant Bryn Port Talbot	Wind Farm associated with Project - consisting of 11 turbines with a maximum tip height of 145m	Approved	04/04/2023	This development is within the ZoI of the Project; there could be in-combination effects between the consented Foels Trawsnant Windfarm and the grid connection.
P2022/0344	The proposed Foel Trawsnant Wind Farm site is located approximately 2.3km to the northwest of Maesteg, Bridgend.		Approved	15/06/2022	
P/23/621/APN	Field south-west of Vicarage Terrace Maesteg CF34 9PF	Agricultural Storage Building.	Approved	03/11/2023	No, due to the scale of this proposal, in-combination effects are not considered likely to result.
P/23/473/RLX	Upper Ogmore Wind Farm Neath	Seven wind turbines. Four turbines are up to a maximum tip height of 149.9m, and three	unknown	unknown	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P2020/1002			Approved	28/09/2022	

Planning Reference	Site Address	Proposal	Decision	Decision Date	Potential cumulative effects
P2020/0569	Port Talbot SA13 3YE	turbines are up to a maximum tip height of 130m.	No Objections	13/08/2020	
P2022/0694	Caegarw Solar Farm Caegarw Farm A48 From Margam Roundabout To Pyle Road Margam Bridgend Neath Port Talbot CF33 6PT	Installation of Solar Farm, with a capacity of 3.80MW, on a former colliery soil heap between the B284 and A48 northwest of Pyle	Approved	13/10/2022	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P2022/0537			Approved	02/08/2022	
P2024/0820	Land At Pen Y Bryn Croeserw Cymmer Port Talbot	Mixed-use Residential Development, comprising of 600 apartments and 100-bed hotel	Approved	15/01/2025	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P2022/0776			Approved	08/11/2022	
P2018/0493			Approved	18/01/2022	
P2024/0029	Y Bryn Windfarm	Wind Farm consisting of 18 turbines with a	Awaiting Decision	n/a	Yes, this development is within the ZoI of the Project. There could be in-combination effects.

Planning Reference	Site Address	Proposal	Decision	Decision Date	Potential cumulative effects
	Bridgend / Neath Port Talbot	maximum height ranging between up to 206m, up to 203m, and up to 250m to blade tip			
P2021/0057	Land At Bryn And Penhydd Forest Located Between Port Talbot And Maesteg		Comments given (objections)	17/02/2021	
P2023/0444	Y Bryn Wind Farm North-East Of The M4 Motorway Between Port Talbot And Maesteg		Comments given (objections)	17/07/2023	
P/12/877/BCB	Maesteg Welfare Park Heol Ty Gwyn Maesteg Bridgend CF34 0AZ	Community Park	Approved	13/02/2013	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P/16/291/FUL	Former Maesteg Washery &	Community Wood	Approved	25/05/2016	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.

Planning Reference	Site Address	Proposal	Decision	Decision Date	Potential cumulative effects
	Coegnant Colliery Site East Of Maesteg And Nantyffyllon				
P2023/0638	Fforch Dwm Farm Lane From Fforch Dwm Road To Fforch Dwm Farm Pontrhydyfen Port Talbot Neath Port Talbot SA12 9SS	6 wind turbines, with a maximum tip height of 200m, a solar photovoltaic array, battery storage facilities, together with associated and ancillary development include a control building, electricity transformers and anemometry mast, grid connection, access works, temporary construction compound and associated works	Approved	06/01/2025	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P/16/128/FUL	Former Margam Surface Mine Cefn Cribwr CF32 0BS	Restoration of former mine	Retrospective Conf Consent	17/02/2017	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P/22/795/DOC			awaiting Decision	n/a	

Planning Reference	Site Address	Proposal	Decision	Decision Date	Potential cumulative effects
P2023/0498	Mynydd Emroch Penycae Neath Port Talbot	Solar Farm and Energy storage - 79mw	considered to be EIA	10/07/2023	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.
P/19/915/RES	Land west of Maesteg Road Tondu CF32 9DS	Proposed 50 MW ground mounted photovoltaic solar farm with associated equipment, infrastructure, grid connection and ancillary works.	Conditional Consent (reserved matters)	17/09/2020	No, this development is outside the ZoI of the Project. In-combination effects are not considered likely to result.

8.13.5. Potential cumulative effects of the Project have been assessed on:

- The proposed Foel Trawsnant Wind Farm (reference P2022/0517/P2022/0344); and
- The proposed Y Bryn Windfarm Bridgend (planning reference P2024/0029).

8.13.6. In its ES, the Foel Trawsnant Wind Farm does not anticipate any significant effects on any relevant IEFs following the application of mitigation.

8.13.7. In its Scoping Report, Y Bryn Windfarm, has scoped in for assessment the following IEFs:

- Non-statutory designated sites (SINCs);
- Habitats;
- GCN;
- Bats;
- Dormice;
- Birds;
- Otter;
- Water vole;
- Pine marten *Martes martes;*
- Polecat *Mustela putorius*;
- Badger; and
- Fish.

8.13.8. The Y Bryn Windfarm ES has concluded that there will be no significant residual effects for ecological or ornithological receptors.

8.13.9. Due to the proximity of these developments to the Project, cumulative effects on IEFs cannot be ruled out, however, are considered unlikely to be significant with the implementation of a CEMP for both developments and the likely staggered timescales for works being carried out.

8.13.10. The Project includes embedded measures that will moderate these effect pathways. Additional mitigation has been proposed to reduce the significance of any effects likely to result from the anticipated impacts of the Project. The potential for cumulative effects will be assessed in the final ES once the Project specific assessment has been finalised.

8.14 CONCLUSIONS OF SIGNIFICANCE EVALUATION

8.14.1. No significant, long-term adverse effects are expected to result from the Project, following the application of embedded measures and secondary mitigation.

SUMMARY OF LIKELY RESIDUAL SIGNIFICANT EFFECTS

8.14.2. With the implementation of the ecological mitigation measures described in this Chapter, it is concluded likely that residual effects will be Not Significant in the long-term for those IEFs which have been assessed. Survey data collected up to June 2025 has been used to inform the assessment, conclusions and recommendations in this Chapter. It is acknowledged that a full season of surveys has not been conducted for some IEFs (birds, bats and otters) however, sufficient data has been collected to inform the impact assessment in this Chapter. It is not expected that further survey data will change the assessment and conclusions. Data will be collected post-submission for surveys so that a full suite of data can be presented within a supplementary report. Precautionary mitigation recommendations are therefore provided for these species' groups.

8.14.3. The combination of embedded mitigation and additional measures will minimise effects upon IEFs. Short term effects upon SINCs, Priority Habitats and ancient woodland and those species occupying these habitats including bats, birds, otter, water vole and reptiles cannot be avoided, as temporary habitat loss is necessary within the construction footprint. In the longer term, habitat enhancement will improve the condition and provision of Priority Habitat and ancient woodland. The benefits will be realised during the operational phase and offset the short-term adverse effects.

8.15 CONSERVATION PLAN

8.15.1. Mitigation and enhancement will be identified in a Conservation Plan. This will include future monitoring of habitat and species and is to be agreed with the LPA. It will also be required as part of the Project's commitment to achieving a NBB. The requirement for further monitoring has been identified for the following IEFs:

- Ancient woodland;
- Priority Habitats;
- Bats;
- Birds; and
- Water voles.

NET BENEFIT FOR BIODIVERSITY

8.15.2. To achieve a NBB, removed trees will be replaced at a 3:1 ratio. Enhancement of existing habitats will be undertaken to increase their conservation value. Wildflower seeding will take place in habitats with low species-diversity. Long-term habitat monitoring of reinstated habitats will ensure that the Project achieves a NBB in the long-term and when the Project is in its operational phase. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential habitat creation and enhancement locations shown on **Figure 8.11**.

8.16 REFERENCES

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9 HISTORIC ENVIRONMENT

9.1 INTRODUCTION

9.1.1. This Chapter presents an assessment of the likely significant effects of the Project on the Historic Environment (Cultural Heritage). The Historic Environment is defined in Conservation Principles (see **Table 9-3**) as the following:

- *"All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed".*

9.1.2. This is represented by features, or assets, including buildings, archaeological remains and artefact scatters. Some historic assets have been designated as Scheduled Monuments, Listed Buildings or Conservation Areas, Registered Park and Gardens, and Registered Historic Landscapes. These and non-designated assets are managed in the planning process in accordance with national and local planning policies and guidance.

9.1.3. This assessment is based on information obtained to date. It should be read in conjunction with the project description provided in **Chapter 4: Description of the Project**.

9.1.4. This Chapter describes the following:

- The limitations of this assessment (**Section 9.2**);
- Relevant legislation, policies and historic environment guidance that has informed the assessment (**Section 9.3**);
- The consultation and engagement that has been undertaken (**Section 9.4**);
- The methodology used for gathering the baseline information (**Section 9.5**);
- Baseline conditions (**Section 9.6**);
- The scope of this assessment (**Section 9.7**);
- The embedded measures relevant to the historic environment (**Section 9.8**)
- The methodology used for the assessment (**Section 9.9**);
- The assessment of the historic environment effects (**Section 9.10**);
- The assessment of the cumulative effects (**Section 9.11**);
- Consideration of mitigation measures and the residual effects (**Section 9.12**); and,
- A summary of the conclusions and significance evaluation (**Section 9.13**).

9.1.5. In addition, this Chapter is supported by the following appendices:

- **Appendix 9A**: Extract of Foel Trawsnant Section, Bridgend & Neath Port Talbot, Archaeological Desk-based Assessment (Heneb, 2024)
- **Appendix 9B**: Stage 1 Settings Assessment (Scoping) for Historic Assets

9.2 LIMITATIONS OF THIS ASSESSMENT

9.2.1. This Environmental Chapter has been informed by an Archaeological Desk-based Assessment (ADBA) prepared by Heneb: the Welsh Trust for Archaeology (2024; **Appendix 9A**), which provides

a historic environment baseline for the Project and was supported by a site visit carried out by Heneb.[87] An extract of the relevant baseline from the ADBA is provided in **Appendix 9A**.

9.2.2. A site visit was conducted by WSP on 19 and 20 February 2025 to undertake additional baseline survey, including Stage 2 and 3 Settings Assessment of designated assets within a 3km Study Area in accordance with Cadw (2017) guidance (see **Section 9.5**). Weather conditions were wet and foggy, with very limited visibility towards the Project route. A number of designated assets were located on private property and were unable to be directly accessed; in this case assessment of setting was undertaken from the closest possible public access (e.g. roadsides and/or Public Right of Way (PRoWs)).

9.3 POLICY, LEGISLATION AND GUIDANCE

9.3.1. This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to the historic environment.

LEGISLATION

9.3.2. **Table 9-1** lists the relevant legislation for assessing effects in the historic environment.

Table 9-1 – Legislation relevant to the Historic Environment assessment

Policy	Policy context
The Historic Environment (Wales) Act 2023[88]	The Historic Environment (Wales) Act 2023, enacted on the 4 November 2024, replaces The Ancient Monuments and Archaeological Areas Act 1979; The Historic Environment (Wales) Act 2016 and The Planning (Listed Building and Conservation Areas) Act 1990. The Act is a Consolidation Act and should not alter legislation. The most important change is that Section 66 (1) of the Listed Building and Conservation Act 1990 will become Section 314A of the Town and Country Planning Act 1990. The 2023 Act and its substantive supporting regulations all expressly state that they are 'part of a code of law relating to the historic environment of Wales'. Owners of scheduled monuments and listed buildings, legal advisors, heritage consultants, conservation officers and anyone else interested in Wales's rich archaeological and built heritage can turn to the 2023 Act and its supporting regulations for historic

[87] Heneb: Trust for Welsh Archaeology, (2024), *Foel Trawsnant Section, Bridgend & Neath Port Talbot: Archaeological Desk-based Assessment*, unpublished ABDA report
[88] Welsh Government, (2023), *Historic Environment (Wales) Act 2023*. Available online at: https://www.legislation.gov.uk/asc/2023/3/contents

	environment law that is logically structured, consistent and expressed, as far as possible, in plain, everyday language. While the new legislation makes it much easier for everyone to find, understand and apply the law, it makes no changes to the operation of the current management and protection regimes for the Welsh historic environment The 2023 Act and its supporting regulations — the historic environment code —establish a secure foundation for the future development of accessible and effective law for Wales's unique and precious historic environment.

PLANNING POLICY

9.3.3. **Table 9-2** lists the relevant national and local planning policies relevant to assessing effects in the historic environment.

Table 9-2 – Planning policies relevant to the Historic Environment assessment

Policy	Policy context
Planning Policy Wales (Edition 12, February 2024)[89]	National planning policy for Wales is set out in Planning Policy Wales (Edition 12, 2024). Chapter 6, '*Distinctive and Natural Places*', explains how the planning system must take into explains how planning system must consider the Welsh Government's objectives to protect, conserve, promote and enhance historic environment as a resource for the general well-being of present and future generations. It also sets out the planning policies for the sustainable management of specific categories of historic assets. PPW sets out the role of local authorities in the protection of the historic environment, working with other agencies such as Cadw and the Welsh Archaeological Trusts. PPW states that development plans should reflect national policies for the protection of the historic environment. It also notes the various historic environment designations which exist for the protection of monuments, historic buildings, and areas, as well as historic landscapes. PPW also sets out the treatment of the historic environment in the development management process. It states that the desirability of preserving an ancient monument and its setting is a material consideration in determining a planning application, and that there should be a presumption in favour of the physical preservation of monuments of national importance. For archaeological remains of lesser importance, it will be necessary to weigh the importance of the archaeology against other factors, such as the need for the development. Where a local authority decides that physical preservation of archaeology is not justified then it will be

[89] Welsh Government, (2024). *Planning Policy Wales (Edition 12; February 2024)*. Available online at: https://www.gov.wales/planning-policy-wales [Accessed 16/01/2025]

	appropriate for provision to be made for the recording of archaeology in advance of its loss, and this can be secured through a planning condition. PPW notes the statutory requirement to have regard to the desirability of preserving listed buildings and their settings. The protection of World Heritage Sites and their settings should also be a material consideration in the determination of planning applications. Similarly, parks, garden and landscapes included in the 'Register of Parks and Gardens of Special Historic Interest in Wales's should be considered.
Future Wales: The National Plan 2024 (2021)[90]	The National Development Framework Future Wales – the National Plan 2040, sets out the Welsh Government's land use priorities and provides a national land use framework. The development plan for Wales influences all levels of the planning system in Wales and helps to shape Strategic and Local Development Plans prepared by councils and national park authorities.
Bridgend County Borough Local Development Plan 2018 to 2033[91]	The current Local Development Plan was adopted on 13th March 2024 by Bridgend County Borough Council. The Local Development Plan identifies where new developments such as infrastructure, housing, employment, community facilities and roads, will go. The historic environment is considered in policy SP18: '*Conservation of the Historic Environment*' of the Local Development Plan, which states that 'development proposals must protect, conserve, and, where appropriate, preserve and enhance the significance of historic assets, including their settings.'
Neath Port Talbot County Borough Council Local Development Plan (2011-2026)[92]	The current Local Development Plan was adopted on 27th January 2016 by the Neath Port Talbot County Borough Council. The Local Development Plan identifies where new development as where new developments such as infrastructure, housing, employment, community facilities and roads, will go. The historic environment is considered in policy SP 21: '*Built Environment and Historic Heritage*'. This policy states the following: 'The built environment and historic heritage will, where appropriate, be conserved and enhanced through the following measures: 1. Encouraging high quality design standards in all development proposals;

[90] Welsh Government, (2021). *Future Wales: The National Plan 2040*. Available online at: https://www.gov.wales/future-wales-national-plan-2040 [Accessed 16/01/2025]
[91] Bridgend County Borough Council, (2024). *Bridgend Local Development Plan 2018 to 2033*. Available online at: https://www.bridgend.gov.uk/residents/planning-and-building-control/replacement-local-development-plan/replacement-bridgend-local-development-plan-2018-to-2033/ [Accessed 16/01/2025]
[92]

	2. Protecting arterial gateways from intrusive and inappropriate development; 3. Safeguarding features of historic and cultural importance; 4. The identification of the following designated sites to enable their protection and where appropriate enhancement: (a) Landscapes of Historic Interest; (b) Historic Parks and Gardens; (c) Conservation Areas; (d) Scheduled Ancient Monuments; and (e) Listed Buildings and their curtilage.

HISTORIC ENVIRONMENT GUIDANCE

9.3.4. **Table 9-3** lists the relevant the historic environment guidance used for assessing effects from the Project.

Table 9-3 – Historic Environment guidance relevant to the assessment

Technical guidance document	Context
Technical Advice Note 24 (TAN24): The Historic Environment (2017)[93]	TAN 24 was adopted in May 2017 to provide guidance on how the planning system should consider the historic environment during development plan preparation and decision making on planning applications.
Heritage Impact Assessment in Wales (2017a)[94]	Sets out the general principles to consider when planning changes to historic assets and applying for listed building, conservation area and scheduled monument consent.
Setting of Historic Assets in Wales (2017b)[95]	Sets out the principles used to assess the potential impact of development or land management proposals within the settings of World Heritage Sites, ancient monuments (scheduled and unscheduled), listed buildings, registered historic parks and gardens, and conservation areas.

[93] Welsh Government, (2017). *Technical Advice Note 24: The Historic Environment*. Available online at: https://www.gov.wales/sites/default/files/publications/2018-09/tan24-historic-environment.pdf [Accessed 16/01/2025]
[94] Cadw, (2017a). *Heritage Impact Assessment in Wales*. Available online at: https://cadw.gov.wales/advice-support/placemaking/heritage-impact-assessment/heritage-impact-assessment [Accessed 16/01/2025]
[95] Cadw, (2017b). *Settings of Historic Assets in Wales*. Available online at: https://cadw.gov.wales/advice-support/placemaking/heritage-impact-assessment/setting-historic-assets [Accessed 16/01/2025]

Managing Historic Character in Wales (2017c)[96]	Explains why it is important to recognise historic character and use it as an evidence base for conservation, regeneration, and planning work. It shows how policies and programmes to manage change can take inspiration from the past to help create and sustain distinctive places for the future.
Conservation Principles for the sustainable management of the historic environment in Wales (2011)[97]	Sets out principles used when looking to sustainably conserve, manage and enhance the historic environment in Wales, ensuring that all impacts or changes are balanced and measured in their approach and transparent and consistent in their delivery.
CIfA Code of Conduct: professional ethics in archaeology (2022)[98]	Sets out the guiding principles for professional conduct when working with the management of the historic environment and ensuring that all professionals are responsible for the proper disseminated and handling of knowledge, and for the conservation of the historic environment.
CIfA Code of Conduct: professional conduct (2024)[99]	The professional code of conduct, by which all historic environment professional involved in development should abide.
CIfA Standard and Guidance for historic environment desk-based assessment (2020a)[100]	Sets out standards to produce historic environment desk-based assessments.
CIfA Standard and Guidance for commissioning work or providing consultancy advice on archaeology	Provides the professional guidelines for providing consultancy services in regard to the historic environment.

[96] Cadw, (2017c). Managing Historic Character in Wales. Available online at: https://cadw.gov.wales/advice-support/placemaking/historic-character/managing-historic-character [Accessed 16/01/2025]
[97] Welsh Assembly Government (2011). *Conservation Principles for the sustainable management of the historic environment in Wales*. Available online at: https://cadw.gov.wales/advice-support/historic-assets/conservation-principles [Accessed 16/01/2025]
[98] Chartered Institute for Archaeologists (CIfA), (2022). *Code of Conduct: professional ethics in archaeology*. Available online at: https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf [Accessed 16/01/2025]
[99] Chartered Institute for Archaeologists (CIfA), (2024). *Regulations for professional conduct.* Available online at: https://www.archaeologists.net/sites/default/files/Regulations%20for%20professional%20conduct_0.pdf [Accessed 16/01/2025]
[100] Chartered Institute for Archaeologists (CIfA), (2020a). *Standard and guidance for historic environment desk-based assessments.* Available online at: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf [Accessed 16/01/2025]

and the historic environment (2020b)[101]	

9.4 CONSULTATION

9.4.1. The ADBA (Heneb, 2024) states that the 300m Study Area used to establish the baseline was agreed with the LPA Archaeological Advisors to the relevant councils. Additionally, the document also states that the ADBA was undertaken in line with an agreed Written Scheme of Investigation (WSI) (Heneb, 2024).

9.4.2. An EIA Scoping Opinion (**Appendix 2B**) was received from PEDW, which includes responses from Cadw (Ref: DNS CAS-02505-N3T6M4, dated 17 January 2025), Bridgend County Borough Council (BCBC) (P/24/608/DNS, dated 20 February 2025) and Neath Port Talbot County Borough Council (NPTCBC) (Ref: N3T6M4, dated 19 February 2025), detailed in **Table 9-4**.

Table 9-4 - Scoping Opinion Responses for Historic Environment

Comment reference	Stakeholder Comment	WSP Response
Cadw (Ref: DNS CAS-02505-N3T6M4, dated 17 January 2025)		
Section 5.2.1	The Study Area used for the scoping report is only 300m. Whilst this may be appropriate for non-designated historic assets, a study area of 3km should be used to determine the possible impact on the settings of designated historic assets.	A 3km extended Study Area has been applied to identify designated historic assets, where heritage significance may be impacted through changes to their setting.
Section 5.3.4	The Historic Environment (Wales) Act 2023 was enacted on the 4 November 2024. This replaces The Ancient Monuments and Archaeological Areas Act 1979; The Historic	Policy, Legislation and Guidance updated in this ES Chapter (see **Section 9.3**).

[101] Chartered Institute for Archaeologists (CIfA), (2024b). *Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment.* Available online at: https://www.archaeologists.net/sites/default/files/CIfAS%26GCommissioning_2.pdf [Accessed 16/01/2025]

Comment reference	Stakeholder Comment	WSP Response
	Environment (Wales) Act 2016 and The Planning (Listed Building and Conservation Areas) Act 1990. The enactment of the Act will also lead to revisions to Technical Advice Note 24: The Historic Environment 2017 and other guidance notes. The Act is a Consolidation Act and should not alter legislation. The most important change is that section 66 (1) of the Listed Building and Conservation Act 1990 will become section 314A of the Town and Country Planning Act 1990.	
Section 5.5.8	As noted above the study area to determine the possible impact on the settings of designated historic assets should be 3km. These possible impacts should carried out in accordance with the Welsh Government guidance given in the document "The Setting of Historic Assets in Wales" (Cadw, 2017). We would expect a stage 1 assessment to be carried out for all of the designated historic assets inside 3km, which will determine the need, if necessary, for stages 2 to 4 to be carried out for specific historic assets. It is recommended that the results of the stage 1 assessment should be included in the EIA, possibly as an appendix.	Stage 1 Assessment undertaken for all designated historic assets within 3km (see **Section 9.5**) for this assessment and included as an Appendix (Appendix 9B). Additional baseline survey and Stage 2 and 3 Assessment was undertaken by WSP in support of this ES in line with Cadw guidance (2017) (see **Section 9.5**).
Section 5.5.9	As noted in this section, the proposed connection crosses part of the registered Margam Mountain landscape of special	Cadw's agreement of this issue is acknowledged. No ASIDOHL has been undertaken, but an

Comment reference	Stakeholder Comment	WSP Response
	historic interest: However, we concur with the scoping report that the scale of the proposals are such that an ASIDOHL assessment would not be an appropriate methodology to assess the impact of the connection on the registered historic landscape, although the localised impacts will still need to be considered in the EIA.	assessment of effects are considered in within this ES (see **Section 9.10** to **9.12**)
BCBC (P/24/608/DNS, dated 20 February 2025)		
Historic Environment	The site is partially located within an Historic Landscape of Margam Mountain as defined by Policy SP18(7) Conservation of the Historic Environment of the RLDP. Policy SP18 states that development proposals must protect, conserve, and, where appropriate, preserve and enhance the significance of historic assets, including their settings. Development proposals will only be permitted if it preserves or enhances the character the character of the area. The LPA is generally satisfied that the scheme as highlighted in section 5.3 of the report will not be detrimental to the Historic Landscape in line with the proposed methodology.	Acknowledgement of BCBC's agreement that the scheme will not be detrimental to the Historic Landscape.
NPTCBC (Ref: N3T6M4, dated 19 February 2025)		
Chapter 5 Historic Environment	The information contained within the Historic Environment	Cadw's Scoping response acknowledges agreement that

Comment reference	Stakeholder Comment	WSP Response
	Record notes that the proposal is located in an area of archaeological potential. It is partially within the Margam Mountain Registered Historic Landscape (HLW (WGI/MGI) 2), specifically the Mynydd Margam Forest Character Area (HLCA010). Whilst we note section 5.5.9, an ASIDOHL2 may be required and Cadw should be consulted over this as they would curate such an element.	an ASIDHOL will not be required, as set out in Scoping (see ref 5.5.9 in **Table 9-4**).
Chapter 5 Historic Environment	It is proposed to include an historic environment assessment in the ES. Such an approach is appropriate, and we recommend it be composed of a full desk-based assessment carried out to the relevant Chartered Institute for Archaeologists Standards and Guidance and to a scope and methodology detailed in a Written Scheme of Investigation (WSI) agreed with ourselves. This is in accordance with both Planning Policy Wales,12th Edition February 2024, Paragraph 6.1.26 and Technical Advice Note 24 Paragraphs 4.7-4.8.	As set out in **Section 9.5**, an ADBA has been prepared by Heneb, which was undertaken in line with an agreed WSI. The ADBA has been supplemented with further desk and site-based to support the assessment within the ES, in line with relevant policy and guidance set out in **Section 9.3**.
Chapter 5 Historic Environment	It should also be noted that the desk-based assessment is the first stage of the archaeological work, and depending on the results it is possible that further mitigation may be required, either pre or post-determination as appropriate.	The data gathering methodology used to establish the historic environment baseline which supports the assessment is set out in **Section 9.5**. **Section 9.8** sets out the embedded environmental measures which have influenced this historic environment assessment, and **Section 9.12** sets out further

Comment reference	Stakeholder Comment	WSP Response
		mitigation which may be required. Mitigation for the project takes a staged approach starting with avoidance by design, followed by mitigation by record, where appropriate.

9.5 DATA GATHERING METHODOLOGY

9.5.1. As set out in **Chapter 4: Description of the Project**, the site comprises a 12.5m buffer applied either side to the centre line of the Project. All construction and operational activities would be undertaken within the site boundary.

STUDY AREA

9.5.2. For the purposes of this assessment, following advice contained in the Cadw Scoping Opinion (Ref: DNS CAS-02505-N3T6M4 dated 17 January 2025; **Table 9-4**) a 3km Extended Study Area was applied to assess impacts to designated historic assets, such as Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Historic Landscapes and Conservation Areas.

9.5.3. A 300m Study Area was applied in the ADBA (Heneb, 2024; **Appendix 9A**) for establishing a historic environment baseline to support an assessment of potential and significance of historic assets which may be impacted by the Project.

ARCHAEOLOGICAL DESK-BASED ASSESSMENT (ADBA)

9.5.4. **Appendix 9A** (Heneb, 2024) provides an archaeological desk-based study and includes a review of available information to determine the baseline conditions along the route of the Project and within a 300m radius. The ADBA assessment consists of an analysis of existing written, graphic, photographic and electronic information, and a site walkover to identify the likely historic assets and determine their significance. The data sources reviewed are contained within **Table 9-5**.

Table 9-5 – Summary of the data sources consulted for the ADBA (Heneb, 2024)

Source	Data	Comment
Cadw	Inventory of Historic Assets with information on statutorily designated historic assets.	Statutory designations (scheduled monuments; statutorily listed buildings; registered parks and gardens; historic battlefields) can provide a significant constraint to development.
Heneb – The Trust for Welsh Archaeology	Heneb Historic Environment Record (HER)	Primary repository of archaeological information. Includes information from past

		investigations, local knowledge, find spots, and documentary and cartographic sources.
British Geological Survey	Superficial and bedrock geology digital mapping; online BGS geological borehole record data.	Subsurface deposition, including buried geology and topography, can provide an indication of potential for early human settlement, and potential depth of archaeological remains.
Royal Commission on Ancient and Historical Monument of Wales (RCAHMW).	Inventory of non-designated historic assets; National Monuments Record of Wales (NMRW)	Welsh Government funded organisation which manages the National Monument Record of Wales, a repository of information on archaeological and built heritage remains in Wales.
Central Register of Air Photography for Wales (CRAPW)	Vertical and specialist (oblique) aerial photographs	Cropmarks formed by moisture variations due to subsurface features can indicate the presence of archaeological remains. Aerial photographs can also sometimes provide information on ground disturbance.
Glamorgan Archives	Historic maps and documentation	Provides an indication of past land use and impacts which may have compromised archaeological survival.
National Resources Wales (NRW)	LiDAR information.	Topographic information obtained from LiDAR scanning can be utilised to identify areas of historical human impact upon the landscape, as well as giving an overarching view of the Site environs and land formation processes.
The internet	General online search.	General online research conducted on historic assets of Wales.
The client	Proposed cable route plans for underground and overground sections.	Assists in the assessment of the extent of the proposed impact upon known or possible archaeological remains.

ADDITIONAL BASELINE SURVEY

9.5.5. Additional baseline in the form of Stage 2 and 3 Settings Assessment was undertaken by WSP on 19 and 20 February 2025. In line with Cadw (2017) guidance, this compromised both a visual inspection of designated assets scoped-in during Stage 1 (see **Appendix 9B**), as well as analysis of significance and an evaluation of the impact of the Project on the overall setting of the designated assets scoped in within the 3km Extended Study Area. The site visit confirmed the outcome of the Stage 1 Settings Assessment, verifying the locations of designated assets and assessing their rationale for inclusion or exclusion in the following ES.

9.6 OVERALL BASELINE

9.6.1. The historic environment baseline conditions of the site are described in the ADBA (Heneb, 2024; **Appendix 9A**), supported by additional survey undertaken by WSP for this ES. This is summarised below.

NON-DESIGNATED HISTORIC ASSETS

9.6.2. The land within the 300m Study Area is historically a rural area, with evidence of occupation stretching back to the prehistoric period. Archaeological evidence in the area includes prehistoric occupation and associated mortuary monuments, Roman encampment (discussed under designated historic assets), medieval settlements and fortifications, and substantial post-medieval agricultural and industrial activity (Heneb, 2024).

9.6.3. According to Heneb (2024) archaeological potential across the 300m Study Area is variable, with the potential for the presence of palaeoenvironmental remains, prehistoric remains, and Roman remains considered low to very low across the Study Area. Any palaeoenvironmental remains would likely be associated with peat deposits, of which there are isolated pockets across the Site (see **Annex C of Appendix 4A**: **Peat and Soil Survey Report**). In the wider region, there is evidence for the presence of prehistoric Bronze Age and Iron Age settlement and funerary sites, and bar the potential (possibly damaged) prehistoric trackway (07077.0w) that crosses the Site, the overall potential within the Site remains low. Roman activity in the wider area is evidenced by the presence of a Roman Camp (Scheduled Monument GM058), but the likelihood of further remains within the Site boundary is deemed very low.

9.6.4. Moving into the medieval and post-medieval period, the potential for unrecorded archaeological remains increases to low-medium for earlier medieval remains and high for post-medieval remains. Medieval activity within the 300m Study Area is evidenced by trackways, a structure platform, earthworks, a carved stone, a well, and field boundaries. Cross Ridge Dyke (01862.0m) is of unknown date but likely medieval in origin. The potential for further medieval remains of this nature within the Site itself is considered to be low to medium.

9.6.5. The area in and around Maesteg is predominately characterised by its agricultural and industrialised nature, linked to rural farming and the exploitation of the Nantyfflyon coal levels to the north, and associated mines, tramways, quarries, air shafts and railways. It was deemed to have a high potential for further unrecorded archaeological remains of the post-medieval period to be located within the Site.

9.6.6. A total of 101 non-designated historic assets have been identified within the 300m Study Area, which predominantly consist of post-medieval findspots or monuments associated with the 19th century iron or coal industries, quarrying or agricultural activities. Amongst the non-designated assets are also archaeological sites associated with prehistoric to medieval occupation, including a Bronze Cairn, and Iron Age enclosures.

9.6.7. There are eight non-designated historic assets located within or partially within the Site. These are summarised in the **Table 9-6** and shown in **Appendix 9A**.

Table 9-6 – Non-designated historic assets located within the Site

Ref	Name	Period	Value (significance)
01076.0w	Medieval Road, Magram to Llangynwyd	Medieval	**Medium**
01077.0w	Heol Y Moch (the Pigs' Way)	Prehistoric, medieval	**Low**
01862.0m	Cross Ridge Dyke	Unknown	**Medium**
08896m /18595	Dyffryn Madog Farmstead	Post-medieval	**Low**
04539w	Moel Ton Mawr Tramway	Post-medieval	**Low**
FT001	Tramway	Post-medieval	**Medium**
FT002	Tai-r-waun Rifle Range	Post-medieval	**Low**
FT003	Tai-r-waun Rifle Range Targets	Post-medieval	**Low**
HLCA009 HLCA010 HLCA005 HLCA013	Historic Landscape Character Areas	Prehistoric to post-medieval	**Low**

DESIGNATED HISTORIC ASSETS

9.6.8. There are a total of 60 designated historic assets within the 3km Extended Study Area, comprising:

- 17 Scheduled Monuments;
- 39 Listed Buildings;
- 1 Registered Park and Garden;
- 1 Registered Historic Landscape; and
- 2 Conservation Areas.

9.6.9. There is one designated historic asset within the Site. This is the Magram Mountain Historic Landscape (Ref: HLW (WGI/MGI) 2), with approximately 3.1km of the Project passing through the eastern edge of the historic landscape (**Figure 9-1**).

9.6.10. A Stage 1 Assessment has been carried out for all the designated historic assets within the 3km Extended Study Area, in accordance with The Setting of Historic Assets in Wales (Cadw, 2017) (**Appendix 9B**). The selection of historic assets to be included in the ES has been completed with reference to the Zones of Theoretical Visibility (ZTV) that has been calculated to show the area of maximum theoretical visibility of the proposed overhead powerlines and H-pole pylons (**Figure 6.1**; see also **Chapter 6**).

9.6.11. From the results of the Stage 1 Settings Assessment (**Appendix 9B**), 9 scheduled monuments, 9 listed buildings, and one Historic Landscape have been scoped-in for further assessment within this

ES. All these assets are listed in **Table 9-7**, in addition to those within the 300m study area, below with a rationale for their inclusion. All designated assets, mapped against the ZTV are presented in **Figure 9-2**.

9.6.12. All listed buildings within the 300m Study Area were visited for a Stage 2 assessment given their proximity to the Project, to adequately assess the level of change to wider setting and ensure appropriate mitigation, if required.

Table 9-7 – Designated historic assets scoped into the assessment of effects through change to setting

Reference	Name	Rationale	Value (Significance)
Registered Historic Landscape & Character Areas			
HLW (WGI/MGI) 2	Margam Mountain Historic Landscape	Within the Site.	High
Scheduled Monuments			
GM059	Y Bwlwarcau Hillfort	Within ZTV and within 300m of the Site. Potential effect due to proximity and views towards the Site.	High
GM418	Maesteg Blast Furnaces	Within 300m of the Site.	High
GM058	Roman Camp	Within ZTV, 800m west of the Site. Potential effect due to proximity and views towards the Site.	High
GM085	Llangynwyd Castle	Within ZTV, 400m east of the Site. Potential effect due to proximity and views towards the Site.	High
GM086	British Fortified Residence	Within ZTV, 1.9km south-east of the Site. Potential effect due to proximity and views towards the Site.	High
GM092	Mynyyd Ty Talwyn Ancient Farms	Within ZTV, 2km south-east of the Site. Potential effect due to proximity and views towards the Site.	High
GM443	Site of Bodvoc Stone	Within ZTV, 1.5km west of the Site. Potential effect due to proximity and views towards the Site.	High
GM557	Twmpath Diwlith Round	Within ZTV, 1.35km west of the Site. Potential effect due to proximity and views towards the Site.	High

Reference	Name	Rationale	Value (Significance)
GM552	Garth Hill Platform House	Within ZTV, 2.5km of the Site. Potential effect due to proximity and views towards the Site.	High
Listed buildings			
11257	Maesteg Sports Centre, The Cornstores (Grade II*)	Within 300m of the Site.	High
11356	Siloh Independent Chapel (Grade II)		High
18492	Blast Furnace at Maesteg Sports Centre (Grade II)		High
18495	Salem Welsh Baptist Chapel (Grade II*)		High
18496	Capel Saron (Grade II)		High
18507	Nantyffyllon Workmen's Institute (Grade II)		High
11256	Llwydarth Farmhouse (Grade II*)	With ZTV, 1.3km west of the Site. Potential effect due to proximity and views towards the Site.	High
11375	Glifach-ganol farmhouse (Grade II)	Within ZTV, 730m west of the Site. Potential effect due to proximity and views towards the Site.	High
20432	Bee boles and stile in garden wall at Gilfach-uchaf farm (Grade II)		High

MARGAM MOUNTAIN REGISTERED HISTORIC LANDSCAPE (HLW (WGI/MGI) 2)

9.6.13. The Magram Mountains Historic Landscape is a distinctive upland, partially afforested, area located on the southwest fringe of the Blaenau Morganwg in South Wales. It overlooks the narrow coastal plain occupied by Port Talbot and rises steeply from the coast to a maximum to 300m above sea

level, before gradually levelling into plateaus and gentle slopes which are broken up by interspersing valleys.[102]

9.6.14. The historic landscape and its setting characterised by its strategic position near to the southern coast and within the corridor between England and west Wales. It has been a focus of human activity since at least the Bronze Age, characterised by its numerous cairns and barrows, which were joined in the Iron Age by settlements around hillforts with enclosure systems and trackways. The Romans took advantage of its strategic position, developing fortifications and trackways which remained in used during the medieval and post-medieval periods.

Y BWLWARCAU HILLFORT (GM059)

9.6.15. Y Bwlwarcau is a scheduled monument consisting of a large Iron Age hillfort, situated on the eastern slope of the Magram Mountain. At present, it consists of complex multi-period earthworks, including a roughly 64m across pentagonal inner enclosure surrounded by a steep-sided ditch and radiating concentric banks and ditches likely for pastoral activities. The presence of a raised medieval-type house platform and trackways may suggest it was used continuously into the medieval period.[103]

9.6.16. Its setting is defined by its positioning on the eastern slopes of the Magram Mountains and its strategic views across the surrounding landscape, as well as its close connection to other surrounding assets including the medieval Llangywnyd Castle to the east and the non-designated Heol Y Moch trackway (01077.0w) and Roman Camp (GM058) to its west.

MAESTEG BLAST FURNACES (GM418) & BLAST FURNACE AT MAESTEG SPORTS CENTRE (GRADE II LISTED; 18492)

9.6.17. The Maesteg Blast Furnaces is a Scheduled Monument and grade II listed building comprising the remains of four 19th century blast furnaces, only the most southerly of which survives. They were originally built by the Cambrian Iron and Spelter company in 1837 and expanded in the 1840s and 1850s, before ceasing production in 1886.[104]

9.6.18. Its setting is defined by its position within the valley basin, adjacent to the formerly industrial centre of Maesteg to its south-east and its surrounding related historic assets which including the surviving blast furnaces and Grade II* listed Maesteg Sports Centre, The Cornstores (11257) positioned immediately to the south which originally housed engines to support the furnaces.

[102]Heneb, (2025), 'Magram Mountain Forest'. Available online at: https://www.ggat.org.uk/cadw/historic_landscape/margam/english/mynydd_margam_010.html [Accessed 27/02/2025][103] Cadw, (2025), 'Y Bwlwarcau', Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=4353 [Accessed 27/02/2025]
[103] Cadw, (2025), 'Y Bwlwarcau', Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=4353 [Accessed 27/02/2025]
[104] Cadw, (2025), 'Blast Furnances at Maesteg Sports Centre'. Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=en&id=18492 [Accessed 27/02/2025]

ROMAN CAMP (GM058)

9.6.19. The Roman Camp is a Scheduled Monument situated on a broad mountain spur at an elevation of 300 metres. It is comprised of the remains of a prehistoric to Roman 25 x 44m quadrangular enclosure, surrounded by a cross-ridge dyke flanked by two banks of roughly 4 to 6 metres wide and 1.5m high. A north-south hollow trail through the enclosure and through the southern entrance way.[105]

9.6.20. The Scheduled Monument's setting is defined by its strategically elevated position within the Magram Mountains, with wide ranging views across the landscape to the south and west and its position adjacent to the non-designated Heol Y Moch trackway (01077.0w; see **Table 9-6** and **Appendix 9A**) to which it is likely related.

LLANGYNWYD CASTLE (GM085)

9.6.21. Llangynwyd Castle is a Scheduled Monument and is comprised of the remains of a stone castle consisting of a Gatehouse, Curtain Wall and inner buildings which was possibly first built in the 13th century on earlier earthworks. It is situated approximately 500m west of the medieval Llangynwyd village to which it was related is strategically positioned at the confluence of two streams.[106]

9.6.22. Its setting is defined by its position within the rural landscape, near the basin of the surrounding valley and its close relationship with the historic assets located in Llangynwyd, over which it likely held influence. Views towards and outwards from the asset are largely obscured by dense woodland within its immediate proximity.

BRITISH FORTIFIED RESIDENCE (GM086)

9.6.23. The British Fortified Residence is a Scheduled Monument comprised of the earthwork remains of deserted medieval settlement, likely dated to the later medieval period, set within a large hollow dug into the hillside. It is situated at an elevated position of 215 metres above sea level and maintains views across the landscape eastwards.[107]

9.6.24. Its setting is defined by its imposing position above the surrounding rural landscape and the views to the east. Due to its position within a dug out hollow, its setting is also defined by its complete lack of views towards the west, from which it is sheltered by the intervening hillside.

[105] Cadw, (2025), 'Roman Camp'. Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=406 [Accessed 27/02/2025]
[106] Cadw, (2025), 'Llangynwyd Castle', Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=2864 [Accessed 27/02/2025]
[107] Cadw, (2025), 'British Fortified Residence', Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=2241 [Accessed 27/02/2025]

MYNYDD TY TALWYN ANCIENT FARMS (GM092)

9.6.25. The Mynydd Ty Talwyn Ancient Farms is a Scheduled Monument comprising the remains of a possible medieval platform house. This consists of a levelled area within the landscape, with a low bank and ditch surrounding it.[108]

9.6.26. Its setting is defined by its position on the crest of a rolling hill, elevated above the undulating rural landscape. Its views are primarily towards the north and south, as the west and east are obscured by intervening topography and vegetation.

SITE OF BODVOC STONE (GM443)

9.6.27. The Site of the Bodvoc Stone is a Scheduled Monument comprising the remains of a ring cairn, approximately 13m in diameter with a possible outer ditch, at the centre of which is situated a replica of an original roughly squared upright 7th century memorial stone dedicated to Bodvoc, son of Catotigernus.[109]

9.6.28. Its setting is defined by its elevated position within the landscape (although its outwards views are now obscured by vegetation) and its relationship with its surrounding prehistoric assets, which include the non-designated Heol Y Moch (01077.0w; see **Table 9-6 and Appendix 9A**) trackway immediately to its west and the scheduled Twmpath Diwlith Round barrow (GM557), situated 145m to the east.

TWMPATH DIWLITH ROUND (GM557)

9.6.29. The Twmpath Diwlith Round is a Scheduled Monument comprised of a Bronze Age round barrow, dating approximately to 2400 BC to 800BC, which measures approximately 23m in diameter and 1.5m high. Past excavations revealed that it originally contained one central stone cist containing human remains, but it was later enlarged for a second inhumation.[110]

9.6.30. It's setting is defined by its elevated position within the landscape (although its outwards views are now obscured by intervening vegetation) and its relationship with its surrounding prehistoric assets, which include the non-designated Heol Y Moch (01077.0w; see **Table 9-6 and Appendix 9A**) trackway 150m to its west and the medieval Bodvoc Stone and carin (see **Section 9.6.27**), situated 145m to the west.

[108] Cadw, (2025), 'Mynydd Ty Talwyn Ancient Farms', Available online: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=3361 [Accessed 27/02/2025]

[109]

[110] Cadw, (2025), 'Twmpath Diwlith Round', Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=4345 [Accessed 27/02/2025]

GARTH HILL PLATFORM HOUSE (GM552)

9.6.31. The Garth Hill Platform House is a Scheduled Monument and is comprised of a levelled 10 x 5m rectangular platform with stone foundations, upon which a medieval structure was likely built, with opposing entrances and adjacent platform and enclosure to the east for an ancillary structure.[111]

9.6.32. The setting of the asset is defined by its elevated position within the landscape on an inland promontory and broad views across the valley to the west and south (although partially obscured by intervening vegetation).

MAESTEG SPORTS CENTRE, THE CORNSTORES (GRADE II* LISTED; 11257)

9.6.33. The Maesteg Sports Centre, The Cornstores, is a two-storey Grade II* listed building located in Maesteg which was originally constructed in around 1839-40 as a blast engine house for the Llynfi Ironworks. It is built of pennant sandstone with hipped slate roof and originally housed two Cornish double-acting beam engines, which served the blast furnaces (one of which survives to the immediate north, which is scheduled and grade II listed GM418;18492), before being used to store grain following the ironworks closure in 1889.[112]

9.6.34. The setting of the asset is defined by its sheltered position within the valley basin and proximity and views towards Maesteg town, from whose former industrial past it is related. It is also experienced in relationship with the one surviving Maesteg Blast Furnace (GM418;18492), which it originally served.

SILOH INDEPENDENT CHAPEL (GRADE II LISTED; 11356)

9.6.35. The Siloh Independent Chapel is a Grade II listed two-story Classical styled chapel, built in 1876 of local stone with a slate roof and grand arched facade. It replaced two earlier chapels built in 1841 and 1858, to serve the growing mining communities in the surrounding Maesteg and Nantyffyllon.[113]

9.6.36. Its setting is defined by its position amongst the urban area of Nantyffyllon and within the valley basin. It maintains minimal views across the landscape towards Maesteg but is primarily experienced by its inward facing position to the High Street which its serves.

[111] Cadw, (2025), 'Garth Hill Platform House', Available online at: https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=&id=3851 [Accessed 27/02/2025]
[112] Cadw, (2025), 'Maesteg Sports Centre, The Cornstores', Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=11257 [Accessed 27/02/2025]
[113] Cadw, (2025), 'Siloh Independent Chapel', Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=11356 [Accessed 27/02/2025]

SALEM WELSH BAPTIST CHAPEL (GRADE II* LISTED; 18495)

9.6.37. The Salem Welsh Baptist Chapel is a Grade II* listed two storey Classical styled chapel with a grand gabled classical façade, first built in 1852 and later expanded in 1872 for the growing mining communities of Maesteg and Nantyffyllon.[114]

Its setting is defined by its position amongst the urban area of Nantyffyllon and within the valley basin. Due to intervening built forms, it maintains views primarily inward to Picton Street, with partial views of the surrounding landscape from its rear.

CAPEL SARON (GRADE II LISTED; 18496)

9.6.38. Capel Saron is a Grade II listed two storey neo-Gothic styled chapel, first built in 1852 and remodelled in 1900 to support the growing communities in Maesteg and Nantyffyllon.[115]

9.6.39. Its setting is defined by its position and views towards the High Street, the built-up urban area of Nantyffyllon to its north and the wider rural valley landscape which is maintains partially views of to the east and north-west.

NANTYFFYLLON WORKMEN'S INSTITUTE (GRADE II LISTED; 18507)

9.6.40. The Nantyffyllon Workmen's Institute is a Grade II listed two storey building, located off Heol Tywith. It was built between 1924 and 1926 for the working communities in Nantyffyllon and features a course-rock stonework design with painted brick quoins and a slate roof.[116]

9.6.41. Its setting is defined by its position off Heol Tywith and its views towards the suburban area of Nantyffyllon which it was built to serve. It maintains partial views towards the surrounding valley landscape, primarily from its rear which features very few built forms.

LLWYDARTH FARMHOUSE (GRADE II* LISTED; 11256)

9.6.42. Llwydarth Farmhouse is a two-story Grade II* listed farmhouse, first built in 16th century but largely altered and expanded in the 17th century. It is built of rubble stone, with a limewashed facing, and features a slate roof.[117]

9.6.43. Its setting is defined by its elevated position above the valley basin and on the steep south-eastern slope of the hillside. It has partial views only towards the south and east, although these are largely obscured by intervening vegetation and intervening boundary walls.

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[114] Cadw, (2025), 'Salem Welsh Baptist Chapel', Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=18495 [Accessed 27/02/2025]
[115] Cadw, (2025), 'Capel Saron', Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=18496 [Accessed 27/02/2025]
[116] Cadw, (2025), 'Nantyffyllon Workmen's Institute', Avaliable online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=18507 [Accessed 27/02/2025]
[117] Cadw, (2025), 'Llwydarth Farmhouse', Avaliable online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=11256 [Accessed 27/02/2025]

GLIFACH-GANOL FARMHOUSE (GRADE II LISTED; 11375)

9.6.44. Glifach-ganol farmhouse is a two-story Grade II listed farmhouse, originally built in the 17th century and later subdivided from a single-unit dwelling into a structure with individual rooms. It is built from locally sourced rough stones and whitewashed.[118]

9.6.45. The setting of the farmhouse is defined by its sheltered position within a valley basin, from which it maintains limited outward views, which are primarily of the immediate agricultural land surrounding it and upon which it formerly depended and was built.

BEE BOLES AND STILE IN GARDEN WALL AT GILFACH-GANOL FARM (GRADE II LISTED; 20432)

9.6.46. The Grade II listed building consists of recesses built into the garden wall of the Glifach-ganol farmhouse (Grade II listed, 11375) in which to house beehives and a stone stile which allows access between the private garden of the farmhouse and the surrounding agricultural landscape.[119]

The setting of these listed assets is defined by their proximity, views and historic relationship with the function of the Glifach-ganol farmhouse, and with the rural agricultural setting upon which they depended. They maintain limited views of the immediate surrounding landscape.

9.7 SCOPE OF THE ASSESSMENT

SPATIAL SCOPE

9.7.1. The Site comprises a 12.5m buffer applied to the corridor route of the Project, to facilitate the micro-siting of H-Pole foundation supports, the construction compound, and the finalised UG 66kV route. For the purposes of this ES, it is considered that any land within the Site may be disturbed.

9.7.2. Two Study Areas have been applied for the purposes of this assessment (See **Section 9.5**):

- A 300m Study Area for non-designated historic assets to assess archaeological potential and identify direct effects; and
- A 3km Extended Study Area for designated historic assets to assess indirect effects

TEMPORAL SCOPE

9.7.3. The temporal scope of the assessment of Historic Environment is consistent with that described in **Chapter 2: EIA Approach** and includes both Construction, Operation and Decommissioning Phases as defined below.

[118] Cadw, (2025), 'Gilfach-ganol farmhouse', Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=11375 [Accessed 27/02/2025]
[119] Cadw, (2025), 'Bee boles and stile in garden wall at Gilfach-gonal farm', Available online at: https://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=&id=20432 [Accessed 27/02/2025]

- **Construction Phase** – the construction of the proposed overhead line (OHL) and underground cable (UGC) will take a total of 9 months to complete, starting in January 2028. This will consist of 6 months allocated for installing the underground ducting pipes, 1 month for cable installation and jointing work, and 2 months for erecting the OHL and. Works will take place between 07:00 to 19:00 on weekdays (Monday to Friday) and 07:00 and 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate.
- **Operation Phase** – the Project will integrate the consented Foel Trawsnant Wind Farm and will remain active for the duration of the wind farm's operation; assumed to be up to 30 years for the purposes of this assessment. It is noted, however, that the duration of the proposed OHL and UGC could extend beyond 30 years, dependent on potential future uses.
- **Decommissioning Phase** – Following the Operation Phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the DNOs wider distribution network. This would therefore not be expected to result in additional ground disturbance and effects arising through direct disturbance during this phase has been scoped-out of further assessment (see **Chapter 1: Introduction** for further details).

9.8 EMBEDDED MEASURES

9.8.1. A range of environmental measures have been embedded into the Project as detailed in **Appendix 11A**. **Table 9-8** outlines how these embedded measures will influence the Historic Environment assessment.

Table 9-8 – Summary of the embedded environmental measures related to the Historic Environment

Receptor	Potential changes and effects	Embedded measures	Suggested Compliance mechanism
Construction Phase			
Designated historic assets listed in **Table 9-7**	Effects to the significance of the historic asset through changes to its setting.	The construction phase will be temporary, totalling 9 months with 2 months planned for OHL installation.	CEMP
Known non-designated archaeological remains within the Site (01076.0w, 07077.0w, 01862.0m, 08896m/18595, 04539w, FT001, FT002, FT003, HLCA009, HLCA010, HLCA005, HLCA013)	Direct disturbance to sub-surface archaeology.	Micro-siting of H-pole pylon foundations (OHL), underground cable (UGC) or construction compound to avoid known historic assets. Avoidance maps of known non-designated historic assets within the CEMP.	Recommended archaeological monitoring (Watching Brief), secured by Planning condition. CEMP.

Potentially unrecorded non-designated archaeological remains within the Site.	Direct disturbance to archaeological remains.	Micro-siting of H-pole pylon foundations (OHL), underground cable (UGC) or construction compound to avoid historic assets.	Recommended archaeological monitoring (Watching Brief), secured by Planning condition.
Potential palaeoenvironmental remains associated with peat deposits.	Direct disturbance of palaeoenvironmental remains contained within peat deposits.	Peat surveys conducted to enable identification of peat deposits of potential palaeoenvironmental significance (Annex C of Appendix 4A: Peat and Soil Survey Report). Micro-siting H-pole foundations or underground cable routes to avoid disturbing known peat deposits.	Development design.
Operation phase			
Designated assets listed in **Table 9-7.**	Effects to the significance of the historic asset through changes to its setting.	Proposed OHL design using wooden H-poles, have kept effects on setting to a minimum. The underground cable route will not directly impact any designated assets, nor will it be visible due to its position below the ground.	Development design.

9.9 ASSESSMENT METHODOLOGY

IDENTIFICATION OF POTENTIAL RECEPTORS

9.9.1. The receptors taken forward for assessment have been identified within the Scoping Report (WSP, 2024) and are detailed in both the ADBA (Heneb, 2024; **Appendix 9A**) and additional baseline contained within this ES Chapter (see **Section 9.5.5**). They are discussed with reference to their designation, value, potential and period below.

Non-designated Historic Assets

9.9.2. The following non-designated historic assets listed in **Table 9-9** have been identified for assessment.

Table 9-9 – Non-Designated Historic Environment Receptors within areas scoped in

Receptors	Ref.	Period	Potential	Value (Significance)
Known assets within the Site				
Medieval Road, Magram to Llangynwyd	01076.0w	Medieval	**High (within northern section of the Site)**	**Medium** significance
Heol Y Moch (the Pigs' Way)	01077.0w	Prehistoric Medieval	**High (within northern section of the Site)**	**Low** significance
Cross Ridge Dyke	01862.0m	Unknown, possibly early medieval	**High**	**Medium** significance
Dyffryn Madog Farmstead	08896m /18595	Post-medieval	**High**	**Low** significance
Moel Ton Mawr Tramway	04539w	Post-medieval	**High (near UGC section in Maesteg)**	**Low** significance
Historic Landscape Character Areas	HLCA009 HLCA010 HLCA005 HLCA013	Prehistoric – Post-medieval	**High**	**Low** significance
Potential assets within the Site				
Possible unrecorded archaeological remains		Prehistoric Roman Medieval Post-medieval	**Low** **Very Low** **Low to Medium** **High**	**Unknown**, of variable significance depending on preservation and extent
Possible buried paleoenvironmental remains associated with peat deposits		Prehistoric Roman Medieval Post-medieval	**Low**	**Unknown**, likely **medium** or **high** (if present): depending on preservation and extent

9.9.3. The ES Scoping report identified that all sub-surface remains within the road footprint have been anticipated to have been wholly removed or disturbed, and as such impacts upon then has been

scoped out of this assessment.[120] **Table 9-10** therefore identifies known historic assets within the Site boundary which have been scoped out of the assessment.

Table 9-10 – Non-Designated Historic Environment Receptors within areas scoped out

Receptors	Ref.	Period	Potential	Value (significance)
Tramway	FT001	Post-medieval	**High**	**Medium** significance
Tai-r-waun Rifle Range	FT002	Post-medieval	**High**	**Low** significance
Tai-r-waun Rifle Range Targets	FT003	Post-medieval	**High**	**Low** significance

Designated Historic Assets

9.9.4. The designated historic assets taken forward for assessment are listed in **Table 9-7.**

IDENTIFICATION OF EFFECTS

9.9.5. Historic Environment effects can be defined as changes in the nature, extent, significance, or setting of the historic environment as a result of the Project, through:

- The direct disturbance of historic assets;
- Changes to the settings of historic assets, affecting their significance; and,
- Changes to the historic landscape.

Direct Disturbance

9.9.6. Any effects arising from direct disturbance of historic assets would be expected to occur during the Construction Phase only. They are considered to be permanent and irreversible but would be restricted to the footprint of the Project, including the footings of the H-pole pylons, the construction of the underground cable route and associated joint boxes and maintenance strips, and the associated construction compound and vegetation clearance.

Effects on known historic assets, therefore, will be considered only where these are located within the Site. Direct effects on historic assets outside the footprint of the Project will not occur and are scoped out.

Changes To Setting

9.9.7. The setting of historic assets is defined in Cadw (2017) guidance as follows:

- *"The setting of a historic asset includes the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape".*

[120] WSP, (2024), *Pennant Water: Foel Trawsnant Scoping Report*

9.9.8. Cadw (2017) guidance identifies a staged approach to the assessment of effects on settings, with the first stage (Stage 1) being the identification of the historic assets which may be affected. In accordance with guidance, this has been undertaken for all designated assets within the 3km Extended Study Area, and are included in **Appendix 9B**, considering the following:

- The location, size and scale of the Project; and
- The location of the identified historic assets.

9.9.9. The generic project-wide approach to the assessment methodology is set out in **Chapter 2: EIA Approach**. However, whilst this has informed the approach that has been used in this Historic Environment assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this Historic Environment assessment.

DETERMINING SIGNIFICANCE OF EFFECTS

9.9.10. The EIA Regulations do not define significance, and it will be necessary to state how this will be defined. The significance of an effect result from a development during construction or operation is most assessed by reference to the sensitivity (or value) of a receptor and the magnitude of the effect, as set out in **Table 9-11**.This approach provides a mechanism for identifying areas where mitigation measures may be required and to identify the most appropriate measures to alleviate the risk presented by the development.

9.9.11. For the purposes of assessing the significance of effects in EIA terms, heritage significance is described with reference to the interests set out in Planning Policy Wales (2024) and TAN24 (2017) (see **Section 9.3**). These guidelines define the significance of historic assets by the following values: evidential, historic, aesthetic and communal. The determination of the significance is based on statutory designation, professional judgement and through consultation with statutory consultees.

9.9.12. Each historic asset is evaluated against the range of criteria listed above on a case-by-case basis, in accordance with the criteria listed in **Table 9-11**. This also considers regional variations and individual qualities, where applicable.

9.9.13. Unless the nature and exact extent of buried archaeological remains within any given has been determined through prior investigation, their significance can be uncertain, and a judgement will be made based on existing knowledge.

9.9.14. In relation to designated historic assets, the assessment considers the contribution that historic character and setting makes to the overall significance of the asset.

Table 9-11 – Definition of Heritage Significance

Heritage Significance	Criteria	Example Asset Class
High	Asset has significance for an outstanding level of archaeological, architectural, historic and/or artistic interest.	Designated historic assets. Nationally and international significant non-designated archaeological sites, including burial grounds.

Medium	Asset has significance for a high level of archaeological, architectural, historic and/or artistic interest.	Locally listed buildings and other local / county-based designations. Regionally significant non-designated archaeological sites.
Low	Asset has significance for elements of archaeological, architectural, historic or artistic interest.	Locally significant archaeological sites.
Negligible	Due to its nature of form, condition or survival, it cannot be considered as an asset in its own right.	Non-extent HER records.

MAGNITUDE OF CHANGE

9.9.15. The assessment of the magnitude of change is the identification of the degree of the impact of the Project on the historic assets. There is no standard scale of comparison against which the severity of effects on historic assets may be judged, because of the great variety of resources and assets, but it is based on the deviation from baseline conditions. The assignment of a magnitude of change is a matter of professional judgement and is summarised in **Table 9-12**.

Table 9-12 – Establishing the magnitude of change

Magnitude	Criteria (adverse)	Criteria (Beneficial)
High	Loss of heritage significance of an order of magnitude that would result from total or substantial demolition or disturbance of a historic asset or from the disassociation of an asset from its setting.	Sympathetic restoration of an at-risk or otherwise degraded historic asset and/or its setting. Bringing an at-risk historic asset into sustainable use, with robust long-term management secured.
Medium	Loss of heritage significance arising from partial disturbance or inappropriate alteration of a historic asset which will adversely affect its importance. Change to the key characteristics of the setting of a historic asset, which may harm the significance of the asset, but will still allow its archaeological, architectural or historic interest to be appreciated.	Appropriate stabilisation and/or enhancement of a historic asset and, or its setting that better reveal the significance of the asset or contribute to a long-term sustainable use or management regime.
Low	Minor loss to or alteration of a historic asset which leaves its current significance intact.	Minor enhancements to management of a feature or site that better reveal the significance of the asset or

	Minor or short-term changes to setting which do not affect the key characteristics and in which the historical context remains intact.	contribute to a short-term management regime.
Negligible	Minor alterations of a historic asset which does not affect its significance. Minor and short-term, or reversible, changes to setting which do not affect the significance of the historic asset.	Very minor alteration to an asset which presents minimal change to heritage significance, including minor and, or short-term or reversible change to setting.

9.9.16. The matrix in **Table 9-13** has been prepared to guide the assessment of whether effects on the historic environment for the purposes of EIA are to be considered significant or not. The classification of the effect is judged on the relationship of the magnitude of change to the assessed heritage significance of the resource. As a general rule, major effects are considered to be significant, moderate effects are considered to be potentially significant, and minor and negligible effects are considered to be not significant. Where effects are assessed, according to **Table 9-13**, as potentially significant in EIA terms, professional judgement will be applied to determine whether they are significant or not significant.

Table 9-13 – Significance evaluation matrix

		Magnitude of change			
		High	**Medium**	**Low**	**Negligible**
Significance	**High**	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible
	Negligible	Minor	Negligible	Negligible	Negligible

9.10 ASSESSMENT OF EFFECTS

CONSTRUCTION PHASE EFFECTS

Direct Disturbance

Overhead Powerline (OHL)

9.10.1. Limited intrusive groundworks will be necessary for the construction of the H-pole supported OHL and their associated infrastructure within the Site. This could have a direct impact upon localised areas of the open ground and may include:

- Localised excavations for the installation of H-pole foundations to depth of between 1.8m to 2.4m, and a minimum surrounding area of 6.3m^2;
- The installation of below-ground, pre-cast kicking blocks to provide structural support;
- The removal of existing trees in the path of the access trackway; and

- The trimming and lopping of trees within 4m of any conductors.

9.10.2. Intrusive works of this nature would impact upon any surviving buried non-designated archaeological remains in their footprint which would be wholly or partially removed, such as prehistoric/medieval trackways and roads (01076.0w, 07077.0w), an early medieval dyke (07862.0m), and post-medieval farmsteads (08896m/08595) and tramways (04539w, 04539w).

9.10.3. It may also potentially impact possible unrecorded archaeological remains within the Site. The highest potential is for possible post-medieval or modern industrial or agricultural remains, of **low** significance. There is a lower potential identified for the presence of possible palaeoenvironmental, prehistoric, Roman (very low), or medieval remains relating to settlement, earthworks, or agricultural which would be is of largely **Medium** significance (as a worst-case scenario) but depending on preservation and extent. Based on present evidence, potential for unrecorded archaeological remains of high significance is not anticipated and so they are assumed to be of **Low** or **Medium** significance.

9.10.4. Overall, due to the level of ground disturbance being restricted to the location of the H-pole foundations, and the 10m micro-siting buffer applied to each pole location and the provision for a watching brief, the level of impact presented by the installation of the OHL is generally considered to be **medium** in magnitude, resulting in a **moderate adverse** effect for non-designated assets prior to mitigation, depending on their value.

9.10.5. All receptor significance, magnitude of change and effects resulting from the construction of the OHL have been listed in **Table 9-14**.

Underground Cabling (UGC)

9.10.6. For the construction of the 66kV underground section, most of the cable and associated joint boxes (5 x 3m) at approximate 500m intervals, will be installed at a depth of up to 1.5m within the existing highways boundary, incorporating an associated 1m maintenance strip.

9.10.7. A 250m section of underground cable route will be required outside of the existing highways boundary, and within agricultural fields. It is anticipated that the methodology for cable installation will follow that outlined above. This work would adversely affect any surviving sub-surface archaeological remains within their footprint, which would result in a loss of archaeological value, if present, in localised areas of the Project route. This would be considered a **moderate adverse** effect prior to mitigation.

9.10.8. In addition, within the locations for joint boxes, trial holes running to a depth of 150mm deeper than the proposed trench (up to 1.5m) may be undertaken to ascertain the proper positioning of the cabling. This would also adversely impact any surviving sub-surface archaeological remains within their footprint. This would be considered a **moderate adverse** effect prior to mitigation.

9.10.9. All receptor significances, magnitude of change and effects resulting from the installation of the underground cable have been listed in **Table 9-14**.

Temporary Construction Compound

9.10.10. To support the construction of the Project, a construction compound will be located within the Site in the northern portion of the Project route. This will comprise a single storey office/site cabin, the

laying of geo-grid style matting, and the installation of perimeter fencing. The compound will predominately be used for the storage of wooden OHL poles and 66kV 630mm copper cable, and ground intrusions are assumed to be **negligible**.

9.10.11. All receptor significances, magnitude of change and effects resulting from the installation of the northern construction compound have been listed in **Table 9-14**.

Table 9-14 – Construction phase effects from direct disturbance on non-designated historic assets

Receptor	Significance / Value	Magnitude of Change	Effect
Overhead Powerline (OHL) (e.g. limited intrusive groundworks, H-pole installation)			
Medieval Road, Magram to Llangynwyd (01076.0w)	**Medium**	**Medium**	**Moderate** adverse (not significant)
Heol Y Moch (the Pigs' Way) (01077.0w)	**Low**	**Medium**	**Minor** adverse (not significant)
Cross Ridge Dyke (01862.0m)	**Medium**	**Medium**	**Moderate** adverse (not significant)
Historic Landscape Character Areas (HLCA009) (HLCA010) (HLCA005) (HLCA013)	**Low**	**Low**	**Minor** adverse (not significant)
Possible unrecorded archaeological remains	**Medium,** likely **low** or **medium** (if present) depending on preservation and extent	**Medium,** likely **negligible** if completely avoided.	**Moderate** adverse, likely **negligible** if completely avoided (not significant)
Possible buried paleoenvironmental remains associated with peat deposits	**Medium,** likely **medium** or **low** (if present) depending on preservation and extent	**Medium**, likely **negligible** if completely avoided	**Moderate** adverse, likely **negligible** if completely avoided (not significant)
Underground Cabling (e.g. limited linear intrusive works, trial holes for joint boxes, cable plough)			
Dyffryn Madog Farmstead (08896m /18595)	**Low**	**Low**	**Negligible** (not significant)
Moel Ton Mawr Tramway (04539w)	**Low**	**Low**	**Negligible** (not significant)

Receptor	Significance / Value	Magnitude of Change	Effect
Tramway (FT001)	**Low**	**Low**	**Negligible** (not significant)
Tai-r-waun Rifle Range (FT002)	**Low**	**Low**	**Negligible** (not significant)
Tai-r-waun Rifle Range Targets (FT003)	**Low**	**Low**	**Negligible** (not significant)
Possible unrecorded archaeological remains within 250m stretch outside of road footprint	**Medium,** likely **low** to **medium** (if present) depending on preservation and extent	**Medium,** likely **negligible** if completely avoided	**Moderate** adverse, likely **negligible** if completely avoided (not significant)
Possible buried paleoenvironmental remains associated with peat deposits within 250m stretch outside of road footprint	**Medium,** likely **low** to **medium** (if present) depending on preservation and extent	**Medium,** likely negligible if completely avoided	**Moderate** adverse, likely **negligible** if completely avoided (not significant)
Temporary Construction Compound			
Possible unrecorded archaeological remains	**Medium,** likely **low** to **medium** (if present) depending on preservation and extent	**Medium,** likely **negligible** if completely avoided	**Moderate** adverse, likely **negligible** if completely avoided (not significant)
Possible buried paleoenvironmental remains associated with peat deposits	**Medium,** likely **low** to **medium** (if present) depending on preservation and extent	**Medium,** likely **negligible** if completely avoided	**Moderate** adverse, likely **negligible** if completely avoided (not significant)

Effects arising through change to setting

Overhead Powerline (OHL)

9.10.12. All construction activities required for the installation of the OHL would be of a temporary nature and restricted to the Site boundary. No haul roads are required, and traffic movements are predicted to be minimal and will be restricted to maximum of 42 heavy and light goods vehicle movements daily at the peak of construction activities (see **Chapter 7: Traffic and Transport**). All noise, vibration, or dust resulting from the construction works during this phase will be controlled through the application of a CEMP (**Appendix 4A**), which will set out clear guidelines and standards to mitigate any impacts to the setting of any designated assets within their proximity.

9.10.13. No permanent impacts upon the setting of designated historic assets are predicted during the construction phase, and as such, impacts are considered to be **temporary, reversible** and of a **negligible** magnitude, resulting in a **Minor adverse** effect (see assessment outcomes in **Table 9-15**).

Underground Cabling (UGC)

9.10.14. The laying of the underground cable will be mainly confined to the existing highways boundary and adhere to standard practice over a period of up to six months (see **Chapter 4: Description of the Project**). Construction methodology is likely to consist of the cables being laid directly into a trench, either using ducts or via an open cut method. Joint boxes will be placed approximately every 500m.

9.10.15. All of these construction methods are considered to be temporary in nature, taking place over a period of up to six months (see **Chapter 4: Description of the Project**), and would therefore make no permanent changes to the setting of the surrounding designated historic assets, listed in **Table 9-7**. Temporary changes to setting (e.g. increased dust, noise, or vibration) will be mitigated by implementation of the CEMP (**Appendix 4A**), which will set out clear guidelines and standards to mitigate any permanent or long-term impacts to any designated assets within their proximity and therefore would be considered of a **negligible** magnitude resulting in a **minor adverse impact**.

9.10.16. All receptor significances, magnitude of change and effects resulting from the installation of the underground cable have been listed in **Table 9-15**.

Table 9-15 - Construction phase effects on historic assets arising through change to setting

Receptor	Significance / Value	Magnitude of Change	Effect
Overhead Powerline (OHL)			
Margam Mountain Historic Landscape (HLW (WGI/MGI) 2)	**High**	**Negligible**	**Minor adverse** (not significant)
Y Bwlwarcau Hillfort (GM059)	**High**	**Negligible**	**Minor adverse** (not significant)
Maesteg Blast Furnaces (GM418)	**High**	**Negligible**	**Minor adverse** (not significant)
Roman Camp (GM058)	**High**	**Negligible**	**Minor adverse** (not significant)
Llangynwyd Castle (GM085)	**High**	**Negligible**	**Negligible** (not significant)
British Fortified Residence (GM086)	**High**	**Negligible**	**Negligible** (not significant)

Mynyyd Ty Talwyn Ancient Farms (GM092)	**High**	**Negligible**	**Negligible** (not significant)
Site of Bodvoc Stone (GM443)	**High**	**Negligible**	**Minor adverse** (not significant)
Twmpath Diwlith Round (GM557)	**High**	**Negligible**	**Minor adverse** (not significant)
Garth Hill Platform House (GM552)	**High**	**Negligible**	**Minor adverse** (not significant)
Maesteg Sports Centre, The Cornstores (Grade II*; 11257	**High**	**Negligible**	**Minor adverse** (not significant)
Siloh Independent Chapel (Grade II; 11356)	**High**	**Negligible**	**Minor adverse** (not significant)
Blast Furnace at Maesteg Sports Centre (Grade II; 18492)	**High**	**Negligible**	**Minor adverse** (not significant)
Salem Welsh Baptist Chapel (Grade II*; 18495)	**High**	**Negligible**	**Minor adverse** (not significant)
Capel Saron (Grade II; 18496)	**High**	**Negligible**	**Minor adverse** (not significant)
Nantyffyllon Workmen's Institute (Grade II; 18507)	**High**	**Negligible**	**Minor adverse** (not significant)
Llwydarth Farmhouse (Grade II*; 11256)	**High**	**Negligible**	**Minor adverse** (not significant)
Glifach-ganol farmhouse (Grade II; 11375)	**High**	**Negligible**	**Minor adverse** (not significant)

Bee boles and stile in garden wall at Gilfach-uchaf farm (Grade II; 20432)	**High**	**Negligible**	**Minor adverse** (not significant)

OPERATIONAL PHASE EFFECTS

Direct Disturbance

Overhead Powerline (OHL)

9.10.17. During the operation phase of the Project, the OHL will only require infrequent non-intrusive maintenance activities such as resilience tree cutting to retain clearance distances and regular inspection. Although conductors and insulators have a design life of approximately 40 years, infrequent faults may occur that would require vehicular access, which would be of minimal ground disturbance.

9.10.18. Any maintenance required during the operation phase would be temporary in nature and would be undertaken by vehicle similar in nature to construction phase activities. Due to lack minimally invasive activities and lack of ground disturbance, these activities are anticipated to have a **negligible** impact.

Underground Cabling

Operation phase activities relating to the UGC include regular testing at previously disturbed joint bays, which will not require any additional intrusive groundworks. This would be considered a **negligible** impact.

Effects arising through change to setting

Overhead Powerline (OHL)

9.10.19. Once installed, the OHL will consist of approximately 4.6km of overhead lines (at the northern and southern sections of the cable route), supported by 62 wooden H-poles approximately 10m above ground level. The wooden H-poles are generally sympathetic to the surrounding landscape, relatively low in height and are similar in nature to existing electrical infrastructure in and around the town of Maesteg.

9.10.20. The large majority of designated historic assets in the surrounding 3km Extended Study Area are screened from views of the OHL, either due to the surrounding natural undulating topography, stands of existing forestry or trees, or built infrastructure within Maesteg township. All the assets that maintain clear or partial views of the proposed OHL also include views of a wider setting characterised by the presence of Maesteg, including residential or industrial buildings and other electrical infrastructure including both H-poles and larger metal lattice towers. It is considered that the addition of minimally invasive H-poles and associated OHL would not significantly alter the existing setting and would therefore be considered to result in either a **negligible** or **low** magnitude of change.

9.10.21. The tree and vegetation maintenance required to ensure clearance from the OHL would be minimal and would maintain the same conditions introduced in the Construction phase. Similarly, temporary and non-intrusive powerline and pole inspections would also be undertaken as part of Operation phase activities. This would all be considered as a minor adverse impact.

Underground cabling

9.10.22. Once installed, the underground cabling will not be visible and therefore there would be a **no impact** to the overall setting of the historic assets.

9.10.23. Regular testing of the UGC at the previously installed joint boxes would be temporary and localised in nature, and therefore there would be **no impact**.

Table 9-16 - Operational phase effects on historic assets arising through change to setting

Receptor	Significance / Value	Magnitude of Change	Effect
Overhead Powerline (OHL)			
Margam Mountain Historic Landscape (HLW (WGI/MGI) 2)	**High**	**Low**	**Moderate adverse** (not significant)
Y Bwlwarcau Hillfort (GM059)	**High**	**Low**	**Moderate adverse** (not significant)
Maesteg Blast Furnaces (GM418)	**High**	**Negligible**	**Minor adverse** (not significant)
Maesteg Sports Centre, The Cornstores (11257)	**High**	**Negligible**	**Minor adverse** (not significant)
Siloh Independent Chapel (11356)	**High**	**Negligible**	**Minor adverse** (not significant)
Blast Furnace at Maesteg Sports Centre (18492)	**High**	**Negligible**	**Minor adverse** (not significant)
Salem Welsh Baptist Chapel (18495)	**High**	**Negligible**	**Minor adverse** (not significant)
Capel Saron (18496)	**High**	**Negligible**	**Minor adverse** (not significant)

Receptor	Significance / Value	Magnitude of Change	Effect
Nantyffyllon Workmen's Institute (18507)	**High**	**Negligible**	**Minor adverse** (not significant)
Llangynwyd Castle (GM085)	**High**	**Low**	**Moderate adverse** (not significant)
Site of Bodvoc Stone (GM443)	**High**	**Low**	**Moderate adverse** (not significant)
Garth Hill Platform House (GM552)	**High**	**Low**	**Moderate adverse** (not significant)
Twmpath Diwlith Round Barrow (GM557)	**High**	**Low**	**Moderate adverse** (not significant)
Glifach-ganol farmhouse (11375)	**High**	**Low**	**Moderate adverse** (not significant)
Bee boles and stile in garden wall at Gilfach-uchaf farm (20432)	**High**	**Low**	**Moderate adverse** (not significant)
Underground Cable (UG)			
Margam Mountain Historic Landscape (HLW (WGI/MGI) 2)	**High**	**None**	**No effect**
Y Bwlwarcau Hillfort (GM059)	**High**	**Negligible**	**Minor adverse** (not significant)
Maesteg Blast Furnaces (GM418)	**High**	**Negligible**	**Minor adverse** (not significant)
Maesteg Sports Centre, The Cornstores (11257)	**High**	**Negligible**	**Minor adverse** (not significant)

Receptor	Significance / Value	Magnitude of Change	Effect
Siloh Independent Chapel (11356)	**High**	**Negligible**	**Minor adverse** (not significant)
Blast Furnace at Maesteg Sports Centre (18492)	**High**	**Negligible**	**Minor adverse** (not significant)
Salem Welsh Baptist Chapel (18495)	**High**	**Negligible**	**Minor adverse** (not significant)
Capel Saron (18496)	**High**	**Negligible**	**Minor adverse** (not significant)
Nantyffyllon Workmen's Institute (18507)	**High**	**Negligible**	**Minor adverse** (not significant)
Llangynwyd Castle (GM085)	**High**	**Negligible**	**Minor adverse** (not significant)
Site of Bodvoc Stone (GM443)	**High**	**Negligible**	**Minor adverse** (not significant)
Garth Hill Platform House (GM552)	**High**	**Negligible**	**Minor adverse** (not significant)
Twmpath Diwlith Round Barrow (GM557)	**High**	**Negligible**	**Minor adverse** (not significant)
Glifach-ganol farmhouse (11375)	**High**	**Negligible**	**Minor adverse** (not significant)
Bee boles and stile in garden wall at Gilfach-uchaf farm (20432)	**High**	**Negligible**	**Minor adverse** (not significant)

9.11 ASSESSMENT OF CUMULATIVE EFFECTS

9.11.1. Consideration has been given as to whether any of the historic environment receptors that have been taken forward for assessment in this chapter are likely to be subject to cumulative effects generated from other developments.

9.11.2. In the area surrounding the Project, there are a number of operational, consented or Projects, the most significant of which is the consented Foel Trawsnant Wind Farm (Ref: P2022/0344 & P2022/0517; see **Figure 2.1**) which is situated immediately north of the Project. Due to its positioning, the visually-unintrusive nature of the H-pole OHL pylons and the fact the interface with wind farm and Project will be screened by intervening topography and surrounding vegetation, it is anticipated that there would only be a **low** or **negligible** magnitude of change to the settings of any designated assets. The H-poles will also only have a limited extent of direct disturbance to buried remains within very localised locations and therefore, when combined with the anticipated impacts from the wind scheme, they would not contribute to a significant cumulative effect.

9.12 MITIGATION AND RESIDUAL EFFECTS

9.12.1. All appropriate and necessary mitigation strategies for the construction and operation phases of the Project have been included in the embedded measures section (**Section 9.8**).

9.13 CONCLUSIONS OF SIGNIFICANCE EVALUATION

9.13.1. Subject to the implementation of the environmental measures set out in **Section 9.8**, which includes archaeological monitoring and recording of potential non-designated archaeological remains situated within the footprint of OHL and UGC footprint, and the micro-siting of OHL H-pole foundations to avoid impacting upon known non-designated assets, the Project will avoid significant effects upon the sub-surface aspect of the historic environment.

9.13.2. An assessment of the effects on the settings of off-site historic assets within a 3km study area. This identified that most of the surrounding designated assets either maintain partial or no views toward the Site and that the Project would not introduce any new or significantly visually intrusive built forms which do not already exist within the landscape. Since the installation works would only take place over 2 months, any impacts to their setting during the construction phase would be temporary and therefore **negligible**. During the operation phase, the new OHL site would be visible within a landscape in which existing OHL of greater sizes are already prominent and visible, and therefore the impact is also considered **negligible**.

9.13.3. Following consultation with Cadw, as set out in **Section 9.4**, effects upon the potential archaeological remains present within the Mynydd Margam Landscape Historic Landscape has not necessitated the completion of an ASIDOHL. All effects within this landscape have been decided through assessment of the surrounding potential non-designated assets and the character of the historic landscape.

10 WATER RESOURCES AND FLOOD RISK

10.1 INTRODUCTION

10.1.1. This Environmental Statement (ES) chapter presents a detailed assessment of potentially significant impacts to Water Resources and Flood Risk receptors for the Proposed Development described in Chapter 1. By way of a summary for the purposes of this ES Chapter, the Proposed Development comprises:

- 3.9km of overhead lines (OHL), including 72 wooden poles;
- 5.1km of underground cabling (UGC), including cable ducts and 22 joint bay boxes;
- Temporary working areas, for example construction compounds and a temporary dam to enable UGC installation.

10.1.2. This chapter will consider potentially significant effects from the construction, operation and decommissioning of the Proposed Development on the local water environment and flood risk receptors. The methodology for undertaking the Water Resources and Flood Risk assessment is detailed in Section 10.9.

10.1.3. As part of this ES Chapter, all receptors identified in the Study Area that were presented in the Scoping Report have been considered and are detailed in Section 10.6. These receptors include, but are not limited to, main rivers, ordinary watercourses, groundwater bodies and flood risk zones. Data sources are identified and referenced, where applicable.

10.1.4. This Chapter should be read in conjunction with:

- Chapter 1, Section 1.1: Overview of the Proposed Development;
- Chapter 1, Section 1.5: Scope of the EIA Report;
- Chapter 2: Environmental Impact Assessment Approach;
- Chapter 8: Ecology;
- Outline Phase 1 Geoenvironmental Desk Study (Annex B of Appendix 4A (CEMP)); and
- Water Framework Directive (WFD) Screening and Scoping Assessment (Appendix 10A).

10.1.5. This chapter will assess the potential for impacts to the flow of surface water and groundwater, in addition to the potential for impacts to the quality of such resources. A detailed assessment of impacts to terrestrial and aquatic ecology is considered in **Chapter 8: Ecology**. Additionally, a standalone Water Framework Directive (WFD) Screening and Scoping assessment has been undertaken as a stand-alone document **(Appendix 10A**).

10.2 LIMITATIONS OF THIS ASSESSMENT

10.2.1. The following limitations and assumptions have been identified for the assessment:

- This assessment has relied upon data and records provided by third parties, and therefore it has been assumed that this information is accurate and up to date at the time of reporting.
- The assessment has been undertaken using the available design information for the Proposed Development and the maximum likely extents of land required for its construction, operation and maintenance.

- No walkover survey inspections have been conducted specifically for the Water Environment and Flood Risk assessment.

10.3 POLICY, LEGISLATION AND GUIDANCE

10.3.1. The policy, legislation and guidance that is relevant to this Water Environment and Flood Risk ES Chapter is outlined below:

- Policy:
  - Planning Policy Wales (Edition 12) (2024)[121];
  - Bridgend County Borough Council (CBC) Local Development Plan (2018 - 2033)[122];
  - Bridgend CBC Flood Risk Management Plan (2016)[123];
  - Neath Port Talbot CBC Local Development Plan (2011 – 2026)[124];
  - Neath Port Talbot CBC Flood Risk Management Plan (2015)[125];
  - Neath Port Talbot Flood Risk Management Strategy Plan (2024)[126];
- Legislation:
  - Flood and Water Management Act (2010)[127];
  - The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017)[128]; and
  - The Environmental Permitting (England and Wales) Regulations (2016)[129].
- Guidance:
  - National Highways Design Manual for Roads and Bridges (DMRB) LA 113: Road Drainage and the Water Environment (Revision 1) (2020)[130];
  - Construction Industry Research and Information Association (CIRIA) guidance documents;

[121] Welsh Government (2024). Planning Policy Wales (Edition 12) (February 2024).
[122] Bridgend County Borough (2024). Local Development Plan 2018 – 2033 (Adopted March 2024). Available at: https://www.bridgend.gov.uk/media/izcfgp1f/written-statement.pdf
[123] Capita (2016). Bridgend Flood Risk Management Plan: Local Flood Risk Investigation Areas (August 2016). Available at: https://www.bridgend.gov.uk/media/1yflynyb/bridgend-flood-risk-management-plan.pdf
[124] Neath Port Talbot County Borough Council (2016). Local Development Plan (2011 – 2026) (Adopted January 2016). Available at: https://media.npt.gov.uk/media/ca2fbumd/ldp_written_statement_jan16.pdf?v=20240823155047
[125] Neath Port Talbot County Borough Council (2015). Flood Risk Management Plan 2015 (2015). Available at: https://media.npt.gov.uk/media/xubbj4xn/floodriskmanagementplan15-1.pdf?v=20250117154447
[126] AtkinsRealis (2024). Neath Port Talbot Flood Risk Management Strategy Plan (October 2024). Available at: https://democracy.npt.gov.uk/documents/s103486/App%20B%20-%204%20-%20NPTLFRMSP%20SEA%20Report%20v3.0.pdf
[127] UK Government (2010). Flood and Water Management Act 2010.
[128] UK Government (2017). The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017.
[129] UK Government (2016). The Environmental Permitting (England and Wales) Regulations 2016.
[130] Highways England (2020). Design Manual for Roads and Bridges LA 113: Road Drainage and the Water Environment (Revision 1). Available at: https://www.standardsforhighways.co.uk/tses/attachments/d6388f5f-2694-4986-ac46-b17b62c21727?inline=true

- Planning Guidance Wales[131];
- Climate Change Allowances and Flood Consequence Assessments (2021)[132];
- Western Wales River Basin Management Plan 2021 – 2027 Summary (2022)[133];
- Technical Advice Note 15: Development and Flood Risk (TAN15) (2025)[134];
- Water Framework Directive Nationally Significant Infrastructure Project (NSIP) guidance[135];
- Guidance for Pollution Prevention (GPP);
- Bridgend CBC Strategic Flood Consequence Assessment (2020)[136];
- Bridgend CBC Preliminary Flood Risk Assessment Report (2009 (2017 Addendum))[137];
- South West Wales – Stage 1 Strategic Flood Consequence Assessment (2022)[138].

10.3.2. The new Technical Advice Note 15: Development and Flood Risk (TAN15) (2025) has now been implemented in Wales, providing updated guidance on development and flood risk. As part of this revision, Natural Resources Wales's (NRW) Flood Map for Planning (FMfP, 2025) has replaced the previous Development Advice Map (DAM) and is now the primary source for assessing flood risk to new developments. The FMfP has been used to inform the flood risk content for this ES.

10.3.3. While the Planning Policy Wales (PPW) still references the older DAM, it is intended to be read in conjunction with TAN15, which reflects current policy and mapping practice.

10.4 CONSULTATION

SCOPING OPINION

10.4.1. PEDW formally issued the Scoping Opinion in response to the Scoping Report on 12th March 2025 (**Appendix 2B**). A summary of the Scoping Opinion together with a response against each point of relevance to the Water Environment and Flood Risk assessment chapter is provided in Table 10.1 below.

[131] Welsh Government (2025). Planning Policy and Guidance for Professionals. Available at: https://www.gov.wales/planning-policy-and-guidance-for-professionals [Accessed: March 2025].
[132] Welsh Government (2021). Climate Change Allowances and Flood Consequence Assessments (2021). Available at: https://www.gov.wales/climate-change-allowances-and-flood-consequence-assessments [Accessed: March 2025].
[133] Natural Resources Wales (2022). Western Wales River Basin Management Plan 2021 – 2027 Summary (July 2022). Available at: https://nrwcmsv13-a3hwekacajb3frbw.a02.azurefd.net/695227/western-wales-rbmp-2021_2027-summary.pdf
[134] Welsh Government (2024). Technical Advice Note 15: Development and Flood Risk (July 2025). Available at: https://www.gov.wales/sites/default/files/publications/2025-03/technical-advice-note-15-development-flooding-and-coastal-erosion.pdf
[135] Planning Inspectorate (2024). Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive (last updated November 2024). Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-water-framework-directive [Accessed: March 2025].
[136] JBA Consulting (2020). Strategic Flood Consequence Assessment: Bridgend County Borough Council (October 2020). Available at: https://www.bridgend.gov.uk/media/xx1n3muo/sd62-bridgend-strategic-flood-consequences-assessment-2020.pdf
[137] Bridgend County Borough Council (2017). Flood Risk Regulations 2009: Bridgend County Brough Council Preliminary Flood Risk Assessment Report (November 2017). Available at: https://www.bridgend.gov.uk/media/1thbqatz/preliminary-flood-risk-assessment-report.pdf.
[138] JBA Consulting (2022). South West Wales – Stage 1 Strategic Flood Consequence Assessment (November 2022). Available at: https://media.npt.gov.uk/media/xnwlvwb0/doc-11-strategic-flood-consequences-assessment.pdf.

Table 10-1 – Scoping Opinion responses

Consultee	Scoping Opinion point raised	Response
Natural Resources Wales – 3.1: Water Resources	The report appears to identify watercourses that could potentially be impacted by the project yet proposes that no Water Framework Directive (WFD) assessment is required. Due to the number of watercourses that the project crosses, the risk of potential impact to the aquatic environment could be high. We would recommend that a WFD assessment is carried out. Any works should not lead to a deterioration in that waterbody or prevent that waterbody from meeting a good status/potential.	The need for a WFD assessment is noted. The ES will still outline potentially significant impacts to WFD waterbodies, but a more detailed standalone WFD screening and scoping has been undertaken (**Appendix 10A** of this EIA Report).
	We advise the ES identify pollution sensitive receptors and their risks, for example ditches and small tributaries that lead to rivers such as Nant y Ffyllon, Nant Crynwydd, Nant Sychbant, Nant Lluest-Wen and other receiving watercourses. The following GPP 1 provides an understanding to your environmental responsibilities: guidance-for-pollution-prevention-1-2022-update.pdf	A number of watercourses and associated tributaries were identified in the Scoping Chapter and shown on the surface water constraints maps. The potential impacts to these watercourses has been assessed in **Chapter 10: Water Environment and Flood Risk**.
	When undertaking works near water reference should be made to GPP 5 guidance for pollution prevention, which can be found here: gpp-5-works-and-maintenance-in-or-near-water.pdf	GPP 5 has been taken into consideration when recommending measures for the Outline Construction Environmental Management Plan (**Section 5.3** of **Appendix 4A**). This ES has assessed the potential for watercourse pollution as a result of the proposed works, and proportionate mitigation measures have been recommended in accordance with the GPP.
	Any water that comes into contact with wet concrete must be treated as contaminated and must not be allowed to discharge into any watercourse. Specific attention should be paid to section 3 of the above guidance.	As above, GPP 5 has been taken into consideration when recommending measures for the CEMP(**Section 5.3** of **Appendix 4A**). This ES has assessed the potential for watercourse pollution as a result of the proposed works, and proportionate mitigation measures have been

		recommended in accordance with the GPP.
	The agreed method of working and installation of cabling must be compiled with at all times to avoid discolouration/sedimentation or pollution of the watercourse. It is important that no large sections of trenches are left open when dug for cabling. These trenches connect to watercourses, and during rainfall events, can cause a pollution. All avenues and methods of laying cable should be explored. We note and encourage the use of a Cable Plough. The most significant advantage of the Cable Plough is its low impact on the environment. Whilst traditional methods of pipe and cable installation require a sizable trench to be dug and then refilled, the Cable Plough's efficient way of cutting a narrow slit into the soil causes only minimum disturbance to the land. Should any discolouration/sedimentation or pollution of the watercourse occur, work must stop immediately, and Natural resources Wales notified on 0300 065 3000 to review work practices before work commences. All fuel, oil and chemicals used on Site must be stored away in a locked store which is bunded to 110% capacity of the total volume stored. Silt mitigation measures should be implemented throughout the work site where appropriate. A variety of measures should be employed in conjunction as they work more effectively in combination. However, the placement of silt nets downstream is not a license for increased silt production. All efforts should still be made to prevent any silt being produced by the works. Metal pins/rods should not be used to support silt fencing or sedi-mats as they do not provide sufficient support, resulting in the products sagging or collapsing. Wooden stakes should be used in accordance with the manufacturer's installation recommendations. The early establishment of buffer strips during surface restoration work can filter runoff and reduce soil erosion – such measures are particularly important on steep slopes and bare soil vulnerable to runoff. Due to the nature of the site being a hillside valley it is vital that silt mitigation, management and measures are in place	NRW's preference for Cable Plough as the means of UGC installation is acknowledged. However, the preferred method of installing UGC is proposed to be open cut method. Mitigation measures are discussed in **Chapter 10: Water Environment and Flood Risk**. The additional points raised, including on discolouration and sediment control, buffer strips, silt mitigation and installation of pollution control products within a watercourse is noted. This is referenced in the CEMP (**Appendix 4A**), with detailed site-specific CEMPs to be produced prior to construction.

	during the construction phase. This should include details of impacts during heavy rainfall. Wherever possible clean or uncontaminated water should be intercepted and diverted around the working area. This should help minimise the volume of dirty water generated and therefore requiring treatment (if reasonably practicable). Water quality leaving the working area will need to be regularly monitored to avoid a pollution incident. It may be necessary to: adjust, replace, or augment the pollution control products deployed and/or adapt the work method further, as work recommences and progresses. As with all pollution mitigation measures, these will need to be reviewed by yourselves regularly through the works and if found not to be sufficient, other options should be considered. The installation of pollution control products within a watercourse should be the last stage of mitigation measures; the principles of the pollution control hierarchy should always be followed: 1. Contain at source 2. Contain close to source. 3. Contain on the surface. 4. Contain in the drainage system. 5. Contain on the watercourse. Based on the risk of potential harm to the aquatic environment we would advise an overarching CEMP alongside site specific CEMPS is submitted where river crossings are used and/or underground cabling is to be installed. The risk of silt mobilisation and run off is high therefore the CEMPs should include detailed information regarding robust mitigation measures to be deployed at each relevant location. This can be controlled by condition.	
Natural Resources Wales – 3.2: Groundwater	<u>Decommissioning</u> Section 6.5.8 states that its likely underground cables will be left in-situ once the scheme is decommissioned. We note that buried cables over the decades of operating time and then left in-situ could degrade and release hazardous chemicals into the environment and pollute groundwater. This risk is a function of the type of chemicals that are used to	Information regarding the material specification of the proposed cables and potential issues associated with their deterioration are detailed in **Chapter 4: Project Description** and **Appendix 4C** of the EIA Report.

	manufacture the cabling, the quality assurance/quality control of that manufacturing process and the environment within which the cabling will function. The groundwater quality may vary over time such as changes in pH, and this may affect the integrity of cabling that is buried within shallow groundwater. It is possible that the insulating properties of sections of the buried cabling reduce, and this may require the cabling to be removed and replaced. We advise this is considered within the ES. If it cannot be evidenced that cabling left in perpetuity in the ground will not release harmful chemicals into the environment then remnant cabling should be removed.	A response was issued to NRW on 3rd July 2025, detailing how mitigation is captured in the ES - see **Annex B of Appendix 4A: Phase 1 Geoenvironmental Desk Study (Preliminary Risk Assessment).** **Appendix 4C** also details the material make-up of the cable ducts.
Natural Resources Wales – 3.2: Flood Risk	We note that the proposed development, including cable run above and below ground is within an area of flood plain or needs to cross a main river. We note that a high level assessment of flood risk and flood consequences will be undertaken and not a standalone Flood Consequences Assessment which we note is responsible. We advise further consultation with the relevant lead local authority on surface water flooding.	We note that the proposed approach to assessing flood risk is acceptable. Welsh Water, Bridgend CBC and Neath Port Talbot CBC have been consulted separately; details of these consultations can be found in **Table 10-2.**

MATTERS SCOPED OUT

10.4.2. Following receipt of the Scoping Opinion, the following Water Resources and Flood Risk matters have been scoped out of assessment in this ES Chapter:

- Impact to surface water features and groundwater resources associated with the removal of cables in decommissioning as underground cables will be left in-situ – **Decommissioning Phase**;
- Pollution risk to surface water features and groundwater resources associated with leaving UGC in-situ following decommissioning as degradation of materials and any soil contamination risk has been scoped out – **Decommissioning Phase**;
- Pollution risk to surface water features and groundwater resources during the operational phase – **Operational Phase**;
- Impact to watercourses crossed by the Proposed Development during the operational phase – **Operational Phase**; and
- Impact to groundwater levels and flows during the operational phase – **Operational Phase**.

10.4.3. In addition, the potential for impacts relating to the disturbance of contaminated soils was scoped out of assessment as discussed in the Land Quality chapter of the Scoping Report.

CONSULTATION RESPONSES

10.4.4. A consultation email was sent out to consultees offering a description of the Proposed Development and outlined the elements that were scoped in for further assessment. Engagement was requested

with the authorities to understand aspects that the authority believes should be addressed relating to surface waters, groundwater and flood risk (through construction and/or operation, in addition to permit requirements and knowledge of existing drainage issues).

10.4.5. A summary of consultation that has been undertaken to date is summarised in Table 10-2 below.

Table 10-2 – Summary of consultation

Body/organisation	Consultation date	Consultation outcome
Dwr Cymru Welsh Water (DCWW)	30 January 2025	Response received from Design and Build team in Developer Services regarding contact details for further engagement and potential clashes with existing assets in the vicinity of a service reservoir. Detailed design requested for the Proposed Development in the Nantyffyllon to Y Parc area. Recommendation made within the CEMP for further consultation with DCWW to be undertaken during the detailed design and construction planning of the Proposed Development to avoid potential clashes during the installation of the Proposed Development.
Bridgend CBC Land Drainage	12 February 2025	A copy of the Flood Defence Consent form for works on Ordinary Watercourses was sent, along with information regarding the application determination process. Working consents would generally be required for any works within 7m of any watercourse and both working and permanent consents for works which cross watercourses. The Land Drainage team promoted early engagement to discuss proposals, working methods, etc. to ensure that any application made has sufficient detail to allow registration and consideration. Bridgend CBC hold information on culverted watercourses; the CEMP recommends further consultation with Bridgend CBC to discuss consenting requirements, working methods and potential issues associated with culvert condition within areas of proposed construction of the Proposed Development.
NRW Flood Risk Analysis	21 February 2025	A list of available fluvial flood models was provided by the Data Distribution team: ▪ Maesteg_5_V1.0_2012 ▪ Maesteg_5_V1.1_2022 (climate change runs only) ▪ Margam_FMC_5_V1.0_2023 ▪ Pyle_5_V1.0_2012 ▪ Pyle_5_V1.2_2022 (climate change runs only) Given the minimal flood risk to the Proposed Development, model review has not been considered

		necessary to inform the assessment of flood risk presented in this ES chapter.

PRE-APPLICATION CONSULTATION RESPONSES

10.4.6. Following the March ES submission for statutory Pre-Application Consultation (PAC), the responses were received on the 07 May 2025 from NRW. Table 10-3 offers a summary of the points raised, and are also captured in **Appendix 2C**.

Table 10-3 – Statutory PAC responses

Consultee point	Description	Response
5.1 Water Framework Directive	We note that a WFD scoping and screening assessment will be submitted. We reserve further comment until the additional survey has been completed and the associated report submitted with the formal application.	A WFD screening and scoping assessment has been prepared and is appended to this ES (**Appendix 10A**).
5.2 Flood Risk	We note the majority of the cable route lies outside an area at risk of flooding. We note that two sections of the route will cross areas at risk of flooding however, the impacts are expected the minimal. A flood risk activity permit (FRAP) may be required from us, for example to construct a structure on the bank of a main river. Any works affecting an ordinary watercourse may require an Ordinary Watercourse Consent from the relevant Lead Local Flood Authority.	We note the comment received regarding the expected minimal flood risk and have therefore provided a proportionate and appropriate assessment of flood risk contained within this ES. The requirement for FRAPs and Ordinary Watercourse Consent is noted and is included within the CEMP (**Appendix 4A**). Relevant consents will be obtained prior to construction.

10.5 DATA GATHERING METHODOLOGY

10.5.1. The Water Environment and Flood Risk baseline has been developed on the basis of a desk-based assessment of existing data. The understanding obtained from the baseline data was supplemented by subsequent consultation with relevant water and flood risk stakeholders.

10.5.2. The primary sources of information used to inform this assessment of potential impacts to water environment and flood risk receptors are:

- British Geological Survey (BGS) Geoindex[139];

[139] BGS GeoIndex (onshore). Available at: GeoIndex (onshore) - British Geological Survey [Accessed: June 2025]. Contains British Geological Survey materials © UKRI [2025].

- NRW Water Watch Wales Mapping[140];
- NRW Flood Map for Planning (FMfP)[141];
- NRW Geographic Information about the Natural Environment[142];
- Data Map Wales[143];
- Ordnance Survey (OS) Mapping;
- Welsh Water Sewerage Plans.
- Bridgend CBC Strategic Flood Consequence Assessment (2020)[144];
- Bridgend CBC Preliminary Flood Risk Assessment Report (2009 (2017 Addendum))[145];
- South West Wales – Stage 1 Strategic Flood Consequence Assessment (2022)[146];
- Historical Maps of Wales via the National Library of Scotland[147]; and
- LiDAR Data[148].

10.6 OVERALL BASELINE

EXISTING BASELINE

10.6.1. The Project is located in the south of Wales to the west of urban areas Maesteg and Nantyffyllon. The approximate centre of the Project is the Grid Reference 284175, 187428. The application Site boundary is approximately 22.5 hectares and the total length of the cabling is approximately 9km. From the northern end of the Project to the south, the cabling is split into the following sections:

- 1.2km of OHL (northern section);
- 5.1km of UGC (middle section); and

[140] Water Watch Wales Map Gallery (Natural Resource Wales). Available at: Water Watch Wales [Accessed: June 2025]. © Copyright Natural Resources Wales 2022.
[141] Flood Map for Planning (Natural Resource Wales). Available at: Natural Resources Wales / Flood map for planning / development advice map [Accessed: June 2025]. Contains Natural Resources Wales information © Natural Resources Wales and database right. All rights reserved.
[142] NRW Geographic Information about the Natural Environment. Available at: Natural Resources Wales / Browse map of data about the natural environment. [Accessed: March 2025]. Additional copyright statements: Soils data © Cranfield University (NSRI) and for the Controller of HMSO, 2023; Geological data © Reproduced with the permission of the British Geological Survey ©NERC. All rights Reserved; Basemapping © Crown copyright and database rights 2023. AC0000849444; and Aerial Photography © Getmapping Plc and Bluesky International Limited.
[143] Data Map Wales. Available at: Home | DataMapWales
[144] JBA Consulting (2020). Strategic Flood Consequence Assessment: Bridgend County Borough Council (October 2020). Available at: https://www.bridgend.gov.uk/media/xx1n3muo/sd62-bridgend-strategic-flood-consequences-assessment-2020.pdf
[145] Bridgend County Borough Council (2017). Flood Risk Regulations 2009: Bridgend County Brough Council Preliminary Flood Risk Assessment Report (November 2017). Available at: https://www.bridgend.gov.uk/media/1thbqatz/preliminary-flood-risk-assessment-report.pdf.
[146] JBA Consulting (2022). South West Wales – Stage 1 Strategic Flood Consequence Assessment (November 2022). Available at: https://media.npt.gov.uk/media/xnwlvwb0/doc-11-strategic-flood-consequences-assessment.pdf.
[147] National Library of Scotland (2025). Maps of Wales. Available at: Maps of Wales - Map Images - National Library of Scotland [Accessed: June 2025] © 2025 National Library of Scotland, registered Scottish Charity, No. SC011086
[148] Environment Agency (2025). National LIDAR Programme. Available at: National LIDAR Programme - data.gov.uk [Accessed June 2025] © Environment Agency copyright and/or database right 2022. All rights reserved.

- 2.7km of OHL (southern section).

10.6.2. The northernmost starting point of the route is to the west of the A4063 at an elevation of approximately 350mAOD. The OHL traverses over green space, including broadleaved woodland and scrub for 1km, down to an elevation of approximately 200mAOD. The OHL then transitions to the UGC section to the north of Nantyffyllon and adjacent to the Nant y Ffyllon watercourse.

10.6.3. Approximately 250m of the 5.1km UGC section traverses green space before running underneath Kings Terrace. The route then goes south along Garnwarn Road / Heol Ty Gwyn down to B4282 Neath Road, then further south via road infrastructure past Y Parc, across the Nant Sychbant watercourse before transitioning into the southern OHL section approximately 150 northwest of Tyn y Cae Farm.

10.6.4. The southern OHL section traverses mostly green space in the form of grassland and some woodland and marshy areas for the whole 2.9km length. It goes past the Nant y Castell watercourse, Castell Farm, Gilfach Cottages and a number of ordinary watercourse before terminating between the Afon Cynffig and the Graig Yr Aber Woods (Upper).

10.6.5. **Figure 4.1** offers a spatial representation of the Proposed Development.

Surface Water Features

10.6.6. Surface water features in the Study Area are illustrated in **Figure 10.1**.

10.6.7. A review of OS mapping indicates that the Proposed Development crosses a number of surface water features directly, in addition to a number being located within the Study Area. These features comprise a mix of unnamed ordinary watercourses and a number of named rivers. The Proposed Development passes through the following key waterbody catchments:

- Afon Afan
- Afon Llynfi
- Ffrwd Wyllt
- Afon Cynffig (Kenfig)

10.6.8. These catchment areas can be seen in **Figure 10A.2**. All waterbodies are located in the Western Wales River Basin District. The key watercourses within these catchments are discussed in Table 10-4 below.

Table 10-4 – Description of surface water features in the 1km Study Area

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
Afon Afan	The Afon Afan is located approximately 1.8km to the north of the Proposed Development at its closest point. It is therefore not directly crossed by the Proposed Development. The watercourse flows in a general north-south direction and ends up in Swansea Bay. The northern extent of the Proposed Development that comprises OHL is located within the catchment of the Afon Afan. The Afon Afan is a Main River and WFD designated waterbody (conf with Corrwg to confluence with Pelenna (GB110058026130)). Further details regarding the WFD status of the waterbody can be found in the WFD screening and scoping assessment.	Blaen Nant and Tributary of Blaen Nant 1	Blaen Nant and Tributary of Blaen Nant 1 are ordinary watercourses. The Blaen Nant is located approximately 800m north of the northern OHL section of the Proposed Development at its closest point. The watercourse flows north through Duffryn Rhondda before discharging into the Afon Afan. The Tributary of Blaen Nant 1 flows northeast for 200m before joining the Blaen Nant. It is approximately 900m to the north of the Proposed Development at the point where it joins the Blaen Nant.
		Nant Cynon	The Nant Cynon is an ordinary watercourse located approximately 320m southwest of the northern OHL section of the Proposed Development at its closest point. The watercourse flows in a west-east direction towards the A4107 before discharging into the Afon Afan.
		Tributaries of Nant Cynon 1 to 4	The Nant Cynon has four tributaries within the 1km Study Area of the Proposed Development. Tributaries 1 to 3 are located to the east of the Nant Cynon and are located between 400m to 800m away from the OHL at their closest points to the Proposed Development. Tributary 4 is approximately 170m to the north of the Proposed Development at its closest point.

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
			A review of online mapping suggests that the tributaries feed into the Nant Cynon from the south (Tributaries 1, 2 and 3) and the north (Tributary 4), all from areas of greater elevation.
		Nany Tryfal	The Nant Tryfal is an ordinary watercourse located approximately 30m east of the northern OHL section of the Proposed Development at its closest point. It is therefore not crossed by the Proposed Development. It flows in a northeastern direction towards Brytwn Road before discharging into the Afon Afan.
		Nant yr Hwyaid	The Nant yr Hwyaid is an ordinary watercourse located approximately 500m north of the northern OHL section of the Proposed Development at its closest point. It is therefore not crossed by the Proposed Development. It flows north towards Pen-Twyn Road before discharging into the Afon Afan.
Nant Cwmfarteg and Ffrwd Wyllt	The Nant Cwmfarteg is an ordinary watercourse located immediately west of the UGC section of the Proposed Developmen tto the west of Maeste. It is not crossed directly by the Proposed Development. A review of online mapping shows that the Nant Cwmfarteg flows west towards the village of Bryn where it joins with the Ffrwd Wyllt	Tributary of Nant Cwmfarteg 1	The Tributary of Nant Cwmfarteg 1 is located approximately 700m to the east of the UGC section of the Proposed Development at its closest point. It flows in a general north-south direction for 200m where it joins the Nant Cwmfarteg.

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
	approximately 3km to the west of the Proposed Development. The watercourse continues to flow west and downstream of this confluence the Ffrwd Wyllt is designated as a Main River. The Nant Cwmfarteg and Ffrwd Wyllt form a WFD designated waterbody (headwaters to tidal limit (GB110058026100)). Further details regarding the WFD status of the waterbody can be found in the WFD screening and scoping assessment.	Tributaries of Nant Drysiog 1 to 5	The Tributaries of Nant Drysiog 1 to 5 are located between 820m to 1.2km west of the UGC section of the Proposed Development at their closest points. A review of online mapping and topography indicates that the tributaries all flow in a general east-west direction before discharging into the Nant Drysiog outside the 1km Study Area extents. The Nant Drysiog then continues to flow west through the village of Bryn.
Afon Llynfi (upper reaches)	The Afon Llynfi is located approximately 250m to the east of the UGC at its closest point. It is not crossed by the Proposed Development as it is separated by the village of Nantyffyllon. The Afon Llynfi is the main waterbody into which the majority of other watercourses within the Study Area discharge. The Afon Llynfi is a Main River and WFD designated waterbody (headwaters to Lletty Brongu Sewage Treatment Works (STW)	Tributaries of Afon Llynfi 1 to 3	The Tributaries of River the Afon Llynfi 1 and 2 are located on the eastern side of the Afon Llynfi. They are approximately 350m and 370m to the east of the UGC section respectively and therefore are not crossed by the Proposed Development. The two watercourses flow in an east-west direction from higher-lying topographical areas to the east of the 1km Study Area and discharge into the Afon Llynfi. Tributary 3 flows in a west-east direction and is crossed by the UGC section of the Proposed Development underneath the Hoel Ty Gwyn highway. The tributary appears to be culverted underneath the Heol Ty Gwyn for a length of approximately 280m (assuming the culvert is a straight line) before discharging into the Afon Llynfi.

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
	(GB110058026331)). Further details regarding the WFD status of the waterbody can be found in the WFD screening and scoping assessment.	Nant Cwmcerwyn	A review of online mapping indicates that the Nant Cwmcerwyn is located within 10m of the Proposed Development to the west of the UGC section of the Proposed Development at its closest point and is within the Red Line Boundary study buffer. The watercourse flows in a west-east direction and is located immediately downstream of the Nant Goblyn and immediately upstream of the Nant Sychbant.
		Nant Goblyn	The Nant Goblyn is located over 320m to the west of the UGC section of the Proposed Development at its closest point. A review of online mapping suggests the watercourse is fed by various tributaries from the north before flowing in a west-east direction towards the Nant Cwmcerwyn and Nant Sychbant and associated tributaries.
		Tributaries of Nant Goblyn 1, 2 and 3	The Tributaries of Nant Goblyn 1, 2 and 3 are located over 850, 400m and 350m to the west of the UGC section of the Proposed Development respectively at their closest points. As such, none of the tributaries are crossed by the Proposed Development. A review of online mapping suggests that the tributaries originate from areas of greater topographical elevation to the north of the Nant Goblyn.
		Nant Gwyn Bach	The Nant Gwyn Bach is an ordinary watercourse that is located in excess of 750m to the east of the northern OHL section of the Proposed Development at its

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
			closest point. It is therefore not crossed by the Proposed Development. The watercourse flows in an east-west direction and is culverted for approximately 200m underneath Hermon Road before discharging on to the Afon Llynfi.
		Nant Lluest-wen	A review of online mapping indicates that the Nant Lluest-wen is an ordinary watercourse the flows in a west-east direction. The watercourse is crossed by the southern OHL section of the Proposed Development between the Waun Lluest-Wen and Waun y Gilfach. It flows in lower-lying areas between areas of greater elevation such as the Waun-Lluest-Wen, the Waun y Gilfach and the Moel Troed-Y-Rhiw. The watercourse joins the Nant y Cerdin to the east of Llan Road and Moel Troed-Y-Rhiw.
		Tributary of Nant Lluest-wen 1 to 10	The Tributaries of Nant Lluest-Wen 1 – 10 watercourses discharge into the Nant Lluest-wen from areas of higher elevation to the north and south of the Nant Lluest-Wen watercourse. A review of online mapping suggests that none of the tributaries are crossed by the Proposed Development and all 10 watercourses range from 100m and 1.1km away from the Proposed Development at their closest points. In the western reaches of the watercourse towards the 1km Study Area extent, the tributaries appear to flow from north-south from the Waun Lluest-Wen. Further to the east, the tributaries appear to flow from south-north from the higher lying areas at the Moel Troed-Y-Rhiw.

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
		Nant Sychbant	The Nant Sychbant is an ordinary watercourse that traverses the lower lying topographical areas to the east and west of the Moel Sychbant. According to OS Mapping, the watercourse is approximately 3km in length and flows in a west-east direction from the western extents of the 1km Study Area; the UGC section of the Proposed Development will cross the Nant Sychbant via installation of a temporary dam and open cut method. The watercourse joins with a number of tributaries to the west and south of Y Parc. At the downstream end of the watercourse, it joins with the Nant y Cerdin and Nant Lluest-wen to the east of Llan Road and Moel Troed-Y-Rhiw. Chapter 8: Ecology discusses the outcomes of wildlife surveys of the Nant Sychbant watercourse, specifically otter surveys in relation to where the temporary dam will be installed and the open cut works will be undertaken. Further details can be found in Table 8-10 of Chapter 8: Ecology. As discussed in the WFD screening and scoping assessment, the River Habitat Survey online data of the Nant Sychbant watercourse describes it as having a rating of 'High' according to the Habitat Quality Assessment Class. Further details can be found in the WFD screening and scoping assessment.
		Tributaries of Nant Sychbant 1 to 7	The Tributaries of Nant Sychbant 1 – 7 watercourses discharge into the Nant Sychbant from areas of higher

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
			elevation to the north and south of the watercourse. The distances between the watercourses and the Proposed Development range between approximately 12m and over 800m to the east and west of the Proposed Development, with Tributary 2 falling within the Red Line Boundary study buffer. To the west, tributaries join the watercourse from the elevated areas of the Moel Sychbant. Further to the east, tributaries join the watercourse from areas adjacent to Y Parc and other higher-lying areas.
		Nant y Cerdin and Tributary of Nant y Cerdin 1	The Nant y Cerdin is located over 600m to the east of the Proposed Development at its closest point according to OS mapping. A review of the online mapping suggests that the watercourse flows in a west-east direction. The Tributary of Nant y Cerdin 1 is located over 800m to the east of the Proposed Development at its closest point. The watercourse flows downhill and joins the Nant y Cerdin watercourse between the Bryn Celyn and Llan Road highways.
		Nant y Crynwydd	A review of online mapping shows that, within the 1km Study Area, the Nant y Crynwydd watercourse to originates to the north of Maesteg Golf Course. As a result of topography, it appears to flow in a west-east direction and is culverted between Tair Wuan Place and Heol Ty Gwyn, then again underneath Maesteg Bowling Green and under the urban area and Maesteg Sports Centre before discharging into the Afon Llynfi.

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
			The watercourse is crossed by the UGC section of the Proposed Development at the culverted section underneath Heol Ty Gwyn.
		Nant y Ffyllon	The Nant y Ffyllon watercourse flows in a west-east direction, traversing the lower reaches of the elevated areas of Garn Wen and Rhiw Tor Cymry to the west of the northern OHL section of the Proposed Development. The watercourse is then intermittently culverted underneath the urban area of Nantyffyllon, including underneath Davies Terrace. At this location, the culverted UGC section of the Proposed Development crosses the watercourse. A review of online mapping indicates that the watercourse is then culverted for roughly a further 200m before discharging into the Afon Llynfi.
		Nant y Castell	The Nant y Castell is an ordinary watercourse that flows in a general west-east direction. A comparison of the Proposed Development alignment with online mapping suggests that the watercourse is crossed twice in quick succession by the southern OHL section of the Proposed Development approximately 390m to the west of Castell Farm. The watercourse traverses lower-lying topographical areas to the north and east of Waun y Gilfach. It is fed by a number of tributaries along its alignment within the 1km Study Area extents. The watercourse flows outside the 1km Study Area extent but eventually joins

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
			the Nant y Gadlys before discharging into the Afon Llynfi over 2km to the east of the 1km Study Area extent.
		Tributaries of Nant y Castell 1 to 9	The Tributaries of Nant y Castell feed into the Nant y Castell on both sides of the watercourse along its alignment within the 1km Study Area extents. The distances between the tributaries and the southern OHL section of the Proposed Development range from approximately 50m and 1km to the east and west of the alignment. None of the tributaries are crossed by the Proposed Development. A review of online mapping suggests that the tributaries feed into the watercourse from areas of high elevation particularly on the eastern side of the Waun y Gilfach.
		Nant y Gadlys	A review of online mapping suggests that the Nant y Gadlys watercourse flows in a west-east direction. It is located over 250m to the east of the UGC section of the Proposed Development at its closest point and is therefore not crossed by the Proposed Development. Online mapping indicates that the watercourses traverses lower-lying topographical areas to the south of the Waun y Gilfach.
		Tributaries of Nant y Gadlys 1 to 4	The Tributaries of Nant y Gadlys feed into the Nant y Gadlys on the southern bank. A review of online mapping suggests that none of the tributaries are crossed by the Proposed Development. The mapped

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
			extent of Tributary 1 is approximately 25m to the east of the southern OHL section of the Proposed Development at its closest point, with the other three tributaries being located over 700m east of the Proposed Development at their closest points. Online mapping suggests that the tributaries originate from areas at higher elevation to the south and west of the Nant y Gadlys watercourse.
		Kenfig	The Afon Cynffig is an ordinary watercourse located over approximately 200m west of the OHL section of the Proposed Development at its closest point within the Study Area. A review of online mapping indicates that the watercourse flow in a general north-south direction, traversing lower-lying topographical areas, towards Kenfig Hill, which is located approximately 4km south of the Proposed Development. The Proposed Development does not cross this watercourse.

Waterbody catchment	Waterbody description	Tributaries within the waterbody catchment	Tributary description
Afon Cynffig (Kenfig)	The Afon Cynffig is an ordinary watercourse located approximately 200m west of the OHL section of the Proposed Development at its closest point. The watercourse flows south towards Kenfig hill 4km south of the Proposed Development. The Afon Cynffig is aWFD designated waterbody (Kenfig - headwaters to tidal (GB110058026170)). Further details regarding the WFD status of the waterbody can be found in the WFD screening and scoping assessment.	Nant Craigyrabe	The Nant Craigyrabe is a tributary of the Afon Cynffig. The closest mapped extent of the watercourse to the Proposed Development is located over 500m southeast of the southernmost extent of the OHL section of the Proposed Development in the Study Area. A review of online mapping indicates that as a result of the surrounding topography, the watercourse flows in a general north-south direction outside of the 1km Study Area.

Designated Sites

10.6.9. Review of Data Map Wales indicates no designated sites within the Proposed Development boundary or the 1km Study Area of relevance to the Water Resources and Flood Risk assessment. This includes areas designated as Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPA) and RAMSAR sites. There are designated groundwater areas, which are discussed in the Groundwater section below.

Existing Drainage

10.6.10. Plans received from Welsh Water show that Maesteg, Y Parc and Nantyffyllon are served mostly by conventional piped sewerage. This comprises a mix of surface water gravity-fed sewers and some sections of pumped network that outfall into the Afon Llyfi and a foul network that is piped to nearby water treatment works.

10.6.11. A review of OS Mapping indicates that there are a number of culverted watercourses that are considered likely to convey flow from the watercourses discussed in the Surface Water Features section above under Nantyffyllon and Maesteg to outfall to the Afon Llynfi. The condition of these culverted watercourses is currently unknown but Bridgend CBC have confirmed they hold information on the condition of the culverts within the Study Area. Further discussion with Bridgend CBC to establish the condition of any culverts affected by the Proposed Development is recommended in the CEMP.

Licensed Water Abstractions

10.6.12. NRW Water Resource Permits data has been sourced via the Licensed Water Abstractions dataset in Data Map Wales. The data contains details of abstraction points that are covered under the Water Act 2003 whereby abstractions equal to or greater than $20m^3$ require a license.

10.6.13. Table 10-5 below offers a summary of the data for the two abstraction points located within the 1km Study Area.

Table 10-5 - NRW Water Resource Permits within the 1km Study Area

Location	Purpose
Land at Maesteg Golf Club NGR: 83840, 91440	Full Abstraction permit; groundwater abstraction point for agricultural purposes (code 400: Spray Irrigation – Direct – High).
Land at Maesteg Golf Club NGR: 8388, 9113	Impoundment permit; surface water abstraction point for impounding purposes.

Groundwater

10.6.14. Figures 10.2, 10.3 and 10.4 offer visualisation of the bedrock and superficial geology compositions and groundwater vulnerability across the 5km Study Area.

10.6.15. The entirety of the alignment of the Proposed Development passes through Secondary (Undifferentiated) Superficial Aquifers and Secondary A Bedrock Aquifer. To the south of Neath

Road, the Proposed Development comes within approximately 30m of a Secondary A Superficial Aquifer.

10.6.16. Within the 5km Study Area, there is a mix of Secondary A, Secondary (Undifferentiated) and Unproductive Superficial Aquifers. Secondary A Aquifers follow the alignment of the watercourses such as the Afon Llynfi and Avan to the east and north of the Proposed Development, respectively.

10.6.17. The 5km Study Area comprises mostly Secondary A Bedrock Aquifer with a small area on the southern extent of the Study Area boundary near Pyle and Coedhirwaun being located in a Secondary B Bedrock Aquifer area.

10.6.18. A summary of BGS Geology Viewer online mapping providing geological information of the superficial and bedrock geology within the Study Area is provided in Table 10-6 below.

Table 10-6 - BGS Geology Viewer

Geology classification	Location
Superficial - Till, Devensian - Diamicton. Sedimentary superficial deposit	East and west of the Proposed Development, with a section of the Proposed Development running through this geology adjacent to Y Parc.
Superficial - Alluvium - Clay, silt, sand and gravel. Sedimentary superficial deposit	Mostly follows the alignment of the Afon Llynfi and other watercourses in the Study Area.
Superficial - Alluvial Fan Deposits - Sand and gravel. Sedimentary superficial deposit	One small area located in the southern area of Maesteg.
Superficial - Glaciofluvial Deposits, Devensian - Sand and gravel. Sedimentary superficial deposit	Located mostly to the north and southwestern areas of the Study Area.
Superficial - Peat - Peat. Sedimentary superficial deposit	Isolated patches of peat located throughout the Study Area, particularly to the north.
Bedrock - Hughes Member - Sandstone. Sedimentary bedrock	Located mostly to the north of the Proposed Development closer to Neath Port Talbot, and to the southeast of the Proposed Development.
Bedrock - Brithdir Member - Sandstone. Sedimentary bedrock	Areas to the north and immediately adjacent to the Proposed Development are present in the Study Area.
Bedrock - Llynfi Member - Sandstone. Sedimentary bedrock	Located mostly in the north reaches of the Proposed Development OHL area, and also to the east of the Proposed Development on the other side of the Afon Llynfi.
Bedrock - South Wales Middle Coal Measures Formation - Mudstone, siltstone and sandstone. Sedimentary bedrock	Area located east and west of Nantffyllon and areas located at the southern extent of the Study Area.

Bedrock - Rhondda Member - Sandstone. Sedimentary bedrock	Areas located throughout the Study Area.

10.6.19. Data Map Wales shows the following WFD Groundwater bodies to be within the Study Area, all within the Western Wales River Basin District:

- **Swansea Carboniferous Coal Measures (GB41002G201000)**: Overall Poor status, mainly due to Chemical elements (Cycle 3, 2019). The Proposed Development lies entirely within this waterbody;
- **SE Valleys Carboniferous Coal Measures (GB40902G201900)**: Within the eastern side of the Study Area. It is of overall Poor waterbody status, driven mainly by Chemical elements (Cycle 3, 2019); and
- **Swansea Southern Carboniferous Limestone (GB41001G201300)**: At the southern extent of the 5km Study Area boundary. It is of overall Poor waterbody status, driven mainly by Chemical elements (Cyle 3, 2019).

10.6.20. Section 8.5: Land Quality in the Scoping Report concluded that no significant adverse effects associated with land contamination are expected once the following is considered: legal requirements (CDM, the Health and Safety at Work Act and the Waste Regulations); the commitment to implementation of good and standard construction practices; the commitment to development of an unexpected contamination protocol; and commitment to complete a Phase 1 Desk Study to support the planning application, which will then inform further investigation if this is needed.

Risk of Fluvial/Tidal Flooding

10.6.21. The Flood Map for Planning (FMfP) has been used to inform the assessment of flood risk to the Proposed Development.

10.6.22. The FMfP is a spatial representation of the most up to date flood risk data for Wales. As of March 2025, with the implementation of the new TAN 15, the FMfP has become the official mapping to be used in conjunction with the TAN 15. It is viewed as the best available information on flood risk looking ahead for the next century (i.e. taking climate change into account). It should also be noted that the extents shown in the mapping assume that there are no flood defences in place.

10.6.23. The fluvial and tidal (including coastal and from the sea) flood zones as illustrated by the FMfP are defined in the following way:

- **Flood Zone 1 (Rivers and Sea)**: Areas with less than a 0.1% (1 in 1000) chance of flooding from rivers or the sea in a given year, including the effects of climate change;
- **Flood Zone 2 (Rivers)**: Areas with 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from rivers in a given year, including the effects of climate change;
- **Flood Zone 3 (Rivers)**: Areas with more than 1% (1 in 100) chance of flooding from rivers in a given year, including the effects of climate change;
- **Flood Zone 2 (Sea)**: Areas with 0.1% to 0.5% (1 in 1000 to 1 in 200) chance of flooding from the sea in a given year, including the effects of climate change; and
- **Flood Zone 3 (Sea)**: Areas with more than 0.5% (1 in 200) chance of flooding from the sea in a given year, including the effects of climate change.

10.6.24. Extracts from the FMfP are shown in Figure 10.5.

10.6.25. The vast majority of the Proposed Development lies outside fluvial Flood Zone 2 and 3.The northern and southern OHL sections of the Project lie entirely outside these areas and interaction between flood risk zones.

10.6.26. The UGC section of the Proposed Development crosses narrow areas of Flood Zone 2 and 3 (that include uplift for climate change) along the alignment of the Nant Sychbant to the west of Y Parc. These flood zone areas appear to be mostly confined to within the alignment of the Nant Sychbant. As such, interactions with the flood zones at this location are expected to be minimal.

Risk of Surface Water/Small Watercourse Flooding

10.6.27. Baseline information regarding surface water flows and smaller watercourses has been obtained from the FMfP.

10.6.28. NRW defines surface water/small watercourse flood zones as follows:

- **Flood Zone 1 (Surface Water and Small Watercourses)**: Extent of flooding from surface water and small watercourses with less than 0.1% (1 in 1,000) chance of happening in any given year;
- **Flood Zone 2 (Surface Water and Small Watercourses)**: Extent of flooding from surface water and small watercourses with less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance of happening in any given year, including an allowance for climate change; and
- **Flood Zone 3 (Surface Water and Small Watercourses)**: Extent of flooding from surface water and small watercourses with a 1% (1 in 100) chance or greater of happening in any given year, including an allowance for climate change.

10.6.29. Areas at risk of surface water flooding are shown in Figure 10.6.

10.6.30. A review of the FMfP shows a number of areas of surface water and small watercourse flooding in close vicinity to the Proposed Development within the 1km Study Area. This is expected due to the number of ordinary watercourses, rivers and tributaries that flow through the Study Area. A number of these watercourses are indicated to drain into the Afon Llynfi.

10.6.31. The Proposed Development lies to the west of urban areas such as Nantyffyllon, Maesteg and Y Parc. Surface water flood risk in these areas could be attributed to the topography and also the urban environment allowing for the generation of overground flow paths and subsequent pooling.

10.6.32. Figure 10.6 illustrates interactions the Proposed Development has with the higher risk areas.

Risk of Reservoir Flooding

10.6.33. Review of the NRW Large Raised Reservoir layer (as presented on the FMfP) shows that the Proposed Development is surrounded by a number of registered reservoirs, namely:

- Cwmwernderi, approximately 3km to the west of the Proposed Development;
- Brombili, New Pond and Eglwys Nunydd, all greater than 5km to the west of the Proposed Development near Port Talbot; and
- Llangeinor, greater than 5km to the southeast of the Proposed Development.

10.6.34. The FMfP shows the Proposed Development and 1km Study Area extent to lie outside of the mapped flood extents of these reservoirs should a breach occur. There are also no reservoirs located within the 1km Study Area.

10.6.35. In addition, reservoirs, holding over 10,000 cubic metres of water, are also strictly monitored and inspected by specialist engineers. There is an enforcement body ensuring that these responsibilities are undertaken in accordance with the Reservoirs Act 1975[149].

Risk of Groundwater Flooding

10.6.36. Groundwater flooding is caused by the slow emergence of groundwater flow into below ground structures/openings or onto the ground's surface. There can be a number of causes of groundwater flooding which include, but are not limited to:

- Emergence of groundwater from high-permeability aquifers with high water tables;
- Extended periods of heavy rainfall surcharging permeable aquifers;
- The installation of man-made structures; or
- Changes in river levels.

10.6.37. The risk of groundwater flooding across the study area varies with local geology type. For example, Alluvial Fan Deposits can present a higher risk of groundwater emergence due to relatively high porosity, but Sandstone formations generally carry a low-medium risk. The number of springs within the Study Area indicates that groundwater could be close to the ground's surface.

10.6.38. The Phase 1 Ground Investigation Desk Study will provide further information of expected depth to the groundwater table and therefore offer further details on the risk pose to below ground construction works.

10.6.39. Figures 10.2, 10.3 and 10.4 offer a spatial representation of the different geological compositions and vulnerability in the Study Area that could suggest increased groundwater flood risk.

10.7 SCOPE OF THE ASSESSMENT

10.7.1. This section details the construction and operation effects that have been deemed to be potentially significant and are to be considered in further detail in this assessment. The list brings forward the effects identified in the Water Resources and Flood Risk chapter of the Scoping Report and also incorporates additional points raised by statutory consultees in the Scoping Opinion:

Construction Phase

- Pollution risk to waterbodies/aquifers from HGVs/construction plant or construction processes, including compromising the quality of WFD waterbodies;
- Temporary impact to the quality, flow dynamics, hydromorphological properties and hydraulic capacity of watercourses crossed by the Proposed Development.

[149] Flooding from Reservoirs (Natural Resources Wales). Available at: Natural Resources Wales / Flooding from reservoirs [Accessed: October 2024].

- Temporary impact to groundwater levels and flows associated with dewatering of below ground excavations; and
- Increase in flood risk and indirect pollution risk associated with works and temporary land take in areas identified to be at fluvial and surface water flood risk.

Decommissioning Phase

- Pollution risk to waterbodies/aquifers from HGVs/construction plant associated with works required for decommissioning activities;

Operational Phase

- Risk of lateral migration of watercourses crossed by the Proposed Development, particularly those in proximity to proposed OHL poles that may require additional migration; and
- Flood risk to third parties associated with the crossing of watercourses and location of poles required for the OHL section of the Proposed Development located in flood zones.

10.8 EMBEDDED MEASURES

10.8.1. This section offers a summary of the measures recommended to be embedded into the construction and detailed design of the Proposed Development. The measures suggested are deemed to be proportionate and necessary to mitigate against the potentially significant impacts that are detailed in Section 10.10 and Section 10.11.

CONSTRUCTION MITIGATION MEASURES

10.8.2. An CEMP is submitted alongside this ES. The CEMP contains principles to be carried forward in order to mitigate potentially significant impacts to surface water and groundwater receptors within the study area. The CEMP refers to a number of industry standard best-practice guidance documents, which include the following:

- GPP 1: Understanding Your Environmental Responsibilities;
- GPP 5: Works and Maintenance in or Near Water;
- GPP 21: Pollution Incident Response Planning; and
- GPP 22: Dealing with Spills.

10.8.3. The following is a list of mitigation measures included in the CEMP:

- A minimum buffer of 5m from any construction activities from top of bank will be implemented to protect the identified watercourses and associated habitat;
- Existing access tracks will be used to transport construction materials to and from the compound;
- The method of works will consider the potential for impacts to Water Environment and Flood Risk receptors, particularly where works are undertaken within 10m of a surface water feature;
- Buffer strips and silt mitigation should be installed where works are within 10m of a surface water feature;
- Where possible, topographical gradients should be kept as shallow as possible in order to minimise the risk of watercourse contamination from silt runoff;
- Surface water runoff should be captured at source and disposed of in accordance with best-practice guidance and allocated permits;

- The refuelling of construction and maintenance vehicles should be undertaken in a controlled area with measures in place to prevent spillages from contaminating surface water and groundwater resources, such as drip trays, bunds and other pollution control measures, if necessary;
- Regular visual inspection of watercourses in close proximity of current works should be undertaken to monitor changes to discolouration and identify increased sediment loading;
- Those conducting the works should have an understanding of the hydraulic connectivity of the site, including the watercourses and urban drainage networks, to ensure work can be undertaken in such a way that minimises pollution to sensitive water features;
- A permit may be required for the abstraction and discharge of water should dewatering of excavations be required during installation of the Proposed Development. Consultation with NRW is recommended once groundwater levels are better understood following ground investigation; and
- Any discharge of groundwater to receiving watercourses should be passed through appropriate treatment for sediment removal prior to discharge. Water should not be discharged during periods of high flow in receiving watercourses to reduce the risk of downstream flood risk.

10.8.4. The principles recommended within the CEMP submitted alongside the ES should be used by the appointed contractor to inform location-specific method statements. At minimum it is recommended that location-specific method statements are prepared for the open cut installation of the UGC adjacent to the Nant y Ffyllon in the Pen-y-lan area of Nantyffyllon; and for the open cut crossing of the Nant Sychbant.

10.8.5. Method statements should be developed in consultation with the LLFA.

10.8.6. The open cut installation of UGC adjacent to the Nant y Ffyllon must ensure tight control of site boundaries to manage the risk of increased sediment loading within the watercourse. Groundworks should also be located a minimum of 10m from the top of bank of the watercourse to reduce risk to bank stability and allow for natural geomorphological processes.

10.8.7. The open cut crossing of the Nant Sychbant must ensure hydraulic connectivity is maintained throughout the duration of the works and that flows are effectively managed (including measures and capacity to manage flood flow events), that appropriate pollution measures are in place, and that the watercourse is reinstated to its pre-development state immediately following completion of the works. The details of installation should be agreed with the LLFA but are likely to require cables be located a minimum of 1.5m below the bed of the watercourse and for a distance of 5m beyond each bank.

10.8.8. Consideration must also be given to localised scour at the outfall of any proposed over pumping/diversion and risk of increased sedimentation within the channel. Localised silt management measures may be required within the channel. NRW has indicated it holds several hydraulic models that may be of use to inform the detailed design of the construction working method statement.

10.8.9. Consultation with the LLFA is required to understand consenting requirements for works within 7m of Ordinary Watercourses. Consultation is also recommended to understand any potential issues with culvert condition within areas of proposed construction of the Proposed Development.

10.8.10. Further consultation with DCWW is recommended to avoid potential clashes with sewerage infrastructure during the installation of the Proposed Development.

OPERATION MITIGATION MEASURES

10.8.11. Proportionate measures for protection of flood risk receptors through the operational phase of the Project are as follows:

- The location of poles will be considered through detailed design to ensure they are located a minimum of 10m from the top of bank of all watercourses and outside high-risk flood zones, while understanding there are a number of engineering design requirements that will also need to be satisfied through detail design.

DECOMMISSIONING MITIGATION MEASURES

10.8.12. Potential for adverse impacts during decommissioning are expected to be limited as all UGC will be left in-situ. Impacts associated with the removal of above ground infrastructure are likely to be similar to those identified in the construction phase. The general mitigation measures discussed for the construction stage are therefore recommended for the decommissioning phase.

10.9 ASSESSMENT METHODOLOGY

10.9.1. The assessment of potential impacts to water resources and flood risk from the Proposed Development has been undertaken in accordance with the legislation, policy and guidance summarised in Section 10.3.

10.9.2. The overarching approach to completion of the Water Resources and Flood Risk assessment is as follows:

- Consultation with relevant bodies to confirm the guiding principles of the assessment and hydrology issues to be considered;
- Consultation with NRW, Bridgend CBC, Dŵr Cymru Welsh Water and Neath Port Talbot CBC to ascertain further details on the baseline conditions in the Study Area;
- Identify sensitive surface water, groundwater and flood risk receptors within the Study Area through desk-based surveys and assess potentially significant impacts that the project could have on identified receptors; and
- Identify ways to mitigate, minimise or avoid potential significant impacts.

SIGNIFICANCE OF EFFECT CRITERIA

10.9.3. The identification of potentially significant impacts on Water Resources and Flood Risk receptors within the Study Area broadly follows the approach presented in Vol. 11, Section 3 of DMRB LA113. Although not directly applicable to the nature of the Project, the assessment principles set out within the DMRB guidance provide a good basis for assessing effects of developments on the water environment and flood risk.

10.9.4. The approach to assessment is broadly presented in three stages:

- Estimating the importance of the hydrology receptor (Table 10-7);
- Estimating the magnitude of the impact (Table 10-8); and
- Assessing the significance of the effect on the hydrology receptor (Table 10-9).

10.9.5. The significance of the effect resulting from the Project has been assessed with reference to the importance (or sensitivity / value) of a given receptor and the magnitude of the impact. This approach provides a mechanism for identifying areas where mitigation measures may be required and to identify the most appropriate measures to alleviate the risk presented by the Project. The residual effects of the Project on hydrology receptors have been evaluated assuming that identified mitigation measures are fully implemented.

10.9.6. The Water Resources and Flood Risk assessment is a qualitative assessment informed by professional judgement, based on experience and the use of best practice guidance, such as that published by the Natural Resources Wales, Environment Agency, CIRIA and Defra. The key determinants of sensitivity and impact magnitude will relate to the aquatic environment (used here to refer to surface water quality and designations, quantity and hydromorphology aspects), water resources (used here to refer to groundwater quantity and quality) and flood risk (used here to refer to identified receptors that may be affected).

Table 10-7 - Criteria for estimating the importance of Water Resources and Flood Risk receptors

Importance	Criteria	Example	
Very high	Feature with a high quality and rarity at an international scale, with little potential for substitution	Aquatic environment	Watercourse having a WFD classification shown in a RBMP and Q95 ≥ 1.0 m3/s. Conditions supporting sites with international conservation designations (Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites), where the designation is based specifically on aquatic features.
		Water Resources	Principal aquifer providing a regionally important resource and/or supporting a site protected under EC and UK Legislation. Regionally important public water supplies. Groundwater locally supports GWDTE. Located in Source Protection Zone (SPZ) 1.
		Flood risk	Land use types defined as 'Emergency Services' (i.e. critical national infrastructure) in the TAN 15 flood risk vulnerability classification.
High	Feature with a high yield and/or quality and rarity at a national scale, with a limited potential for substitution	Aquatic environment	Watercourse having a WFD classification shown in a RBMP and Q95 <1.0m3/s. Conditions supporting sites with national conservation designations (i.e. Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs)) where the designation is based specifically on aquatic features.

		Water resources	Local public water supplies. Principal aquifer providing locally important resource or supporting a river ecosystem. Groundwater supports GWDTE. Located in SPZ 2.
		Flood risk	Land use types defined as 'Highly Vulnerable' in the TAN15 flood risk vulnerability classification.
Medium	Feature with a medium yield and/or quality at a regional scale or good quality at a local scale, with some potential for substitution	Aquatic environment	Sites with local conservation designations where the designation is based specifically on aquatic features. Receptor water body: all relevant WFD elements at least moderate status/potential.
		Water resources	Un-licensed potable water abstractions, e.g. private domestic water supplies. Aquifer providing water for agricultural or industrial use with limited connection to surface water. Located in SPZ 3.
		Flood risk	Land use types defined as 'Highly Vulnerable' in the TAN15 flood risk vulnerability classification.
Low	Feature with a low yield and/or quality at a local scale, with some potential for substitution	Aquatic environment	Receptor water body: relevant WFD elements* at less than moderate status/potential. Small watercourses not classified as a WFD river water body.
		Water resources	Licensed abstractions which are not public water supply, e.g. industrial process water, spray irrigation.
		Flood risk	Land use types defined as 'Less Vulnerable' in the TAN15 flood risk vulnerability classification.
Negligible	Feature with minimal yield and/or very low quality at a local scale, with a high potential for substitution	Aquatic environment	Receptor water body: relevant WFD elements* at poor status/potential. Minor water features such as ditches, not classified as a WFD river water body. Watercourses not having a WFD classification shown in a RBMP and Q95 ≤0.001m3/s.

		Water resources	Un-licensed non-potable abstractions, e.g. livestock supplies. Unproductive strata.
		Flood risk	Land use types which are considered to be exceptions under TAN 15 as they are required in a fluvial, tidal or coastal location by virtue of their nature.

Table 10-8 - Criteria for estimating the potential magnitude of an impact on a Water Resources and Flood Risk receptors

Magnitude	Criteria	Example	
High	Results in major change to feature, of sufficient magnitude to affect its use/integrity	Aquatic environment	Deterioration in river flow regime, morphology or water quality, leading to sustained, permanent or long-term breach of relevant Conservation Objectives (COs) or downgrading of WFD status (including downgrading of individual WFD supporting elements). Loss or extensive change to a fishery. Loss or extensive change to a designated nature conservation site.
		Water resources	Complete loss of resource or severely reduced resource availability and/or quality, permanently compromising the ability of water users to exercise licensed rights, i.e; ▪ Loss of, or extensive change to, an aquifer. ▪ Loss of regionally important water supply. ▪ Potential high risk of pollution to groundwater from routine runoff. ▪ Loss of, or extensive change to GWDTE or baseflow contribution to protected surface water bodies. ▪ Reduction in water body WFD classification. ▪ Loss or significant damage to major structures through subsidence or similar effects.
		Flood risk	Change in flood risk resulting in potential loss of life or major damage to property and infrastructure. Increase in peak flood level (> 100mm).
Medium	Affects the integrity of the attribute, or loss	Aquatic environment	Deterioration in river flow regime, morphology or water quality, leading to periodic, short-term and reversible breaches of relevant COs, or downgrading of WFD status.

	of part of an attribute.		(including downgrading of individual WFD supporting elements or ability to achieve future WFD objectives). Partial loss in productivity of a fishery.
		Water resources	Moderate reduction in resource availability and/or quality, which may compromise the ability of water users to exercise licensed rights on a temporary basis or for limited periods, i.e: ▪ Partial loss or change to an aquifer. ▪ Degradation of regionally important public water supply or loss of significant commercial/ industrial/ agricultural supplies. ▪ Potential medium risk of pollution to groundwater from routine runoff. ▪ Partial loss of the integrity of GWDTE. ▪ Contribution to reduction in water body WFD classification. ▪ Damage to major structures through subsidence or similar effects or loss of minor structures.
		Flood risk	Change in flood risk resulting in potential for moderate damage to property and infrastructure Increase in peak flood level (> 50mm).
Minor	Results in minor change to feature, with insufficient magnitude to affect its use/integrity in most circumstances	Aquatic environment	Measurable deterioration in river flow regime, morphology or water quality, but remaining generally within COs, and with no change to WFD status (of overall status or supporting element status).
		Water resources	Minor reduction in resource availability and/or quality, but unlikely to affect the ability of water users to exercise licensed rights i.e; ▪ Potential low risk of pollution to groundwater from routine runoff. ▪ Minor effects on an aquifer, GWDTEs, abstractions and structures.
		Flood risk	Change in flood risk resulting in potential for minor damage to property and infrastructure. Increase in peak flood level (> 10mm).
Negligible	Results in little change to feature, with insufficient magnitude to	Aquatic environment	Limited measurable deterioration in river flow regime, morphology or water quality and limited probability of consequences in terms of COs or WFD designations.

	affect its use/integrity	Water resources	Limited measurable change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights.
		Flood risk	Increased frequency of flood flows, but which does not pose an increased risk to people, property and infrastructure. Negligible change to peak flood level (≤ +/- 10mm).
No change	Results in no change to feature, with insufficient magnitude to affect its use/integrity	Aquatic environment	No measurable deterioration in river flow regime, morphology or water quality and no consequences in terms of COs or WFD designations.
		Water resources	No measurable change in resource availability or quality and no change in ability of water users to exercise licensed rights.
		Flood risk	No increase in frequency of flood flows, and no increase in risk to people, property and infrastructure.

10.9.7. Table 10-9 provides an indication of how the level of effect has been categorised from the interaction of a receptor's sensitivity to change and the magnitude of change. A level of effect of Moderate or greater is generally of most importance to the decision-maker, and so these effects are considered 'significant'. The significance of effects identified as being 'potentially significant' has been confirmed via professional judgement. Where a level of effect is Minor or below, these are generally considered to be 'not significant'.

10.9.8. Reference is made to:

- Major effects, which will always be determined as being significant in EIA terms.
- Moderate effects can be significant, or nor significant, based on specific scenarios and professional judgement; and
- Minor or negligible effects, which will always be deemed as not significant.

10.9.9. Effects can either be positive or negative.

Table 10-9 - Criteria for estimating the significance of anticipated effects

		Magnitude of Impact				
		High	**Medium**	**Minor**	**Negligible**	**No Change**
Importance of Receptor	**Very High**	Very Large (Significant)	Large or Very Large (Significant)	Moderate or Large (Significant)	Slight (Not Significant)	Neutral (Not Significant)

	High	Large or Very Large (significant)	Moderate or Large (Significant)	Slight or Moderate (Potentially Significant)	Slight (Not Significant)	Neutral (Not Significant)
	Medium	Moderate or Large (Significant)	Moderate (Potentially Significant)	Slight (Not Significant)	Neutral or Slight (Not Significant)	Neutral (Not Significant)
	Low	Slight or Moderate (Potentially Significant)	Slight (Not Significant)	Neutral or Slight (Not Significant)	Neutral or Slight (Not Significant)	Neutral (Not Significant)
	Negligible	Slight (Not Significant)	Neutral or Slight (Not Significant)	Neutral or Slight (Not Significant)	Neutral (Not Significant)	Neutral (Not Significant)

10.10 ASSESSMENT OF EFFECTS

CONSTRUCTION PHASE

10.10.1. Table 10-10 below summarises the potentially significant impacts to surface water, groundwater and flood risk receptors resulting from the Proposed Development through the construction phase of works. The locations of all watercourses that assessed in Table 10-10 can be found on Figure 10.1.

Table 10-10 – Construction phase assessment of likely significant impacts

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Impact
Surface Water Receptors				
Afon Llynfi	High	Pollution risk from increased sediment	There is potential for sediment to enter the Afon Llynfi due to the increased HGV traffic in urban and rural areas through the 9 month construction phase. This is particularly true along the primary and secondary routes through Maesteg and Nantyffyllon, where HGVs would be at their closest to the watercourse. Due to the hilly topography and many of the watercourses within the Study Area ultimately discharging into the Afon Llynfi, there is potential for sediment from open cut installation, installation of OHL poles and HGVs to enter tributaries and other rivers and eventually enter the Afon Llynfi as a result of hydraulic connectivity of the watercourse network. Embedded mitigation measures will be in place to manage the construction phase impacts. The majority of works are within existing highway corridors or located more than 10m from watercourses. Existing drainage systems serving built up urban areas will also provide protection from additional silt dispersal associated with HGV movements. Minor amounts of silt could enter via hydraulic connectivity of associated tributaries. Therefore, the magnitude has been deemed to be **Negligible** as the works are deemed to result in little change to the Afon Llynfi with insufficient magnitude to affect its use/integrity.	Slight (**Not Significant**)
Afon Llynfi	High	Increased pollution risks from spillage of	HGVs are proposed to travel to the construction compound via the primary construction route along A4063,	Slight (**Not Significant**)

		fuels or other harmful substances	starting from the south, with the construction compound being located over 1.5km to the west of the Afon Llynfi. At the time of writing, it is assumed that re-fuelling will take place at SRN to the south and also at the proposed construction compound located at Foel Trawsnant. Additionally, the refuelling of HGVs will be undertaken in controlled conditions as outlined in Section 10.8 including the use of drip trays and bunds. Appointed contractors will also be aware of the hydraulic connectivity of the watercourses in the Study Area and the potential for impacts to sensitive water environment receptors. It is expected that adequate safeguarding measures will be in place. Based on the Project information available at the time writing, spillages resulting from OHL or UGC works are considered to be unlikely. There is potential for some residual spillages from HGVs but nothing that would be expected to lead to a significant impact on the Afon Llynfi. Therefore, the magnitude of impacts to the Afon Llynfi from spillages are expected to be **Negligible** as the works are deemed to result in little change to the Afon Llynfi with insufficient magnitude to affect its use/integrity.	
Afon Cynffig (Kenfig)	High	Pollution risk from increased sediment and increased pollution risks from spillage of fuels or other harmful substances	The magnitude of the impact to the Afon Cynffig is deemed to result in **No Change**. Although the watercourse is within the Study Area, its distance from the OHL section of the Proposed Development indicates that no significant impacts are expected.	Neutral (**Not Significant**)
Ffrwd Wyllt	High	Pollution risk from increased sediment and increased pollution	Although the headwaters for this watercourse are within the Study Area, the distance of the watercourse from the Proposed Development suggests no significant impacts	Neutral (**Not Significant**)

		risks from spillage of fuels or other harmful substances	are expected and the magnitude has subsequently been deemed to result in **No Change**.	
Afon Afan	High	Pollution risk from increased sediment and increased pollution risks from spillage of fuels or other harmful substances	Although the headwaters for this watercourse are within the Study Area, the distance of the watercourse from the Proposed Development suggests no significant impacts are expected and the magnitude has subsequently been deemed to result in **No Change**.	Neutral (**Not Significant**)
Nant y Ffyllon	Medium	Pollution risk from potentially contaminated sediment	There is a section of proposed open cut works, approximately 300m in length, to install the UGC that runs parallel to the Nant y Ffyllon to the west of Nantyffyllon. The inclusion of recommended mitigation will reduce the risk of increased sediment loading but the proximity of the works suggests some increase could occur. Due to the close proximity of the works to the watercourse a **Minor** magnitude of impact is considered appropriate.	Slight (**Not Significant**
Nant y Ffyllon	Medium	Increased pollution risks from spillage of fuels or other harmful substances	The proximity of open cut installation of the UGC adjacent to this watercourse increases the risk of a pollution incident affecting the watercourse. However, adherence to good site practice should be sufficient to manage potential risk. The magnitude of impacts to the Nant y Ffyllon from spillages are expected to be **Negligible** with the implementation of good site practices.	Neutral (**Not Significant**)
Nant Sychbant	Medium	Pollution risk from increased sediment	The UGC section of the Proposed Development will cross the Nant Sychbant via an open cut method. Construction information at the time of assessment suggests a temporary dam will be installed to facilitate construction of	Slight (**Not Significant**

			the trench with hydraulic connectivity maintained throughout the duration of the works. The CEMP recommends that the method statement for the works is developed in consultation with the LLFA. The inclusion of recommended mitigation will reduce the risk of increased sediment loading but the proximity of the works suggests some increase could occur. Due to the close proximity of the works to the watercourse a **Minor** magnitude of impact is considered appropriate.	
Nant Sychbant	Medium	Increased pollution risks from spillage of fuels or other harmful substances	The proximity of open cut installation of the UGC within this watercourse increases the risk of a pollution incident affecting the watercourse. However, adherence to good site practice should be sufficient to manage potential risk. The use of the temporary dam will also assist in containment of potential pollution incidents. The magnitude of impacts to Nant Sychbant from spillages are expected to be **Negligible** with the implementation of good site practices.	Neutral (**Not Significant**)
Nant Sychbant	Medium	Temporary impact to the quality, flow dynamics, hydromorphological properties and hydraulic capacity	Hydraulic connectivity of the watercourse will be maintained throughout the duration of the open cut installation of the UGC. The CEMP recommends that the method statement for the works is developed in consultation with the LLFA. There will however be a temporary change to the flow dynamics and hydromorphological properties during the construction phase. It is expected that the watercourse will return to baseline conditions within a year of construction as the works are localised and do not require realignment of the channel.	Moderate (**Potentially Significant**)

			The magnitude of potential impact has been assessed to be **Medium** as the works will affect the integrity of the watercourse, however this is a short term temporary impact.	
Ordinary watercourses that are crossed by the UGC sections of the Proposed Development or located within the wider Study Area	Low to Medium	Pollution risk from increased sediment and increased pollution risks from spillage of fuels or other harmful substances	With the exception of the Nant y Ffyllon and Nant Sychbant discussed above, the proposed crossing of other watercourses will be within existing highway infrastructure through Nantyffyllon and to the west of Maesteg and, as such, impacts are not expected to be significant with the inclusion of good site practice measures. The magnitude of impacts from sediment loading and spillages are expected to be **Negligible** as the works are deemed to result in little change to the watercourses with insufficient magnitude to affect their use/integrity	Neutral (**Not Significant**)
Ordinary watercourses that are crossed by the OHL sections of the Proposed Development or located within the wider Study Area	Low to Medium	Pollution risk from increased sediment and increased pollution risks from spillage of fuels or other harmful substances	The greatest risks are likely to be associated with the installation of OHL poles, the location of primary and secondary access tracks used by HGVs and the construction compound within the Study Area. Whilst there is potential for sediment and spillages to enter the watercourses, mitigation recommended in the CEMP and the location of poles more than 10m from watercourses (where practicable subject to detailed design will reduce these risks. The magnitude of impacts from sediment loading and spillages are expected to be **Negligible** as the works are deemed to result in little change to the watercourses with insufficient magnitude to affect their use/integrity	Neutral (**Not Significant**)
Groundwater Receptors				

Secondary Undifferentiated and Secondary A Superficial Aquifers and Secondary A and B Bedrock Aquifers, including licensed and unlicensed Groundwater Abstractions	Medium	Impacts to groundwater quantity and water quality	The depth to groundwater is uncertain although the presence of springs within the study area indicates that groundwater levels may be high. Localised dewatering during installation of the UGC sections of the Proposed Development may be required although the majority of UGC will be located within existing highway infrastructure. Foundations required for OHL poles are expected to be between 2-3m below ground level. The location of groundwater abstractions is currently unknown and will be investigated, although any impacts are expected to be short term, localised and minimal, with no long term impacts to natural groundwater levels or groundwater springs. Potential pollution risks from spillages are considered significant with the inclusion of recommended mitigation and good site practice. The magnitude of impact is expected to be **Negligible** as the works are deemed to result in little change to groundwater resources with insufficient magnitude to affect their use/integrity	Neutral (**Not Significant**)
Flood Risk Receptors				
Flood risk receptors including critical infrastructure and urban areas	Low to Very High	Increase in flood risk and indirect pollution risk associated with works and temporary land take in areas identified to be at fluvial and surface water flood risk	Review of desk-based sources of flood risk data indicates the Proposed Development is located outside of the mapped fluvial/tidal flood extents with the exception of the Nant Sychbant. Similarly, all installation of the UGC sections of the Proposed Development is within the alignment of existing highway infrastructure with the exception of the Nant Sychbant and Nant y Ffyllon. Poles required to support the OHL sections of the Proposed Development will be located more than 10m	Crossing of Nant Sychbant: Large **(Significant)** Remainder of Proposed Development: Slight (**Not Significant**)

			from watercourses (where practicable subject to detailed design), with works within 7m recommended to be discussed with the LLFA. At the time of preparing this assessment it is understood that no new access tracks will be required that will cross identified watercourses or overland flow routes. The proposed construction compound is also not located within an area of flood risk. The installation of OHL sections of the Proposed Development and proposed construction compound is therefore not expected to interact with mapped flood extents. The construction of the open cut installation of UGC adjacent to the Nant y Ffyllon is recommended to remain a minimum of 10m from the top of bank of the watercourse. The open cut crossing of the Nant Sychbant will require installation of a temporary dam. Hydraulic connectivity will be maintained, and it is recommended that the capacity takes into account management of flood flow events. Should the capacity of the diversion be exceeded, flood waters would likely pose risk to the local road adjacent to the proposed works. It is recommended that appropriate traffic management measures are discussed with the LLFA as part of the consenting process, for example the inclusion of appropriate signage to warn drivers of the risk or temporary closure of the road with the exception of local access. The magnitude of potential impact to high sensitivity receptors (such as critical infrastructure and urban areas) is considered to be **Negligible** as the works are not considered to increase flood risk during construction. The magnitude of potential impact to the minor road adjacent to the Nant Sychbant is considered to be **High** given the potential for localised and temporary increase in	

			flood risk. This could be reduced once further details of the proposed construction method are known and mitigation agreed with the LLFA.	

OPERATION PHASE

10.10.2. Table 10-11 below summarises the potentially significant impacts to surface water, groundwater and flood risk receptors resulting from the Proposed Development through the operational phase of works.

Table 10-11 – Operation phase assessment of likely significant impacts

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Impact
Surface Water Receptors				
Nant Sychbant, Nant y Ffyllon, Nant y Castell and tributaries	Medium to High	Future lateral channel migration where the movement would impact OHL infrastructure and may require additional mitigation	The potential for future channel migration during the operational phase was assessed using satellite imagery, historic mapping, lidar data and topography mapping. Nant y Ffyllon and Nant y Castell have incised into steep topography, resulting in confined watercourses with minimal potential for lateral migration. Although Nant Sychbant is situated within a flatter topographic setting, historical evidence indicates limited lateral movement of no more than approximately 2m since the late 1800s. Poles required to support the OHL sections of the Proposed Development will be located more than 10m from watercourses (where practicable subject to detailed design), with works within 7m recommended to be discussed with the LLFA. The risk of additional mitigation to manage lateral migration is therefore considered **Negligible**.	Slight (**Not Significant**)
Flood Risk Receptors				
Flood risk receptors including critical infrastructure and urban areas	Low to Very High	Increase in flood risk associated with watercourse crossings and location of permanent infrastructure in	Review of desk-based sources of flood risk data indicates the Proposed Development is located outside of the mapped fluvial/tidal flood extents with the exception of the Nant Sychbant. Similarly, all installation of the UGC sections of the Proposed	Slight (**Not Significant**)

		areas identified to be at fluvial and surface water flood risk	Development are within the alignment of existing highway infrastructure with the exception of the Nant Sychbant and Nant y Ffyllon. Poles required to support the OHL sections of the Proposed Development will be located more than 10m from watercourses (where practicable subject to detailed design), with works within 7m recommended to be discussed with the LLFA. The installation of OHL sections of the Proposed Development is therefore not expected to interact with mapped flood extents. The construction of the open cut installation of UGC adjacent to the Nant y Ffyllon is recommended to remain a minimum of 10m from the top of bank of the watercourse and will result in no change to existing ground level when reinstated. The open cut crossing of the Nant Sychbant will require installation of a temporary dam. On completion of the works the watercourse will be reinstated as existing with no change to channel capacity. The magnitude of potential impact to all flood risk receptors is considered to be **Negligible.**	

DECOMMISSIONING PHASE

10.10.3. Underground cables will be left in-situ at the end of the operational phase of the Proposed Development. Above ground infrastructure will be removed. Potential impacts to surface water and groundwater resources are expected to be limited to risks of increased sediment loading and increased with of pollution from HGVs/construction plant or construction processes.

10.10.4. As discussed in the assessment of construction impacts, good site practice including control of site boundaries will limit the risk of pollution. The magnitude of impacts from sediment loading and spillages are therefore expected to be **Negligible** as the works are deemed to result in little change to the watercourses with insufficient magnitude to affect their use/integrity. The significant of impact is therefore assessed to be **Neutral (Insignificant)** for all surface water features and groundwater resources.

10.11 ASSESSMENT OF CUMULATIVE EFFECTS

10.11.1. A cumulative effect is an effect whereby a water environment or flood risk receptor within the Study Area of the Proposed Development is expected to experience simultaneous significant impacts from multiple schemes over the 9 month construction period or the duration of the operational phase.

10.11.2. There are a number of relevant developments located within the Study Area. A summary of these proposals is provided in Table 10-12 below, as well as a spatial representation being shown in Figure 2.1.

Table 10-12 – Summary of potentially significant developments within the Study Area of the Proposed Development

Planning Authority Area	Ref.	Summary of Development	Planning Decision	Distance from Proposed Development	Potential for Cumulative Impacts
Neath Port Talbot Council	P2022/0517 P2022/0344	Wind Farm associated with Proposed Development - consisting of 11 turbines with a maximum tip height of 145m	Approved	The Proposed Development enters the Site from the southeast.	**Low** potential – Not significant. A spatial crossover in development footprints is acknowledged and has been considered for cumulative impacts. The construction compound is proposed to be located at the north of the Proposed Development where lots of HGV movement, re-fuelling / re-stocking and storage are proposed to be undertaken. The significance of potential impacts will depend on the scope of activity in the southeast of the Wind Farm development. Embedded mitigation measures are expected to sufficiently mitigate anticipated impacts to the water environment and flood risk receptors, and therefore the potential for cumulative impacts is considered to be **Low**.
Bridgend County Borough Council	P/23/621/APN	Prior notification for a new building to store hay and farm machinery.	Approved	<0.1km (bounds the proposed pathway to the east.	**Low** potential – Not significant. The location of the new farm storage building is located along one of the proposed secondary construction access tracks. Therefore, an increase in HGV traffic is expected in the event of overlapping construction periods. However, a review of online mapping suggests that the nearest watercourses are >300m from the proposed storage building.
Bridgend County	P/23/473/RLX P2020/1002	DNS (DNS/3213662)	Approved	5.10km west	**Negligible** due to proximity from the Proposed Development.

Borough Council	P2020/0569	for seven wind turbines. Four turbines are up to a maximum tip height of 149.9m, and three turbines are up to a maximum tip height of 130m.			
Neath Port Talbot Council	P2022/0694 P2022/0537	Installation of Solar Farm, with a capacity of 3.80MW, on a former colliery soil heap between the B284 and A48 northwest of Pyle	Approved	4.7km southwest	**Negligible** due to proximity from the Proposed Development.
Neath Port Talbot Council	P2024/0820 P2022/0776 P2018/0493	Mixed-use Residential Development, comprising of 600 apartments and 100-bed hotel.	Approved	1.8km south	**Negligible** due to proximity from the Proposed Development.
Neath Port Talbot Council	P2024/0029 P2021/0057 P2023/0444	DNS (P/23/319/DNS) for a Wind Farm consisting of 18 turbines with a maximum height	Awaiting decision with comments given on objections.	Approximately 0.9km west - also bounds directly to the west further up the proposed pathway.	**Low** potential – Not significant. Although the Wind Farm DNS application is approximately 300m away, a comparison of proposed construction compound and access track locations suggest the potential for cumulative impacts is **Low**. It is deemed to be a

		ranging between up to 206m, up to 203m, and up to 250m to blade tip.			sufficient distance away from construction phase infrastructure and the proposed OHL section pole locations.
Bridgend County Borough Council	P/12/877/BCB	Create Wildlife & Sustainable Urban Drainage Scheme Ponds to Enhance the Ecological Potential of The Welfare Park.	Approved	Approximately 0.3km east.	**Low** to **Medium** potential – Potentially significant. The new ponds are located adjacent to a perpendicular turning on the primary construction access route and also a section of the UGC. All of these works are being undertaken in the immediate vicinity of the Nant y Crynwydd and what appears to be a culvert. Embedded mitigation measures are expected to sufficiently mitigate potential impacts along the primary construction access track and through the laying of the underground cabling. It is acknowledged, however, that there could be potential for cumulative impacts based on close proximity of works and that the works are to be undertaken close to the Nant y Crynwydd which then outfalls into the Afon Llynfi approximately 100m upstream.
Bridgend County Borough Council	P/16/291/FUL	Creation Of Community Wood- Land on Reclaimed Colliery & Washery & Tip Site, Inc Tree Planting Create Infrastructure.	Approved	Approximately 4km northwest.	**Negligible** due to proximity from the Proposed Development.
Neath Port Talbot Council	P2023/0638	DNS (DNS/3255801)	Approved	3.42km	**Negligible** due to proximity from the Proposed Development.

		for 6 wind turbines, with a maximum tip height of 200m, a solar photovoltaic array, battery storage facilities, together with associated and ancillary development include a control building, electricity transformers and anemometry mast, grid connection, access works, temporary construction compound and associated works.			
Bridgend County Borough Council & Neath and Port Talbot	P/16/128/FUL P/22/795/DOC	Alternative restoration & aftercare scheme inc. pumping, earthworks, soil relocation, rights of way.	Awaiting decision	3.62km south	**Negligible** due to proximity from the Proposed Development.

Bridgend County Borough Council	P/23/206/OBS	DNS (DNS CAS-01977-L5K6R7) for a Solar Farm and Energy storage - 79mw	N/A	1.1km west	
Neath Port Talbot Council	P2023/0498	DNS (DNS CAS-02430-B1L0D2) for a proposed 50 MW ground mounted photovoltaic solar farm with associated equipment, infrastructure, grid connection and ancillary works.	Considered to be EIA.	4.82km west	**Negligible** due to proximity from the Proposed Development.
Bridgend County Borough Council	P/19/915/RES	Residential Development of 405 units.	Conditional Consent (reserved matters)	4.9km southeast	**Negligible** due to proximity from the Proposed Development.

10.12 MITIGATION AND RESIDUAL EFFECTS

MITIGATION MEASURES

10.12.1. This section outlines additional mitigation measures beyond those that are recommended to be embedded from the outset.

10.12.2. The measures proposed in this section are deemed to be proportionate based on the Project information that has been made available to us at the time of writing.

Construction Phase

10.12.3. Suggested additional mitigation measures through the construction phase of the Project are listed below:

- Where necessary, use barriers to adequately capture sediment to allow for disposal in-line with CEMP and OWC requirements, including at the location of temporary dam use at Nant Sychbant;
- Upstream and downstream water quality sampling to be undertaken to gauge potential adverse impacts to the quality of receiving waterbodies, in particular WFD waterbodies and Nant Sychbant;
- Consideration of Phase 1 Ground Investigation data in development of mitigation measures and contractor's method statement, for example the need for local dewatering during installation of below ground works;
- Detailed design of proposed flow diversion measures for the proposed crossing of Nant Sychbant and consultation with the LLFA, including consideration of flood flow management and management of risk to local access roads; and
- Further determination of construction programme for the Welfare Park project (P/12/877/BCB) to discuss and sufficiently mitigate against the potential for cumulative impacts through the construction phases of both projects.

Operational Phase

10.12.4. At the time of writing, no additional mitigation measures have been identified for the operational phase of the Proposed Development.

RESIDUAL IMPACTS

10.12.5. Following the implementation of embedded mitigation measures along with the additional mitigation measures outlined above, the potential for residual impacts is deemed to be **Neutral** – **Minor** and therefore are not deemed to be significant.

10.13 CONCLUSIONS OF SIGNIFICANCE EVALUATION

10.13.1. The assessment of Water Environment and Flood Risk impacts within this ES Chapter identified the following potentially significant impacts through the construction phase of the Project:

- Temporary impact to the quality, flow dynamics, hydromorphological properties and hydraulic capacity from temporary dam works for UGC installation to the Nant Sychbant watercourse;
- Temporary increase in flood risk to the local access road from temporary dam works for UGC installation to the Nant Sychbant watercourse; and
- Cumulative impacts with the ecological enhancement scheme at the Welfare Park approximately 0.3km to the east of the Proposed Development.

10.13.2. Following the identification of these potentially significant impacts, additional mitigation measures beyond the embedded mitigation measures were proposed in Section 10.12. The additional measures are expected to sufficiently mitigate the potential Water Environment and Flood Risk risks.

11 SUMMARY OF MITIGATION

11.1.1. **Table 11-1** sets out a summary of significant effects and the subsequent mitigation and enhancement measures that the Applicant and NGED have committed to implementing prior to and during the construction, operation and decommissioning phases of the Project. **Table 11-1** provides a list of:

- embedded mitigation;
- significant effects prior to enhancement measures (additional mitigation);
- additional mitigation; and
- residual effects.

11.1.2. These have been identified through the EIA process, as explored in more details within **Chapters 6-10**.

11.1.3. The definition of significance, particularly in respect of how this relates to “significant effects” in terms of the EIA Regulations, is described within **Chapter 2: EIA Approach**. A definition of how significant effects are derived for each topic is set out in the corresponding technical chapter along with the relevant explanation and descriptions of receptor sensitivity, the magnitude of change, and levels of effect that are considered significant in terms of the EIA Regulations.

11.1.4. Most of the pre-construction and construction phase mitigation would be delivered through a CEMP (**Appendix 4A**). The CEMP will provide a general overview of the standard good practice measures to be adopted. These are measures primarily applicable to the construction phase, which is the phase of activities with greatest risk of adverse effects in terms of both probability and magnitude. The principles identified for management of construction are also be anticipated to be applicable for decommissioning.

11.1.5. Further details on specific measures to be included in the final CEMP are contained in each of the technical chapters of the EIA report, where relevant. The final CEMP will be prepared as a condition of consent, prior to commencement of construction, in consultation with the local planning authorities - BCBC and NPTCBC - and other relevant stakeholders, which will take account of the approved plans and conditions attached to the consent granted for the Project.

Table 11-1 - Summary of Significant Effects

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Landscape and Visual						
LVIA - General	Construction and Operation	The Project has been developed through an iterative design process which considered balanced environmental and technical factors. Minimising the number of potential visual receptors and reducing landscape effects by avoiding the requirement to create corridors through forested areas where possible, ensuring the Project is generally backdropped by existing forestry and/ or elevated topography and following the existing topography reflecting the guidance provided in the Holford Rules.	Potential effects on landscape character and designations, and visual amenity.	Embedded Landscape Mitigation has been included through the design process.	Condition of Consent	**Landscape Character Significant Effects of the Project:** The Project is considered to have a Moderate and Significant level of effect at construction and operation stages on LCA 1: Llangynwyd Rolling Uplands and on LANDMAP Visual and Sensory Aspect Area CYNONVS473 Mynydd Baedan (which in part cover the same geographic area) as a result of the UGC (construction phase only) and both the northern and southern OHLs. This LCA and VSAA have a High-Medium Sensitivity. The northern OHL lies within the Foel y Dyfrryn SLA and the southern OHL lies within the Western Uplands SLA. **Visual Significant Effects of the Project:** The Project is considered to have a Major to Moderate and Significant level of effect at both construction and operation phases on users of Footpath MAE/15/2 (represented by Viewpoint 1) as a result of the proposed northern OHL. The Project is considered to have a Major to Moderate - Moderate and Significant level of effect at both construction and operation phases on users of Footpath MAE/50/2 and nearby residents (represented by Viewpoint 3) and users Cistercian Way Long Distance footpath/ Bridleway LDM/17/1 (represented by Viewpoint 4) as a result of the proposed southern OHL. At operation, residents particularly Cae Emi Farm and Lluest-wen, along with users of the footpaths/ bridleways would experience noticeable views of the proposed southern OHL over a wide horizontal field of view.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Traffic and Transport						
Traffic and Transport - General	Construction and Operation		Potential effects on traffic and transport.	Additional mitigation measure will be incorporated within the full CTMP, to include the following: ▪ Restriction of construction traffic movements on the A4063 Maesteg (north of Llan Road north) during peak school pick up and drop off times, to be discussed and agreed with the LHA to prevent Project construction traffic impacting on school children. This will minimise impact on pedestrian amenity and therefore result in this effect being reduced to Not Significant; ▪ The Contractor will consult / agree with the LHA for suitable mitigation measures for Unnamed Road to Sychbant Farm, along with the other narrow single-track roads proposed to be utilised by the Project construction traffic via the development and approval of the full CTMP. This will allow location specific mitigation to be put in place. This will minimise traffic and transport impacts on these road links and therefore result in this effect being reduced to Not Significant; and ▪ The section of the A4063 between Llangynwyd and the northern extent of Tondu should be highlighted, as part of mitigation measures, regarding its accident record and mitigation implemented such as driver information and training/awareness. This would be secured through the full CTMP.	CTMP	With the implementation of the full CTMP and full PRoWMP there will be a package of measures in place to minimise the traffic and transport effects of the Project construction traffic. These mitigation measures will need to include specific measures to address pedestrian amenity near sensitive receptors, such as the primary school alongside the A4063 Maesteg (north of Llan Road north) and the various single-track roads proposed to be used by Project construction traffic. With appropriate mitigation and management in place the impact of the Project on traffic and transport is likely to be **Not Significant**.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology						
Ecology – General (habitat degradation)	Construction	See embedded measures to manage pollution associated with air quality, hydrology, noise, vibration and visual within the CEMP. Construction works would be undertaken using all necessary and practical measures to minimise the release of additional sediment-laden run-off into nearby watercourses.	Potential effects on ecological features (Priority Habitat, ancient woodland and SINCs)	Embedded mitigation has been included through the design process.	CEMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (habitat fragmentation)	Construction	Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. The OHL would be located predominantly in open grassland fields. Micro-siting will be used to avoid impacts to hedgerows, tree lines and watercourse, avoiding direct impacts to these habitats.	Potential effects on ecological features (bats, badgers, otter, brown hare, hedgehog, harvest mouse, reptiles, amphibians, birds and invertebrates)	Embedded mitigation has been included through the design process.	CEMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – General (noise and vibration disturbance)	Construction	Construction works would be undertaken using all necessary and practical measures to minimise the noise, vibration and visual disturbance. Construction works will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate. Full measures to address noise, vibration and visual disturbance are detailed in the CEMP.	N/A	Embedded mitigation has been included through the design process.	Noise and Vibration Management Plan via CEMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (air quality/ dust)	Construction	Due to the nature of the Project, impacts arising from dust generation have been assessed as being minimal (see **Chapter 4: Description of the Project**). There will be little to no demolition and earthworks will be undertaken only for the underground works under existing roads.	N/A	Embedded mitigation has been included through the design process.	CEMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – General (removal of trees)	Construction	Whilst the intention is for the OHL route to be as straight as possible, there will be some deviation to avoid environmental features, such as trees. At points of deviation, angle poles will be used; these are likely to be H-pole structures. The three trees with bat suitability will not be impacted. It is currently anticipated that trees within one location will require removal (Figure 8.5).	Potential effects on ecological features	Embedded mitigation has been included through the design process.	CEMP, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (introduction or spread of INNS)	Construction	Biosecurity measures, such as boot wash stations, will be implemented throughout construction to avoid the introduction or spread of INNS	Potential effects on ecological features	Embedded mitigation has been included through the design process.	CEMP, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – SINCs, Priority Habitats, Ancient Woodland (temporary habitat loss)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. Poles will be stored at the temporary construction compound and transported to the works area on the day of installation.	Potential effects on ecological features (SINCs, Priority Habitats, Ancient Woodland)	A Conservation Plan will be devised in consultation with the LPA. This will incorporate habitat creation, management and monitoring of the habitats present within the Site. The Conservation Plan will include creation and enhancement of existing habitats. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. The turf layer will be translocated during construction following an appropriate methodology to avoid soil compaction. It will be stored in a secure location and will be immediately reinstated following the completion of the trench digging.	CEMP, Conservation Plan	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
				There will be no loss of floral diversity within the turf layer as it will be reinstated with appropriate aftercare if required (e.g. watering in dry weather).		
Ecology – Bats (temporary habitat loss, disturbance/ collision risk, changes in light levels)	Construction and Operation	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained features, designated haul routes, ecological supervision (ECoW). Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate This will largely avoid the hours of darkness, particularly in the summer	Potential effects on ecological features (Bats)	Habitats lost will be reinstated, as to be detailed in the Conservation Plan. In the event that direct effects upon bat roosts cannot be avoided, this will be subject to a licence administered by NRW and implementation of a licensed method statement. Mitigation will avoid a net reduction in habitat suitability for bats, which is achievable given the suitability of habitat across the wider Site. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. Any trees assessed as having potential to support roosting bats will be subject to Potential Roost Feature (PRF) aerial inspection surveys to determine the presence or likely absence of roosting bats. In the event that direct effects upon bat roosts or disturbance on flight lines cannot be avoided, this will be subject to a licence administered by NRW and implementation of a licensed method statement. The results of the roost surveys will be used to support the Final ES. A programme of surveys for bats is underway. The results of the surveys will inform the programme and clearance	CEMP, Conservation Plan, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
		when species are most active. The winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.		methodology at sensitive locations. Mitigation is likely to include: ▪ potential for the OHL to be micro-sited away from any sensitive locations; ▪ minimum stand-off buffers from sensitive habitats which will reduce collision. The stand-off buffers will be determined following the receipt of bat survey data; and ▪ habitat management under OHL may also be required to discourage sensitive species from foraging. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA.		
Ecology – Otters (Disturbance, changes in light levels)	Construction	A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained features, designated haul routes, ecological supervision (ECoW). Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate	Potential effects on ecological features (Otters)	During the winter months, when day length is shorter, site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species. Should additional lighting be required this will be task specific and will restrict light spill onto retained adjacent habitats. A pre-works survey will take place ahead of works at the Nant Sychbant watercourse. Specific measures to minimise and avoid impacts to otter will be provided in a PMoW. A suitability experienced ecologist will supervise supervising works at this location.	CEMP, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
		This will largely avoid the hours of darkness, particularly in the summer when species are most active. The winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.				
Ecology – Water Vole (temporary habitat loss, disturbance, changes in light levels)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained features, designated haul routes, ecological supervision (ECoW). Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate This will largely avoid the hours of darkness, particularly in the summer	Potential effects on ecological features (Water Voles)	A pre-construction survey of the footprint of the Site and a suitably sized area (250m radius based on the ZoI of disturbance impacts) will be conducted to ascertain any new water vole habitats within the Site. Specific measures to minimise and avoid impacts to water vole will be provided in a PMoW. A suitability experienced ecologist will supervise works at this location to minimise the risk of direct mortality or injury. Confirmed water vole habitat that will be impacted by the Project will be subject to a licence application with NRW. To ensure long-term protection measures for water vole, maintenance and enhancement, a Conservation Plan will be devised in consultation with the LPA. The 'Principles of a Conservation Plan for Water Vole' are provided in **Appendix 8H** and include the following measures: ▪ Site management and ecological oversite during construction to maintain shelter and foraging resources for water vole; ▪ Minimum exclusion buffers (including use of temporary fencing) from construction activities to protect the watercourses and associated habitat identified for supporting water vole; ▪ Management of the potential risks from increased human presence and pollution;	CEMP, Conservation Plan, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
		when species are most active. The winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.		▪ Restrictions on construction activities where water vole may be present to avoid the sensitive breeding season (construction to take place between February to April); ▪ Maintenance or improvement of water quality during and post construction; ▪ Post construction monitoring of water vole populations and habitats; and ▪ A suitability experienced ecologist will supervise works at this location to minimise the risk of direct mortality or injury. Preliminary mitigation and enhancement measures are provided in **Appendix 8H**, with potential enhancement locations shown on **Figure 8.11**. A 5m exclusion buffer where working restrictions from confirmed water vole habitat will be applied and is shown on **Figure 8.11.**		
Ecology – Reptiles (temporary habitat loss, disturbance, changes in light levels)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. Disturbance to features that could support reptiles or amphibians (e.g. scrub, dense tussocky grassland, rocks) will be kept to a minimum, and works in these areas will take place outside the hibernation period for those species. A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained features, designated haul routes, ecological supervision (ECoW).	Potential effects on ecological features (Reptiles)	A pre-works check for reptiles will be carried out prior to habitat removal. This will be carried out by a suitably experienced ecologist. A two-stage cut will also be implemented to minimise the risk of killing and injury of reptiles. This will be defined in a Method Statement. Potential refugia/hibernacula will be dismantled during the active season. No clearance of hibernacula should take place between October – March inclusive. Any reptiles discovered during construction will be moved out of harm into adjacent suitable vegetation. To provide enhancement for this species, a Conservation Plan will be devised in consultation with the LPA. This will incorporate long-term management and monitoring of the habitats present within the Site. This will include 'reptile friendly' cutting of associated habitats.	CEMP, Conservation Plan, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
		Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate This will largely avoid the hours of darkness, particularly in the summer when species are most active. The winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.				
Ecology - Protected or notable birds (temporary habitat loss, disturbance disturbance/ collision risk)	Construction and Operation	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. Disturbance to features that could support reptiles or amphibians (e.g. scrub, dense tussocky grassland, rocks) will be kept to a minimum, and works in these areas will take place outside the hibernation period for those species. A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained	Potential effects on ecological features (Birds)	No evidence of breeding protected or notable birds (e.g. Schedule 1 WCA birds) has been recorded. As a precautionary measure, limitations to the movement of vehicles along the access roads in woodlands to the south will be applied, where there is potential for nests, should a breeding raptor nest be recorded ahead of works. Vegetation clearance within sensitive locations for birds will take place out of the breeding bird season. The OHL will be micro-sited away from sensitive locations. Nightjar have been recorded to the south of the Site, within woodland outside the Project area. It is not anticipated that disturbance during construction will result for this species owing to the distance between the nightjar locations and the construction footprint. Furthermore, nightjar are active at night when construction works will not be taking place. The following mitigation measures will avoid / minimise collision impacts to birds: ▪ Use of bird flight diverters on the OHL to improve visibility for birds and reduce collision events. ▪ Habitat management under OHL route to discourage sensitive species.	CEMP, Conservation Plan, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
		features, designated haul routes, ecological supervision (ECoW). Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate This will largely avoid the hours of darkness, particularly in the summer when species are most active. The winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.		▪ 5m stand-off exclusion buffers from sensitive habitats (e.g. woodlands and trees lines) to reduce collision risk. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.		

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Historic Environment						
Historic Environment – General	Construction and Operation	**Construction Phase** Construction phase will be temporary, totalling 9 months with 2 months planned for OHL installation. Micro-siting of H-pole pylon foundations (OHL), underground cable (UGC) or construction compound to avoid known historic assets. Avoidance maps of known non-designated historic assets within the CEMP. Micro-siting of H-pole pylon foundations (OHL), underground cable (UGC) or construction compound to avoid historic assets. Peat surveys conducted to enable identification of peat deposits of potential paleoenvironmental significance. Micro-siting H-pole foundations or underground cable routes to avoid disturbing. **Operation phase** Proposed OHL design using wooden H-poles, have kept effects on setting to a minimum. The underground cable route will not directly impact any designated assets, nor will it be visible due to its position below the ground.	Potential effects on Historic Environment (Cultural Heritage). features.	Embedded mitigation has been included through the design process.	CEMP and Recommended archaeological monitoring (Watching Brief), secured by Planning condition.	Subject to the implementation of the environmental measures, the Project will avoid significant effects upon the sub-surface aspect of the historic environment. Since the installation works would only take place over 2 months, any impacts to their setting during the construction phase would be temporary and therefore negligible. During the operation phase, the new OHL site would be visible within a landscape in which existing OHL of greater sizes are already prominent and visible, and therefore the impact is also considered negligible.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
Water Resource and Flood Risk						
Water Resource and Flood Risk – General	Construction and Operation	**Construction Phase** The CEMP will contain principles to be carried forward in order to mitigate potentially significant impacts to surface water and groundwater receptors within the study area. The CEMP will refer to a number of industry standard best-practice guidance documents. The following is a list of mitigation measures to be followed: ▪ Existing access tracks will be used to transport construction materials to and from the compound; ▪ The method of works will consider the potential for impacts to Water Environment and Flood Risk receptors, particularly where works are undertaken within 10m of a surface water feature; ▪ Where possible, topographical gradients should be kept as shallow as possible in order to minimise the risk of watercourse contamination from silt runoff; ▪ Surface water runoff should be captured at source and disposed of in accordance with best-practice guidance and allocated permits; ▪ The refuelling of construction and maintenance vehicles should be undertaken in a controlled area with measures in place to prevent spillages from contaminating surface water and groundwater resources, such as drip trays and bunds, if necessary;	Potential effects on Hydrological features	**Construction Phase** ▪ Where necessary, use barriers to adequately capture sediment to allow for disposal in-line with CEMP and OWC requirements, including at the location of temporary dam use; ▪ Upstream and downstream water quality sampling to be undertaken to gauge potential adverse impacts to the quality of receiving waterbodies, in particular WFD waterbodies; ▪ Consideration of Phase 1 Ground Investigation data when it comes to incorporating mitigation measures into the contractor's method statement, for example providing adequate lining of underground infrastructure at locations where a shallow water table is discovered to mitigate against groundwater receptor contamination; ▪ Have discussions with contractor undertaking works on the Welfare Park project (P/12/877/BCB) to discuss and sufficiently mitigate against the potential for cumulative impacts through the construction phases of both projects. **Operational Phase** Embedded mitigation has been included through the design process.	CEMP and OWC	Following mitigation measures, no residual effects are expected. Measures are expected to sufficiently mitigate the potential Water Environment and Flood Risk risks.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/Enhancement Measure	Means of Implementation	Significance of Residual Effect Following Implementation
		▪ Those conducting the works should have an understanding of the hydraulic connectivity of the site, including the watercourses and urban drainage networks, to ensure work can be undertaken in such a way that minimises pollution to sensitive water features; ▪ OWC to be applied for by the appointed contractor; ▪ Structural integrity of culverts in the built up areas of Maesteg and Natyffyllon to be confirmed with Bridgend CBC and Neath Port Talbot CBC LLFAs prior to commencement of works; and ▪ Hydraulic connectivity and flow dynamics to be considered at the location of temporary dam works at the Nant Sychbant. **Operation Phase** Proportionate measures for protection of flood risk receptors through the operational phase of the Project are as follows: ▪ The location of poles will be considered through detailed design to ensure they are located outside high risk flood zones, while understanding there are a number of engineering design requirements that will also need to be satisfied through detail design; and ▪ The hydraulic models received by NRW will be used to inform the high-level assessment of flood risk to the Project where necessary, for example at the location of the temporary dam works at the Nant Sychbant.				

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