Connah's Quay Low Carbon Power

# Outline Landscape and Ecological Management Plan

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# 1. Introduction

## 1.1 Overview

1.1.1 This **Outline Landscape and Ecological Management Plan** (**LEMP**) (**EN010166/APP/6.9**) has been prepared by AECOM on behalf of Uniper UK Limited (the Applicant). It forms part of the application (the Application) for a Development Consent Order (DCO), that has been submitted to the Secretary of State (SoS), under Section 37 of The Planning Act 2008 (the '2008 Act') (Ref 1).

1.1.2 The Applicant is seeking a DCO for the construction, operation (including maintenance) and decommissioning of a proposed low carbon Combined Cycle Gas Turbine (CCGT) Generating Station fitted with Carbon Capture Plant (CCP) (the Connah's Quay Low Carbon Power (CQLCP) Abated Generating Station) and supporting infrastructure (collectively the Proposed Development) on land at, and in the vicinity of, the existing Connah's Quay Power Station (Kelsterton Road, Connah's Quay, Flintshire, CH6 5SJ), North Wales (the Proposed Development Site).

1.1.3 **Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**) of the Environmental Statement (ES) provides a description of the Proposed Development.

## 1.2 The Applicant

1.2.1 The Applicant is a UK-based company, wholly owned by Uniper SE (Uniper) through Uniper Holding GmbH. Uniper is a European energy company with global reach and activities in more than 40 countries. With around 7,500 employees, the company makes an important contribution to security of supply in Europe, particularly in its core markets of Germany, the UK, Sweden, and the Netherlands. In the UK, Uniper owns and operates a flexible generation portfolio of power stations, a fast-cycle gas storage facility and two high pressure gas pipelines, from Theddlethorpe to Killingholme and from Blyborough to Cottam.

1.2.2 Uniper is committed to investing around €8 billion (~£6.9 billion) in growth and transformation projects by the early 2030s and aims to be carbon-neutral by 2040. To achieve this, the company is transforming its power plants and facilities and investing in flexible, dispatchable power generation units. Uniper is one of Europe's largest operators of hydropower plants and is helping further expand solar and wind power, which are essential for a more sustainable and secure future. Uniper is gradually adding renewable and low-carbon gases such as biomethane to its gas portfolio and is developing a hydrogen portfolio with the aim of a long-term transition. The company plans to offset any remaining $CO_2$ emissions by high-quality $CO_2$-offsets.

## 1.3 The Proposed Development

1.3.1 The Proposed Development would comprise up to two CCGT with CCP units (and supporting infrastructure) achieving a net electrical output capacity of more than 350 megawatts (MW; referred to as MWe for electrical output) and up to a likely maximum of 1,380 MWe (with CCP operational) onto the national electricity transmission network.

1.3.2 Through a carbon dioxide ($CO_2$) pipeline, comprising existing and new elements, the Proposed Development would make use of $CO_2$ transport and storage networks owned and operated by Liverpool Bay CCS Limited, currently under development as part of the HyNet Carbon Dioxide Pipeline project (referred to as the 'HyNet $CO_2$ Pipeline Project') that will transport $CO_2$ captured from existing and new industries in North Wales and North-West England, for offshore storage. The captured $CO_2$ will be permanently stored in depleted offshore gas reservoirs in Liverpool Bay.

1.3.3 For the purposes of the electrical connection, National Grid Electricity Transmission plc (NGET), which builds and maintains the electricity transmission network in England and Wales, is responsible for the operation and maintenance of the existing 400 kV NGET Substation.

1.3.4 A description of the Proposed Development, including details of maximum parameters, is set out in **Chapter 4: The Proposed Development (EN010166/APP/6.2.4)**. At this stage in the development, the design of the Proposed Development incorporates a necessary degree of flexibility to allow for ongoing design development.

1.3.5 The Proposed Development will operate 24 hours per day, 7 days per week with programmed offline periods for maintenance. It is anticipated that in the event of CCP maintenance outages, for example, it will be necessary to operate the Proposed Development without carbon capture, with exhaust gases from the CCGT being routed via the Heat Recovery Steam Generator (HRSG) stack.

1.3.6 Various types of associated and ancillary development further required in connection with and subsidiary to the above works are detailed in Schedule 1 (authorised development) of the **Draft DCO** (**EN010166/APP/3.1**).

1.3.7 This, along with **Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**) of the ES, provides further description of the Proposed Development. The areas within which each numbered Work (component) of the Proposed Development are to be built are defined by the coloured and hatched areas on the **Works Plans** (**EN010166/APP/2.4**).

## 1.4 The Proposed Development Site

1.4.1 The Proposed Development Site (hereafter referred to as the Order limits) limits are located approximately 0.6 km north-west of Connah's Quay in Flintshire, north-east Wales. The Main Development Area is centered approximately at grid reference SJ2734771374, and, together with the Proposed $CO_2$ Connection Corridor, Repurposed $CO_2$ Connection Corridor, Electrical Connection Corridor, Water Connection Corridor, Construction and Indicative Enhancement Area (C&IEA), and ancillary works to access roads

and minor assets, is wholly within the administrative area of Flintshire County Council (FCC).

1.4.2 The existing Connah's Quay Power Station is a four-unit combined CCGT plant providing 1,380 MW of dispatchable power exported to the National Grid.

1.4.3 The Order limits encompass a total area of approximately 105.11 hectares (ha).

1.4.4 The Order limits include the following areas:

- Construction and Operation Area, including:
  - Main Development Area;
  - Repurposed $CO_2$ Connection Corridor;
  - Proposed $CO_2$ Connection Corridor;
  - Water Connection Corridor;
  - Electrical Connection Corridor;
  - Surface Water Outfall Area;
  - C&IEA;
  - Main Development Area Access Works Area;
  - Access to C&IEA;
  - Alternative Access to Main Development Area;
  - Hardstanding Expansion at Connah's Quay North Jetty;
- Accommodation Works Areas, including:
  - A548 from Port of Mostyn to Greenfield;
  - Tir Glas Roundabout;
  - A548 through Flint to Chester Road Roundabout;
  - AIL Access;
  - Connah's Quay North; and
  - North Road to the A548.

## 1.5 The Development Consent Process

1.5.1 As a Nationally Significant Infrastructure Project, the Applicant is required to obtain a DCO to construct, operate and maintain the Proposed Development, under Section 31 of the 2008 Act (Ref 1). Sections 42 to 48 of the 2008 Act govern the consultation that the promoter must carry out before submitting an application for a DCO and Section 37 of the 2008 Act governs the form, content and accompanying documents that are required as part of a DCO application. These requirements are implemented through the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (APFP Regulations) which state that an application must be accompanied by an ES, where a development is considered to be EIA Development under the Infrastructure Planning

(Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) (Ref 2, Ref 3), as is the case for the Proposed Development.

## 1.6 The Purpose and Structure of this Document

1.6.1 The purpose of this document is to set out the measures proposed to minimise the effects of the Proposed Development on landscape and biodiversity features, and to enhance the biodiversity, landscape and green infrastructure value of the Proposed Development, to secure compliance with relevant national and local planning policies.

1.6.2 In order to avoid potential conflicts in approach to impact avoidance, minimisation and enhancement, this document identifies the measures required for both landscape and net benefit for biodiversity together, to demonstrate a cohesive strategy.

1.6.3 The document is structured as follows:

- Section 2 summarises relevant legislation and planning policy;
- Section 3 describes the existing landscape and biodiversity features and the potential impacts and effects of the Proposed Development;
- Section 4 outlines the requirements for impact avoidance, both during advance works and during the construction phase;
- Section 5 describes the proposals for landscape and biodiversity enhancement and the measures required for their effective management and maintenance. The areas of the Order limits to which the different proposals will be applied are illustrated in **Figure 1** in **Appendix A**;
- Section 6 describes the high-level approach to monitoring of the success of the proposed landscape and biodiversity habitat interventions; and
- Section 7 describes the roles and responsibilities of all parties involved in the delivery of the management and enhancement proposals.

1.6.4 As described in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) of the ES, the construction works are focused within the Construction and Operation Area, with the Accommodation Work Areas limited to works to facilitate the delivery of Abnormal Indivisible Loads (AILs). The Accommodation Works will be limited in scale and will not result in permanent changes to habitats. On this basis, this assessment focusses on the Construction and Operation Area.

# 2. Legislation and Planning Policy

## 2.1 Overview

2.1.1 The legislation and planning policy relevant to construction of the Proposed Development and the specification of landscape and ecological mitigation, including enhancement, is listed in this Section. This legislation and planning policy have been considered when formulating this Outline LEMP. **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics** (**EN010166/APP/6.4**) of the ES provides more details on this relevant legislation and planning policy.

## 2.2 Legislation

2.2.1 The following legislation has been considered in the preparation of this Outline LEMP:

- The Environment (Wales) Act 2016 (Ref 4);
- The Well-Being of Future Generations (Wales) Act 2015 (Ref 19);
- The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 6);
- Wildlife and Countryside Act (WCA) 1981 (Ref 7);
- Countryside and Rights of Way Act 2000 (Ref 8);
- Natural Environment and Rural Communities (NERC) Act 2006 (Ref 9);
- Protection of Badgers Act 1992 (Ref 10);
- Wild Mammals (Protection) Act 1996 (Ref 11);
- Environmental Protection Act 1990 (Ref 12); and
- Invasive Alien Species (Enforcement and Permitting) Order 2019 (Ref 13).

## 2.3 Planning Policy

2.3.1 Relevant national planning policy that has been considered in relation to landscape and biodiversity impact avoidance, mitigation and enhancement is as follows:

- Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 14);
- The NPS for Natural Gas Electricity Generating Infrastructure (EN-2) (Ref 15);
- The NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 16);
- The NPS for Electricity Networks Infrastructure (EN-5) (Ref 17);
- Planning Policy Wales (PPW) (Ref 18);
- Future Wales – The National Plan (2040) (Ref 5);

- Welsh National Marine Plan 2019 (Ref 19); and
- European Landscape Convention (Council of Europe, 2000) (Ref 21).

2.3.2 The local planning policies that are relevant to the Site are set out in the following documents:

- FCC Local Development Plan (LDP) (2015-2030) (Ref 22).
  - STR13: Natural and Built Environment, Green Networks and Infrastructure; and
  - STR14: Climate Change and Environmental Protection.

## 2.4 Other Guidance

2.4.1 Other guidance that is relevant context includes:

- North East Wales Area Statement (Ref 23);
- DataMap Wales (Ref 24);
- UK Biodiversity Action Plan (UKBAP) Guidance (Ref 25);
- Green Infrastructure Assessments: A guide to key Natural Resources Wales' datasets and how to use them as part of a Green Infrastructure Assessment (2023) (Ref 26);
- Natural Resources Wales, 2014; National Landscape Character Areas (13: Deeside and Wrexham), (Ref 27);
- Natural Resources Wales, 2015; Marine Character Areas (01: Dee Estuary and 36 – Dee and Mersey Estuaries and Coastal Waters), (Ref 28);
- Marine Management Organisation (MMO), 2018; Seascape Character Assessment for the North West Inshore and Offshore marine plan areas (Ref 29);
- Natural Resources Wales, 2018: LANDMAP - the Welsh landscape baseline (Ref 30); and
- Welsh Government, November 2019. Welsh National Marine Plan (Ref 31).

# 3. Existing Landscape and Biodiversity Features and Development Impacts

## 3.1 Existing Landscape and Biodiversity Features

### Habitats

3.1.1 The habitats of relevance to this Outline LEMP are described in **Appendix 11C: Botanical Technical Appendix** (**EN010166/APP/6.4**) and **Appendix 5-B: Environmental Screening of the Hardstanding Expansion at Connah's Quay North Jetty** (**EN010166/APP/6.4), Annex B – Ecological Walkover** of the ES and the **Green Infrastructure Statement** (**EN010166/APP/6.11**).

3.1.2 The habitats that would be affected by permanent or temporary land-take associated with the Proposed Development comprise:

- Coastal saltmarsh (located within the Surface Water Outfall Area);
- Modified grasslands comprising both modified grassland and other neutral grasslands (located within the Main Development Area, Access to the Main Development Area and Hardstanding Expansion at Connah's Quay North Jetty);
- Dense scrub consists of mixed scrub and bramble scrub (located within the Main Development Area and Hardstanding Expansion at Connah's Quay North Jetty);
- Open mosaic habitat (located within the C&IEA);
- Other broadleaved woodland (located within the Main Development Area);
- Hedgerows encompassing species-rich native hedgerows and other native hedgerows (located within the Proposed $CO_2$ Connection Corridor and the Main Development Area); and
- Arable habitat encompassing temporary grass and clover lays (located within the Proposed $CO_2$ Connection Corridor).

3.1.3 As explained in **Chapter 5: Construction Management and Programme** (**EN010166/APP/6.2.5**) of the ES, the Hardstanding Expansion at Connah's Quay North Jetty could be retained on a permanent basis by the landowner. However, as the expansion area could be reinstated, this Outline LEMP includes provision for this reinstatement. It should be noted that, as a worst-case assumption, the **Green Infrastructure Statement** (**EN010166/APP/6.11**) considers the loss of habitats within the expansion area to be permanent.

### Protected and Notable Species

3.1.4 The protected species of relevance to this Outline LEMP, because of their presence in the potential zone of influence of construction activities are:

- Birds;
- Badger *Meles meles*;
- Bats;
- Great crested newts (GCN) (*Triturus cristatus*) and other amphibian species;
- Reptiles;
- Otter *Lutra lutra*;
- Terrestrial invertebrates;
- Hedgehog *Erinaceus europaeus*;
- Aquatic invertebrates;
- Fish; and
- Aquatic macrophytes.

## 3.2 Impacts on Landscape and Biodiversity Features

3.2.1 **Table 1** summarises the permanent losses of habitats that would occur as a result of the construction of the Proposed Development. The only activity to result in the permanent loss of habitat is site clearance within the Main Development Area which is under the footprint of the CQLCP Abated Generating Station.

**Table 1: Permanent Losses of Semi-natural Habitats**

| Affected Habitat | Habitat loss (ha)/(km) |
|---|---|
| Modified grassland (encompassing all species poor grassland) | 14.69 ha |
| Other neutral grassland | 3.82 ha |
| Scrub (bramble and mixed) | 1.36 ha |
| Other broadleaved woodland | 0.83 ha |
| Other native hedgerow | 0.20 km (length) |
| Individual trees (excluding ancient and veteran) | 35 (individual trees) |

3.2.2 The temporary impacts are:

- use of grassland, scrub, open mosaic and woodland habitats for construction laydown areas and the Hardstanding Expansion at Connah's Quay North Jetty;
- encroachment and clearance of coastal saltmarsh for proposed works within the Surface Water Outfall Area; and
- removal and replanting of hedgerow and impacts to arable habitat within the Proposed $CO_2$ Connection Corridor for the installation of the pipeline.

# 4. Impact Avoidance Requirement

## 4.1 Overview

4.1.1 The impact avoidance measures outlined (Section 4.2 onwards) will be implemented, as relevant and appropriate, prior to and during the construction phase, the purpose being to minimise the impact of works on landscape and biodiversity features (for example habitat loss and incidental species loss).

4.1.2 These measures will be applied in order to meet legislative and planning policy requirements for important ecological features (IEFs), and/or as part of standard construction environmental best practice.

4.1.3 The commitment to provide these measures has been taken into account in the assessment of the likely impacts and effects of the Proposed Development on landscape and biodiversity features reported in **Chapter 11: Terrestrial and Aquatic Ecology** (**EN010166/APP/6.2.11**) and **Chapter 15: Landscape and Visual Amenity** (**EN010166/APP/6.2.15**) of the ES.

4.1.4 The Proposed Development includes a specific Maintenance Laydown Area within the operational design which would be used to support the habitat management requirements. In addition, this area would be used during outages to ensure that there is no encroachment of laydown areas on habitats created in accordance with this **Outline LEMP**.

4.1.5 Avoidance and/or minimisation of potential impacts on the environment through, for example, noise, vibration or emissions to air or water associated with the operational Proposed Development are not covered within this Outline LEMP. While such impacts could affect biodiversity, these effects will be appropriately controlled and mitigated through the design and impact avoidance measures presented in **Chapter 8: Air Quality** (**EN010166/APP/6.2.8**), **Chapter 9: Noise and Vibration** (**EN010166/APP/6.2.9**) and **Chapter 13: Water Environment and Flood Risk** (**EN010166/APP/6.2.13**) of the ES as detailed in **Appendix 4-A: Operation and Maintenance Mitigation Register** (**EN010166/APP/6.4**). In addition, there are other permitting, good practice, legislative, policy and regulatory mechanisms that necessitate the control and prevention of such impacts. The relevant measures are therefore identified in other chapters of the ES and secured (where required) through the commitments in the **Draft DCO** (**EN010166/APP/3.1**) to deliver various control documents. They do not need to be included within this Outline LEMP, to avoid duplication.

## 4.2 Protected and Invasive Species Update Surveys

4.2.1 Appropriately experienced ecologists will complete site walkovers in advance of mobilisation or other potential advance works to re-confirm the ecological baseline conditions and identify any new ecological risks. Updated species surveys will also be undertaken to determine the status of protected and invasive non-native species (INNS) identified as present or potentially present at the Construction and Operation Area to inform mitigation requirements and support protected species licence applications. In

accordance with the **Framework Construction Environmental Management Plan** (**CEMP**) (**EN010166/APP/6.5**), these updated surveys will be completed sufficiently far in advance of construction works to account for seasonality constraints and to allow time for the implementation of any necessary mitigation prior to construction.

4.2.2 Existing or potential landscape and biodiversity aspects that will be re-assessed during update surveys are as follows:

- Bats – update roost surveys of trees adjacent to the Construction and Operation Area;
- Breeding birds – nest checks of vegetation to be cleared, where necessary;
- Badger – update survey to determine current distribution and activity of badger setts; and
- INNS – update survey to confirm the locations of species that may be disturbed during construction.

4.2.3 Should any new protected or invasive species constraints be identified as a result of the update surveys, the final Landscape and Environmental Management Plan(s) will address these constraints and explain how they will be managed. Any requirement for additional impact avoidance or minimisation will be discussed and agreed with FCC and / or the relevant statutory consultees, such as NRW, except where this will otherwise be addressed through the process for obtaining any necessary protected species licences.

4.2.4 Any additional surveys will be instructed during the advance works, site clearance and construction phases as identified as necessary by the ecologist, or otherwise as identified and requested by the Applicant or their contractor(s) when implementing the final approved CEMP and other relevant approved plans and permits. These may be required, for example, based on the construction programme, working requirements or following identification of specific issues and constraints not covered by previous advice.

## 4.3 Protected Species Licences

4.3.1 All necessary protected species licences will be applied for and obtained prior to carrying out any works likely to affect these species, as required by the relevant legislation. Based on the findings of **Chapter 11: Terrestrial and Aquatic Ecology** (**EN010166/APP/6.2.11**) of the ES, and pending the findings of the proposed updated protected species surveys, the following protected species licences may be required:

- Badger licence - if direct and/or indirect disturbance impacts on badger setts are likely and unavoidable (although currently this is not anticipated).

4.3.2 Habitat compensation/restoration and enhancement will also be required if a protected species licence is needed. It is premature and unnecessary to define similar measures for badger at this time, given this is a highly mobile

species. Instead, it is noted that the Applicant has sufficient land within their control to meet any such requirements.

4.3.3 Should licences be required, it is recognised that this could (a) impose restrictions on the timing of construction activities and (b) dictate lead-in times for agreement and completion of pre-construction mitigation. This will therefore be considered in the final construction programmes based on the findings of the updated surveys.

## 4.4 Ecological Clerk of Works

4.4.1 As detailed in the **Framework CEMP** (**EN010166/APP/6.5**), the Applicant will agree when an Ecological Clerk of Works (ECoW) should be present during construction, in consultation with a suitably experienced ecologist and landscape architect, based on relevant environmental commitments, the findings of the updated surveys, the requirements of any protected species licences (if obtained in the future), and with reference to the relevant project programmes.

4.4.2 Immediately prior to site clearance and the start of construction in each relevant part of the Proposed Development, further site walkover surveys will be carried out by an appropriately experienced ECoW to confirm that the risks associated with the Construction and Operation Area remain as previously assessed and / or to confirm the correct implementation of impact avoidance measures (e.g. tree protection fencing, protected species stand-offs and other protection measures).

4.4.3 The scope of the required walkover surveys will be defined on a case-by-case basis, in consultation with the project team, and FCC or other statutory consultees as necessary, based on the specific risks associated with each relevant part of the Proposed Development and the findings of any preceding updated surveys as detailed above in Section 4.2. This will be controlled and implemented through the final CEMP(s) that will be developed by the contractor as detailed in the **Framework CEMP** (**EN010166/APP/6.5**), with outcomes informing the final LEMP(s).

4.4.4 Inductions for construction staff will include a briefing on the relevant ecological risks present, legal requirements, working requirements necessary to comply with this legislation, and the final biodiversity management and enhancement measures. These briefings will be repeated and adjusted as necessary over the duration of the construction works.

## 4.5 Built Structures

4.5.1 The following impact avoidance measures in relation to built structures are highlighted as part of the landscape and visual amenity assessment (**Chapter 15: Landscape and Visual Amenity** (**EN010166/APP/6.2.15**) of the ES) and will be taken into consideration as part of the detailed design of the Proposed Development. Implementation of the following design measures is secured by Requirement 3 of the **Draft DCO** (**EN010166/APP/3.1**), as detailed in the **Design Principles Document** (**EN010166/APP/7.8**):

- The proposed design, in particular the designs of the absorber column(s) (stack) and the CCGT and HRSG stack(s), will include consideration of appearance to reduce visual impact, accepting the scale of the Proposed Development. This includes consideration of the following:
  - A colour study (**Appendix 15-F: Colour Analysis** (**EN010166/APP/6.4**)) has been prepared to consider the existing colour/materials of the surrounding natural landscape palette and the existing power station building, including using lighter coloured materials on the taller structures to enable them to recede against the sky;
  - Suitable materials will be used, where reasonably practicable, in the construction of structures to reduce reflections and to assist with breaking up the massing of the buildings and structures;
  - The selection of finishes for the buildings and other infrastructure will be informed by the finishes of the adjacent developments including existing Connah's Quay Power Station, in order to reduce the visual impact of the Proposed Development including using lighter coloured materials on the taller structures to enable them to recede against the sky. Finishes and materials will be agreed with relevant consultees and approved by FCC at the detailed design stage, secured through Requirement 3 of the **Draft DCO** (**EN010166/APP/3.1**), in order to minimise the visual impact of the Proposed Development;
- Lighting required during the construction and operation stages of the Proposed Development will be designed to reduce unnecessary light spill outside of the Construction and Operation Area, in accordance with the **Lighting Strategy** (**EN010166/APP/7.22**);
- Where existing vegetation is present within the Construction and Operation Area, this will be retained, as far as reasonably practicable, and managed to support its continued presence to aid the screening of low level views into the Construction and Operation Area;
- The layout of the Proposed Development which follows a broadly linear configuration with the massing of the main built elements centralised and sited in proximity to the existing Connah's Quay Power Station (refer to Plate 4-5 in **Chapter 4: The Proposed Development** (**EN010166/APP/6.2.4**) of the ES); and
- Further information in the proposed design and design alternatives are included in **Chapter 6: Project Alternatives** (**EN010166/APP/6.2.6**) of the ES.

## 4.6 Precautionary Working Methods

4.6.1 The following precautionary working methods will be employed to minimise potential adverse effects on IEFs prior to and during construction. Precautionary working method statements will be produced as necessary to specify working requirements and other necessary impact avoidance measures. These measures would be controlled and implemented through the final CEMP that will be developed by the contractor. The requirement to prepare, seek approval for and implement detailed CEMP(s) is secured by a

Requirement of the **Draft DCO** (**EN010166/APP/3.1**). A **Framework CEMP** (**EN010166/APP/6.5**) is provided as part of the Application.

4.6.2 The measures set out for individual species will be implemented in a manner that avoids conflict with requirements for other relevant species that may occupy the same habitats. As an example, nesting bird mitigation will be implemented in a manner that is consistent with the mitigation required for reptiles (e.g. not removing vegetation in the winter period if there is a risk of injuring hibernating reptiles).

4.6.3 An appropriately qualified ECoW will review and advise on the requirements for precautionary working methods to be implemented within each part of the Construction and Operation Area and will supervise implementation of the required measures.

- **Toolbox Talk:** Prior to the start of the construction works the ECoW will deliver a pre-works briefing to all site staff. This will detail the precautionary working methods that will be implemented, what to do if an animal is found on site and how to identify the species that may be present onsite.
- **Nesting birds**: All clearance of vegetation with suitability for nesting birds will be done outside of the breeding season (typically March to August inclusive for most species), where possible. If not possible, the ECoW will check the working area for nests before works commence. If active nests are discovered through this process, then the ECoW will advise on appropriate mitigation to ensure that these are not impacted by construction activities. All relevant works will be completed in accordance with this advice and under an ecological watching brief (in the presence of the ECoW). Birds may be dissuaded from nesting in construction/site access routes by removing vegetation from the desired area before the breeding season commences. Where this is not possible bird deterrent measures will be deployed to deter birds from nesting, followed by the completion of a pre-works survey to check for the presence of nests. In some cases, a combination of measures may be required (to be advised by the ECoW) such as to prevent ground nesting species nesting on bare ground after vegetation removal. If Schedule 1 (of the WCA) bird species are found breeding within the working area, or close enough to the working area that works would result in disturbance of the breeding birds, works will stop immediately, and the advice of an ornithologist will be sought to ensure that measures are put in place to avoid disturbance occurring.
- **Reptiles/Amphibians/Hedgehog:** Vegetation will be removed in a two-stage cut. The first cut will take vegetation down to 150 mm with strimmers and hand tools. Any cuttings will be removed from the works area. The second cut will be performed down to ground level at least 72 hours after the first cut to allow any animals present chance to move away from the area. Any animals found should be moved out of the works area with gloved hands and released in similar habitat to where they were found outside the area of works. In addition to this the following additional precautions are required in areas where there is a low risk of encountering GCNs (within the Proposed $CO_2$ Corridor):

  - **GCN:** In areas where there is a low risk of encountering GCNs on site an ECoW will be present for any vegetation removal. Vegetation will be removed in a two-stage cut (as detailed in the precautionary working method for Reptiles/Amphibians/Hedgehog). After the first cut the ECoW will hand search the works area focusing on any suitable resting sites for GCNs before the second cut down to ground level is performed. If a GCN is found then all works in the area will cease and a mitigation licence for the works will be sought from Natural Resources Wales (NRW).

- **Badger:** To date no badger setts have been recorded within the Proposed Development. However, any animal hole or burrow found within the construction area boundaries will be inspected by the ECoW who will advise on the course of action to be taken. If the feature is subsequently confirmed as an active badger sett, a 30 m buffer will be maintained during the works. If this is not possible then a licence for full or partial closure of the sett will be required from NRW prior to commencement of the works.
- **Bats:** Minimum buffer zone of approximately 30 m (which may be reduced subject to findings and assessment by an appropriately qualified bat licensed ecologist) will be implemented from any retained trees (or structures) with suitability for roosting bats. Further surveys may also be carried out where there is potential for direct impacts (where applicable). Please refer to **Appendix 11-G: Bat Technical Appendix** (**EN010166/APP/6.4**) of the ES.

## 4.7 Animal Welfare Requirements

4.7.1 Vegetation clearance and construction excavations have potential to affect wildlife and may result in offences under animal welfare legislation. An ECoW will be employed to supervise all relevant works to provide guidance on the measures required day-to-day to deliver legislative compliance and to ensure no offences occur.

4.7.2 All excavations will be covered overnight, or where this is not practicable, a means of escape will be fitted e.g. battered soil slope or scaffold plank, to provide an escape route should any animals (e.g. reptiles, badger, otter, hedgehog) stray into the construction site and fall into an excavation.

4.7.3 Any piles of material/rubble will be checked for animals by the ECoW prior to dismantling.

## 4.8 Lighting

4.8.1 Construction of temporary lighting and operational lighting will be arranged so that glare is minimised outside the Site as far as reasonably practicable. Measures to minimise the impact of lighting are detailed in the **Lighting Strategy** (**EN010166/APP/7.22**) and **Framework CEMP** (**EN010166/APP/6.5**).

# 4.9 Habitat Retainment

4.9.1 This Section describes how existing habitats will be maintained and protected in each area of the Proposed Development within their designated construction period, which ranges between three months to up to nine years.

4.9.2 As the detailed design progresses, further details will be provided, particularly in relation to plant species selection, specification of seed mixes, management prescriptions and timescales, and site-specific mitigation and enhancement elements. These will be set out within the final LEMP(s).

4.9.3 Implementation and monitoring works will be overseen by the ECoW.

4.9.4 The following management prescriptions must be implemented to protect retained habitats on-site for the longevity of the construction period:

- All habitats retained on-site will be managed for a 9-year period during the construction period of the Proposed Development;
- As shown on **Figure 5-3: Construction Areas** (**EN010166/APP/6.3**), a 30 m ecological safeguard zone will be established and maintained to the north and north-western boundary of the Main Development Area and northern boundary of the Construction and Indicative Enhancement Area (C&IEA). This minimum 30 m ecological safeguard zones, with acoustic fencing, would be used to provide protection for sensitive habitats, including within the Dee Estuary. Following the installation of the drainage assets as part of the enabling works, this zone will be a no construction zone and construction plant, and machinery will not be able to enter;
- During construction the retained hedgerows, woodland and trees will be protected in accordance with the Arboricultural Method Statement and final Tree Protection Plan as detailed in the **Framework CEMP** (**EN010166/APP/6.5**). The measures to be employed will include the use of clearly defined stand-offs (secured with temporary protective fencing), managing the structure and integrity of the retained vegetation and the soil upon which it relies, and undertaking any pruning outside of the bird breeding season;
- Retained trees will be periodically inspected by an arboriculturist during construction to ensure that the tree protection measures detailed in the Arboricultural Method Statement and the final Tree Protection Plans are adhered to. Where sensitive operations are required within Root Protection Areas (RPA) of retained trees, works will be undertaken under the supervision of an arboriculturist to ensure that agreed methods are fully implemented, to record any root pruning and to recommend further arboricultural remedial works where required. All works requiring arboricultural oversight will be detailed within the Arboricultural Method Statement;
- Retained trees will require periodic inspection to assess their structural condition and safety. Occasional removal of dead wood or other remedial works to address significant defects may be required in areas of frequent access and will be the responsibility of the tree owner; and

- During the construction and operation of the Proposed Development, all staff operating on site will be made aware of the need to look out for obvious signs of tree defects and to report them to the Site Manager who will seek further advice as necessary.

## 4.10 Habitat Reinstatement

4.10.1 Habitats that are temporarily impacted as part of the Proposed Development will be reinstated after the designated construction period, as stated within the **Green Infrastructure (GI) Statement** (**EN010166/APP/6.11**). These habitats will be reinstated to their previous habitat extent and condition or enhanced to a higher habitat condition. For locations of reinstatement for each habitat type on-site, please refer to Figure 3 in Appendix B of the **Green Infrastructure Statement** (**EN010166/APP/6.11**). Areas of habitat reinstatement will be confirmed within the final LEMP(s).

4.10.2 Detailed survey information in relation to on-site habitats extent and condition are detailed within **Appendix 11-C: Botanical Technical Appendix** (**EN010166/APP/6.4**) of the ES.

4.10.3 Habitats subject to reinstatement after the designated construction period are as follows:

- Modified Grassland;
- Other Neutral Grassland (ONG);
- Open Mosaic Habitat (OMH) on Previously Developed Land;
- Other broadleaved woodland;
- Species rich native hedgerow; and
- Individual Trees.

### Modified Grassland reinstatement

4.10.4 Where Modified Grassland is temporarily impacted as part of the Proposed Development, the habitat will be reinstated to its original condition or enhanced after the designated construction period for that given habitat parcel.

4.10.5 Modified Grassland on-site is classified as poor or moderate condition, mainly failing on Criteria B, E, F, P and G of the Statutory Biodiversity Condition Assessment Sheet (Ref 32).

4.10.6 To reinstate Modified Grassland on-site to a poor condition, 3 or fewer criteria or between 4-6 criteria (excluding criterion A) are required to be passed, as described in the Statutory Biodiversity Condition Assessment Sheet.

4.10.7 To reinstate Modified Grassland on-site to a moderate condition, 4 or 5 criteria (including criterion A) are required to be passed, as described in the Statutory Biodiversity Condition Assessment Sheet.

4.10.8 The following management prescriptions should be performed to ensure the re-establishment of Modified Grassland:

- Remove existing vegetation;
- Seed mix with a similar composition to the National Vegetation Classification (NVC) plant community MG7 e.g., perennial rye grass *Lolium perenne*; and
- Strategic mowing or grazing.

## Other Neutral Grassland Reinstatement

4.10.9 Where ONG is temporarily impacted as part of the Proposed Development, the habitat will be reinstated to its original condition or enhanced by one condition category after the designated construction period for that given habitat parcel.

4.10.10 ONG on-site is classified as poor, moderate or good condition, within the Statutory Biodiversity Condition Assessment Sheet.

4.10.11 Where ONG is identified as being in poor condition, the condition mainly fails on criteria B, C, D, and F of the Statutory Biodiversity Condition Assessment Sheet. To reinstate ONG on-site in a poor condition, 2 or fewer criteria, or 3-4 criteria (excluding criterion A and F) are required to be passed.

4.10.12 Where ONG is identified as being in a moderate condition, the condition mainly fails on criteria B and F of the Statutory Biodiversity Condition Assessment Sheet. To reinstate ONG on-site in a moderate condition, 3-5 criteria (including criteria A) are required to be passed.

4.10.13 To reinstate ONG on-site in good condition, 5-6 criteria (including criteria A and F) are required to be passed.

4.10.14 The following management prescriptions will be performed to ensure the re-establishment of ONG:

- Create bare ground before overseeding;
- Assess the sites soils nutrient status. Soil phosphorous should be low, with an index of 0 or 1 or less than 16 mg/l (Ref 32);
- Re-seed using a native mix suitable for neutral grassland conditions, e.g. red clover *Trifolium pratense* and common knapweed *Centaurea nigra*. The area may require re-seeding to be fully established;
- If, after reinstatement (for moderate – good condition ONG), the sward remains resolutely poor in plant species, top up with green hay;
- Mow/ cut the grassland once per month during the growing season to encourage perennial species propagation and control vigorous growth of weeds and grasses; and
- Removal of bracken, invading scrub or invasive non-native plant species (INNPS). Targeted by mowing or cutting.

## Open Mosaic Habitat on Previously Developed Land Reinstatement

4.10.15 Where OMH is temporarily impacted as part of the Proposed Development, the habitat will be reinstated to its original condition after the designated construction period for that given habitat parcel.

4.10.16 OMH within the Proposed Development currently passes all the criteria to meet the UK Biodiversity Action Plan definition. The OMH on-site supports three notable plant species: white mullein *Verbascum lychnitis,* annual beard-grass *Polypogon monspeliensis,* and wall bedstraw *Galium parisiense*.

4.10.17 For OMH to be reinstated to its previous condition at meet priority habitat status the following criteria defined within the UK Biodiversity Action Plan must be achieved:

- The area of open mosaic habitat is at least 0.25 ha in size;
- Known history of disturbance at the site or evidence that soil has been removed or severely modified by previous use(s) of the site. Extraneous materials/substrates such as industrial spoil may have been added;
- The site contains some vegetation. This will comprise early successional communities consisting mainly of stress-tolerant species (e.g. indicative of low nutrient status or drought). Early successional communities are composed of (a) annuals, or (b) mosses/liverworts, or (c) lichens, or (d) ruderals, or (e) inundation species, or (f) open grassland, or (g) flower-rich grassland, or (h) heathland;
- The site contains unvegetated, loose bare substrate, and pools may be present; and
- The site shows spatial variation, forming a mosaic of one or more of the early successional communities (a)–(h) above (criterion 3) plus bare substrate, within 0.25 ha.

## Other Broadleaved Woodland Reinstatement

4.10.18 Where other broadleaved woodland is temporarily impacted as part of the Proposed Development, the habitat will be reinstated to its original condition or enhanced after the designated construction period for that given habitat parcel.

4.10.19 Other broadleaved woodland on-site is classified as being in poor, moderate or good condition, within the Statutory Biodiversity Condition Assessment Sheet.

4.10.20 The following management prescriptions will be performed to ensure the re-establishment of other broadleaved woodland:

- remove any non-native materials from the area and assess soil quality;
- remove any INNPS and weeds;
- native broadleaved trees species will be planted;

- all woodland, woodland buffer and native tree belt planting plots will undergo an annual condition assessment (Statutory Biodiversity Condition Assessment), and an appropriate programme of works will be developed to address changes in condition and site requirements;
- after five years of establishment, guards, ties and stakes will be removed from plants;
- between years seven and ten of establishment, planted areas will be reviewed and thinned out as necessary to remove any poor or weak specimens, which will help other specimens to flourish and provide space for trees and shrubs to further establish;
- the understorey of woodland, woodland buffers and native tree belts will be coppiced in stages to minimise disturbance to wildlife, as required, as part of good woodland management;
- management of bramble will be carried out to prevent encroachment into adjacent areas; and
- arisings from thinning or other woodland management functions will be retained on site in the form of dedicated brash wood piles or windrows, for the benefit for fungi, lichen, and terrestrial invertebrates.

## Species Rich Native Hedgerow

4.10.21 Where hedgerows are to be removed for construction, the areas being removed will vary in size. Approximately 300 m of hedgerow will be reinstated post-construction.

4.10.22 Wherever feasible and desirable, and particularly for Important Hedgerows, mature material will be removed from hedgerows in as large sections as possible and retained as close to the area of removal as possible. These will be watered until such time as they are reinstated. However, even if hedgerow material dies during this process, it can still be of value ecologically in helping to quickly re-establish a natural structure in the gap for purposes of (in particular) bat commuting along the hedgerow.

4.10.23 Once works are complete, temporary hedgerow gaps will be planted in the first available planting season post construction. The species mix will comprise species typically found in adjacent hedgerows and will likely comprise the following species:

- Field maple *Acer campestre*;
- Common hazel *Corylus avellana*;
- Common hawthorn *Crataegus monogyna*;
- Blackthorn *Prunus spinosa*; and
- Dog rose *Rosa canina*.

4.10.24 For Important Hedgerows, it will be ensured there is no reduction in the number of woody species from the pre-construction situation. For Important Hedgerows soil material will also be kept separately from that for other hedgerows to enable the same soil to be restored (thus containing the same seedbank).

## Individual Trees

4.10.25 Individual trees will be pit planted in cultivated ground to accommodate the full depth of roots, level and firm soil. Trees will be planted in single species groups of a minimum of 5 and protected against mammalian pests. The species mix will comprise species typically found in the local area and will likely comprise the following species:

- Field maple *Acer campestre*;
- Common hazel Corylus avellana;
- Silver Birch *Betula pendula*;
- Hornbeam *Carpinus betulus*;
- Small-leaved Lime *Tilia cordata*; and
- English Oak *Quercus robur.*

4.10.26 The following management prescriptions will be performed to ensure the re-establishment of other broadleaved woodland:

- removal of any non-native materials from the area and assess soil quality;
- removal of any INNPS and weeds;
- native broadleaved trees species will be planted;
- all individual tree planting plots will undergo an annual condition assessment (Statutory Biodiversity Condition Assessment), and an appropriate programme of works will be developed to address changes in condition and site requirements; and
- after five years of establishment, guards, ties and stakes will be removed from plants.

# 5. Long-term Landscape and Biodiversity Enhancement On-Site

## 5.1 Approach

5.1.1 The ES has identified the potential significant adverse effects associated with the Proposed Development and set out a strategy as to how these can be avoided, reduced or mitigated. The GI Statement also sets out the mitigation and compensation requirements to deliver a net benefit for biodiversity and maintain / increase on-site opportunities for GI. To ensure these measures are implemented and to ensure compliance with relevant legislation, it is essential that the long-term habitat enhancements and creation requirements and management prescribed below are implemented and detailed in the final LEMP(s).

5.1.2 Proposals for landscape and biodiversity enhancement have been designed to achieve the following outcomes:

- No net loss of biodiversity and a quantifiable net benefit for biodiversity as a result of the Proposed Development;
- Maintain, enhance and increase the extent of green infrastructure network on-site;
- Apply the Building with Nature Standards Framework (BwNSF) (Ref 34) to ensure the Proposed Development delivers the twelve standards in relation to wellbeing, water and wildlife; and
- Maintain, enhance and increase the extent of qualifying feature(s) for the Dee Estuary/Aber Dyfrdwy Special Area of Conservation (SAC)/ Special Site of Scientific Interest (SSSI).

5.1.3 Delivery of quantifiable net benefit for biodiversity will be secured through a combination of the on-site measures set out within this Outline LEMP and off-site measures, which are defined in the **Off-site Net Benefit for Biodiversity and Green Infrastructure Strategy** (**EN010166/APP/6.14**).

5.1.4 In developing the landscape design strategy, particular consideration was given to:

- The Flintshire Local Development Plan, adopted in 2023 (covering the period 2015 to 2030) (Ref 22);
- Flintshire Urban Tree and Woodland Plan (2018-2033) (Ref 35);
- North East Wales Area Statement (Ref 23);
- BwNSF (2.0) (Ref 34); and
- Guidance contained within the Landscape Institute's Infrastructure Technical Guidance Note (TGN) (2020) (Ref 37).

## 5.2 On-Site Enhancement and Creation

5.2.1 The on-site habitat creation proposals are illustrated in Figure 1 of **Appendix A** and described within the **Green Infrastructure Statement**

(**EN010166/APP/6.11**). Where possible planting should be undertaken within the Order limits in advance of construction activities. The result of these proposals is that there will be a permanent net benefit of OMH and Coastal Saltmarsh.

5.2.2 The on-site measures will contribute towards the achievement of a net benefit for biodiversity and will be complemented by off-site measures set out in the **Off-site Net Benefit for Biodiversity and Green Infrastructure Strategy** (**EN010166/APP/6.14**), which together secure the overall net benefit for biodiversity for the Proposed Development.

## Grassland Habitat Creation

### *Modified Grassland*

5.2.3 The Main Development Area currently contains 31.04 ha of modified grassland of a variety of conditions (poor and moderate). Post-construction, there are large areas to the north of the Main Development Area that have been identified for grassland planting, to convert arable land to amenity grassland. There is a potential to increase the condition or species type of this at detailed design.

5.2.4 In addition to these areas, opportunities will be sought to introduce small areas of soft landscaping within the operational fence line, this would also include the provision of tree pits. These areas will be confirmed in the final LEMP(s).

5.2.5 All modified grassland will be created to a good or moderate condition. To create modified grassland in good condition, 6-7 of the criteria (including criterion A) are required to be passed. To create modified grassland in a moderate condition, 4-5 of the criteria (including criterion A) are required to be passed. When assessing condition, the following criteria should be used:

- There are 6-8 vascular plant species per $m^2$ present, including at least 2 forbs. This criterion is essential for achieving Moderate or Good condition;
- Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per $m^2$ (excluding creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*);
- Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed;
- Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus agg*. may be present);
- Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from

machinery use or storage, erosion caused by high levels of access, or any other damaging management activities;

- Cover of bare ground is between 1% and 10%, including localised areas;
- Cover of bracken *Pteridium aquilinum* is less than 20%; and
- There is an absence of INNPS (as listed on Schedule 9 of the WCA) (Ref 38).

5.2.6 Prior to the commencement of grassland creation any pre-existing non-native vegetation should be removed from planting areas. A seed mix with a similar composition to NVC plant community MG7 e.g., perennial rye grass should be used. Over the 5-year management and establishment of the grassland, mowing or grazing can be utilised to ensure a varied sward height. Grazing should take place from late September to December, or from June if the site has not been mown.

### *Other Neutral Grassland*

5.2.7 The Main Development Area currently contains 5.86 ha of ONG, of a variety of conditions (poor, moderate and good). Post-construction, small buffer strips have been identified for species-rich grassland planting, to convert modified grassland to ONG. There is potential to plant more ONG on-site in areas identified for modified grassland following detailed design.

5.2.8 All ONG will be created in moderate condition. To create ONG in a moderate condition 3-5 criteria (including criteria A) are required to be passed. When assessing condition, the following criteria should be used:

- The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species[1] present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description (Ref 36));
- Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for terrestrial invertebrates, birds and small mammals to live and breed;
- Cover of bare ground is between 1% and 5%, including localised areas;
- Cover of bracken I is less than 20% and cover of scrub (including bramble is less than 5%;
- Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area; and
- There are 10 or more vascular plant species per $m^2$ present, including forbs that are characteristic of the habitat type. Certain species types

[1] Species indicative of suboptimal condition for this habitat type includes creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens and cow parsley Anthriscus sylvestris. There may be additional relevant species local to the region and or site.

indicative of suboptimal conditions cannot contribute to the passing of this criterion[12].

5.2.9 Prior to the commencement of ONG creation, creation of bare ground will be required to strip any existing modified grass. The optimal time to undertake site preparation is late summer to early autumn. Sowing of a new species-rich mix of native grasses suitable to the local conditions will be required. Livestock can be introduced for a few days to trample the newly sown seed into the ground, or it can be rolled. After creation, if the sward remains poor the area can be topped with local green hay or plug plants can be introduced to add wild flowers. Once established, management practices such as cyclical grazing or mowing (September – February) can help maintain species richness and prevent dominant species from taking over.

## Hedgerow and Individual Trees

5.2.10 New hedgerow and tree planting will be established north of the substation in approximate location NGR SJ 26838 71601. The location of the hedgerow and tree planting is shown on the Indicative Landscape Plan in **Appendix A**.

5.2.11 A detailed plan for the establishment and management of new hedgerows will be developed for the nine-year establishment maintenance period.

5.2.12 The aim of establishment maintenance will be to support the early stages of growth to encourage thick, bushy growth and good form. This is based on the following principles and outline prescriptions:

- Maintain a 0.5 m weed-free strip either side of hedgerow through chemical and mechanical control;
- First cut in spring to 45-60 cm above ground level taking care to exclude hedgerow trees;
- Water new plants to minimise failures in periods of drought;
- Remove litter, rubbish, and debris from planted areas throughout the year;
- Re-firm soil around roots to ensure plants are supported and upright in spring each year;
- Inspect and adjust stakes, guards, and ties in spring and autumn;
- Check and record failed or defective plants annually in September;
- Replace failed or defective plants with matching species of the same size during the next planting season after failure; and
- ECoW to undertake a quarterly check of plants to record their growth and condition.

5.2.13 The management of new hedgerows will continue up to nine years post creation. The long-term management of new hedgerows will focus on the following interventions:

[2] HM Government (1981) Wildlife and Countryside Act. Available Online at: Wildlife and Countryside Act 1981

- Hedgerows will be managed and maintained at a height of between 2.5 m and 3.5 m (allowing for individual trees within the hedgerow to establish and reach maturity);
- Cutting will be carried out at the end of the winter in February, thereby retaining berries through the winter months for wildlife and avoiding the bird breeding season;
- Overgrowing or overhanging branches will be removed from any pathways to keep them unobstructed;
- Dead, over-mature or dying hedgerow trees will be subject to removal where they are considered dangerous on health and safety grounds, and in accordance with any protected species constraints; and
- Monitoring will be undertaken to detect any significant changes in hedgerow and tree health and condition (maintenance and condition checks will be made every three years).

## Shallow Scrapes Habitat Creation

5.2.14 Shallow scrapes are hollows within the grassland that need to be designed to retain water particularly during the autumn, winter and spring.

5.2.15 Shallow scrapes are generally provided for faunal value and are primarily used to attract waders and other birds. Periodic removal of any colonising tall emergent plants would be undertaken to maintain bare ground/open water.

5.2.16 There is no requirement for planting in the shallow scrapes as plants will colonise naturally. There might be a need to control INNPS (e.g. *Phragmites australis*) should they become established. Hand removal and mechanical removal are recommended in these circumstances. Herbicide use should be avoided.

5.2.17 Targeted measures to compensate for the loss of functionally linked land within the Main Development Area during the construction and operation of the Proposed Development are secured within the Off-Site Delivery Area at Gronant Fields. Further details of these measures are defined in the **Curlew Mitigation Strategy** (**EN010166/APP/6.13**).

## Other Broadleaved Woodland

5.2.18 Approximately 2.07 ha of Other Broadleaved Woodland planting will be created within the Main Development Area. The location of the Other Broadleaved Woodland planting is shown on the Indicative Landscape Plan in **Appendix A**.

5.2.19 A detailed plan for the establishment and management of newly planted Other Broadleaved Woodland will be developed for the nine-year establishment maintenance period.

5.2.20 To aid the creation of Other Broadleaved Woodland in a moderate condition, the criteria presented in **Table 2** should be used to help reach desired condition. To reach a moderate condition, a total of 26 to 32 points over the 3 categories of good to poor criteria need to be met.

## Table 2: Statutory Biodiversity Condition Assessment Criteria for Other Broadleaved Woodland

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| **A** | Age distribution of trees | Three age-classes present | Two age-classes present | One age-class present |
| **B** | Wild, domestic and feral herbivore damage | No significant browsing damage evident in woodland | Evidence of significant browsing pressure is present in less than 40% of whole woodland. | Evidence of significant browsing pressure is present in 40% or more of whole woodland |
| **C** | Invasive plant species | No invasive species present in woodland. | Rhododendron *Rhododendron ponticum* or cherry laurel Prunus *laurocerasus* not present, and other invasive species<10% cover. | Rhododendron or cherry laurel present, or other invasive species≥10% cover. |

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| **D** | Number of native tree species | Five or more native tree or shrub species found across woodland parcel. | Three to four native tree or shrub species round across woodland parcel. | Two or less native tree or shrub species across woodland parcel. |
| **E** | Cover of native tree and shrub species | >80% of canopy trees and >80% of understory shrubs are native. | 50 - 80% of canopy trees and 50 - 80% of understory shrubs are native. | <50% of canopy trees and <50% of understory shrubs are native. |
| **F** | Zonation and transition to other habitats | 10 - 20% of woodland has areas of temporary open space. Unless woodland is <10ha, in which case 0-20% temporary open space is permitted. | 21 - 40% of woodland has areas of temporary open space. | <10% or >40% of woodland has areas of temporary open space. |

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| **G** | Woodland regeneration | All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth. | One or two classes only present in woodland. | No classes or coppice regrowth present in woodland |
| **H** | Tree Health | Tree mortality 10% or less, no pests or diseases and no crown dieback. | 11% to 25% tree mortality and or crown dieback or low-risk pest or disease present. | Greater than 25% tree mortality and or any high-risk pest or disease present. |
| **I** | Vegetation and ground flora | Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists. | Recognisable woodland NVC plant community at ground layer present. | No recognisable woodland NVC plant community at ground layer present. |

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| **J** | Three or more storeys across all survey plots, or a complex woodland. | Three or more storeys across all survey plots, or a complex woodland. | Two storeys across all survey plots | One or less storey across all survey plots. |
| **K** | Veteran Tree | Two or more veteran trees per hectare. | One veteran tree per hectare. | No veteran tree per hectare. |
| **L** | Amount of deadwood | 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities. | Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an | Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities. |

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| | | | abundance of small cavities | |
| **M** | Woodland disturbance | No nutrient enrichment or damaged ground evident. | Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground. | hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground. |

## Coastal Saltmarsh

5.2.21 Several guidelines have been considered in prescribing the conditions and management of Coastal Saltmarsh, contained in the following documents:

- Great Ormes Head to Scotland Shoreline Management Plan (SMP) *'11.A5.3 Flint Marsh to Chester Weir to Sealand Rifle Range (inner Dee estuary, both banks)* (Ref 39)*'*; and
- Saltmarsh Restoration Handbook UK and Ireland (2023) (Ref 40).

5.2.22 The Main Development Area currently contains 0.26 ha of Coastal Saltmarsh (inclusive of intertidal mudflat). It is anticipated that up to 650 $m^2$ of Coastal Saltmarsh would be lost temporarily, associated with the construction of the Proposed Surface Water Outfall. As detailed in the **Framework CEMP (EN010166/APP/6.5)**, a Saltmarsh Method Statement will be prepared to address soil stockpiling and the suitability of using turves, and define the proposed approach to monitoring saltmarsh recovery.

5.2.23 1,300 $m^2$ of Coastal Saltmarsh creation has been identified within the **Saltmarsh Creation Strategy [REP3-026]** to be created within the ecological safeguard area, in approximate location Ordnance Survey (OS) national grid reference (NGR) SJ 28975 70292. The area is currently a mixture of Bracken and Modified Grassland, in a poor condition, failing on criteria B, C, D, E and F of the low distinctiveness grassland Statutory Biodiversity Condition Assessment criteria.

5.2.24 The **Saltmarsh Creation Strategy (EN010166/APP/6.16)** identifies the studies required to develop the design of a managed retreat to be detailed in the Saltmarsh Implementation and Monitoring Plan pursuant to Requirement 22 of the **Draft DCO (EN10166/APP/3.1)**.

5.2.25 To aid the management of Coastal Saltmarsh, the criteria presented in **Table 3** (Statutory Biodiversity Condition Assessment Criteria) can be used to determine good quality Coastal Saltmarsh.

5.2.26 The final monitoring requirements will be included within the Saltmarsh Implementation and Monitoring Plan, which is secured by Requirement 22 (Saltmarsh Creation) to be in general accordance with the **Saltmarsh Creation Strategy (EN010166/APP/6.16)** . The **Saltmarsh Creation Strategy (EN010166/APP/6.16)** includes an indicative monitoring schedule.

## Table 3: Statutory Biodiversity Condition Assessment Criteria for Coastal Saltmarsh

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| **A** | Coastal processes | Coastal processes are functioning naturally. No evidence of human physical modifications which are clearly impacting the habitat. | Artificial structures present, for example groynes that are impeding the natural movement of sediments or water, affecting up to 25% of the habitat. | Artificial structures present, for example groynes that are impeding the natural movement of sediments or water, affecting more than 25% of the habitat. |
| **B** | Presence and abundance of invasive non-native species | Not more than one invasive non-native species is 'Occasional' on the SACFOR[3] scale or is occupying more than 1% of the habitat. No high-risk species indicative of suboptimal condition present (Ref 42). | No invasive non-native species are present above 'Frequent' on the SACFOR scale, or they occupy between 1-10% of the habitat. No high-risk species indicative of suboptimal condition present. | One or more invasive non-native species presents at an 'Abundant' level on the SACFOR scale; they occupy more than 10% of the habitat; or a high-risk species indicative of suboptimal condition is present – GB Non-native Species Secretariat should be notified. |

[3] The SACFOR scale is a system to record the abundance of marine species and defines abundance with 7 criteria (super-abundant, abundant, common, frequent, occasional, rare and present).

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| **C** | Water Quality | No visual evidence of pollution. There are no nuisance algal growths that are likely to be attributable to nutrient enrichment. Consider seasonality of survey timing[3]. | Visual evidence of low to moderate levels of pollution. Elevated algal growth with increases in cover that may indicate nutrient enrichment. Consider seasonality of survey timing[3]. | Visual evidence of high algal growth that is indicative of nutrient enrichment. Signs of eutrophication that would impede bird feeding. Consider seasonality of survey timing[3]. |
| **D** | Non-natural structures and direct human impacts | No evidence of impacts from direct human activities, or they occupy <1% of the habitat area (for example, pontoons, moorings, boats, crab tiles, bait digging or anchoring scars). | Evidence of impacts from direct human activities occupies 1-10% of the habitat area (for example, pontoons, moorings, boats, crab tiles, bait digging or anchoring scars). | Evidence of impacts from direct human activities occupies >10% of the habitat area (for example, pontoons, moorings, boats, crab tiles, bait digging or anchoring scars). |

| Criteria Indicator | | Good (3 points) | Moderate (2 points) | Poor (1 point) |
|---|---|---|---|---|
| E | Litter (when examining a beach strandline, mean high water line or intertidal rocky shore) | Following the Marine Conservation Society (MCS) beach litter survey method, the number of items of litter does not exceed 0.0036 $m^{-1}$ $min^{-1}$ $person^{-1}$, equivalent to up to 20 items per person per 100 m per hour. | Following the MCS beach litter survey method the number of items of litter does not exceed 0.0078 $m^{-1}$ $min^{-1}$ $person^{-1}$ equivalent to between 21 and 47 items of litter per person per 100 m per hour. | Following the MCS beach litter survey method the number of items of litter exceeds 0.0078 $m^{-1}$ $min^{-1}$ $person^{-1}$ equivalent to more than 47 items of litter per person per 100 m per hour. |
| F | Zonation and transition to other habitats | Zonation of vegetation or communities is clear and continuous[5]. Distribution of the feature and transition to other habitats, including associated transitional habitats within the site is reflective of expected natural distribution seaward and landward. | Up to 2 of the expected zones are absent or significantly impacted by human modification of the shoreline, and transitions to other habitats are restricted in less than 20% of the habitat boundaries. | Zonation of vegetation or communities is not clearly visible or is significantly impacted by human modification of the shoreline[5]. Or transitions to other habitats are restricted in more than 20% of the habitat boundaries. |

### Open Mosaic Habitat on Previously Developed Land

5.2.27 The Main Development currently contains 6.78 ha of OMH. 4.1 ha of OMH is to be created and linked to the 6.12 ha reinstated area of OMH at approximate location OS NGR: SJ28843 70427 and has been identified in Figure 3 in Appendix B of the **Green Infrastructure Statement** (**EN010166/APP/6.11**) of the ES. The area is currently dominated by modified grassland in poor condition, with small patches of mixed scrub.

5.2.28 For OMH to be created and align with the UKBAP criteria of a priority habitat (Ref 25), the criteria summarised in **Section 4.10.17** must be used to assess the success of its establishment.

5.2.29 OMH will be managed through an adaptative regime. The following management prescriptions are advised to ensure the success of OMH being established:

- Post-construction clearing of INNPS from the site;
- Manage the scrub and non-woody grassy vegetation by patchy cutting or light grazing to maintain the mosaic;
- Manage the scrub to achieve dense and scattered scrub between 10-15% of the area, as well as open areas;
- Manage non-woody vegetation in an adaptive manner that allows for scrub regeneration and produces a varied sward;
- Leave any standing and fallen deadwood in place; and
- Leave any mature and veteran trees in place that were not affected by the Proposed Development.

## 5.3 Habitat Enhancement Proposals

5.3.1 Measures to enhance the biodiversity and green infrastructure value of the Main Development Area through establishment of new habitats and improvement of existing habitats are proposed. The areas to be enhanced are shown in **Figure 3** in **Appendix B** of the **Green Infrastructure Statement** (**EN010166/APP/6.11**) of the ES and described below. Once created, the new habitats will be appropriately maintained (as described below) for a minimum period of 5 years.

#### *Other Neutral Grassland*

5.3.2 The Main Development Area will seek to enhance 2.04 ha of ONG from moderate to good condition. The location of these areas within the Main Development Area are identified in Figure 3 in Appendix B of the **Green Infrastructure Statement** (**EN010166/APP/6.11**) of the ES. The current condition of ONG is habitat parcel G34 and G16 is poor and moderate, respectively. Parcel G34 fails on condition criteria B, C, D, E and F. Parcel G16 fails on condition criteria B, C, E and F.

To enhance ONG from moderate or poor to good, 5-6 criteria (**including** criteria A and F) are required to be passed. See paragraph 5.2.5 for the condition criteria of ONG.

# 6. Monitoring

6.1.1 A monitoring strategy will be developed and detail the finalised monitoring regime to be undertaken for each type of habitat creation and enhancement on-site, including high distinctiveness habitats that will be retained, and / or avoided within the 9-year construction period. This monitoring strategy will be detailed in the final LEMP(s).

6.1.2 The ECoW will undertake post-intervention habitat monitoring annually in June or July for a minimum period of five years post-construction. For hedgerows, a minimum of management and monitoring of nine years, from establishment, will be required if planted within active construction. Management and monitoring prescriptions can be reduced to five years if hedgerow creation occurs outside of active construction. For irreplaceable and designated habitat (inclusive of OMH and Coastal Saltmarsh), a minimum of 10 years post-construction will be required. These monitoring periods are subject to change dependent on further consultation with statutory bodies and detailed design.

6.1.3 These timeframes are proportionate to the habitat creations and enhancements provided as part of the Proposed Development and are deemed appropriate to provide sufficient time to confirm a net benefit on-site and allow the newly established habitat to reach its target condition.

6.1.4 The monitoring approach will be provided within the final LEMP(s) and will involve a condition assessment walkover survey, using the Statutory Biodiversity Condition Assessment methodology (Ref 32) to complete the following:

- Review of the establishment of seed mixtures and shrub planting, and review of any requirements for remedial actions e.g. replacement of failed stock or re-seeding, or identification and rectification of damage;
- Review of habitat structure and composition, and associated implications for the agreed management regimes;
- Review of any native or non-native weed issues requiring treatment, or requirements for scrub control where the cover exceeds 5% of the total grassland area; and
- A brief monitoring report will be prepared each monitoring period and provided to FCC as a record of compliance.

## Adaptive Management Monitoring

6.1.5 The adoption of an adaptive management programme, and subsequent monitoring is proposed for certain habitat types detailed in Section 5.2. It will also allow flexibility to adapt to future climate changes and trends with regard to species selection and maintenance requirements.

6.1.6 The final LEMP(s) will define the adaptive management programme in agreement with the relevant planning authority. New activities or adaptions to the management and maintenance regime will respond to the results of monitoring and changes as a result of climate change. The final LEMP(s) will set out a landscape aftercare supervision structure that specifically

addresses the quality and annual growth of different planting areas, with monitoring against agreed objectives. The final LEMP(s) will provide mechanisms to target specific measures to improve any areas where planting is not establishing satisfactorily. These measures could include replacement of failed trees and shrubs with different species if repeated failure of species is occurring and other remediation measures to improve growth, including (but not limited to) watering, targeted weeding and soil analysis.

## Non-Compliance Procedure

6.1.7 The ECoW will be responsible for undertaking the inspections during and post construction to check compliance with the final approved LEMP(s). All incidents and non-conformance with the LEMP(s), will be reported and investigated, in accordance with the necessary procedures identified in the final LEMP(s).

# 7. Roles and Responsibilities

## 7.1 The Applicant and/or the Appointed Main Contractor

7.1.1 A representative from the undertaker and/or Principal contractor(s) will be identified to be responsible for the management and monitoring prescriptions detailed within the final approved LEMP(s).

7.1.2 The undertaker and/or appointed Principal ontractor(s) will be responsible for:

- Correct instruction of all parties contributing to delivery of the final approved LEMP(s) (including but not restricted to the undertaker's staff and their appointed ecologist(s), landscape architects, ECoW, landscape contractors, construction contractors and management organisations);
- Compliance with the final approved LEMP(s), relevant legislation. This includes appropriate maintenance of new habitats for a minimum 5 years for non-priority habitats and 10 years for priority, designated and irreplaceable habitats;
- Keeping the appointed ecologist informed of work activities that require support and supervision, so that it is clear when attendance on-site is required;
- Enacting and enforcing recommendations made by the appointed ecologist as part of the ECoW process, or otherwise agreeing an appropriate alternative course of action, if it is subsequently determined that previous advice is not practicable or is out of date; and
- Keeping a record of measures taken to deliver the requirements of the final approved LEMP(s), to provide an auditable record of compliance.

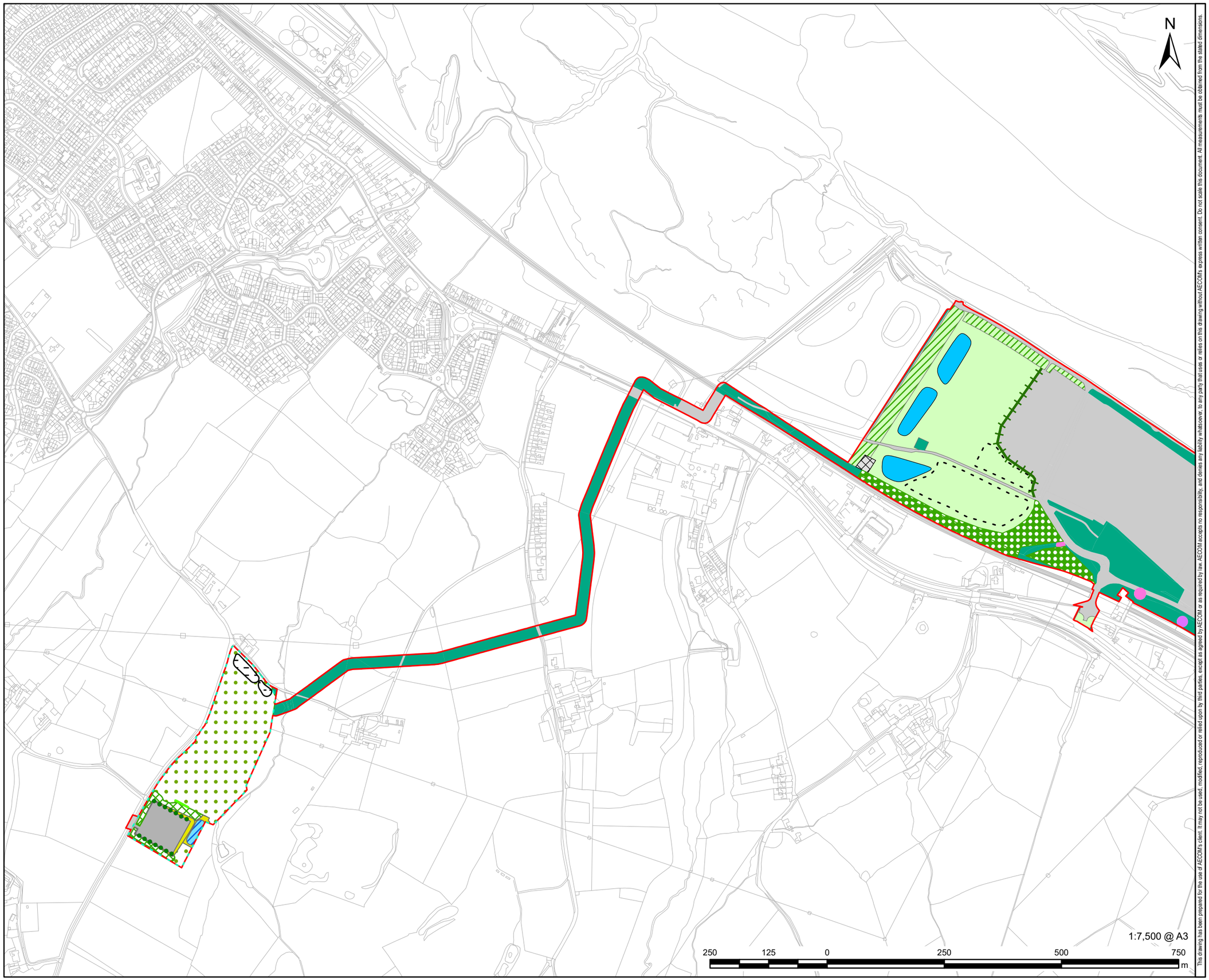
## 7.2 The Appointed Ecologist and EcoW

7.2.1 The appointed ecologist and appointed EcoW will be responsible for:

- Advising the Applicant on ecological matters and requirements for compliance with relevant legislation and protected species licences, providing support as instructed, and monitoring compliance with the final approved LEMP(s);
- Monitoring and assessing progress with delivery of biodiversity objectives and target condition of habitats on an annual basis for the first ten years following commencement of operation of the Proposed Development;
- Reviewing the LEMP(s) at appropriate periodic intervals and revising management requirements as necessary; and
- Providing the Applicant or appointed Principal contractor(s) with survey reports, monitoring reports, and other written evidence required in accordance with the agreed scope of work and contractual obligations.

# Appendix A – Figures

Revision: 1 Drawn: LP Checked: JG Approved: NS Date: 2026-03-06



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**PROJECT**

Connah's Quay Low Carbon Power

**CONSULTANT**

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**LEGEND**

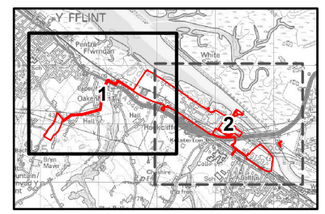
- Construction and Operation Area
- Operational Footprint / Hardstanding
- Retained Habitat - Not Affected by Development
- Retained Habitat - Ancient Tree Root Protection Area (RPA)
- Retained Habitat - Veteran Tree Root Protection Area (RPA)

**Landscaping to be Delivered Under the HyNet DCO**

- Native Double Staggered Hedgerow
- Native Triple Staggered Hedgerow
- Hardstanding
- Indicative Ephemeral Detention Pond
- Made Good / Return to Prior Use
- Native Shrub Planting
- Species Rich Grassland
- Tree Screen Planting
- Extent of HyNet Landscaping Proposals within the Order limits

**Indicative Landscape Plan**

- Species Rich Hedgerow
- Grassland
- Grassland enhanced as species-rich, wildflower
- Pulverised Fuel Ash
- Shallow Scrape
- Woodland
- Indicative Tree Planting Area




**NOTES**



**ISSUE PURPOSE**

Outline Landscape and Ecological Management Plan

**DATE**

March 2026

**PROJECT NUMBER**

60768754

**FIGURE TITLE**

Indicative Landscape Plan
Sheet 1 of 2

**FIGURE NUMBER**

Figure 1

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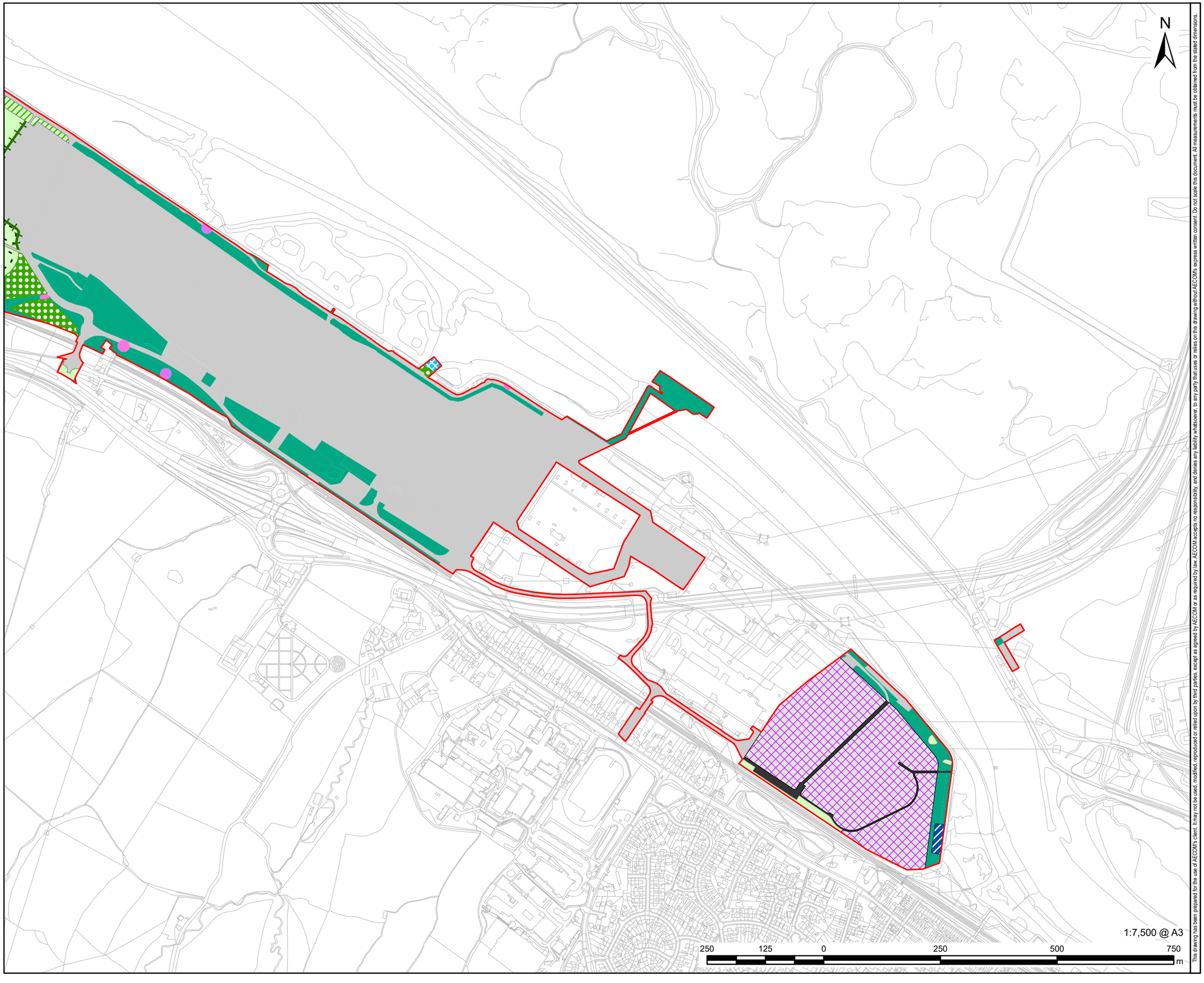




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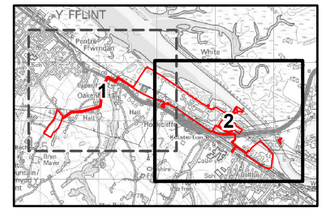
- Retained Habitat - Ancient Tree Root Protection Area (RPA)
- Retained Habitat - Veteran Tree Root Protection Area (RPA)

**Indicative Landscape Plan**

- Species Rich Hedgerow
- Access Track / Hardstanding
- Grassland
- Grassland enhanced as species-rich, wildflower
- Hardstanding within Main Development Area
- Saltmarsh Habitat Creation
- Saltmarsh Habitat Reinstated
- Woodland
- Indicative Tree Planting Area




**NOTES**



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**FIGURE TITLE**

Indicative Landscape Plan
Sheet 2 of 2

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Figure 1

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# Abbreviations

| Abbreviation | Term |
|---|---|
| APFP | Applications: Prescribed Forms and Procedure |
| CCP | Carbon Capture Plant |
| $CO_2$ | Carbon dioxide |
| CCGT | Combined Cycle Gas Turbine |
| CQLCP | Connah's Quay Low Carbon Power |
| C&IEA | Construction and Indicative Enhancement Area |
| CEMP | Construction Environmental Management Plan |
| DESNZ | Department for Energy and Net Zero |
| DCO | Development Consent Order |
| ECoW | Ecological Clerk of Works |
| ES | Environmental Statement |
| FCC | Flintshire County Council |
| GB | Great Britain |
| GCN | Great crested newt |
| HRSG | Heat Recovery Steam Generator |
| Ha | hectare |
| IEF | Important Ecological Features |
| INNS | Invasive non-native species |
| LEMP | Landscape and Ecology Management Plan |
| LDP | Local Development Plan |
| MMO | Marine Management Organisation |
| MW | megawatt |
| NGET | National Grid Electricity Transmission |
| NPS | National Policy Statement |
| NVC | National Vegetation Classification |
| OMH | Open Mosaic Habitat |
| OS | Ordnance Survey |
| ONG | Other neutral grassland |
| PPW | Planning Policy Wales |
| RPA | Root Protection Area |
| UKBAP | UK Biodiversity Action Plan |

| Abbreviation | Term |
|---|---|
| WCA | Wildlife and Countryside Act 1981 |