# XLINKS' MOROCCO-UK POWER PROJECT

## Outline Landscape and Ecology Management Plan

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# Glossary

| Term | Meaning |
|---|---|
| Alverdiscott Substation | The existing National Grid Electricity Transmission substation at Alverdiscott, Devon, which comprises 400 kV and 132 kV electrical substation equipment. |
| Alverdiscott Substation Connection Development | The development required at the existing Alverdiscott Substation Site, which is envisaged to include development of a new 400 kV substation, and other extension modification works to be carried out by National Grid Electricity Transmission. This does not form part of the Proposed Development, however, it is considered cumulatively within the Environmental Impact Assessment as it is necessary to facilitate connection to the national grid. |
| Alverdiscott Substation site | The National Grid Electricity Transmission site within which the Alverdiscott Substation sits. |
| Applicant | Xlinks 1 Limited. |
| Construction activities | All related engineering, construction and restoration activities as authorised by the DCO within the Order Limits. |
| Construction Traffic Management Plan | A document detailing the construction traffic routes for heavy goods vehicles and personnel travel, protocols for delivery of Abnormal Indivisible Loads to site, measures for road cleaning and sustainable site travel measures. |
| Converter Site | The Converter Site is proposed to be located to the immediate west of the existing Alverdiscott Substation site in north Devon. The Converter Site would contain two converter stations (known as Bipole 1 and Bipole 2) and associated infrastructure, buildings and landscaping. |
| Converter station | Part of an electrical transmission and distribution system. Converter stations convert electricity from Direct Current to Alternating Current, or vice versa. |
| Development Consent Order | An order made under the Planning Act 2008, as amended, granting development consent. |
| HVAC Cables | The High Voltage Alternating Current Cables which would bring electricity from the converter stations to the new Alverdiscott Substation Connection Development. |
| HVDC Cables | The High Voltage Direct Current Cables which would bring electricity to the converter stations from the Moroccan converter stations. |
| Landfall | The proposed area in which the offshore cables make landfall in the United Kingdom (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Cornborough Range, Devon, between Mean Low Water Springs and the transition joint bays inclusive of all construction works, including the offshore and onshore cable routes, and landfall compound(s). |
| Mean High Water Springs | The height of mean high water during spring tides in a year. |
| Mean Low Water Springs | The height of mean low water during spring tides in a year. |
| Offshore Cable Corridor | The proposed corridor within which the offshore HVDC Cables will be located, which is situated within the United Kingdom Exclusive Economic Zone. |
| Onshore Infrastructure Area | The proposed infrastructure area within the Order Limits landward of Mean High Water Springs. The Onshore Infrastructure Area comprises the transition joint bays, onshore HVDC Cables, converter stations, HVAC Cables, highways improvements, utility diversions and associated temporary and permanent infrastructure including temporary compound areas and permanent accesses. |
| Onshore HVDC Cable Corridor | The proposed corridor within which the onshore HVDC Cables would be located. |
| Operation and maintenance activities | The monitoring and management of habitats and protected species described in the Outline LEMP and then final detailed LEMP(s). |

| Term | Meaning |
|---|---|
| Proposed Development | The element of Xlinks' Morocco-UK Power Project within the UK. The Proposed Development covers all works required to construct and operate the offshore cables (from the UK Exclusive Economic Zone to Landfall), Landfall, onshore Direct Current and Alternating Current cables, converter stations, and highways improvements. |
| Order Limits | The area within which all offshore and onshore components of the Proposed Development are proposed to be located, including areas required on a temporary basis during construction (such as construction compounds). |
| Xlinks' Morocco-UK Power Project | The overall scheme from Morocco to the national grid, including all onshore and offshore elements of the transmission network and the generation site in Morocco (referred to as the 'Project'). |

# Acronyms

| Acronym | Meaning |
|---|---|
| BPZ | Bird Protection Zone |
| CMS | Construction Method Statement |
| DCO | Development Consent Order |
| ECoW | Ecological Clerk of Works |
| EIA | Environmental Impact Assessment |
| EPS | European Protected Species |
| GCN | Great crested newt |
| HTA | Horticultural Trades Association |
| HVAC | High Voltage Alternating Current |
| HVDC | High Voltage Direct Current |
| LEMP | Landscape and Ecology Management Plan |
| MHWS | Mean High Water Springs |
| NPS | National Plant Specification |
| On-CEMP | Onshore Construction Environmental Management Plan |
| PRA | Preliminary Roost Assessment |
| PRF | Potential Roost Feature |
| RAMS | Risk Assessment Method Statements |
| TFL | Temporary Flightline |
| TCC | Temporary Construction Compound |

# Units

| Units | Meaning |
|---|---|
| cm | centimetre |
| km | kilometre |
| m | metre |

# 1 OUTLINE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

## 1.1 Introduction

1.1.1 This document forms the Outline Landscape and Ecology Management Plan (LEMP), which has been prepared for the United Kingdom (UK) elements of Xlinks' Morocco-UK Power Project (the 'Project'). For ease of reference, the UK elements of the Project are referred to as the 'Proposed Development'.

1.1.2 This document sets out the landscape and ecology strategy for the Proposed Development landward of Mean High Water Springs (MHWS). It provides general principles and objectives for all mitigation, enhancement, monitoring and management of the landscape and ecology. The elements that occur landward of MHWS comprise:

- Landfall;
- Onshore HVDC Cable Corridor;
- Converter Site;
- HVAC Cable Corridors; and
- Highways improvements.

1.1.3 In addition to these elements, the Outline LEMP also considers the temporary construction compounds, storage areas, accesses and mitigation areas required to support the construction of the Proposed Development.

1.1.4 The relevant planning authority is Torridge District Council (and Devon County Council at County level).

## 1.2 Purposed of the Outline Landscape and Ecology Management Plan

1.2.1 The draft Development Consent Order (DCO) (document reference 3.1) includes a requirement (Schedule 2, Requirement 6 (Implementation and Maintenance of landscaping)) securing the preparation of a detailed LEMP(s). The LEMP(s) would be in general accordance with this Outline LEMP. The LEMP(s) would be submitted to and approved by the relevant planning authority prior to the commencement of the relevant stage of the onshore works.

1.2.2 This Outline LEMP provides an overview of how existing and newly created habitats within the Proposed Development would be restored, enhanced and managed during the implementation and establishment stage and during the lifetime of the Proposed Development. To achieve this, the key objectives of the Outline LEMP are to:

- support the construction team of the Proposed Development in ensuring compliance with the DCO requirements;
- provide the mechanism to deliver the environmental commitments as set out in the ES;

- promote environmental best practice;
- ensure the protection and health of retained vegetation within the Order Limits;
- Contribute to the conservation of the Special Qualities of the National Landscape;
- Contribute to the conservation and enhancement of valued attributes and key characteristics of landscape character;
- ensure the creation, establishment and protection of new and replacement habitat and planting; and
- ensure the continued retention of natural habitat for species and support the natural environment where possible.

1.2.3 This is an outline document that is based on the Project Design Envelope (PDE) set out in Volume 1, Chapter 3: Project Description of the ES.

1.2.4 This Outline LEMP should be read in conjunction with the Outline Onshore Construction Environmental Management Plan (On-CEMP) and its supporting appendices (document ref. 7.7). This Outline LEMP has also been informed by the following documents where relevant:

- Volume 1, Chapter 3: Project Description of the ES (document ref 6.1.3).
- Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES (document ref 6.2.1).
- Volume 4, Chapter 2: Landscape, Seascape and Visual Impact Assessment of the ES (document ref 6.4.2) Design Principles (document ref 7.4).

## 1.3 Scope of the Outline Landscape and Ecology Management Plan

1.3.1 This Outline LEMP applies to the onshore preliminary activities, construction and operation and maintenance activities of the Proposed Development located landward of MHWS. The Outline LEMP does not consider construction impacts seaward of MHWS.

1.3.2 Onshore preliminary activities comprise the following activities (as defined in the Outline On-CEMP (document reference 7.7)):

- Pre-construction archaeological investigations.
- Early planting or landscaping works, where appropriate.
- Ecological and archaeological mitigation.
- Environmental surveys and monitoring.
- Site clearance (including vegetation clearance and site levelling).
- Investigations for the purpose of assessing ground conditions such as:
  - pre-entry soil surveys; and
  - drainage surveys.
- Remedial work in respect of any contamination or other adverse ground conditions.
- The diversion of existing services and the laying of temporary services.

- The diversion or undergrounding of overhead cabling.
- Site security works.
- Establishing compounds and the erection of temporary hardstanding, buildings (e.g. welfare facilities), structures or enclosures.
- Creation of site accesses.
- Temporary display of site notices and site advertisements.
- Receipt and erection of construction plant and equipment.

1.3.3 The onshore preliminary activities listed in **paragraph 1.3.2** would be carried out in accordance with the measures set out in this Outline LEMP.

1.3.4 The final LEMP(s) would be in general accordance with the principles established in the Outline LEMP and would be agreed with the relevant planning authority prior to construction commencing. For the purpose of this Outline LEMP, the term 'construction' includes all related engineering, construction and restoration activities as authorised by the DCO within the Order Limits. The term 'operation and maintenance activities' relate to the monitoring and management of habitats and protected species described in the Outline LEMP and then final LEMP(s).

## 1.4 Document Structure

1.4.1 This Outline LEMP comprises the following sections:

- **Sections 1.1** to **1.6** – The introduction, guidance, and roles and responsibilities.
- **Section 1.7** – The outline principles and commitments.
- **Section 1.8** - The outline habitat maintenance and management.
- **Section 1.9** – The habitat monitoring and management options.
- **Section 1.10** – Species: pre-construction and construction mitigation.
- **Section 1.11** – Species monitoring and management.

1.4.2 In addition to the sections listed above, this Outline LEMP is also supported by the following appendices:

- **Appendix A** - Typical Programme of Operations, which provides an outline of the timing of works.
- **Appendix B** – Landscape Maintenance Schedule, which summarises the landscaping works required.
- **Appendix C** – Typical Planting Mixes, which sets out typical plant species, sizes and mixes that could be incorporated in detailed design proposals.
- **Appendix D –** Outline Bird Protection Plan, which details the mitigation and monitoring requirements for breeding birds.
- **Appendix E** – Mitigation land requirements and justification, which sets out the areas of land needed for mitigation and provides suitable justification.

# 1.5 Relevant Guidance

1.5.1 There are a number of guidance documents that inform this Outline LEMP and would inform the final LEMP(s). Good horticultural practice and the current relevant British Standards relevant to this Outline LEMP include:

- BS3998: Tree Work – Recommendations;
- BS4428: Code of practice for general landscape operations;
- BS5837: Trees in Relation to Design, Demolition and Construction – Recommendations;
- BS7370: Grounds maintenance, referencing specifically Parts 1 to 5 of this standard as follows:
  - part 1: Recommendations for establishing and managing grounds maintenance organisations and for design considerations related to maintenance.
  - part 4: Maintenance of soft landscape (other than amenity turf).
  - part 5: Maintenance of Water and Wetland Areas.
- BS8545: Trees: From Nursery to Independence in the Landscape; and
- Devon's Hedges – conservation and management, Devon County Council (1998).

1.5.2 The Outline LEMP is also informed by ecological guidance including the following:

- Badger Protection: Best Practice for Developers, Ecologists and Planners (England) Badger Trust (2023).
- Guidance Note 8 Bats and artificial lighting. Bat Conservation Trust (2018).
- BS EN 12464-2: Light and lighting.
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.
- 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.
- The dormouse conservation handbook Second edition. English Nature (2006).
- Herpetofauna Worker's Manual. Joint Nature Conservation Committee (1998).

# 1.6 Roles and Responsibilities

## Project Team

1.6.1 The environmental roles required to implement the Outline LEMP are set out in the following sections below.

### Primary Management

1.6.2 The Applicant and its onshore project management team would be responsible for coordinating the onshore works, ensuring that the measures in the final LEMP(s) are being implemented and giving necessary direction to Principal Contractor(s)

(e.g. setting contractual obligations). The Principal Contractor(s) management team would be responsible for coordinating the works within each Principal Contractor(s) respective contracts.

## Secondary Management

### Site Management

1.6.3 The Site Manager would be responsible for maintaining the LEMP(s) as a working document; ensuring environmental standards are adhered to and monitoring compliance during construction; carrying out regular monitoring and inspections of construction work activities; and undertaking staff induction courses on environmental issues, with support from the dedicated Environmental Coordinator and environmental specialists. The Site Manager would be responsible for recording the content and attendance for all site inductions and tool-box talk activities.

1.6.4 Responsibilities would also include managing the coordination between the environmental specialists and the engineering teams.

### Environmental Co-ordinator

1.6.5 The Environmental Co-ordinator would be responsible for the interface between the environmental specialists and engineers during construction. They would have the primary responsibility for managing environmental issues through the construction and post-construction monitoring and for obtaining the relevant licences and consents.

## Technical Roles

### Ecological Clerk of Works

1.6.6 An Ecological Clerk of Works (ECoW) would be appointed prior to the start of construction to provide oversight and supervision where necessary, of any works potentially affecting ecological features to ensure all pre-commencement environmental commitments are met and compliance with the conditions of all licences and permits.

1.6.7 It is likely there would be a lead ECoW or Project Ecologist (PE) and several assistant ECoWs working under the direction of the lead ECoW.

1.6.8 The ECoWs would undertake pre-construction checks and regular site inspections. The ECoW would also supervise other works in sensitive areas as required to ensure that relevant wildlife legislation is adhered to and to confirm when work can proceed without further ecological supervision. The ECoW would also assist in delivering site inductions and toolbox talks on ecological issues. The ECoW would assist in the preparation of relevant Construction Method Statements (CMS) and would monitor implementation of the final LEMP(s). The ECoW would notify the Environmental Coordinator of any incidences where the final LEMP(s) is not being implemented.

1.6.9 The ECoW team would have a minimum of three years relevant site management experience and a full working knowledge of relevant wildlife legislation.

1.6.10 The ECoW may also undertake licensable works under a European Protected Species (EPS) mitigation licence, and Protection of Badgers Act Licence (if necessary) where they are qualified and licenced to do so. Where the ECoW does not hold the appropriate licence, they may work under the supervision of the ecologist named in the mitigation licence (see **paragraph 1.6.12**).

1.6.11 The activities where an ECoW would be required are described in more detail in the following sections of this Outline LEMP.

### Named Ecologist

1.6.12 The Named Ecologist(s) is a professional ecological consultant who has satisfied Natural England that they have the relevant skills, knowledge and experience of the species concerned and is responsible for undertaking and/or overseeing the work undertaken in respect of the licensed species. The Named Ecologist either has to provide references to prove they have sufficient experience working with the species in question or refer to previous mitigation licences held. They would support the ECoW(s) in implementing the EPS mitigation licences.

### Responsible Body

1.6.13 The Applicant will appoint a responsible body that meets the definition Part 7 of the Environment Act 2021 (conservation covenants). The body would be responsible for the habitat management and monitoring of the mitigation areas.

## 1.7 Outline Principles and Commitments

### Guiding Design Principles

1.7.1 The Outline LEMP proposals have been developed to avoid, reduce and manage impacts on landscape and ecology during construction and operation and maintenance of the Proposed Development, as far as possible. These principals are maintained within this Outline LEMP and would be integral to the final LEMP(s) and its implementation.

1.7.2 The proposals set out within this Outline LEMP adhere to the following design principles:

- Landscape integration: to provide an appropriate setting that manages the visual impacts of the onshore elements, in particular the Converter Site, responding to adjacent land uses and the existing character of the area; to retain green infrastructure assets wherever possible; to integrate with and expand the existing green infrastructure network within and around the Converter Site; and to enhance, restore and reintroduce characteristic landscape elements which have been lost or degraded, where practicable. This will follow the management guidelines set out for each Landscape Character Area that is directly affected by the Order Limits.
- Landscape amenity: to respond to the scale and character of the area and enhance the experience of people working and local communities that live near to the Proposed Development (in particular the Converter Site) and people travelling through the area.

- Biodiversity retention: to avoid, minimise and protect against habitat loss, so as to retain the existing landscape setting and the habitats currently utilised by species for shelter and foraging.
- Biodiversity enhancement: to manage and enhance the nature conservation value of Proposed Development. Primarily this is achieved through creating new woodland, an attenuation basin, grassland and hedgerow around the Converter Site and seeking habitat enhancement at other locations along the onshore HVDC Cable Corridor.
- Retaining, protecting and enhancing the Special Qualities of the North Devon Coast National Landscape (NDC NL):
  - Diversity of scenery contained within a small area, including some of the finest cliff scenery in the country.
  - Panoramic seascape, with seaward views to Lundy within the Atlantic Ocean, across the Bristol Channel to Wales and along the coastline. Views are of a landscape and seascape devoid of human influence.
  - Panoramic views across a rolling landscape of pastoral farmland, wooded coombes and valleys from elevated inland areas.
  - Wild coastal scenery. In the north, hogsback cliffs of varying heights; in the south high, rugged cliffs, dramatic rock formations, exposed headlands, wavecut platforms and rocky coves.
  - Dark night skies.
- Retaining, protecting and enhancing the NDC NL Management Plan policies which will conserve and protect the natural beauty and special landscapes of the NL, including:
  - A1: Ensure that the landscape character, natural beauty and special qualities of the NL are conserved, enhanced and fully respected in all decisions affecting the Area.
  - A2: Preserve the dark skies, peace and tranquillity of the NL.
  - A3: Ensure developments both onshore and offshore, take account of open views, wilderness and maritime connections.
  - A4: Recommend that no development should be permitted inside or outside the NL that would harm the natural beauty, character or special qualities of the NL.
  - A5: Ensure developments comply with the North Devon Landscape and Seascape Character Assessments.
- Retaining, protecting and enhancing the key characteristics of National Character Area (NCA) 149: The Culm.
  - Rolling, open plateaux, wide views across a remote landscape.
  - Little tree cover on the plateau, except for occasional wind-sculpted hedgerow and farmstead trees, and conifer blocks. Woodland is more frequent in the shelter of valleys and combes running to the sea, and where associated with estates.
  - Mosaic of field patterns reflecting the historic land use of the Culm, surrounded by characteristic hedgebanks.

  - Spectacular coastline of high cliffs and estuarine features, nationally important geological features, and narrow wooded combes.

- Statements of Environmental Opportunity to protect, enhance and conserve the landscape of NCA 149:
  - SEO1: Seek to maintain, enhance and join up the distinctive and internationally important areas of Culm grassland, with their simple pattern of fields, hedgebanks, woodlands, rivers and tributaries, and their strong links to past land use and settlement. This will bring benefits in terms of reducing soil erosion, improving soil quality and water availability, regulating water flow, promoting the interpretation of the historic environment, enhancing biodiversity and supporting pastoral farming.
  - SEO2: Safeguard the rich geological record and current geomorphological processes, particularly along the internationally important coastline. Where possible, allow the unimpaired operation of natural coastal processes, resulting in the creation of new habitats, conserving and enhancing landscape character, and benefitting biodiversity and the historic environment.
  - SEO3: Protect open views and the simple, austere character of the landscape and seascape, enhancing access to and interpretation of the wealth of natural and heritage assets, and recreational opportunities, throughout the area – including the South West Coast Path.
- Retaining, protecting and enhancing the key characteristics of Devon Landscape Character Area (LCA) Bideford Bay Coast LCA:
  - A relatively sheltered bay, with gentler, more rounded coastal scenery than elsewhere along the coast.
  - Extensive coastal oak woodlands, containing important lichens, fens and ground flora within the sheltered combes; bluebells a dominant feature in spring.
  - Southern and eastern areas dominated by agriculture with rolling, irregularly-shaped pastoral and arable fields extending to the cliff tops.
  - Fields divided by hedgerows and banks with wind-sculptured hedgerow trees; field boundaries less frequent in the north-east around Abbotsham.
  - Semi-natural habitats include road verges and species-rich hedgerows and hedgebanks.
  - Historic railway linking Bideford, Westward Ho! and Appledore (1904-1917) through the Abbotsham cliff area, today forming part of the coastal path out of Westward Ho!.
  - Sunken rural lanes with exceptionally high hedgebanks connecting villages, contrasting with the A39 which runs through the area.
  - Attractive landscape with pleasing compositions of woodland, farmland and coastal scenery.
  - Open seascapes, including views of Lundy Island and across Bideford Bay to the Taw-Torridge estuary.
- Guidelines for the protection, management and planning for Bideford Bay Coast LCA:
  - Protect open skylines, vitas and sea views.

  - Protect the area's distinctive coastline and open seascapes.
  - Protect characteristic qualities of seclusion and remoteness in combes.
  - Protect the undeveloped character of the coast where it remains.
  - Protect dark night skies, and investigate opportunities to minimise light pollution.
  - Manage and enhance ancient coastal and combe woodlands through traditional techniques such as coppicing as well as the removal of invasive species.
  - Manage semi-natural habitats such as coastal heathland, Culm, maritime grassland and less-improved valley pastures (including through locally-appropriate grazing regimes) to retain a mosaic of vegetation types, and create buffer sones between cliff communities and improved agricultural land behind.
  - Manage and extend wet woodland and wet meadows through appropriate grazing and traditional land management, to enhance their wildlife value and capacity for flood prevention.
  - Manage Devon hedgebanks, respecting locally-distinctive styles; replace lost and over-mature hedgerow trees.
  - Manage the land within the NDC NL and North Devon Biosphere Reserve in accordance with the NL's statutory duties and guidelines of the Biosphere Reserve.
  - Plan restoration of conifer plantations to native broadleaved woodland.
  - Plan to link habitat corridors and enhance biodiversity.
  - Plan for the future effects of climate change, allowing natural processes to occur as much as possible.

- Retaining, protecting and enhancing the key characteristics of Devon Landscape Character Area (LCA) Torridge Valley LCA:
  - Main River Torridge deep and fast flowing, with a convoluted course and tightly meandering channel, with mud flats exposed at low tide.
  - Small tributary valley south of Bideford dominated by Jennetts Reservoir.
  - Valley sides well-clothed in deciduous woodland which dominates skylines; some conifer plantations, particularly in the middle and upper reaches of the main valley.
  - Valley floor generally used for pastoral agriculture, with a mixture of pastoral and arable agriculture on higher land.
  - Fields generally semi-regular in shape comprising a mixture of medieval, post-medieval and modern enclosures based on earlier medieval fields; mainly enclosed by hedgerows or hedgebanks, but some loss of field boundaries in arable areas.
  - Numerous historic features associated with the river, including weirs, mills, bridges, disused canal and railway line (now the 'Tarka Trail').
  - Major roads and transport routes (e.g., A386 and the former Okehampton-Bideford railway line) generally follow the main valley floor, while upper reaches and tributary valleys have winding hedge-banked lanes with narrow stone bridges.

- Guidelines for the protection, management and planning for Torridge Valley LCA:
  - Protect the natural form and features of the river and dynamic processes that form them (e.g. meanders shingle banks and tidal mud flats).
  - Protect the open character of the valley floor.
  - Protect framed vistas and views across the valley.
  - Protect the skyline above the valley from intrusive development.
  - Manage broadleaved woodland on valley sides (including the use of traditional techniques such as coppicing), and promote woodland planting which extends and strengthens the existing woodland network.
  - Manage and maintain hedgerows and hedgebanks to conserve amenity and wildlife interest.
  - Manage in line with North Devon Biosphere Reserve guidelines.
  - Plan to restore coniferous plantation to broadleaved woodland.
- Retaining, protecting and enhancing the key characteristics of Devon Landscape Character Area (LCA) High Culm Ridges LCA:
  - Ridges divided by small spring-fed tributary streams, flowing into the Torridge (to the west).
  - Extensive linear deciduous woodlands and some orchards in valleys; occasional windswept trees and hilltop clumps of beech; and blocks of coniferous plantation on higher ground.
  - Farmland generally in pastoral use, with some areas of arable on better-quality land.
  - Complex pattern of fields, generally with smaller, irregular fields around villages and on valley sides, and larger, more regular fields (suggesting more recent enclosure) on areas of higher land.
  - Fields generally divided by hedgerows or hedgebanks in variable condition: some well-managed, others grown-out or closely flailed.
  - Long views from high ground across the Torridge valleys, and to Exmoor, as well as views of the sea.
- Guidelines for the protection, management and planning for High Culm Ridges LCA:
  - Protect open skylines – which form the backdrop to surrounding landscape character areas – from inappropriate development.
  - Protect intact historic field systems.
  - Protect dark night skies.
  - Protect the high levels of tranquillity which are characteristic of this area.
  - Manage and strengthen hedgerows, hedgebanks and associated habitats using traditional techniques.
  - Manage isolated windswept trees and distinctive hill-top tree clumps, replacing over-mature or storm damaged trees as necessary to retain them as features within the landscape.

  - Manage land in accordance with North Devon Biosphere Reserve guidelines.
  - Plan to mitigate visually intrusive sites through carefully designed planting.
  - Plan to link remnant areas of Culm grassland, extending them where possible to increase their biodiversity value and their resilience to climate change.
  - Plan to revert plantations to grassland or broadleaved woodlands at maturity and felling, possibly keeping some forest for its recreation value.
- Retaining, protecting and enhancing the key characteristics of North Devon Seascape Character Area (SCA) SCA21 Abbotsham Coast
  - Undulating coastline with steep cliffs rising to over 90 m in the south west of the SCA, but dropping to a lower and more rounded profile in the north east, backed by undulating coastal farmland.
  - Pastoral and arable fields extending to and between the cliff tops in places, including unimproved grasslands.
  - Characteristic fine pebble ridge at cliff bases, fronted by a wide rocky foreshore (wave cut platform), with beds trending seawards to form biogenetic reefs.
  - Gradual transition from a remote, rugged seascape in the south-west to gentler, more undulating and pastoral coastal scenery where the cliffs drop to shore level in places.
- Management guidelines for SCA 21 Abbotsham Coast:
  - Promote awareness of marine habitats and species found within the seascape, as well as how these might be affected by current or future forces for change (including human activities and climate change).
  - Manage national demand for alternative sources for renewable energy production and be aware of impacts that this may cause to the undeveloped nature of this coast.
  - Protect the open aspect of the SCA coast that allows views to more developed seascapes and resist the pressure for development along this coast.
- Retaining, protecting and enhancing the key characteristics of North Devon and Torridge District Landscape Character Type (LCT) LCT 4H Cliffs:
  - A largely undeveloped coastline of steep rocky or vegetated cliffs of varying height often punctuated by dramatic features such as waterfalls, rocky coves and features such as stacks and sea arches.
  - Distinctive and internationally renowned exposed rock stratifications often clearly visible.
  - Extensive and dramatic views, reaching out to sea (often to Lundy), along the coastline.
  - Occasional minor combes draining to the sea often lined by ancient sessile oak woodland.
  - Rough grazing land on sloping cliff tops, with field boundaries of post-and-wire fencing or stone-faced hedgebanks.

  - A 'wild' and remote landscape with high levels of tranquillity. Access is largely restricted to the South West Coast Path.
- Management guidelines for LCT 4H Cliffs:
  - Protect the open and largely undeveloped character of the cliffs, avoiding the siting of new development and vertical structures on prominent skylines.
  - Protect the character of the landscape's expansive sea views (including to Lundy Island, South Wales and across the NL coastline).
  - Protect and sensitively interpret the coastline's outstanding geological and geomorphological features, ensuring rock exposures are visible in coastal quarries and awareness is raised of the dynamic nature of the coast.
  - Manage the valued coastal woodlands of the Clovelly coast and coastal combes, controlling invasive species and moving towards a restructuring of areas of conifer planting to broadleaves. New planting should consider species of greater resilience to climate change. Traditional woodland management (including coppicing) should be revived.
  - Manage and restore the network of stone-faced hedgebanks enclosing rough grazing land, replacing lengths of post-and-wire fencing to strengthen field patterns. Ensure the creation of new lengths of hedgebanks replicates traditional styles of construction such as the pattern of stone facing.
  - Manage nationally important coastal habitats, including coastal heath and maritime grasslands, through supporting a continuation of extensive grazing at appropriate levels.
  - Plan for the impacts of a changing climate on the coastline, allowing natural processes to take place whilst considering how habitats and the SW Coast Path can be expanded or relocated to account for coastal squeeze.
- Retaining, protecting and enhancing the key characteristics of North Devon and Torridge District LCT 5B Coastal Undulating Farmland:
  - Strongly rolling landscape with prominent ridges and hilltops, influenced by the close proximity of the sea.
  - Pervading maritime influence with long coastal views, including to coastal settlements and to the north-west peninsula of the north Devon coastline.
  - Linear bands of broadleaved woodland, occasional small mixed woods, ornamental parklands and blocks of conifer plantation combined with a strong network of hedges resulting in a well-treed appearance.
  - Strong pattern of regular medium-large fields of post-medieval and modern origin, interspersed with significant areas of smaller curving or medieval strip fields (e.g. around Rickard's Down).
  - Fields bounded by Devon hedges of mixed species with flower-rich banks and some sections of stone facing. The use of hawthorn, hazel, elm and/or beech is locally characteristic. Patches of gorse reinforce a sense of exposure.
  - Predominantly pastoral land use, with occasional arable fields and patches of rough grazing land.

  - Settlement and farms linked by a network of rural roads enclosed by high hedgebanks. The main A39 cuts through the area.
- Management guidelines for LCT 5B Coastal Undulating Farmland:
  - Protect the landscape's open vistas and important sea views, avoiding the location of new development and vertical structures on prominent skylines both within and in sight of this LCT.
  - Protect the landscape's high levels of tranquillity and dark night skies through the control and management of development.
  - Manage the landscape's valued woodlands, controlling invasive species and moving towards a predominance of broadleaves over conifers to enhance their wildlife interest. New planting should consider species of greater resilience to a changing climate. Traditional woodland management (including coppicing) should be revived.
  - Manage and protect the landscape's network of hedgebanks and characteristic wind-sculptured hedgerow trees, replanting ageing or diseased specimens (with climate hardy species) to ensure the future survival of these characteristic features. Replace gappy sections and lengths of fencing to reinforce important field patterns. New hedgebank construction should reflect local variations (e.g. choice of species, height/width of bank and pattern of stone-facing).
  - Plan for the impacts of a changing climate on the coastline, allowing natural processes to take place whilst considering how habitats and the SW Coast Path can be expanded or relocated to account for coastal squeeze.
- Retaining, protecting and enhancing the key characteristics of North Devon and Torridge District LCT 3H Secluded Valleys:
  - Steep-sided, incised valleys with fast-flowing streams and rivers carving through the landscape, crowned by rounded hill summits.
  - Includes the main tributary valleys of the River Torridge.
  - Dense tree cover cloaking valley sides, including ancient semi-natural oak woodlands with a colourful ground flora, beech-dominated broadleaved woodlands, and conifer blocks. Patches of wet woodland tracing river/stream courses.
  - Mixture of field sizes and shapes – often smaller, irregular medieval enclosures on lower slopes, with upper slopes merging into larger post-medieval and modern fields, often retaining earlier curving boundaries.
  - Species-rich Devon hedges on wildflower-rich banks, with bank-side ferns and frequent hedgerow trees associated with lower valley locations.
  - Steep valley sides dominated by pasture grazed by sheep and cattle, with patches of rough grazing land on upper slopes and rushy meadows fringing watercourses.
  - High levels of peace and tranquillity frequently defined by sounds of rushing water echoing out from the valley bottoms, though locally impacted by main roads in some valleys.
- Management guidelines for LCT 3H Secluded Valleys:

  - Protect the landscape's network of quiet sunken lanes enclosed by woodland and species-rich hedgebanks, resisting unsympathetic highway improvements (e.g. hedgerow/woodland cutting).
  - Manage and enhance the valleys' semi-natural woodlands through traditional techniques including coppicing. Control access by livestock, promoting natural regeneration to enhance longevity whilst using extensive grazing to promote the species diversity of woodland ground flora.
  - Manage and extend areas of grassland, species-rich rush pasture, Molinia mire, unimproved acid and neutral grasslands, wet meadows and gorse and willow scrub through appropriate grazing and traditional land management regimes – both to enhance their wildlife value and function in flood prevention.
  - Manage species-rich Devon hedgebanks through the regular coppicing of hedgerow trees and re-laying gappy sections, strengthening irregular medieval field patterns. Replace lost lengths respecting traditional bank styles and species composition, particularly locations at right angles to slopes to reduce soil erosion and run-off into watercourses.
  - Create, extend and link woodland and wetland habitats to enhance the water storage capacity of the landscape. The natural regeneration of woodland should be encouraged and new planting (using climate hardy species) undertaken to link fragmented sites.

- Retaining, protecting and enhancing the key characteristics of North Devon and Torridge District LCT 5A Inland Elevated Undulating Land:
  - Elevated land cut by a series of tributaries forming folds in the landform.
  - Tributary valleys lined by broadleaved and wet woodland providing contrasting shelter and texture. Small farm woods, occasional conifer blocks and avenues of mature beech on hill summits and along roadsides.
  - Medium-scale regular fields of recent enclosure, with pockets of smaller fields of medieval origin on valley slopes and tracts of unenclosed rough grazing along valley bottoms.
  - Fields enclosed by mixed species hedges (predominantly thorn) with flower-rich banks and frequent hedgerow trees in sheltered locations. Some locally distinctive hedges topped with gorse and beech. Occasional amalgamated fields bounded by fences.
  - Strong farmed character with pasture fields grazed by cattle and sheep a frequent occurrence en-route, occasional fields of arable cultivation and rough grazing of rushy meadows along valleys although mostly rather improved grassland.
- Management guidelines for LCT 5A Inland Elevated Undulating Land:
  - Protect the landscape's strong sense of tranquillity and remoteness and long-ranging views (including to Dartmoor National Park), avoiding the location of new development on prominent, open ridgelines.
  - Manage the landscape's varied Devon hedgebanks and avenue of trees, reflecting local variations in styles and species composition. Reinstate coppicing and hedge laying to neglected sections, planting new trees where specimens are over-mature (consider using climate hardy species

to ensure longevity). Reinstate lost and gappy sections, particularly at right angles to slopes, to strengthen field patterns and reduce soil erosion.

  - Plan for the expansion of fragmented Culm grassland sites to create an intact green network, where conditions allow.

- Retaining, protecting and enhancing the key characteristics of North Devon and Torridge District LCT 3A Upper Farmland and Wooded Valley Slopes:
  - A pastoral landscape, with some fields of arable cultivation on higher slopes, forming a strong mosaic with copses, interlinking Devon hedges and small woodlands as well as occasional small blocks of coniferous plantation.
  - Some areas of intensive arable cultivation in larger, regular fields found on more elevated land. Villages and tributary valleys often characterised by smaller, historic field patterns.
  - Nature conservation interest provided by areas of species-rich Culm grassland, rich valley mire, wet woodland and damp meadows associated with tributary valleys and springs. Patches of gorse on higher slopes give some areas an upland feel.
  - Main roads prominent pylon lines and the influence of modern development at Bideford and East the Water erode levels of tranquillity locally – although overall this is a peaceful and highly rural landscape.
  - Square church towers form strong local landmark features peeping through the rolling hills.
- Management guidelines for LCT 3A Upper Farmland and Wooded Valley Sides:
  - Protect important views to and from the hills across the surrounding landscapes, including to Dartmoor, Exmoor and the North Devon Coast NL.
  - Protect the landscape's strong rural character and dark night skies, resisting highway improvements and lighting schemes that would affect these special qualities.
  - Manage and enhance the strong irregular field patterns of much of the landscape, restoring lost and gappy Devon hedgebanks (particularly on intensively farmed slopes), Respect any local variations in Devon bank construction and topping hedgerow species, utilising local materials wherever possible.
  - Manage and enhance the wildlife interest of the farmed landscape, including through the creation of species-rich grass buffers around arable fields. Retain areas of rough grazing land and healthy patches on high slopes to reinforce their 'upland' character.
  - Manage and extend areas of Culm grassland, rich valley mire, wet woodland and damp meadows through appropriate grazing and traditional land management regimes.
  - Reinstate traditional management techniques to the landscape's semi-natural woodlands, particularly coppicing, to promote a diverse age and species structure.

- Retaining, protecting and enhancing the key characteristics of North Devon and Torridge District LCT 1F Farmed Lowland Moorland and Grassland:
  - Pastoral character including rough cattle/sheep grazing on expanses of Culm grassland and heath. More intensive farming, including occasional arable fields, poultry units and localised pony paddocks on the fringes of the 'moors'.
  - Wind turbines visually influence parts of the landscape, notably a large wind farm in north Devon and several small wind farm developments in Torridge.
  - Golf courses, fishing lakes, caravan parks, equestrian centres, disused airfields, industrial land uses and main roads dilute perceptions of tranquillity and remoteness locally.
  - Elevation affording long views across the landscape and beyond - e.g. to the contrasting lush green fields of the surrounding farmland and the high moorland landscapes of Dartmoor and Exmoor.
- Management guidelines for LCT 1F Farmed Lowland Moorland and Grassland:
  - Protect the farming and land management traditions of the area.
  - Protect the landscape's strong sense of tranquillity and remoteness through avoiding the location of new development on prominent, open ridgelines.
  - Manage the areas of Culm grassland through appropriate grazing and burning regimes whilst protecting their high wildlife value.
  - Plan for the expansion of fragmented Culm grassland sites to create an intact green network, where conditions allow.

## Guiding Landscape Proposals

1.7.3 Further to the design principles outlined above, the following landscape requirements were adopted during the design process and would be integral to the final LEMP(s):

- Achieve high quality design (in particular at the Converter Site) by responding to the characteristics of the landform and land use within the site, its surroundings of farmland and energy infrastructure and the wider rural Devon landscape.
- Ensure landscape and ecological requirements are integrated into a coherent landscape and ecology strategy.
- Ensure green infrastructure assets in the form of hedgerows, woodland copses and grassland within and adjoining the Order Limits are retained wherever possible and adverse impacts on the important features, such as Devon hedgebanks, and locally distinctive field patterns are minimised.
- Minimise adverse impacts on the rural character of the surrounding 'Inland elevated undulating land' landscape character type of North Devon and Torridge District and the wider landscape of Devon.
- Ensure that visually significant vegetation in the form of hedgerows and woodland copses within and adjoining the Order Limits (in particular the

Converter Site) is retained, where practicable, to minimise adverse effects on visual receptors, for example on walkers using the public rights of way on high points within the wider landscape to the west and local residential receptors.

- Ensure a high-quality environment is created within the Order Limits (in particular the Converter Site) and surrounding landscape, for example new tree and woodland planting could strengthen existing vegetated field boundaries.
- Provide replacement/compensation native and locally characteristic planting where vegetation would be removed, as a result of the Proposed Development to reinforce the key characteristics of the farmed landscape and retain distinctiveness within the Culm Ridges landscape.
- Aim to implement planting as early as possible to maximise the landscape, visual and ecological benefits it would bring and to improve the likelihood of success.
- Ensure the spacing of all new tree and shrub planting is designed to maximise growth rates and the screening effect, where relevant.

1.7.4 In addition to the proposed soft landscaping and ecological mitigation, the landscape proposals also consider the following hard landscaping:

- Large areas of the proposed woodland planting within the Converter Site would be planted on areas of reprofiled or raised ground to ensure that it provides an immediate visual screen; that it minimises adverse effects on visual receptors through a sympathetic approach to development siting, scale, massing, height and layout and also provides an opportunity for the creation of diverse habitats which link to existing green infrastructure within the surrounding farmed landscape.

## Guiding Ecology Proposals

1.7.5 Further to the design principles outlined above, the following ecology requirements were adopted during the EIA process and will be considered in the final LEMP(s):

- Avoid the unnecessary removal or degradation of habitats, and retain significant and valuable habitats (including hedgerows, woodland, trees, shrubs and amenity planting) within the Order Limits (for example, targeting existing gaps in the hedgerows, where practicable; selection of sections of lower ecological value hedgerows where hedgerows have to be removed (where practicable)).
- If habitats are not able to be retained through layout design or the use of trenchless techniques, habitat removal must be minimised.
- Permanent habitat loss would be compensated with new planting using suitable native species to provide new habitat with at least equal ecological value.
- All temporary habitat loss for construction would be reinstated using appropriate native species planting/sowing to provide replacement habitat in the same location and of at least equal ecological value.
- New planting would be integrated with retained habitats to maintain and enhance the ecological function of the land within the Order Limits.

1.7.6 The final LEMP(s) would include plans illustrating where habitats would be retained, enhanced and created.

## New Habitat Creation and Enhancement

1.7.7 New habitat creation would be undertaken as part of the embedded design of the Proposed Development. The majority of the new habitat creation would be located within and adjacent to the Converter Site: which includes habitat creation for dormice, bats and nesting birds, visual impact screening and broader habitat and ecological mitigation. The proposed areas are shown in the Indicative Landscape and Ecology Strategy Plan (see **Figure 1.1**). A description of the landscape and ecological works proposed for each parcel of land within the Converter Site and is provided in **Appendix E** of this Outline LEMP.

1.7.8 Habitat creation at the Converter Site includes:

- Woodland belts to the south, east, west and north of the Converter Site to compensate for woodland and trees lost in other parts of the Order Limits, in addition to mitigation for landscape and visual impacts in locations that extend to existing woodland and enhances connectivity.
- Species rich hedgerows, Devon hedgebanks and tree planting to the south, east, west, and north of the Converter Site in location that extend to existing woodland and hedgerows and enhances connectivity at a landscape level for fauna including dormice and bats and will provide additional habitats for breeding birds and reptiles.
- Creation of high value habitat including species-rich grassland, scrub, hedgerows and wildflower planting. This habitat is strategically located to maximise connectivity, which would encourage dormice and bats to utilise this space for foraging and migration as it establishes and would provide habitat for reptiles to naturally colonise this area post construction from adjacent ecological receptors.

1.7.9 In addition to the habitat creation and enhancement at the Converter Site, opportunities for additional hedgerow planting and enhancement would be sought at strategic points along the onshore HVDC Cable Corridor. In these locations, existing hedgerows and hedgebanks would be enhanced to improve landscape connectivity to off-site hedgerows and woodland; this would also enhance their ecological particularly for bats and hazel dormice.

1.7.10 Indicative new hedgerow planting and habitat creation/enhancement is presented in the Indicative Landscape and Ecology Strategy Plan (**Figure 1.1**) and Hedgerow Enhancement Plan (**Figure 1.2**).

N

GAS

AC YARDS

BP 2

BP 1

DC YARD

ALVERDISCOTT SUBSTATION

ATTENUATION BASIN

0 40 80 m

**Notes**
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# Legend

## SOFT LANDSCAPE

- ORDER LIMITS
- CONVERTER SITE
- WOODLAND MIX PLANTING
- WOODLAND EDGE MIX PLANTING
- NATIVE SPECIES DEVON HEDGEBANK (2m wide)
- NATIVE HEDGEROW (1m wide)
- FLOWERING LAWN MIXTURE EL1 Mixture by Emorsgate Seeds or similar approved
- WOODLAND MEADOW EW1 Mixture by Emorsgate Seeds or similar approved
- WETLAND MEADOW AREA EP1 or EM8 Mixture by Emorsgate Seeds or similar approved
- SETTLEMENT BASIN

## HARD LANDSCAPE

- ROAD SURFACING - Tarmac
- SURFACING - Tarmac/Concrete
- SECURITY FENCING - 3m (with 3m offset)
- SECURITY FENCING - 3m + 1m electric fencing (with 3m offset)

## SERVICES

- OVERHEAD ELECTRICAL POWER LINES (Assumed10m exclusion zone)
- GAS LINE (Assumed10m exclusion zone)
- WATER MAIN (Assumed 5m exclusion zone)
- TELECOMMUNICATIONS LINE (Assumed 3m exclusion zone)
- Potential utility diversions

## EXISITING FEATURES

- WOODLAND To be retained and protected
- HEDGEROW To be retained and protected


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| P01 | FINAL | NG | CD | 07.08.24 |
| Rev | Description | By | CB | Date |

Xlinks

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Indicative Landscape Strategy Plan

| Status | Scale @ A1 | Date Created |
|---|---|---|
| FINAL | 1:2,000 | Nov 2024 |

| Figure Number | Rev |
|---|---|
| 1.1 | P01 |

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**Figure 1.2: Indicative Hedgerow Improvements**


Notes
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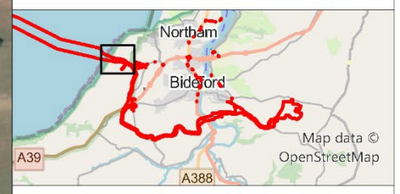
**Legend**

Order Limits




| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

Status: FINAL

Scale @ A3: 1:5,000

Date Created: Nov 2024

Figure Number: 1.2a

Rev: P01

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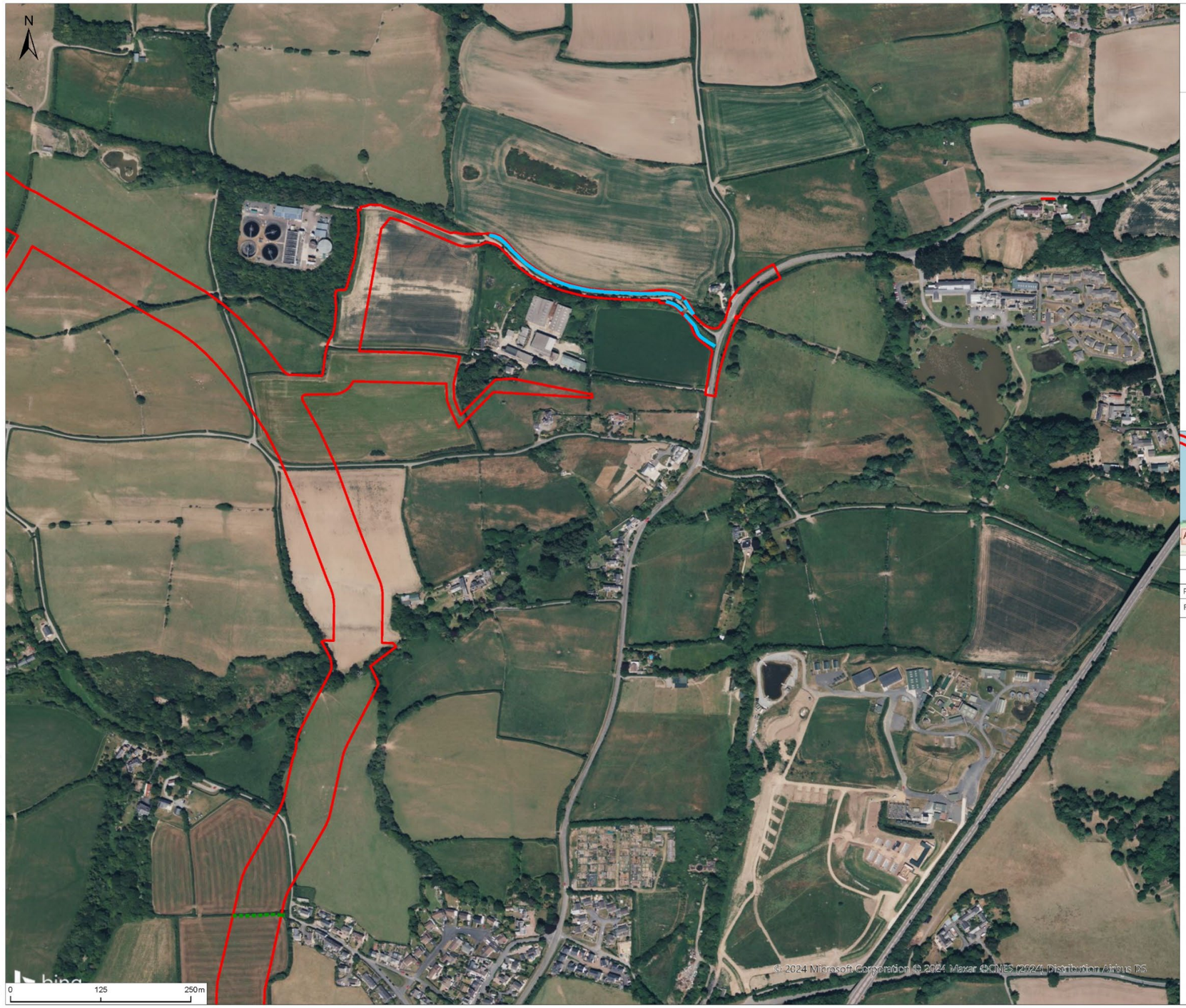


**Notes**
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**Legend**

- Order Limits

Works Planting

- Realign hedgerow (Highways Improvements) and enhancement

Ecological Enhancement

- Enhance existing hedgerow


| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

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Figure Number: **1.2b**

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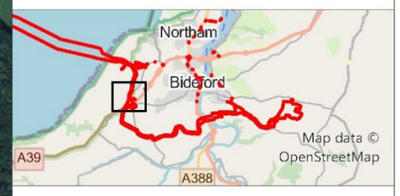
**Legend**

Order Limits

Ecological Enhancement

Enhance existing hedgerow




| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

| Status | Scale @ A3 | Date Created |
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Figure Number: **1.2c**

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**Legend**

Order Limits

Ecological Enhancement

Enhance existing hedgerow

New hedgerow


| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | MP | BC | 12.11.24 |

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|---|---|
| Client | Xlinks 1 Limited |
| Project | Xlinks' Morocco-UK Power Project |
| Title | Hedgerow Improvements |

| Status | Scale @ A3 | Date Created |
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| FINAL | 1:5,000 | Nov 2024 |

| Figure Number | Rev |
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| 1.2d | P01 |

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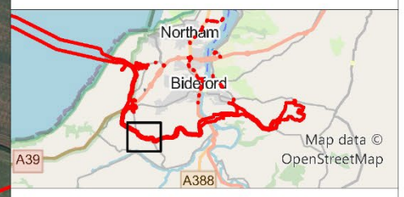
**Legend**

Order Limits

Ecological Enhancement

Enhance existing hedgerow

New hedgerow




| Rev | Description | By | CB | Date |
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| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

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Figure Number: **1.2e**

Rev: **P01**

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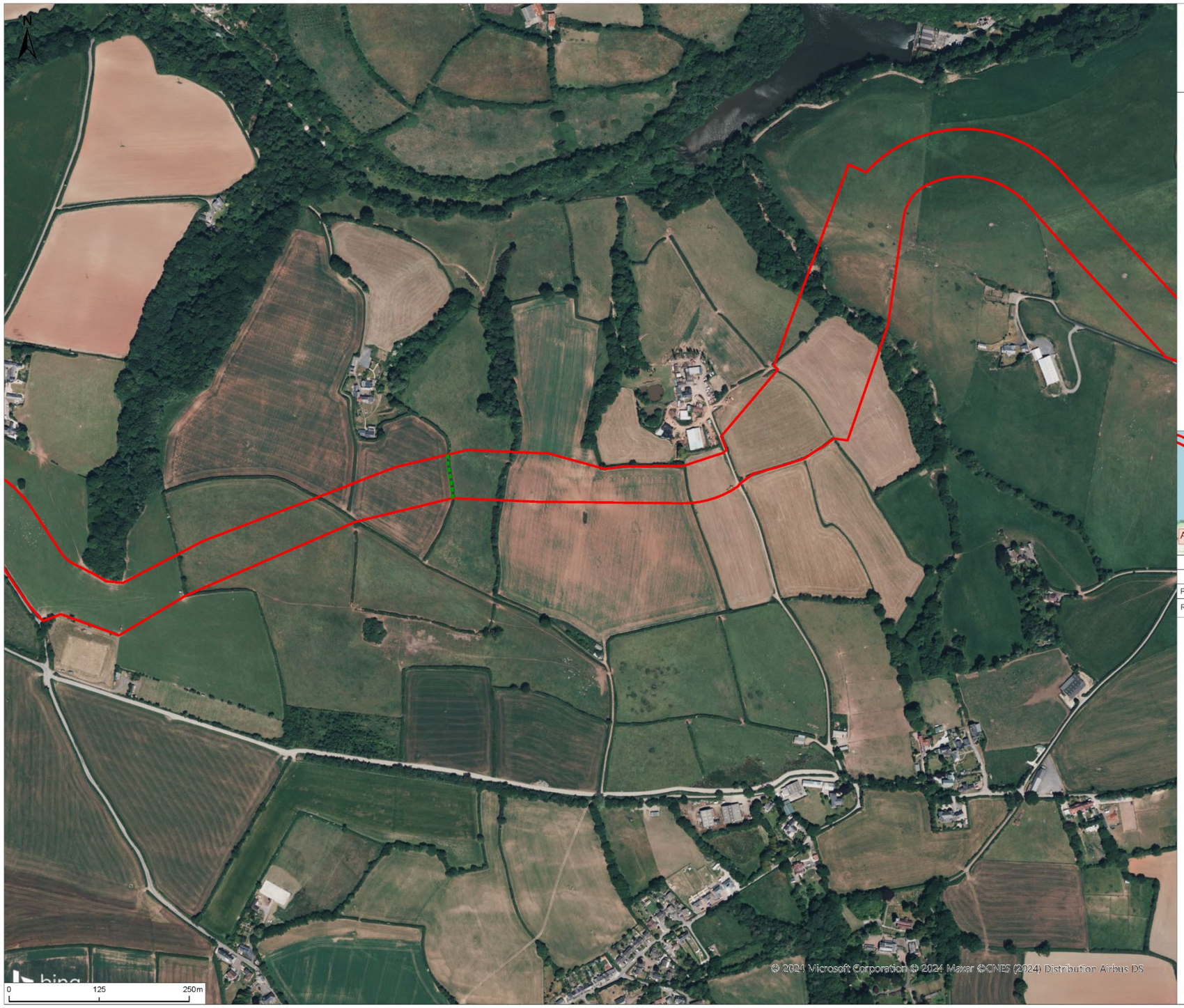


**Notes**
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**Legend**

Order Limits

Ecological Enhancement

Enhance existing hedgerow


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| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

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Figure Number: **1.2f**

Rev: **P01**

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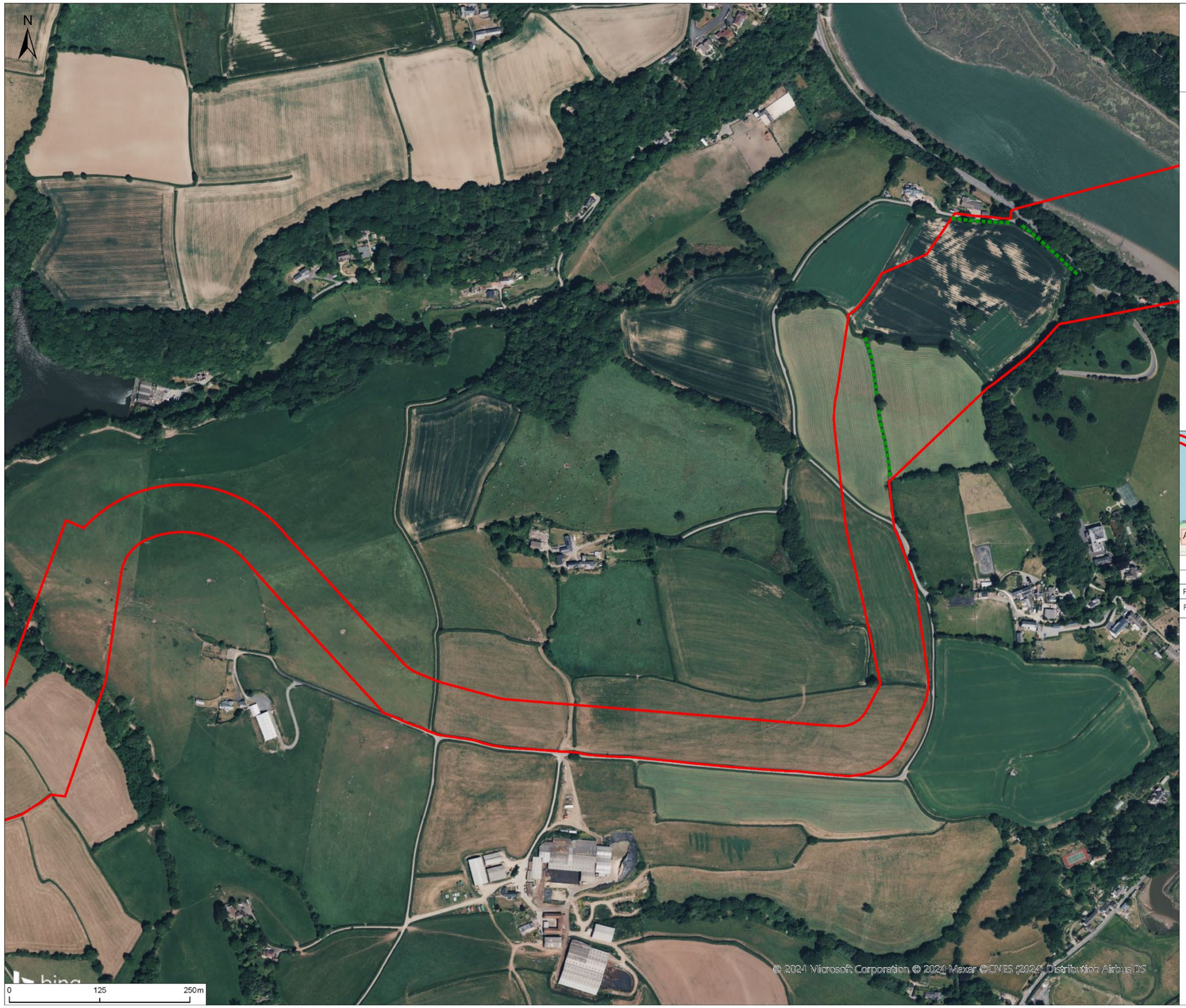


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**Legend**

Order Limits

Ecological Enhancement

Enhance existing hedgerow


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|---|---|
| Client | Xlinks 1 Limited |
| Project | Xlinks' Morocco-UK Power Project |
| Title | Hedgerow Improvements |

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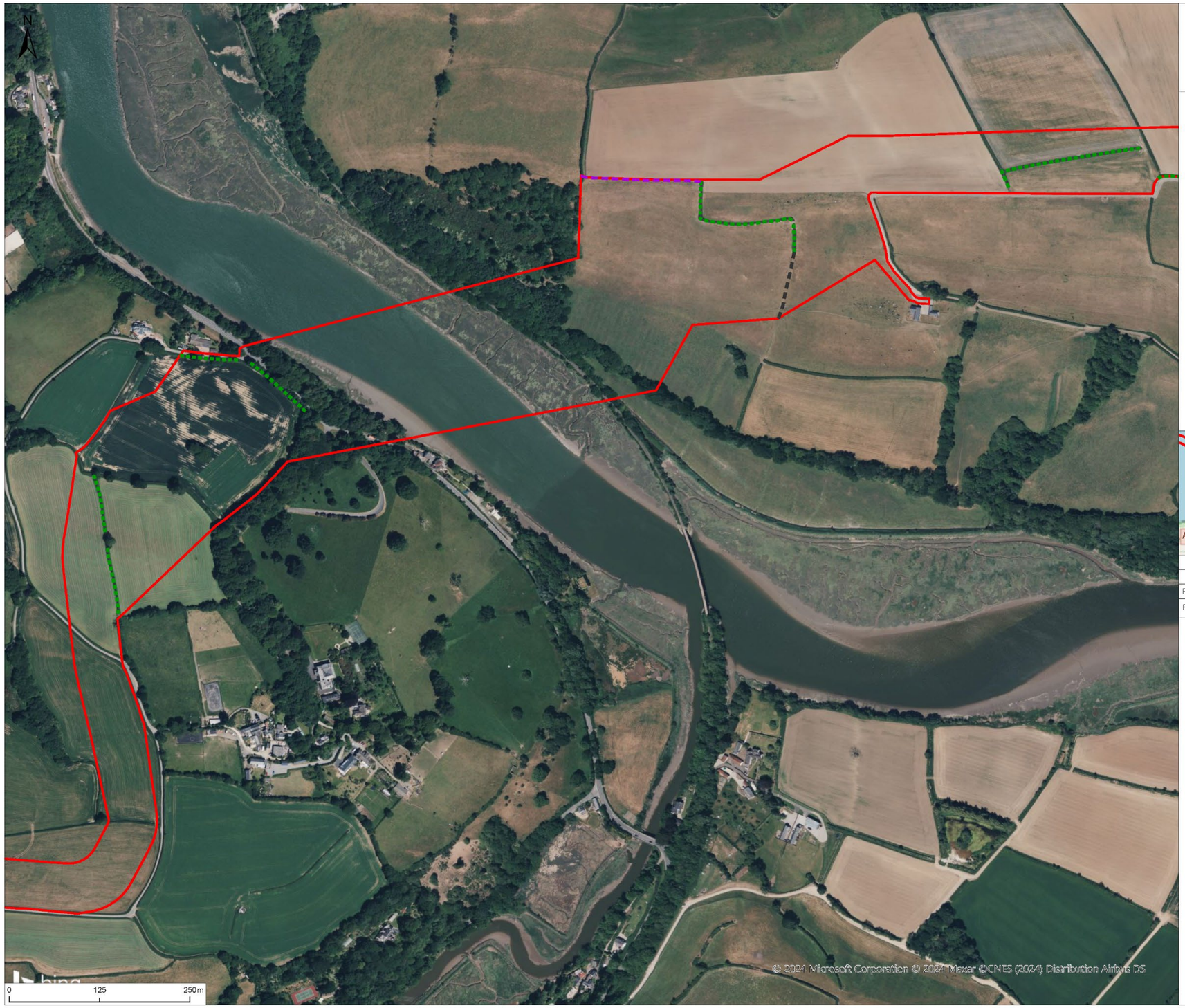


**Notes**
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**Legend**

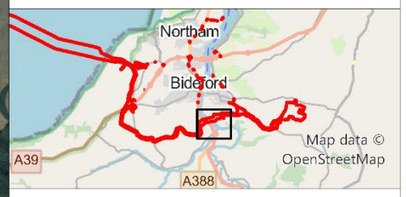
Order Limits

Ecological Enhancement

Enhance existing hedgerow

Reconnect hedgerow

New hedgerow

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Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

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Rev: **P01**

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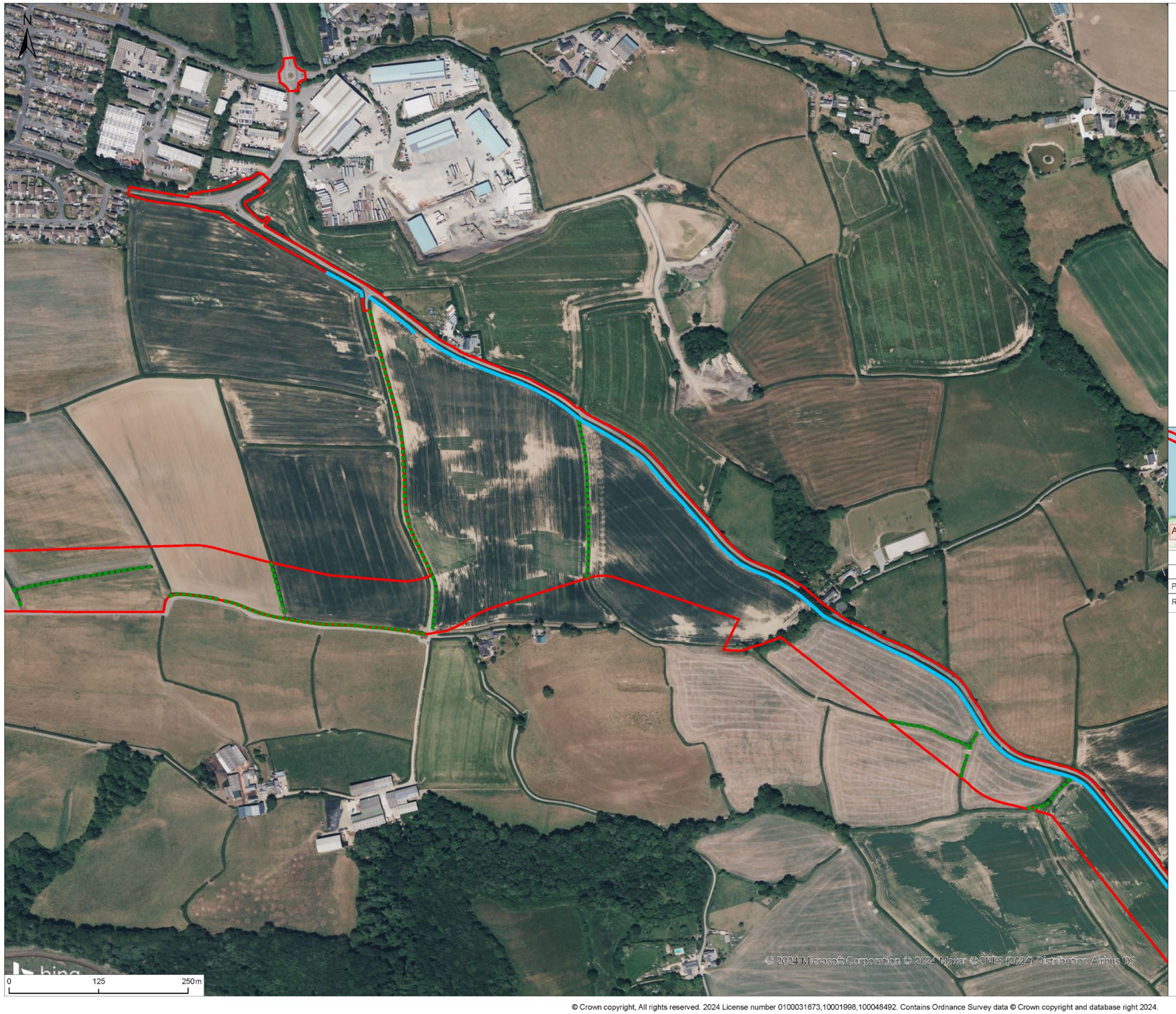


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**Legend**

- Order Limits

Works Planting

- Realign hedgerow (Highways Improvements) and enhancement

Ecological Enhancement

- Enhance existing hedgerow


| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Hedgerow Improvements

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Date Created: Nov 2024

Figure Number: 1.2i

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**Legend**

- Order Limits
- Converter Site

Works Planting

- Realign hedgerow (Highways Improvements) and enhancement

Ecological Enhancement

- Enhance existing hedgerow


| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | MP | BC | 12.11.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

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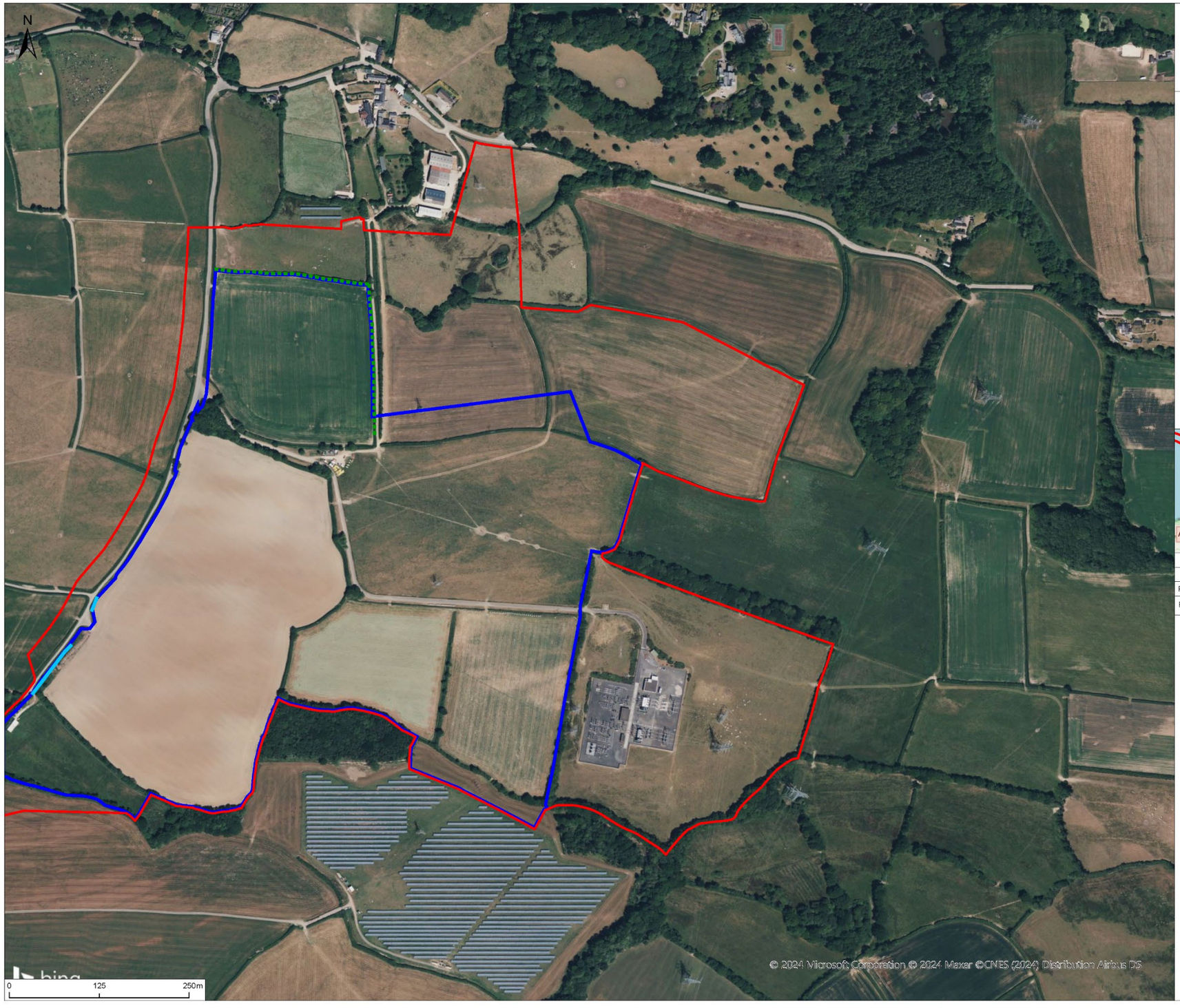


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**Legend**

- Order Limits
- Converter Site

Works Planting

- Realign hedgerow (Highways Improvements) and enhancement

Ecological Enhancement

- Enhance existing hedgerow


| Rev | Description | By | CB | Date |
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| P01 | FINAL | MP | BC | 12.11.24 |

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|---|---|
| Client | Xlinks 1 Limited |
| Project | Xlinks' Morocco-UK Power Project |
| Title | Hedgerow Improvements |

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### Land Rights Requirements

1.7.11 As rights of compulsory acquisition are needed to ensure delivery of the Proposed Development, the Applicant is required to minimise its interference with and use of the land within the Order Limits.

1.7.12 For landscape and ecological works at the Converter Site that are required to mitigate the effects of the converter station buildings and equipment on nearby receptors and ecological features, permanent acquisition of freehold land is needed to ensure that the relevant mitigation works are delivered and maintained for the duration of the Proposed Development.

1.7.13 For certain land parcels, only temporary rights are sought to undertake ecological mitigation, habitat creation and enhancement works (including hedgerows), and ongoing rights of access to inspect and maintain created habitat. This would include inspecting, planting and replacing any which fails to establish, preventing removal of planting, managing, limiting or excluding access until planting establishes and preventing cutting. There would also be a need to maintain areas of long grass near hedgerows until hedgerows establish. This is to provide cover for species to move through the area, maintaining connectivity between sites and populations. In locations where permanent mitigation is required for loss of dormouse and bat habitat, rights to access land for the lifetime of the Proposed Development are required to monitor the compensation locations and to undertake remedial works as necessary. Rights are also sought where additional planting is not proposed and the Applicant requires rights to maintain and protect existing landscaping and vegetation to provide necessary mitigation.

1.7.14 In order to minimise the duration of its rights and related restrictions on the affected land, where the landscape and ecological works are expected to be secured through a DCO requirement or licence, the powers sought are limited to the time period that the Applicant would be required under such consent or licence to maintain such works which is expected to be up to five years. Where there would be an ongoing requirement to maintain and manage works for the duration of the Proposed Development, for example areas of hedgerow enhancement, permanent rights and restrictions are needed to ensure the works deliver the required ongoing ecological benefit.

1.7.15 For other areas where temporary ecological works are required to mitigate construction effects, the Applicant does not require any permanent rights and the necessary works would be undertaken using temporary possession powers.

## 1.8 Outline Habitat Maintenance and Management

### General Principles and Objectives for Establishment

1.8.1 In accordance with the guidance set out in **section 1.7** above, the following would be adhered to when maintaining and managing newly created habitats within the Converter Site:

- All planted trees and shrubs must be protected from browsing by animals for the duration of the Proposed Development.

- All weeds must be controlled to protect the new planted stock.
- Invasive weeds must be actively removed for the duration of the Proposed Development.
- All woodland, hedge and tree planting would respect the current above and below ground services and utilities.
- Maintenance strips and access for ongoing management would be designed into the landscape works.

## Woodland

1.8.2 Woodland establishment would follow and comply with the latest UK Forest Standard 2023 (see UK Forestry Standard (Forestry Commission, 2023) and Forestry Commission guides on the establishment and management of woodlands, see below.

1.8.3 Key guides and documents considered within the establishment and maintenance of tree and hedge restoration/planting and woodland planting are:

- BS8545: Trees: from nursery to independence in the landscape – Recommendations (BSI, 2014);
- Using natural colonisation for the creation of new woodland – Forestry Commission (Forestry Commission, 2021);
- Creating New Broadleaved Woodland by Direct Seeding - Practice Guide. Forest Research (Forest Research, 2004);
- Natural Regeneration of Broadleaves J Evans Forestry Commission Bulletin 78 (Forestry Commission, 1988);
- Creating New Native Woodlands FC Bulletin 112 (Forestry Commission, 1995); and
- The UK Forestry Standard (Forestry Commission, 2023).

1.8.4 The following commitments relevant to woodland within the Proposed Development will be adhered to:

- Create areas of locally native Broadleaved Woodland appropriate to the site conditions and as mitigation for woodland loss;
- Use locally sourced seed and plants (where possible for planted species) and of native species appropriate to the site conditions;
- Expand area of Ancient Semi-natural Woodland by using adjacent land and where possible by natural regeneration;
- A commitment to implement an agreed landscape strategy for the Converter Site;
- Monitor the growth and health of all new woodland planting for the duration of the Proposed Development; and
- Implement adaptive and correct management if monitoring identifies any failure or reduced success of woodland creation.

1.8.5 The following commitments relevant to each habitat within the Proposed Development must also be adhered to, where relevant.

## Hedgerows

- Create new native hedges and Devon hedgebanks, especially where connectivity with off-site hedgerows and hedgebanks and woodland could be improved.
- In-fill gaps in existing and affected hedgerows and hedgebanks to improve hedgerow continuity.
- Improve the species diversity of hedgerows by planting a mix of locally native species, whilst maintaining the character of local hedgerows and maintaining and improving the stockproof quality of the hedgerows. It is noted that some hedgerows have a limited number of species, and where this is a local characteristic, or necessary for stock control, this may be maintained with the agreement of the local authority.
- Plant intermittent trees within all new hedgerows and hedgebanks (where appropriate) and supplement existing ground flora with native species that would benefit species, including hazel dormouse and bats (no trees would be planted within the permanent cable easement). Within existing hedgerows and hedgebanks select and protect individual plants within the hedgerow to be grown on as standard trees.
- Where the onshore HVDC Cable Corridor crosses hedgerows, using a trenched method, and hedgerow trees have to be removed and cannot be replanted above the cables, new trees will be replanted as close to their original position as possible, on a basis of three new trees for every one removed.
- Guidance for new/restored/reinstated hedgerows will follow the guidance in Devon Hedges – conservation and management (Devon County Council, 1998) and provided by The Devon Hedge Group (https://devonhedges.org/management-advice).

## Individual Tree Planting

- Plant new trees for lost or degraded trees, where practicable.
- Plant new trees to enhance the landscape.
- Plant new trees to conserve and/or enhance the existing landscape character.
- Use locally native trees.
- All tree species must be appropriate to the site conditions.

## Native Scrub Planting

- Create naturalistic scrub banks within grassland around the attenuation basin within the Converter Site. The scrub banks would be designed to allow the maintenance of the attenuation basin.
- Use a diverse mix of native shrubs.
- Provide dense cover with scrub canopy extending down to the ground.

### Grassland/Wildflower Meadow

- Create species rich grassland characteristics of good semi-improved/unimproved neutral grassland.
- Create wildflower woodland and wetland meadows.
- Use a species-rich seed mix of native grasses and wildflowers.
- Maintain a proportion of wildflowers within the grassland/meadow sward.
- Provide ground cover suitable as foraging habitat for ground-nesting birds and reptiles.

### Attenuation Basin

- Provide a mix of wet grassland and marginal vegetation.
- Create a mix of open sunny, and partially scrub shaded banks.

## Habitat Creation

### Woodland Natural Regeneration

1.8.6 It is proposed that natural regeneration of woodland would be used as a management technique to supplement newly planted trees in selected, non-visually important parts of the areas of proposed woodland to expand existing areas of important woodland (e.g. Ancient Semi-natural woodland). Guidance on the successful establishment of natural regeneration is provided in the Forestry Commission's Using natural colonisation for the creation of new woodland (Forestry Commission, 2021). Key factors in the successful establishment of trees from seed include:

- disturbance of the ground;
- reduced competition from ground flora (i.e. perennial grasses); and
- exclusion of browsing animals.

1.8.7 In areas currently used for agriculture, the presence of soil compaction would be checked. Where soil compaction is detected, a tractor mounted subsoiler or ripper would be used to break up lower soil horizons and thus reduce any compaction issues.

1.8.8 Cultivation would be used to improve conditions for germination and to modify soil properties to support future tree growth and stability. Due to the nutrient level of the soil, cultivation would be limited to the minimum intensity necessary to deliver germination.

1.8.9 Ground preparation would usually be undertaken in late summer to coincide with the natural fall of seeds in the autumn and would facilitate the burial of the seed.

1.8.10 On nutrient-rich soils, seedbed preparation is likely to stimulate the growth of competitive vegetation, which would subsequently hinder tree germination and growth. Where this is the case, alternative methods to cultivation would be considered, e.g. the selective use of approved herbicides to reduce competitive weed growth from impacting on the seed germination.

1.8.11 All the sites identified for natural colonisation would be protected using deer fencing. This fencing would be suitable for the exclusion of fallow and roe deer that are known to be found locally.

1.8.12 It would often be prudent to combine natural regeneration with other establishment methods (primarily planting). Supplementary planting can be used in advance of initial works to enrich species composition, provide bird perches to increase seed distribution, and speed up the development of a woodland structure.

## Planted woodland

1.8.13 Areas identified for woodland planting should be prepared in a similar way to the areas of natural regeneration, in particular checking for compaction and undertaking the necessary remedial works.

1.8.14 Where large areas of planting are proposed, the boundary of the planting area would be fenced to prevent damage from browsing animals. In smaller planting areas where few trees are proposed appropriate tree shelters would be used.

1.8.15 All tree stock should be materially undamaged, sturdy, healthy, vigorous, of good shape, free from pests, diseases, discoloration, weeds, and physiological disorders. They must have balanced root and branch systems, root system and condition in accordance with the relevant part of the National Plant Specification. True to name and with certification that the trees comply with the National Plant Specification and to the relevant part of BS 3936 – Nursey Stock (BSI, 1992), name, forms, dimensions, and other criteria as scheduled.

1.8.16 Plants which are not to be planted on day of delivery to site would be stored in suitable conditions and locations to ensure that they remain viable and do not suffer from desiccation, using the recognised best practice, including Horticultural Trades Association (HTA) National Plant Specification 'Handling and Establishing Landscape Plants' Revised Edition (HTA, 2002).

## Hedges (Including Individual Trees)

1.8.17 The proposed hedge and hedgebank planting would comprise new hedgerow planting and gapping up of existing hedgerows, and new hedgerow planting to replace temporary loss of sections of hedge that have been removed to enable the installation of the onshore HVDC and HVAC Cables.

1.8.18 Individual tree planting would be used in the hedge planting to create the typical landscape feature of trees in hedgerows and to mitigate the loss of trees along the onshore HVDC Cable Corridor and HVAC Cable Corridors. Trees would also be planted individually or in groups to create local landscape character features.

1.8.19 New/enhanced hedges would be marked out on site and the existing vegetation reviewed to establish if any areas of ground flora are species rich. Poor quality ground flora that is high in grass species would be removed using an approved herbicide; this would increase the success of tree/shrub establishment. Areas of species rich ground flora would be left *in situ*.

1.8.20 Planting would be carried out in accordance with detailed planting plans to be provided in the final LEMP(s). A summary of the outline planting schedule is provided in **Appendix C** of this Outline LEMP.

1.8.21 Planting would need protection from browsing animals and livestock; this would take the form of tree and shrub guards in accordance with the Arboriculture Method Statement, which forms Appendix E of the Outline On-CEMP (document reference 7.7), which is secured as a requirement of the draft DCO (document reference 3.1). Where high levels of browsing are considered likely then the use of rabbit proof fencing shall be considered.

### Scrub

1.8.22 Planting would be carried out in accordance with detailed planting plans. A summary of the outline planting schedule is provided in **Appendix C** of this Outline LEMP.

### Grassland and Wildflower Meadows

1.8.23 Enhancement of existing grassland would be achieved by implementing a reduced grazing regime to create a longer more tussocky sward. No ground preparation would be necessary for this.

1.8.24 Where wildflower meadow is to be created, the existing habitat may have been disturbed or cleared as a result of construction activities. Given the current agricultural use of the land, some additional ground preparation may be needed to promote the establishment of ecologically valuable wildflower meadow.

1.8.25 Ground conditions would be assessed prior to sowing. Depending on the character of the existing grassland and topsoil, some degree of topsoil or turf strip or turf inversion may be undertaken to reduce soil fertility.

1.8.26 Following any necessary turf stripping or partial topsoil strip, the area would be levelled and cultivated to create a fine tilth for sowing. Grass seed would be sown with an inert mixer or hydroseeded to ensure even spread.

1.8.27 During establishment, the grassland would be monitored by the ECoW and watered as required. The timing of management and monitoring requirements is presented in **Appendix A** of this Outline LEMP.

### Attenuation Basin

1.8.28 No special ground preparation is required for the creation of the attenuation feature. Detail specification of the new basin would be provided in the final LEMP(s).

## Habitat Monitoring and Maintenance

1.8.29 Woodland, tree, scrub and hedgerow planting would be maintained to ensure healthy establishment and plant growth and to maximise benefits for biodiversity.

1.8.30 Monitoring and maintenance inspections would be completed annually for a minimum of five years following initial planting. This would ensure that the requisite planting densities and health are achieved. The timing of management and monitoring requirements is presented in **Appendix A** of this Outline LEMP.

1.8.31 Regular inspections of the areas that form part of the landscape mitigation works would be carried out. In the case of the woodland, tree, scrub and hedge works this would include assessment of:

- plant regeneration (germination, density and any evidence of browsing);
- plant health and vitality;
- condition and integrity of the protection (fencing, shelters, etc.); and
- stress of plants due to moisture deficit.

## Woodland Natural Regeneration

1.8.32 The success of the germination would be assessed. Decisions as to further cultivation works, and the possible use of direct seeding of locally native tree seed and planting of trees grown from local seed would be considered.

1.8.33 The need for weed control would be reviewed where the absence of weed control might adversely affect successful establishment.

## Planted Woodland Areas

1.8.34 The need for remedial tree planting to achieve the desired habitat/outcomes would be considered and implemented within the maintenance period of five years. Any tree or shrub planted as part of the landscaping scheme or ecological mitigation at the Converter Site that, within a period of five years after planting dies or becomes, in the opinion of Torridge District Council, seriously damaged or diseased it would be replaced. Any replacement planting would take place within the first available planting season with a specimen of the same species and size as that originally planted unless a different species is otherwise agreed with the Torridge District Council, and all damaged shelters, supports and fencing must be replaced.

1.8.35 Weed control including the use of mulch or localised and select herbicide applications would be considered where necessary for successful establishment.

## Hedges, Shrub and Individual Trees

1.8.36 Any hedges, individual trees or shrubs planted as part of the landscaping scheme or ecological mitigation at the Converter Site that, within a period of five years after planting die or becomes, in the opinion of Torridge District Council, seriously damaged or diseased would be replaced. The need for remedial hedgerow planting may be required to achieve the desired habitat/outcomes. Planting would take place within the first available planting season. Maintenance may include the following where appropriate:

- replacement of damaged plant guards/supports and repair of fencing.
- weed control where needed.
- trees and shrubs replaced if dead or in severe decline on an annual basis (i.e. within the first five-year maintenance period).
- stakes and ties will be inspected, adjusted and removed.
- formative pruning or the removal of dead or poorly formed branches where required and in accordance with BS3998: 2010 Tree Work – Recommendations (BSI, 2010).

### Grassland

1.8.37 Existing grassland with a reduced grazing density would require no initial maintenance as the vegetation is already established. The grassland would be expected to develop a longer more tussocky sward through the natural growth of existing grasses and forbs due to reduced grazing. However, annual inspections would be carried out to assess the degree to which the management is producing a sward with potential value as reptile foraging habitat. The findings of the inspections would inform the ongoing management.

1.8.38 New wildflower meadow and species-rich grassland at the Converter Site would be inspected annually during the establishment period to assess the degree to which the sown wildflower species have become established.

1.8.39 Inspection by an ecologist in mid-summer would survey the presence absence and estimated abundance of sown species to compare the sown grassland against the sowing specification. Additional inspections may be carried out if there is unseasonably dry or wet weather to assess their impact on establishment.

1.8.40 The monitoring surveys would be used to inform whether any remedial actions are required. This may include herbicide spot treatment of undesirable species such as docks and thistles, or additional sowing in autumn or spring. In the first year after establishment, cutting of the wildflower meadow would follow the recommendations of the seed provider. Subsequent cutting in the establishment period would be informed by the initial inspections.

### Attenuation Basin

1.8.41 The attenuation basin would be inspected annually during the management and maintenance period to ensure the wetland and marginal planting is established. It would also include checks for invasive aquatic plants that would compromise the successful establishment of the planted vegetation.

### Invasive Non-native Species

1.8.42 Habitat maintenance inspections undertaken during this period would include identifying the presence of any invasive plant species which would compromise successful establishment or achieving the desired biodiversity objectives.

1.8.43 Where any invasive plant species are found, a control/eradication strategy would be prepared and fed into the management and monitoring programme.

## 1.9 Landscaping and Habitat Monitoring and Management Options

### Overview

1.9.1 Following establishment of the woodland, trees and hedgerow planting at the Converter Site, regular maintenance activities would be undertaken over a five-year period, reducing in frequency for the remainder of the duration of the Proposed Development.

1.9.2 Woodland, tree, hedgerow, grassland and attenuation basin management would also be targeted to maximise and maintain the biodiversity value of new habitats in particular for hazel dormouse, bats and breeding birds.

1.9.3 Outline measures for the long-term management of different habitat types are provided below. A more detailed set of management prescriptions, including a programme of works during the establishment period and maintenance period would be provided in the final LEMP(s).

1.9.4 The programme of works in the LEMP(s) would include regular monitoring following the establishment period. Monitoring would be carried out against defined biodiversity objectives detailed in the LEMP(s) and in accordance with the supplementary protected species monitoring requirements. Regular monitoring reports would be prepared after each monitoring period to provide a summary of the status of managed habitats against their objectives. Monitoring reports would also make recommendations for any remedial action if the objectives are not being met.

1.9.5 The following habitat management commitments must be adhered to within the final LEMP(s).

## Woodland

1.9.6 The primary aim of new woodland planting and natural regeneration of woodland would be to deliver semi-natural broadleaved woodland with a variation in tree and shrub age classes, a defined stratified structure with canopy trees, understorey shrubs and ground flora.

1.9.7 Once the woodlands have become established, selected thinning should be considered. Thinning of selected trees would facilitate a diverse stratified structure and encourage a resilient woodland. The thinning would allow for the development of a varied canopy structure to promote maximum botanical interest and to create the maximum number of niches for fauna, thus maximising the biodiversity value of the woodland.

## Hedgerows

1.9.8 Hedgerow management would focus on maintaining large hedgerows with dense scrubby structure that would be of maximum benefit for wildlife especially hazel dormouse and bats.

1.9.9 Hedgerows at the Converter Site should be cut every three or four years between December and February to minimise the risk of disturbance to birds, and dormice which could nest in the hedges.

1.9.10 Where an existing hedge has been steeped (layed) or it is locally prevalent, the replacement/restored hedge shall be managed in the same way. Once the hedge reaches between 3m to 6m the new/replacement/restored hedgerows can be steeped, using traditional methods.

1.9.11 Other new and enhanced hedgerows and Devon hedgebanks along the onshore HVDC Cable Corridor and at the Converter Site would be cut on a rotation with around a third of hedgerows cut every three years. This ensures that some older growth is maintained to provide flowers and fruit as a food source for hazel dormouse, birds and invertebrates (on which hazel dormouse would also feed). It would also maintain shelter that would be beneficial for foraging bats.

1.9.12 Hedgerows would be cut straight sided with 45º angled at the top 50 cm or so on each side.

1.9.13 As they mature, hedgerows would be maintained ideally to a height of at least 3 m and a canopy width of at least 2 to 3 m.

1.9.14 Where the adjacent grassland is also being managed, a buffer strip of at least 5 m would be maintained alongside each hedgerow. Grassland management would be relaxed within the buffer strip to maintain a gradation between the adjacent grassland and the hedge base.

## Scrub

1.9.15 Following the establishment period, scrub management would be minimal. Periodic cutting back would be undertaken to prevent excessive encroachment of the surrounding grassland, and to prevent overseeding or encroachment of the new attenuation basin/pond. The monitoring to inform this management would be undertaken routinely during the long-term management of woodland, hedgerows and grassland (grazing and annual cutting).

## Grassland and Wildflower Meadows

1.9.16 Grassland management would be primarily focussed within the area to the north of the converter stations. Grassland in this area is intended to fulfil the dual purpose of providing good terrestrial habitat for ground nesting birds, increase value to invertebrates and potentially increase its value for foraging by migratory bird species, while also providing wildflower grassland of high ecological value as mitigation for grassland loss.

1.9.17 Existing grassland where grazing has been reduced is very unlikely to require any long-term management once a suitable grazing regime has been established.

1.9.18 After the establishment period, the core area of wildflower meadows and species-rich grassland around the Converter Site would be manged to maximise its botanical value. It is anticipated this would reflect traditional hay meadow management with annual cuts in spring and late summer, with late summer cutting left *in situ* for a week in dry weather to allow seed to drop; arisings would then be removed. This could be undertaken purely as a benefit to biodiversity or for actual hay production. Reduced grazing may also be undertaken.

## Attenuation Basin

1.9.19 The primary function of the attenuation basin is to manage surface runoff from the Converter Site. Its maintenance would include keeping the inlet and outlets clear from vegetation and ensuring the capacity of the basin is maintained.

1.9.20 After the establishment period, management of the attenuation basin would be minimal (beyond measures set out in the previous paragraph) to minimise effects on any aquatic invertebrates or common amphibians which may inhabit the ponds. Adjacent scrub would be managed to prevent encroachment. The attenuation basin would be inspected routinely during management of scrub and surrounding grassland. Interventions would only be recommended if vegetation growth or the presence of invasive plants is excessive. In the case of invasive plants, a more detailed strategy of control and eradication would be developed and implemented as part of the long-term management.

1.9.21 Note that while common amphibian species, such as common frog, toad, smooth and palmate newts are likely to occur in the area, Devon has very few populations of great crested newt (GCN). A series of consultation zones have been set up with radii of 5 km around the locations of known populations in the county. No element of the Proposed Development lies within any of the consultation zones, the nearest of which is at Torrington near the RHS Rosemoor Gardens, approximately 6.6 km to the south.

# 1.10 Protected Species Mitigation: Pre-Construction and Construction Mitigation

## Pre-construction surveys

1.10.1 In accordance with standard practice, pre-construction surveys would be undertaken for a number of species / species groups.

1.10.2 Pre-construction surveys would be carried out in given areas before any works are conducted on the ground that could affect the species or species groups in question.

1.10.3 The pre-construction surveys would cover the following:

- Habitats with the potential to support protected or notable species where the baseline surveys did not find evidence of species, but where protected or other notable species could establish prior to commencement.
- Habitats with the potential to support protected or notable species where the baseline surveys found evidence of species, but where the time elapsed since the baseline surveys means updated survey information is required to ensure the potential impacts are fully addressed in the final LEMP(s) and through Natural England protected species licensing.
- Areas where, for reason of restricted access, baseline information on the presence of protected species is incomplete.

1.10.4 The results of the pre-construction surveys would be used to identify whether any changes to the measures are required prior to the final LEMP(s) and licensing submission or the discharging of the planning conditions through the DCO process.

1.10.5 **Table 1.1** provides further details of the pre-construction surveys proposed, including details of proposed survey areas (focussing on the areas likely to be affected by the works), timings and methodologies. All surveys would be undertaken by suitably experienced/ licensed ecologists.

**Table 1.1: Proposed pre-construction surveys as part of the Proposed Development**

| Species/species group | Survey area | Survey timing | Surveys and methods |
|---|---|---|---|
| Bats | All trees identified as having low or higher suitability in the Preliminary Roost Assessment within the Order Limits. | April to September - outside the hibernation season and prior to construction commencing. | Preliminary bat roost inspection and tree climbing inspections undertaken in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition (Collins, 2023). |
| Badger | All suitable terrestrial habitats within 30 m of the Order Limits. | February to April - when badgers are most active and prior to the commencement of construction. Sett closures can only occur between July and November inclusive and a licence is required from Natural England to close a badger sett. | Pre-construction surveys for badgers to be undertaken in accordance with Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England) 2023 (Badger Trust, 2023). |
| Birds | Suitable habitats for nesting birds within the Order Limits, including areas where Schedule 1 species are known to breed. | March to August - during the bird breeding season (i.e. March to August inclusive), prior to the commencement of works. | The pre-construction surveys would encompass the area of proposed works, with an appropriate recommended disturbance buffer zone, as set out in Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022). |
| Water vole | All watercourses with water vole potential within or immediately adjacent to the Order Limits. | April to September – prior to the commencement of construction. | The pre-construction surveys would be undertaken in accordance with The Water Vole Mitigation Handbook (Dean et al, 2016). |
| Otter | All watercourses within or immediately adjacent to the Order Limits. | 3 to 6 months prior to construction commencing – optimal survey period between October to February. | The pre-construction surveys would be undertaken in accordance with Ecology of the European Otter (Chanin, 2003). |
| Hazel dormouse | All hedgerows and woodland within or immediately adjacent to the Order Limits. | May to November - prior to the commencement of construction. | The pre-construction surveys would be undertaken in accordance with Surveying dormice using nest tubes: results and experiences from the South West Dormouse Project |

| Species/species group | Survey area | Survey timing | Surveys and methods |
|---|---|---|---|
| | | | (Chanin & Woods, 2003) and The Dormouse Conservation handbook (Bright et al, 2006). |
| Reptiles | All suitable habitat within or immediately adjacent to the Order Limits. | April to May and September to October - prior to the commencement of construction. | The pre-construction surveys would be undertaken in accordance with Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation (Froglife, 1999) and Herpetofauna Workers' Manual. Joint Nature Conservation Committee, Peterborough (Gent and Gibson, 2003). |

# Species mitigation

## Breeding Birds

1.10.6 Breeding birds may be directly or indirectly disturbed and displaced during the construction, operation and maintenance and decommissioning phase of the Proposed Development.

1.10.7 As such, mitigation measures are proposed as part of the Outline Bird Protection Plan (**Appendix D**) to avoid or reduce potential impacts to breeding birds, including their nests, eggs and dependent young during construction, operations and maintenance and decommissioning of the Proposed Development. These measures can be summarised as follows:

- Pre-construction surveys for Schedule 1 species to be undertaken by the ECoW, where these have been recorded within the Order Limits.
- Undertaking vegetation clearance outside of the breeding bird season (i.e. March to August inclusive), where possible, or under supervision of a qualified ECoW.
- Netting of vegetation outside of the breeding bird season would be considered where appropriate.
- During the nesting period, pre-construction surveys for nesting birds to be undertaken by the ECoW no more than 48 hours prior to vegetation clearance.
- The creation of appropriate Bird Protection Zones (BPZs) where nest building or breeding has been confirmed.

1.10.8 Further detail with regard to the measures included in the Outline Bird Protection Plan is provided at **Appendix D** of this Outline LEMP.

## Over-Wintering and Migratory Birds

1.10.9 Over-wintering and migratory birds may also occasionally utilise habitats primarily affected by the construction of the Proposed Development, potentially causing disturbance and displacement to species which may ground roost in fields or which may use them for feeding.

1.10.10 Where surveys show that significant numbers of migratory or over-wintering birds have utilised areas on or adjacent to construction compounds or the construction area for the Converter Site, mitigation measures would be implemented as proposed in the Outline Bird Protection Plan (**Appendix D**) to minimise or avoid disturbance to these birds. These measures can be summarised as follows:

- Regular review of areas adjacent to construction compounds for use of fields by migratory or over-wintering birds by a suitably experienced ECoW.
- Where evidence of use by these species is identified, the ECoW would identify measures to limit disturbance to these birds.
- These measures could include zoned or timed use of part of construction compounds (such as avoiding night working close to areas regularly used for roosting, where possible, or avoiding certain parts of a compound during periods when birds are exploiting a seasonal resource such as spilt grain post-harvest).

- Compounds in locations close to likely bird hot spots such as areas close to the coast, notably the Landfall HDD compound and the similar compounds either side of the River Torridge would include erection of temporary hoarding or screening to minimise both visual and noise disturbance effects on bird populations utilising these areas.

## Badgers

### Pre-construction

1.10.11 No active badger setts were identified in the baseline surveys within the Order Limits or with 30 m of the working area (details provided within Volume 2, Appendix 1.7: Badger Survey of the ES, document reference 6.2.1.7). Should pre-commencement surveys identify further setts in locations which would be affected by the Proposed Development, the setts would be closed under a sett closure licence issued by Natural England under the Protection of Badgers Act 1992.

1.10.12 Pre-commencement surveys to review all areas of the Proposed Development and to identify the locations and status of any newly-formed badger setts within 30 m of the Order Limits would be required. The number, status and location of any new setts that might need to be closed would be confirmed following these surveys and the final LEMP(s) would be updated accordingly.

1.10.13 If it becomes necessary, a badger sett closure licence will be obtained from Natural England following confirmation of the number and locations of setts to be closed. No works would be permitted within 30 m of any active badger setts, or which could otherwise disturb or obstruct access to a sett.

1.10.14 Licenced sett closures can only be carried out between July and November inclusive. The licence application would include detailed method statement and mitigation strategy, to include measures for providing alternative setts (if necessary) and safely excluding badges from existing setts.

1.10.15 Where larger, main setts are to be closed the need to provide replacement setts at appropriate locations would be included in the licence application. New setts would be constructed in suitable locations where they would be readily occupied by badgers and undisturbed by construction or maintenance activities. New setts would be constructed prior to excluding badgers from existing setts.

1.10.16 All elements of the sett closures licence application and mitigation would be designed in accordance with current best practice measures, such as those provided in Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England) 2023 (Badger Trust, 2023).

1.10.17 If such licensed work is required, it would be carried out by, or under the supervision of a suitable experienced and qualified ecologist named on the licence.

1.10.18 A licence return form and report of the works undertaken would be completed by the licenced ecologist. A copy of the form and report would be provided to Natural England and the relevant planning authority as soon as practicable and as required under the conditions of the licence.

1.10.19 Badgers are a very mobile species and badgers may establish news setts during the construction phase. If a previously unknown badger sett is encountered at any point, works within 30 m of the sett should immediately cease and the ECoW should be informed.

1.10.20 Micro-siting of works to avoid disturbance or obstructing access to any newly-discovered setts would be undertaken where practicable and possible within the consented boundary of development. If this is not possible, a sett closure licence will be obtained from Natural England. No works utilising heavy machinery would be permitted within 30 m of the sett until the licence is obtained and any mitigation detailed in the licence implemented. Work using light machinery would not be permitted within 20m of the sett and hand works would be permitted no closer than 10m from the sett.

### Construction

1.10.21 Even though no direct impacts to badger setts are likely, low levels of badger activity may occur throughout the Order Limits and best practice measures would be implemented to ensure that no badgers are harmed during the construction phase.

1.10.22 Species protection measures, including maintaining stand-offs from retained badger setts would be specified in the final On-CEMP(s), which would be developed in general accordance with the Outline On-CEMP (document reference 7.7).

1.10.23 If badgers to gain entry to where works are being carried out the following further measures should be implemented daily:

- Any excavated holes to have a wooden board placed in them overnight to provide a means of escape should any badger accidentally enter the excavation, or be battered back to perform the same purpose.
- Any chemicals to be securely stored at night in a suitable locked container.
- In order to avoid attracting badgers into the works area, any food waste must be disposed of in appropriate bins or removed from site at the end of each day.

## Bats

### Pre-construction

1.10.24 Up to six tree roosts would need to be closed under an EPS mitigation licence, which would be obtained from Natural England. These are currently being investigated and would be confirmed prior to production of a licence application.

1.10.25 Other currently known roosts identified in the baseline surveys are located sufficiently far away that they would not be disturbed during the construction, operation and maintenance and decommissioning of the Proposed Development.

1.10.26 Any additional roosts identified in the pre-construction surveys would be assessed for potential impacts during all phases of the Proposed Development, including but not limited to noise and light disturbance, air pollution and dust deposition, loss of connecting habitat (foraging areas of flight lines) that could affect the roost, tree pruning or management around or near the roost and loss of the roost.

1.10.27 Any roosts which cannot be retained without damage or disturbance would also be closed under a mitigation licence obtained from Natural England.

1.10.28 Removal or pruning of a tree or structure containing a bat roost, or significant disturbance or obstruction to bats or their roost would require an EPS mitigation

licence from Natural England, which would be obtained prior to the commencement/continuance of works that could affect the roost.

1.10.29 Therefore, if pre-construction surveys identify the presence of a bat roost, as soon as practicable, the ECoW would notify the Principal Contractor(s) of the requirement to obtain an EPS mitigation licence prior to the commencement of works on the tree or in the immediate surrounding area (i.e., within 15 m of the tree or structure). The Principal Contractor(s) would also be informed of the requirement to ensure the protection of the tree using a 15 m protection zone until the licence has been obtained.

1.10.30 The ECoW would be responsible for ensuring that an EPS mitigation licence is applied for prior to the commencement of works requiring a licence (as secured as a requirement of the DCO). The licence application would be informed by findings of the pre-construction surveys and would include a detailed method statement and mitigation strategy.

1.10.31 Works on or within 15 m of a tree or structure containing a bat roost would commence only once a licence has been obtained and would be undertaken in accordance with the requirements of the licence. Licenced works will be carried out under the watching brief of a Natural England bat licenced ecologist.

1.10.32 For all known bat roosts, following the pre-construction surveys, bats would be excluded from the roosts in accordance with the methods specified in the Natural England licence method statement.

1.10.33 As stated in UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats (Reason and Wray, 2023), for a low status day roost, typically an exclusion device would be installed for a minimum of five nights (in weather conditions when bats would be foraging, with appropriate weather conditions to be determined by the Named Ecologist, with April or September/October when bats are active and to avoid the sensitive maternity season. The exclusion device would be fitted by or under the supervision of a Natural England licenced ecologist.

1.10.34 Once bats have been confirmed absent from the tree / structure, the exclusion device has been installed for the required period, the tree would be soft felled in sections under the supervision of a Natural England licensed ecologist.

1.10.35 The felled sections containing the roost features would be retained and reinstated either on a mature, retained tree or on a pole in a suitable the nearby location. The location should be installed as close to the original height aspect and location (as detailed in Reason and Wray, 2023). The top end of the feature should be protected against the elements by capping it with timber or roofing felt to slow down the onset of wood decay. The translocated roost must be securely attached to the receptor tree by means that would not compromise the tree health, and in a safe location not used by the public. The attachment should be form and report of the works undertaken would be completed by the licenced ecologist and approved by the ECoW. A copy of this form and report will be provided to Natural England and the relevant Local Planning Authorities as soon as practicable and as required under the conditions of the licence.

1.10.36 Where practicable, long-lasting woodcrete bat boxes, suitable for bats reported in the area (i.e. Pipistrellus species and Myotis species and noctule) would be installed prior to construction, in appropriate locations on nearby retained mature trees, to provide immediate alternative roost sites.

1.10.37 Suitable locations would be at least 5 m above ground level, out of the reach of potential predators (e.g. cats), and away from very exposed areas, primarily facing in a south east or south west direction (although hibernation boxes can be sited in a north east or north west facing direction), within an area comprising good habitat connectivity, (e.g. a good connecting network of hedgerows, woodland parcels, lines of broadleaved trees and scrubs) or in areas where considerable numbers of bats were recorded during surveys (Reason and Wray, 2023).

## Construction

1.10.38 Species protection measures including maintaining stand-offs from retained bat roost and foraging habitat, timing of works and appropriate use of artificial lighting (where this is required) would be specified in the mitigation licence method statement and in the final On-CEMP(s).

1.10.39 In the unlikely event that any bats be found unexpectedly during construction, all works to the tree and within 15 m of the roost must cease and the ECoW informed immediately. Work on the tree or close to the tree that could disturb the roost would not be permitted until the relevant Natural England licence has been obtained.

1.10.40 As compensation for the loss of potential bat flightlines along hedgerows, temporary structures would be provided the short- to medium-term to function as Temporary Flightlines (TFLs).

1.10.41 Where required, TFLs will be at least 2 m high, without gaps, and left *in situ* and maintained until permanent replacement hedgerow planting has become established (Reason and Wray, 2023). TFLs may comprise screening, and/or temporary fencing.

1.10.42 Permanent replacement hedgerow planting would be undertaken as part of the ecological mitigation during construction. The location of new hedgerow planting within the Order Limits is presented in **Figure 1.2**. The indicative landscape strategy plan is presented on **Figure 1.1**, which details the indicative planting at the Converter Site.

1.10.43 Hedgerow reinstatement related to construction of the onshore HVDC Cable Corridor and where required for road widening requirements (highways improvements) would be undertaken on a like for like basis and would conform to measures set out in the Devon Hedge Group guidance (1998) Devon Hedges: Conservation and Management.

1.10.44 Replacement hedgerow planting on commuting routes for bat mitigation would comprise a suitable mix of native species appropriate to the site conditions. Replacement hedgerows would be planted at the earliest opportunity in the construction phase, where possible, in accordance with best practice (Reason and Wray, 2023).

1.10.45 Where possible, works in the vicinity of bat roosts would be completed during daylight hours only. However, should construction lighting be required, lighting would follow best Bats and Artificial Lighting at Night (BCT and ILP, 2023) and light fixtures would be directed away from the roost.

1.10.46 Any artificial lighting installed near to replacement hedgerows would be in accordance with the On-CEMP(s) and would follow best practice guidelines (Institute of Lighting Professionals, 2023) in using the following techniques where appropriate:

- dark buffers and concentric zonation.
- appropriate luminaire specifications.
- sensitive site configuration.
- physical screening.
- dimming and part-night lighting.
- glazing treatments on buildings.
- creation of alternative valuable bat habitat on site.

1.10.47 If a bat or any evidence of bats is encountered during construction, work would temporarily cease in the immediate vicinity and the ECoW would be informed immediately. No further work would be carried out until ether the ECoW has confirmed that bats would not be affected, or until the Natural England EPS mitigation licence has been amended to address any new impacts.

## Hazel dormouse

### Pre-construction

1.10.48 Removal of hedgerows where hazel dormouse presence cannot be discounted will be carried out under a Natural England EPS mitigation licence. Currently this is required in all hedgerows affected by the construction of the onshore HVDC Cable Corridor, the Converter Site, HVAC Cable Corridors and potentially hedges related to the highway improvements. Any additional locations with hazel dormouse identified during the pre-construction surveys would be included in the EPS mitigation licence.

1.10.49 Prior to the commencement of vegetation clearance, permanent hazel dormouse boxes would be installed in retained hedgerows / treelines within the Order Limits that are connected to the hedgerows being removed.

1.10.50 Hedgerow clearance would be carried out under a two-stage clearance in line with The Dormouse Conservation handbook (Bright et al, 2006). Following a fingertip search by the named ecologist or their accredited agent, the hedgerow would be cut above ground to 200 to 500 mm height in November to early March. There would be no ground disturbance, to avoid affecting hibernating dormice.

1.10.51 Where woody material is cut from boundaries or hedges that act as corridors for dormice it would be let *in-situ* to create a dead hedge in the gap until the second stage of vegetation clearance.

1.10.52 The second stage of clearance would be undertaken in May and would remove all previously cut material along with all root stock from the site to prevent re-growth. The second stage would be preceded by a fingertip search for hazel dormouse nests by the named ecologists.

1.10.53 Any hazel dormice found during vegetation clearance would be carefully moved to one of the dormouse boxes by a suitably licenced ecologist on site.

1.10.54 Hedgerow loss and fragmentation within the Order Limits would be mitigated with reinstatement of hedges affected by cable installation on a like-for like basis with new hedgerow planting and enhancement of existing hedgerow.

1.10.55 Hedgerow planting and enhancement for hazel dormouse would be carried out as soon as possible on completion of works during the construction of the onshore

HVDC Cable Corridor and HVAC Cable Corridors, where possible, and would involve planting of additional hedgerows to restore former hedgerows and gapping up of existing hedgerows. The location of new hedgerow planting within the Order Limits is presented in **Figure 1.2**.

1.10.56 A licence return form and report of the works undertaken would be completed by the licenced ecologist. A copy of the form and report will be provided to Natural England and the relevant Local Planning Authorities as soon as practicable and as required under the conditions of the licence.

### Construction

1.10.57 Species protection measures implemented under the Natural England EPS mitigation licence would all be completed pre-construction.

1.10.58 Planting of replacement habitat, monitoring and management (see **section 1.11**) of this Outline LEMP) may begin while construction is ongoing in other parts of the Order Limits, where dormice are not affected.

1.10.59 Species protection measures including maintaining stand-offs from retained hazel dormouse habitat, where possible, timing of works and appropriate use of artificial lighting (where this is required) would be specified in the mitigation licence method statement and also in the On-CEMP(s).

1.10.60 If a hazel dormouse or any evidence of hazel dormouse is encountered during construction, work would temporarily cease while and the ECoW would be informed immediately. No further work would be carried out until ether the ECoW has confirmed that hazel dormouse would not be affected, or until the Natural England EPS mitigation licence has been amended to address any new impacts.

## Reptiles

### Pre-construction

1.10.61 Very low numbers of common reptile species have been identified to be present at specific locations within the Order Limits. While only slow worm *Anguis fragilis* and common lizard *Zootoca vivipara* were recorded within the reptile survey area, grass snake *Natrix helvetica*, may also occur in some areas associated with watercourses. In addition, other areas of the Proposed Development contains some areas of habitat which could support reptiles in low numbers. Further details are provided within Volume 2, Appendix 1.9: Reptile Survey of the ES (document reference 6.2.1.9).

1.10.62 A detailed reptile mitigation strategy would be prepared and agreed with Torridge District Council to ensure that no reptiles are significantly harmed by the works that would be set out in the final LEMP(s). The strategy would include a combination of displacement, vegetation control, capture and translocation of reptiles, if substantial population levels render this necessary.

1.10.63 Surveys to date have not identified the presence of reptiles within the Converter Site. However, access issues have not permitted complete survey of this area and it is possible that small numbers of slow worm and other reptile species occur within the Converter Site. If present, these reptiles would be subject to a mitigation methodology which would consist of phased habitat degradation under supervision of the ECoW to encourage reptiles into adjacent areas of habitat prior to commencement of any construction works which could injure individual reptiles.

### Construction

1.10.64 Given that large areas of suitable reptile habitat within the wider landscape would remain unaffected by the works and most habitats would be reinstated or restored following construction, long term impacts on reptiles are unlikely.

1.10.65 Risk Assessment Method Statements (RAMS) would be employed where works take place within areas of potentially suitable habitat (as outlined above and as identified by the ECoW) to reduce the potential for inadvertently killing or injuring individual animals.

1.10.66 Mitigation would involve the management of vegetation (e.g. strimming long grass) to discourage occupation by reptiles and the identification and removal of potential refugia and hibernacula (if present) prior to construction works taking place in the relevant areas. These works would be undertaken under the supervision of the ECoW.

1.10.67 The management of vegetation (by strimming or flailing) and removal of potential refugia in areas likely to support reptiles should only be undertaken during the reptile active period of March to October and therefore may need to be carried out well in advance of construction in areas where work is scheduled to commence during the winter months. At least 24 hours will be left between vegetation management and construction works commencing in affected areas. Areas which have been so modified, would be maintained in that condition for as long as works continue in that area, to maintain a reptile-free area.

1.10.68 On completion of the works, halting habitat management should allow the habitats to re-establish and become attractive to reptiles, allowing them to re-colonise as required.

## Otter

### Pre-construction

1.10.69 Based on the current survey information, the construction phase would not directly impact any otter holts or resting places, however potential impacts would be reviewed following completion of the pre-construction surveys and pre-clearance checks by the ECoW. An EPS mitigation licence may be necessary from Natural England if a holt or other resting place may be impacted.

1.10.70 Watercourses within the Order Limits may also be used by otter for passage and those with sufficient water to support fish and amphibian populations may be used occasionally or seasonally for foraging and migration.

1.10.71 RAMS would be used to reduce the risk of committing an offence under the protecting legislation. These would be broadly like those described for badger (see **paragraphs 1.10.13 - 1.10.23** above).

### Construction

1.10.72 If pre-construction surveys or ECoW pre-clearance checks conclude that otter is present in a location which would be affected by the construction of the Proposed Development and that micro siting to potential avoid impacts is not possible, then mitigation for temporary habitat loss and disturbance may include:

- timing of works to avoid sensitive periods of the otter life cycle

- discouraging or, if necessary, removal of otter from areas where there is risk of injury or death in advance
- minimising disturbance from light and human presence via temporary screening and potentially amending working hours.

1.10.73 Mitigation measures would include suitable siting of construction compounds adjacent to watercourses with buffers of at least 10 m and installation of suitable screening to minimise impacts of noise and visual disturbance to otters utilising watercourses. The reinstatement of bankside habitats along watercourses and ditches immediately after work, sowing the with bankside habitats with a species rich locally appropriate sward and fencing to prevent livestock access.

## Water Vole

### Construction

1.10.74 If the pre-construction surveys or ECoW pre-clearance checks conclude the species is present and there is potential for the detailed design to affect watercourses and ditches, then mitigation for temporary habitat loss and disturbance may include:

- timing of works to avoid sensitive periods of the water vole life cycle;
- discouraging or, if necessary, removal of water vole from areas where there is risk of injury or death in advance; or
- minimising disturbance from light and human presence via temporary screening and potentially amending working hours.

1.10.75 The translocation of water voles and disturbance to their habitat would require a licence from Natural England. Discouraging water vole may not, depending on the degree of disturbance.

1.10.76 Mitigation measures would likely include the reinstatement of bankside habitats along watercourses and ditches immediately after work, sowing the with bankside habitats with a species rich locally appropriate sward and fencing to prevent livestock access.

## Other Mammals

1.10.77 Checks for the presence of hedgehogs, polecats, hares or other protected or notable species would be carried out by the ECoW prior to vegetation clearance. Additional RAMS would be implemented/ mitigation licences applied for as necessary.

## Fish and Eel

### Construction

1.10.78 The Proposed Development has made a commitment to the use of trenchless techniques for installation of the onshore HVDC Cable Corridor to cross all watercourses where European eel and other migratory fish were identified as having the potential to be present.

1.10.79 Trenching work at smaller watercourses and ditches would not be undertaken at night and would include measures to avoid eels from becoming trapped (e.g. ramped ends of trenches).

# 1.11 Species Monitoring and Management

## Overview

1.11.1 The following commitments to monitor rare and/or notable species within the Order Limits would be undertaken in accordance with relevant guidance, including those set out in **section 1.10** above and UK legalisation. In addition, species monitoring and management would be undertaken in accordance with relevant permits and licences, which would be detailed in the final LEMP(s).

## Birds

1.11.2 No post construction monitoring is currently proposed for birds. Where additional surveys identify the presence of species or groups which may be directly affected by the Proposed Development, additional monitoring may be implemented within the final LEMP(s).

## Badger

1.11.3 As stated in paragraphs **1.10.12 to 1.10.23** above, if main setts are identified in locations requiring closure, the need to provide replacement setts and their location within the Order Limits would be reviewed and included where appropriate in the licence application.

1.11.4 Monitoring of replacement badger setts following sett closure and badger relocation is not usually a requirement of sett closure licensing. Setts are only closed under licence when the badgers have been successfully excluded and taken up residence in the replacement setts. The location of any replacement setts would be designed to ensure they are suitable and away from disturbance or obstructed access. Therefore, no post construction monitoring for badgers is proposed.

## Bats

1.11.5 Post construction monitoring of bat populations would take place annually for five years post construction. Monitoring of bat boxes and translocated roost features would be carried out as described below.

1.11.6 Annual checks of bat boxes/translocated roost features would be carried out by a suitably qualified ecologist to determine any evidence of roosting bats. Boxes would by physically inspected in the daytime to search for bats or signs of bat uses such as droppings. The boxes / roost features would be inspected for damage and repairs / replacements carried out. Boxes / roost features would be cleared of debris (such as old, disused bird nests) during each inspection.

1.11.7 Monitoring of the translocated noctule roost should be undertaken annually to inspect the bracing on the tree/pole, along with a five-yearly aerial inspection (Reason and Wray, 2023) and emergence surveys.

1.11.8 Monitoring of the newly planted flightlines for bats (hedgerows) would be undertaken in years one, three and five following planting. Surveys would involve placing four automated static bat detectors on the new hedgerows around the converter stations to record for a minimum of five nights per month in suitable weather conditions between April and October inclusive. The management and monitoring of hedgerows planted as new and replacement bat flight lines is described in **Appendix B** of this Outline LEMP.

## Hazel Dormouse

1.11.9 As stated in **paragraphs 1.10.49** to **1.10.60** above, prior to the commencement of vegetation clearance in areas where hazel dormouse presence is confirmed, permanent dormouse boxes would be installed in advance of removal, in retained hedgerows / treelines connected to the hedgerows being removed. Post-construction monitoring of hazel dormouse nest boxes would involve checks annually for at least three years after construction is complete.

1.11.10 Planting of replacement habitat and species protection measures implemented under the Natural England EPS mitigation licence would be completed as soon as is possible within the Converter Site and in the first season post completion of works for other hedgerow reinstatement and enhancement works along the onshore HVDC Cable Corridor. Creation of the additional woodland habitat adjacent to Lodge Plantation (east of River Torridge) would commence prior to commencement of works as part of the construction preparation works.

1.11.11 Monitoring requirements including locations of hazel dormouse nest boxes and frequency of checks would be as per agreements with Natural England and as specified in the EPS mitigation licence conditions.

1.11.12 Retained and new hedgerows would be subject to ongoing management with the aim of maintaining and enhancing existing habitat quality. Hedgerow condition would be monitored for five years.

## Reptiles

1.11.13 As stated in **paragraph 1.10.62** to **1.10.68** above, reptiles present would be managed by habitat manipulation overseen by the ECoW. The reinstatement of habitat for reptiles would be implemented in the first appropriate season on completion of works. As reinstatement of habitat establishes, reptiles pushed to adjacent areas would be able to recolonise previously utilised areas along the onshore HVDC Cable Corridor. In the case of the Converter Site, creation of new habitats in the form of species rich grassland margins and areas would be created as soon as possible within the construction programme (i.e. as soon as these areas are free of construction activity). Following construction and creation of all new habitat, reptiles would be allowed to naturally re-colonise the newly created habitats.

1.11.14 No specific monitoring of reptile recolonisation is proposed.

## Otter and water vole

1.11.15 Otter and water vole are absent from habitats within or close to the working area. Trenchless cable installation across watercourses with potential otter and water vole habitat would avoid impacts on these species. With best practice measures

to avoid habitat disturbance, no post construction monitoring or management for otter and water vole is required.

1.11.16 In the case that pre-commencement surveys identify the presence of otter places of rest or water volves in locations which could be affected by construction of the Proposed Development, monitoring would be implemented in line with the requirements laid in the conditions of any Natural England EPS or water vole licence obtained.

### Fish and European eel

1.11.17 With the use of trenchless cable installation across watercourses and best practice measures to avoid habitat disturbance as specified in the Outline On-CEMP (document reference 7.7), which is a requirement of the draft DCO (document reference 3.1), no post construction monitoring or management for fish and European eel is required.

## 1.12 References

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# Appendix A: Typical Programme of Operations

# TYPICAL PROGRAMME OF MANAGEMENT AND MONITORING OPERATIONS

| Activity | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Woodland** | | | | | | | | | | | | |
| Weed control | | | | | | | | | | | | |
| Maintain mulch (where used) | | | | | | | | | | | | |
| Fence checking / repair | | | | | | | | | | | | |
| Stakes, Ties and Shelter inspection and repair | | | | | | | | | | | | |
| **Individual Tree Planting** | | | | | | | | | | | | |
| Maintain mulch (where used) | | | | | | | | | | | | |
| Weed control | | | | | | | | | | | | |
| Check and adjust support | | | | | | | | | | | | |
| Selective pruning | | | | | | | | | | | | |
| Watering (where achievable, until establishment) | | | | | | | | | | | | |
| **Native shrub and hedge planting** | | | | | | | | | | | | |
| Maintain mulch (where used) | | | | | | | | | | | | |
| Weed control | | | | | | | | | | | | |
| Selective pruning / coppicing | | | | | | | | | | | | |
| Hedge clipping | | | | | | | | | | | | |
| Watering (until establishment) | | | | | | | | | | | | |
| Trim groundcover and climbers | | | | | | | | | | | | |
| **Grassland and wildflower meadow areas** | | | | | | | | | | | | |
| Mow grass | | | | | | | | | | | | |
| Strim meadow | | | | | | | | | | | | |
| Weed control | | | | | | | | | | | | |
| **Attenuation basin / pond** | | | | | | | | | | | | |

| Activity | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trim back scrub/ reduce shading | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitor for encroachment | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitor for presence of INNS or other aquatic vegetation to maintain at least one third of open water | | | | | | | | | | | | | | | | | | | | | | | | |
| Remove excessive aquatic vegetation | | | | | | | | | | | | | | | | | | | | | | | | |
| **Invasive Non-Native Species** | | | | | | | | | | | | | | | | | | | | | | | | |
| Inspect for INNS* | | | | | | | | | | | | | | | | | | | | | | | | |
| **Litter control** | | | | | | | | | | | | | | | | | | | | | | | | |
| Collect litter | | | | | | | | | | | | | | | | | | | | | | | | |
| **Plant nutrition** | | | | | | | | | | | | | | | | | | | | | | | | |
| Apply fertiliser (if required) | | | | | | | | | | | | | | | | | | | | | | | | |
| **Pest and disease control** | | | | | | | | | | | | | | | | | | | | | | | | |
| Physical / mechanical means | | | | | | | | | | | | | | | | | | | | | | | | |
| **Monitoring and inspection** | | | | | | | | | | | | | | | | | | | | | | | | |
| All habitats and species | | | | | | | | | | | | | | | | | | | | | | | | |
| **Timing of operations** | | | | | | | | | | | | | | | | | | | | | | | | |
| Avoid nesting birds | | | | | | | | | | | | | | | | | | | | | | | | |
| Avoid disturbing bats | | | | | | | | | | | | | | | | | | | | | | | | |
| Avoid disturbing otters | | | | | | | | | | | | | | | | | | | | | | | | |
| Reptiles active period | | | | | | | | | | | | | | | | | | | | | | | | |
| Dormice active period | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

*Note: Detailed INNS management plans to be developed if inspections identify INNS. These are not detailed here as management measures and timing is dependent on species and location identified.

# Appendix B: Landscape Maintenance Schedule

# LANDSCAPE MAINTENANCE SCHEDULE

| Landscape/ Ecological Element | Maintenance Objectives | Maintenance Requirements | Relevant standards/ guidance |
|---|---|---|---|
| Woodland<br>(Including existing tree belts and tree groups) | Manage existing woodlands to ensure resilience and health. Encourage and promote areas of natural regeneration in woodlands.<br>Retain trees in a safe condition of good general health, vigour and structural stability.<br>Enhance visual amenity.<br>Protect and enhance landscape character.<br>Enhance biodiversity.<br>Bats: Maintain and enhance existing bat foraging habitats.<br>Habitats: Create and maintain new areas of woodland and scrub.<br>Integrate with surrounding landscape and character. | Work to agreed woodland management plans to enhance and promote sustainable forest practice.<br>Undertake thinning to ensure the health of the regenerating tree areas. Thinning should be commenced when the outermost leaves of crowns are competing for light with leaves of neighbouring trees. Remove woodland produce but leave, where appropriate, all arisings on site in the woodland, to provide dead wood habitat of benefit to wildlife.<br>Exercise extreme care when working in close proximity to fall risks. Adopt a 'man-safe' or similar system of working.<br>All works in woodlands should be undertaken between September and February to avoid impacts on woodland-nesting birds. However, when carrying out works, avoid compacting ground during autumn/winter.<br>Selectively control excessive invasive growth such as bramble. Particular invasive weed species such as rhododendron.<br>Manage woodland edges to benefit habitat creation and maintain its value for wildlife.<br>Inspect trees for diseases and take appropriate action (e.g. ash dieback).<br>Carry out any remedial pruning and/or general tree works in accordance with BS:3998 and forestry safety guides.<br>Stagger operations to provide adjoining, alternative undisturbed areas for wildlife to migrate to. | UK Forest Standard 2023 Guidelines and Practice<br>BS:3998: Recommendations for tree work<br>BS 7370-4: Grounds maintenance<br>The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works. |
| Solitary trees (Hedgerow trees) | Establish resilient and healthy trees in the landscape. Enhance visual amenity. | Maintain a well-balanced crown, shape and character typical of the species, clear of any crossing or rubbing | BS 3998: Recommendations for tree work |

| Landscape/ Ecological Element | Maintenance Objectives | Maintenance Requirements | Relevant standards/ guidance |
|---|---|---|---|
| | Protect and enhance landscape character. Enhance biodiversity. Bats: maintain and enhance existing bat foraging habitats. Bats: create and maintain a new commuting flight path across the site. | growth allowing a clear stem, 2m above ground level. Maintain a crown height of 4.5m on trees directly bounding main access tracks and highways. Inspect trees to assess whether they pose any unacceptable risk to public safety on an annual basis or immediately after any extreme weather event such as high winds. Inspect trees for diseases and take appropriate action (e.g. ash dieback). Remove any dead, dying and damaged branches or growth obstructing pedestrian or vehicular routes (obtain advice from an ecologist regarding possible presence of bat roosts prior to undertaking work). Retain live or dead wood cut from trees on site in habitat piles, where appropriate. Control ivy where needed to prevent crown smothering.<br>Undertake pest and disease control using suitable pesticides or fungicides as advised, only if severe infestation occurs. Replace any damaged bat boxes. | The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works.<br>UK Bat Mitigation Guidelines |
| Woodland Edge (Woodland Edge) | Reinforce a wind-firm woodland edge. Enhance visual amenity. Protect and enhance landscape character. Integrate with nearby woodland character.<br>Enhance habitats and biodiversity. Bats: Maintain and enhance existing bat foraging habitats. | Scallop edges of dense regenerative woodland to produce a varied edge to the woodland. Selectively coppice native shrubs to provide a varied woodland edge canopy. Cut patches of vegetation on rotation every 2-3 years in late August, to a height of 10cm, to form glades and encourage the formation of a structure of benefit to invertebrates. Stagger operations to provide adjoining, alternative undisturbed areas for wildlife to migrate to. Leave cut vegetation in situ for 3-5 days, turning occasionally to dry and allow more seeds to be shed. Remove litter, rubbish and other debris from areas prior to cutting. Exercise extreme care when working in close proximity to existing/new trees and prevent damage to stems/trunks. Exercise extreme care when working in close proximity to any standing water. Do not apply insecticides, herbicides or fungicides, as<br>these can destroy valuable wildlife. The exception is herbicides for the control of specific problem weeds (i.e. invasive species) – herbicides for these species should | UK Forest Standard 2023 Guidelines and Practice<br>BS:3998: Recommendations for tree work<br>BS 7370-4: Grounds maintenance<br>The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works.<br>UK Bat Mitigation Guidelines<br>The dormouse conservation handbook |

| Landscape/ Ecological Element | Maintenance Objectives | Maintenance Requirements | Relevant standards/ guidance |
|---|---|---|---|
| | | be applied by weed wiper or spot treatment with a back-pack sprayer. | |
| Planted Trees (including in hedgerows) | Establish resilient and healthy trees in the landscape. Enhance visual amenity. Screening of built form and infrastructure. Protect and enhance landscape character. Enhance biodiversity, Bats: maintain and enhance existing bat foraging habitats around the site. Bats: create and maintain a new commuting flight path across the site. | Maintain a weed free area at the base of all trees, 1m diameter mulch area for trees in grass or planting. Where achievable maintain moisture availability to new planting by irrigation or watering in dry weather for first two years. Tree support systems, ties and protective guards shall be checked regularly during establishment and adjusted where necessary. Any broken or missing items shall be replaced, and ties adjusted to allow growth and prevent rubbing of bark. Pruning shall be carried out as necessary to establish a well-balanced head relative to the natural form and shape of the species and purpose. Maintain a well-balanced crown, shape and character typical of the species, clear of any crossing or rubbing growth. Allowing a clear stem to 2m above ground level (retain if field tree feathered to ground) where required. Remove any dead, dying and damaged branches or growth obstructing pedestrian or vehicular routes including the removal of any suckers at the tree base. Stack cut wood within identified areas adjacent to the trees (agreed locations) to encourage ecological diversity. Undertake Pest and Disease Control using suitable pesticides or fungicides as advised, only if severe infestation occurs. | BS 8545:2014 Trees: From Nursery to Independence in the Landscape<br>BS 3998: Recommendations for tree work<br>BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape<br>The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works<br>UK Bat Mitigation Guidelines. |
| Planted Native Hedgerow and Hedgebank | Establish resilient and healthy hedgerows in the landscape. Enhance Visual Amenity. Screening of built form and infrastructure. Protect and enhance landscape character. Integrate with existing hedgerows and landscape features. Enhance habitats, wildlife corridors and local biodiversity. Bats: maintain and enhance existing bat foraging habitats around the site. | Maintain a weed free area at the base of all plantings, 1m diameter mulch area for hedge planting. Where achievable maintain moisture availability to new planting by irrigation or watering in dry weather for first two years. Re-firm any plants that have been disturbed by adverse weather or interference. Check condition of stakes, and spiral guards, ties, guys and shelters and replace broken or missing items until such a time as they become redundant. Adjust if necessary to allow for growth and prevent damage to bark. Hedgerows that adjoin footpaths and vehicular routes which are | BS 8545:2014 Trees: From Nursery to Independence in the Landscape<br>BS 4428: Code of practice for general landscape operations<br>BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape<br>UK Bat Mitigation Guidelines<br>The dormouse conservation handbook |

| Landscape/ Ecological Element | Maintenance Objectives | Maintenance Requirements | Relevant standards/ guidance |
|---|---|---|---|
| | Habitats: Create and maintain new patches of scrub and small copses. | therefore likely to cause obstruction if growth is left unchecked should be cut back annually outside the bird breeding season (March to August inclusive) to a neat and consistent finish to maintain a dense screen.<br>Hedgerows on site are to be cut every 3 or 4 years (on rotation) to allow flowering and fruiting and the development of a structure of benefit to wildlife, outside the bird breeding season (March to August inclusive). Shred arisings and compost on site. Undertake pest control with approved pesticides in accordance with manufacturer's instructions in approved locations only. | |
| Natural Regeneration of Woodland and Scrub | Expand important areas of woodland using native seed sources. Enhance visual amenity. Protect and enhance landscape character. Integrate with surrounding landscape character.<br>Enhance local native biodiversity. Habitats: create and new areas of scrub and woodland | Provide browse free areas using suitable fencing. Maintain fencing to ensure browsing is eliminated during the establishment stage. Allow initial disturbance of the soil, where grass field consider the use of appropriate herbicides or cultivation. Consider mulch or soil improvers to create a better soil flora/fauna. Ensure all natural regenerated areas are kept free of pernicious weeds by the use of suitable herbicides hand pulling and/or maintain levels of mulch. Inspect areas for assessment of regeneration, where weak or not establishing consider planting of native sourced seed trees or direct seeding. | Natural Regeneration of Broadleaves J Evans FC Bulletin 78 Natural Regeneration – Woodland Trust'<br>BS 8545:2014 Trees: From Nursery to Independence in the Landscape |
| Planted Woodland and Scrub | Establish resilient and healthy woodlands in the landscape. Enhance visual amenity. Screening of built form and infrastructure. Protect and enhance landscape character. Integrate with surrounding landscape character.<br>Enhance habitats and biodiversity. Bats:maintain and enhance existing bat foraging habitats around the site.<br>Habitats: create and maintain new patches of scrub and small copses | Maintain a weed free area at the base of all tree/shrub plantings, 1m diameter mulch area. Re-firm any plants that have been disturbed by adverse weather or interference. Where used check condition of stakes, ties and shelters and replace broken or missing items until plants establish. Adjust if necessary to allow for growth and prevent damage to plants. Ensure all planted areas are kept free of pernicious/invasive weeds by the use of suitable herbicides hand pulling and/or maintain levels of mulch. Herbicide should be used in a controlled manor as specified by the site manager. Replace dead / dying plants, as necessary. | BS 8545:2014 Trees: From Nursery to Independence in the Landscape<br>BS 4428: Code of practice for general landscape operations<br>BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape |

| Landscape/ Ecological Element | Maintenance Objectives | Maintenance Requirements | Relevant standards/ guidance |
|---|---|---|---|
| Grassland, Meadow and Woodland Edges | Enhance visual amenity. Protect and enhance landscape character. Provide valuable habitat to reptiles and invertebrates. Integrate with nearby woodland character. Provide a meadow edge to areas of woodland and coppice. | Hand pull or spot herbicide spray invasive weed species. Allow leaf litter and fallen woody material to mulch / compost naturally. Remove litter, rubbish and other debris from grassed areas prior to strimming. Exercise extreme care when working in close proximity to existing/new trees and prevent damage to stems/trunks. Do not apply organic or inorganic fertilisers. Do not apply insecticides, herbicides or fungicides, as these can destroy valuable wildlife. Do not plough, level or re-seed the grassland areas, except with the same species-rich seed mix as used originally. | BS 7370-1: Grounds maintenance Recommendations for establishing and managing grounds maintenance organisations and for design considerations related to maintenance. |

# Appendix C: Typical Planting Mixes

# TYPICAL PLANTING MIXES

## Woodland Mix

| Latin Name | Common Name | Form | Height | % Mix |
|---|---|---|---|---|
| **Woodland Trees** | | | | |
| *Acer campestre* | Field maple | Transplant | 450-600 mm | 5 |
| *Acer campestre* | Field maple | Feathered | 1-1.5 m | 5 |
| *Betula pubescens* | Downy birch | Transplant | 450-600 mm | 10 |
| *Fagus sylvatica* | Common beech | Transplant | 450-600 mm | 5 |
| *Fagus sylvatica* | Common beech | Feathered | 1-1.5 m | 5 |
| *Populus tremula* | Aspen | Transplant | 450-600 mm | 5 |
| *Quercus robur* | English oak | Transplant | 450-600 mm | 10 |
| *Tilia cordata* | Small-leaved lime | Feathered | 1-1.5 m | 5 |
| *Tilia cordata* | Small-leaved lime | Transplant | 450-600 mm | 5 |
| **Woodland Understory** | | | | |
| *Crataegus monogyna* | Hawthorn | Transplant | 450-600 mm | 15 |
| *Corylus avellana* | Hazel | Transplant | 450-600 mm | 15 |
| *Ilex aquifolium* | Holly | Transplant | 450-600 mm | 5 |
| *Prunus spinosa* | Blackthorn | Transplant | 450-600 mm | 5 |
| *Rosa canina* | Dog rose | Transplant | 400-500 mm | 5 |

Note: Oak trees within the woodland mix are only to be planted where the cable route and their easements permit.

# Wet Woodland Mix

| Latin Name | Common Name | Form | Height | % Mix |
|---|---|---|---|---|
| **Woodland Trees** | | | | |
| *Acer campestre* | Field maple | Transplant | 450-600 mm | 5 |
| *Acer campestre* | Field maple | Feathered | 1-1.5 m | 5 |
| *Alnus glutinosa* | Common alder | Transplant | 450-600 mm | 10 |
| *Betula pubescens* | Downy birch | Transplant | 450-600 mm | 10 |
| *Betula pubescens* | Downy birch | Feathered | 1.25-1.5 m | 5 |
| *Populus tremula* | Aspen | Transplant | 450-600 mm | 5 |
| *Quercus robur* | English oak | Transplant | 450-600 mm | 10 |
| **Woodland Understory** | | | | |
| *Crataegus monogyna* | Hawthorn | Transplant | 450-600 mm | 15 |
| *Corylus avellana* | Hazel | Transplant | 450-600 mm | 15 |
| *Ilex aquifolium* | Holly | Transplant | 450-600 mm | 5 |
| *Prunus spinosa* | Blackthorn | Transplant | 450-600 mm | 5 |
| *Rosa canina* | Dog rose | Transplant | 400-500 mm | 5 |
| *Salix fragilis* | Crack willow | Transplant | 200-250 mm | 5 |

# Hedgerow Mix

| Latin Name | Common Name | Form | Height in mm | % Mix |
|---|---|---|---|---|
| **Hedgerow Trees** | | | | |
| *Acer campestre* | Field maple | Feathered | 1-1.5 m | 10 |
| *Fagus sylvatica* | Common beech | Feathered | 1-1.5 m | 5 |
| *Quercus robur* | English oak | Feathered | 1-1.5 m | 10 |
| *Tilia cordata* | Small-leaved lime | Feathered | 1-1.5 m | 10 |
| **Hedgerow shrubs** | | | | |
| *Corylus avellana* | Hazel | Transplant | 450-600 | 10 |
| *Crataegus monogyna* | Hawthorn | Transplant | 450-600 | 15 |
| *Euonymous europaeus* | Spindle | Transplant | 450-600 | 5 |
| *Ilex aquifolium* | Holly | Transplant | 450-600 | 5 |
| *Ligustrum vulgare* | Privet | Transplant | 450-600 | 5 |
| *Malus sylvestris* | Crab apple | Transplant | 450-600 | 5 |
| *Prunus spinosa* | Blackthorn | Transplant | 450-600 | 15 |
| *Viburnum lantana* | Wayfaring tree | Transplant | 450-600 | 5 |

Note: Oak trees within the hedgerow mix are only to be planted where the cable route and their easements permit

# Native Scrub Mix

| Latin Name | Common Name | Form | Height | % Mix |
|---|---|---|---|---|
| **Scrub Plants** | | | | |
| *Cornus sanguinea* | Dogwood | Transplant | 450-600 mm | 5 |
| *Corylus avellana* | Hazel | Transplant | 450-600 mm | 10 |
| *Prunus spinosa* | Blackthorn | Transplant | 450-600 mm | 15 |
| *Rosa canina* | Dog rose | Transplant | 400-500 mm | 2.5 |
| *Ulex europaeus* | Gorse | Cutting | 200-300 mm | 2.5 |

# Appendix D: Outline Bird Protection Plan

# D.1 Outline Bird Protection Plan

## Introduction

D.1.1 The purpose of this Outline Bird Protection Plan is to present the mitigation measures proposed to avoid or reduce potential impacts to breeding birds (including their nests, eggs and dependent young), migratory birds and wintering birds during construction, operation and maintenance and decommissioning of the Proposed Development. Therefore, the measures set out within this Outline Bird Protection Plan ensure compliance with existing legislation protecting breeding birds.

D.1.2 This document forms Appendix D to the Outline Landscape and Ecology Management Plan (document reference 7.10) submitted with the Development Consent Order (DCO) application. The Outline LEMP sets out the in principle measures that would form the basis of the subsequent Landscape and Ecology Management Plan (LEMP). The LEMP is a DCO requirement and must be written, in accordance with this Outline LEMP and submitted to and approved by Torridge District Council prior to the commencement of the relevant stages of the onshore works.

D.1.3 All mitigation measures within the Order Limits, landward of Mean High Water Springs (MHWS), must be undertaken in accordance with the in principle measures presented in the Outline LEMP, including the Outline Bird Protection Plan. The LEMP would be maintained throughout the operational period of the Proposed Development.

D.1.4 This Outline Bird Protection Plan has been prepared in accordance with relevant best practice and guidance, including: Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022) and A Field Guide to Monitoring Nests (Ferguson-Lees et al, 2011). This Outline Bird Protection Plan has also been informed by the following documentation, where appropriate:

- Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES (document reference 6.2.1).

D.1.5 The terrestrial habitats identified within the Order Limits primarily consist of agricultural crops or improved grassland used for cattle/sheep grazing, with patches of woodland and stretches of hedgerow. The Onshore Infrastructure Area includes the River Torridge, as well as some smaller watercourses (including Kenwith Stream and a tributary to Jennet's Reservoir).

## Relevant Legislation

D.1.6 There are two main pieces of legislation that protect birds under UK law, namely the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017. All wild birds, their nests and their eggs are protected under Part 1, Section 1 of the Wildlife and Countryside Act 1981. Subject to the provisions of Section 1, the legislation makes it an offence to intentionally:

- kill, injure or take any wild bird (excluding certain specific game and other licence controlled species);

- take, damage, destroy or otherwise interfere with the nest of any wild bird whilst it is in use or being built;
- obstruct or prevent any wild bird form using its nest; or
- take or destroy the egg of any wild bird.

D.1.7 In addition, for birds listed on Schedule 1 of the Wildlife and Countryside Act 1981, it is also an offence to intentionally or recklessly:

- disturb any species listed under Schedule 1 whilst it is building a nest.
- disturb any Schedule 1 species while it is on or near a nest containing eggs or young
- disturb the dependent young of any Schedule 1 species.

D.1.8 Directive 2009/147/EC on the Conservation of Wild Birds (the 'Birds Directive'; European Parliament (2009)) provides protection against deliberate disturbance of birds, particularly during the period of breeding and rearing. This refers specifically to disturbance levels that would affect delivery of the objectives of the Birds Directive.

## Baseline Characterisation

D.1.9 Information with respect to notable and protected birds within and surrounding the Proposed Development was collected through a desktop review of existing studies and data sets. Further information regarding the baseline data sources and desk study results are provided in Volume 2, Appendix 1.2: Ecological Desk Study of the ES (document reference 6.2.1.2).

D.1.10 In addition to a desktop study, site-specific surveys were also undertaken in 2021 and 2022 (wintering and migratory bird survey) and 2022 (breeding bird survey). These surveys aimed to characterise the distribution and abundance of breeding birds, wintering and migratory bird species within the onshore elements of the Order Limits. Further details of the 2021 and 2022 bird surveys are presented in Volume 2, Appendix 1.8: Breeding Wintering and Migratory Birds Survey of the ES (document reference 6.2.1.8).

D.1.11 Migratory and wintering birds (particularly waders and waterfowl) are of particular importance in the area, due to the presence of the Taw Torridge Estuary SSSI, which lies some 1.25km from the Proposed Development at its closest point. It is therefore likely that wintering and migratory birds found in the area would form parts of the populations for which the SSSI was designated.

D.1.12 The breeding birds survey, undertaken in 2022, identified the following:

- A total of 70 species recorded within the survey area, of which 24 were confirmed to be breeding, three probably breeding and four possibly breeding. A further 39 species were assessed as non-breeding, either in the passage or using the survey area for foraging.
- Included within the species confirmed as breeding within the site were greenfinch, linnet, and skylark, which are Red-list species and dunnock, song thrush, and wren, which are Amber-list species.

D.1.13 The wintering and migratory bird survey, undertaken in 2021 and 2022, identified the following:

- 12 species of conservation importance overflying and feeding at the Landfall. Species included:
  - little egret, an Annex 1 species under the Birds Directive, and curlew and herring gull, which are Red-list species; and
  - black-headed gull, bullfinch, common gull, dunnock, lesser blackbacked gull, meadow pipit, oystercatcher, rook and turnstone, which are Amberlist species.
- 13 species of conservation importance identified flying over and feeding within the survey area (at the Torridge Estuary) during the site visits. Species included:
  - little egret and kingfisher, both Annex 1 species under the Birds Directive;
  - herring gull and lapwing, which are Red-list species; and
  - eight amber-listed species, including black-headed gull, common gull, common sandpiper, lesser black-backed gull, mallard, oystercatcher, redshank and shelduck

## Predicted Impacts

D.1.14 No evidence of high tide roosting or particular foraging behaviour in locations affected by the Proposed Development were identified during the previous migratory and wintering bird survey.

D.1.15 Depending on specific resources and weather conditions, it is possible that alternative areas may become important for night roosting or as foraging resources to some species of migratory birds. This could include areas which may be affected by the construction, operation and decommissioning of the Proposed Development.

D.1.16 Breeding birds may be directly or indirectly disturbed and displaced during the construction, operation and maintenance and decommissioning phase of the Proposed Development. There is the potential for birds at various stages of the breeding cycle (i.e. pairing, nest building, egg laying and chick rearing) to be disturbed either by the physical presence and/or noise disturbance associated with the construction works and the presence of machinery.

D.1.17 The potential impacts and effects on breeding birds are detailed within Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES (document reference 6.2.1). The assessment highlights that the construction and decommissioning phases of the Proposed Development is likely to have the greatest potential for adverse effects with respect to breeding, migratory and wintering birds. Therefore, the measures detailed below would be implemented during the construction phase. In addition, as decommissioning works are likely to be similar in nature as construction activities, the mitigation described below would also be implemented during the decommissioning phase of the Proposed Development.

D.1.18 As noted within Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES (document reference 6.2.1), the operation and maintenance of the Proposed Development is likely to result in increased habitat availability for breeding birds as a result of proposed habitat creation and enhancement. However, should significant operational maintenance works be required during the nesting bird season, or if any Schedule 1 species are suspected or confirmed to

be breeding within recommended disturbance buffers, the mitigation measures detailed below will also be followed to protect breeding birds and ensure compliance with relevant legislation.

# Protection Plan

## Breeding Birds: Pre-Construction Management Measures

### Vegetation Clearance

D.1.19 Any vegetation clearance required in advance of construction works (including onshore preliminary activities) would be carried out outside the breeding bird season (i.e. March to August inclusive), where practicable and in consultation with the Ecological Clerk of Works (ECoW) on site, as other species may be also affected by vegetation clearance. Prior to vegetation clearance, the works area would be inspected by a suitably qualified ecologist or the ECoW on site.

D.1.20 Cleared vegetation would be removed from the site or stored appropriately to ensure that these do not become occupied by nesting birds.

### Pre-Construction Surveys of Schedule 1 Species

D.1.21 Where it is known (or likely) that Schedule 1 species breed within the onshore Order Limits (identified during site surveys), pre-construction surveys would be carried out by the ECoW (or suitably qualified ecologist) during the bird breeding season (i.e. March to August inclusive), prior to the commencement of works to confirm if nesting Schedule 1 bird species are present. The pre-construction surveys would encompass the area of proposed works, with an appropriate recommended disturbance buffer zone (Goodship and Furness, 2022).

D.1.22 In addition, it is proposed that the results of the bat roost assessments and aerial tree climbing assessments be combined to target pre-construction species-specific barn owl surveys. Targeted surveys would include an early season check for signs (Shawyer, 2011) combined with breeding season vantage point surveys at areas where signs are found, to confirm occupancy (Toms et al., 2000).

D.1.23 Should evidence of breeding Schedule 1 species be identified, a visit would be made by a licenced ecologist to confirm the presence of eggs or young.

D.1.24 In the event of breeding being confirmed, either works would be timed to avoid the nesting period and/or a disturbance buffer (within which no work can take place) will be applied, or a licence will be sought from Natural England in order to exclude birds from using the nest the following year (when works are due to commence).

### Pre-Construction Checks for Nesting Birds

D.1.25 For areas not previously subject to vegetation clearance, pre-construction checks for nesting birds within the onshore Order Limits would be carried out within 48 hours of the commencement of works. Checks for nesting birds would be carried out within the construction works area to establish the presence/absence (or observe evidence) of nesting birds.

D.1.26 Pre-construction checks would be undertaken by a suitably experienced ECoW and comprise a combination of site walkovers, vantage point surveys and

vegetation searches. Pre-construction checks would be undertaken within the construction area and the survey method would follow current best practices (Ferguson-Lees et al, 2011).

D.1.27 Prior to the commencement of construction, all relevant personnel would have a toolbox talk delivered to them by the ECoW, fully briefing them about the potential impacts of the works on nesting birds. The toolbox talk would also include the relevant conservation status, legal protection, relevant method statements and what actions should be taken if nesting birds are encountered or suspected to be present during the works.

D.1.28 If a bird nest is found or suspected to be present at any time (including Schedule 1 breeding species), works would cease and an emergency Bird Protection Zone (BPZ) will be installed. No constructions works or vegetation clearance would be permitted in the BPZ until the ECoW has confirmed that the breeding attempt has concluded (or failed).

## Bird Protection Zones

D.1.29 BPZs for Schedule 1 species would be based on the disturbance buffers recommended in Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species (Goodwill and Furness, 2022). The exact distance to be used would depend on the Schedule 1 species concerned. Non-schedule 1 species for which disturbance buffers are not available from the literature would be given a minimum BPZ of 10 m.

D.1.30 The BPZs would be established once nest building or breeding has been confirmed by the ECoW, either during pre-construction checks or during construction of the Proposed Development. The BPZ must be adhered to by all contractors on site until the ECoW has confirmed that the breeding attempt has concluded (or failed). No works would be permitted within the BPZ, including construction personnel or vehicles until the ECoW has confirmed that the chicks have fledged, or the breeding attempt has concluded (or failed).

D.1.31 Critical works, which are unavoidable within BPZs, would be done so under supervision of the ECoW and upon completion of a Protected Species Risk Assessment and in consultation with Natural England. The Protected Species Risk Assessment would consider the bird species protected status, types of works to be undertaken and local topography/natural screening.

D.1.32 The BPZs may be reduced under special circumstances (e.g. existing baseline disturbance) and if these are agreed upon following consultation with Natural England. This would only be undertaken once the relevant mitigation requirements have been identified and agreed, the ECoW has carried out the Protected Species Risk Assessment, and it can be demonstrated that the works will not cause disturbance.

D.1.33 If the ECoW is not present and an active nest is identified by site personnel, an emergency BPZ (of a minimum of 10 m depending on the species identified) would be established by on site personnel. All works within the BPZ must cease as soon as it is safe to do so and the ECoW would be contacted. No works would be carried out within that area until a nesting bird check has been undertaken and appropriate mitigation has been identified by the ECoW.

## Migratory and Wintering Birds: Pre-Construction Measures

D.1.34 To ensure that no areas of particular value for roosting or foraging of migratory and wintering birds, additional pre-commencement surveys will be undertaken, including night inspections of suitable locations to ensure that no such important locations occur in locations which could be affected by direct habitat loss or by construction disturbance.

D.1.35 Where any such locations are identified, a specific mitigation plan will be devised which will take into account the species involved and their use of the area. The mitigation plan will include measures such as screening or other concrete measures to minimise disturbance, but may also consider placing limits on seasons during which construction activity can be undertaken and/or timing of works to avoid critical periods of the day (i.e. avoiding night time working adjacent to areas used for nocturnal roosting or foraging).

D.1.36 Where the pre-commencement surveys indicate that the Proposed Development may have direct effects on foraging grounds, additional measures such as temporary muck-spreading and provision of rough grassland areas will also be provided at suitable locations within the order limits for the duration of construction period.

# References

Goodship, N.M. and Furness, R.W. (2022) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. A report from MacArthur Green to NatureScot.

Ferguson-Lees, J., Castell, R., Leech, D., Toms, M., Barimore, C. and British trust for ornithology (2011). A field guide to monitoring nests. British Trust for Ornithology.

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

Toms, M. P., Crick, H. Q. P., Shawyer, C. R., (2000) Project barn owl final report. BTO Research Report No. 197. BTO, Thetford

# Appendix E: Mitigation Land Requirements and Justification

# MITIGATION LAND REQUIREMENTS AND JUSTIFICATION

1.1 The mitigation land requirements for each parcel of land located at the Converter Site. The location and geographic extent of these parcels is presented in the figure below.

| Land Parcel | Mitigation | Justification |
|---|---|---|
| 1 | Creation of flowering lawn mixture | To enhance landscape connectivity and provide habitat for insect pollinators |
| 2 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and nesting birds and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 3 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and nesting birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 4 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds, pollinating invertebrates and enhance landscape connectivity |
| 5 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds, pollinating invertebrates and enhance landscape connectivity |
| 6 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 7 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 8 | Creation of wetland meadow | To mitigate impacts of habitat loss with respect to birds and invertebrates and enhance landscape connectivity |
| 9 | Creation of attenuation pond | To mitigate the impacts of habitat loss with respect to aquatic invertebrates, birds and create water storage on site |
| 10 | Creation of wildflower meadows | To mitigate impacts of habitat loss and provide enhancement with respect to birds and pollinating invertebrates and enhance landscape connectivity |

| Land Parcel | Mitigation | Justification |
|---|---|---|
| 11 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 12 | Creation of native hedgerow | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 13 | Creation of flowering lawn mixture | To enhance landscape connectivity |
| 14 | Creation of flowering lawn mixture | To enhance landscape connectivity |
| 15 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 16 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 17 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 18 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 19 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 20 | Creation of flowering lawn mixture | To enhance landscape connectivity |
| 21 | Creation of Devon hedgebank | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 22 | Creation of Devon hedgebank | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 23 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 24 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |

| Land Parcel | Mitigation | Justification |
|---|---|---|
| 25 | Creation of Devon hedgebank | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 26 | Enhancement of existing area of woodland | To provide visual screening for the Converter Site and enhance landscape connectivity |
| 27 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 28 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 29 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 30 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity existing woodland beyond the development boundaries. To extend woodland cover |
| 31 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 32 | Creation of Devon hedgebank | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 33 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity |
| 34 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity |
| 35 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 36 | Enhancement of existing area of woodland | To provide visual screening for the Converter Site and enhance landscape connectivity |

| Land Parcel | Mitigation | Justification |
|---|---|---|
| 37 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity |
| 38 | Creation of native hedgerow | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 39 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 40 | Enhancement of existing watercourse | To improve channel form, substrate and sinuosity for net biodiversity benefit including benefits for aquatic invertebrates |
| 41 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 42 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing woodland beyond the development boundaries. To extend woodland cover |
| 43 | Enhancement of existing area of woodland | To provide visual screening for the Converter Site and enhance landscape connectivity with existing features beyond the development boundaries |
| 44 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 45 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 46 | Creation of native hedgerow | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 47 | Creation of native hedgerow | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 48 | Creation of Devon hedgebank | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |
| 49 | Creation of Devon hedgebank | To mitigate impacts of habitat loss with respect to birds, dormice and bats and enhance landscape connectivity |

| Land Parcel | Mitigation | Justification |
|---|---|---|
| 50 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 51 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 52 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 53 | Enhancement of existing area of woodland | To provide visual screening for the Converter Site and enhance landscape connectivity |
| 54 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 55 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 56 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 57 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 58 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 59 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 60 | None proposed at this stage | No long term mitigation proposals at this stage |
| 61 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 62 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |

| Land Parcel | Mitigation | Justification |
|---|---|---|
| 63 | Creation of wildflower meadows | To mitigate impacts of habitat loss with respect to birds and pollinating invertebrates and enhance landscape connectivity |
| 64 | Enhancement of existing area of woodland | To provide visual screening for the Converter Site and enhance landscape connectivity with existing features beyond the development boundaries |
| 65 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 66 | Woodland edge/shrub planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 67 | Woodland planting | To provide visual screening of the Converter Site (including earth mounds) and mitigate impacts of habitat loss with respect to bats, dormice and birds and enhance landscape connectivity with existing features beyond the development boundaries |
| 68 | Enhancement of existing area of woodland | To provide visual screening for the Converter Site and enhance landscape connectivity with existing features beyond the development boundaries |

N

**Notes**
1. This plan is scaled at paper size A3. If received electronically it is the recipients responsibility to print to the correct scale. Only written dimensions should be used.

## Legend

**SOFT LANDSCAPE**
- ORDER LIMITS
- CONVERTER SITE
- WOODLAND MIX PLANTING
- WOODLAND EDGE MIX PLANTING
- NATIVE SPECIES DEVON HEDGEBANK (2m wide)
- NATIVE HEDGEROW (1m wide)
- FLOWERING LAWN MIXTURE EL1 Mixture by Emorsgate Seeds or similar approved
- WOODLAND MEADOW EW1 Mixture by Emorsgate Seeds or similar approved
- WETLAND MEADOW AREA EP1 or EM8 Mixture by Emorsgate Seeds or similar approved
- SETTLEMENT BASIN
- 12 LAND PARCELS

**HARD LANDSCAPE**
- ROAD SURFACING - Tarmac
- SURFACING - Tarmac/Concrete
- SECURITY FENCING - 3m (with 3m offset)
- SECURITY FENCING - 3m + 1m electric fencing (with 3m offset)

**SERVICES**
- OVERHEAD ELECTRICAL POWER LINES (Assumed10m exclusion zone)
- GAS LINE (Assumed10m exclusion zone)
- WATER MAIN (Assumed 5m exclusion zone)
- TELECOMMUNICATIONS LINE (Assumed 3m exclusion zone)
- Potential utility diversions

**EXISITING FEATURES**
- WOODLAND To be retained and protected
- HEDGEROW To be retained and protected


| Rev | Description | By | CB | Date |
|---|---|---|---|---|
| P01 | FINAL | NG | CD | 07.08.24 |

Client: Xlinks 1 Limited

Project: Xlinks' Morocco-UK Power Project

Title: Indicative Landscape Strategy Plan

Status: FINAL

Scale @ A1: 1:2,000

Date Created: Nov 2024

Rev: P01

www.xlinks.co

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