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MONA OFFSHORE WIND PROJECT

Outline Landscape and Ecology Management Plan F02 (clean)

Deadline 2

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Image of an offshore wind farm

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Prepared for:

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Acronyms

Acronym	Description
BPZ	Bird Protection Zone
CCBC	Conwy County Borough Council
CMS	Construction Method Statement
CoCP	Code of Construction Practice
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
KPI	Key Performance Indicators
LEMP	Landscape and Ecology Management Plan
MLWS	Mean Low Water Springs
NPS	National Plant Specification
NRW	Natural Resources Wales
OSP	Offshore Substation Platform
PRA	Preliminary Roost Assessment
PRF	Potential Roost Feature
TFL	Temporary Flightline
TCC	Temporary Construction Compound

Units

Unit	Description
%	Percentage
ha	Hectares
m	Metres
mm	Millimetres
km	Kilometres

1 OUTLINE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

1.1 Introduction

1.1.1.1 This document forms the Outline Landscape and Ecology Management Plan (LEMP) that supports the Development Consent Order (DCO) application for the Mona Offshore Wind Project.

1.1.1.2 This Outline LEMP sets out the landscape and ecology strategy for the Mona Offshore Wind Project landward of Mean Low Water Springs (MLWS). It provides general principles and objectives for all mitigation, enhancement, monitoring and management of the landscape and ecology. The elements that occur landward of MLWS comprise:

- Landfall
- Onshore Cable Corridor
- Onshore Substation
- 400kV Grid Connection Cable Corridor.

1.1.1.3 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 Mona Offshore Wind Project.

1.1.1.4 The relevant planning authority for the landfall and the western section of the Onshore Cable Corridor (i.e. west of Bodelwyddan) is Conwy County Borough Council; the relevant planning authority for the eastern section of the Onshore Cable Corridor, the Onshore Substation and the 400kV Grid Connection Cable Corridor is Denbighshire County Council.

1.2 Purpose of the Outline LEMP

1.2.1.1 The draft Development Consent Order (DCO) (Document Reference C1 F04) includes a requirement securing the preparation of a final LEMP (or LEMPs). The LEMP will be in general accordance with this Outline LEMP. The LEMP will be submitted to and approved by the relevant planning authority prior to the commencement of the relevant stage of the onshore and intertidal works.

1.2.1.2 This Outline LEMP provides an overview of how existing and newly created habitats within the Mona Onshore Development Area will be restored, enhanced and managed during the initial stages of establishment and during the lifetime of the Mona Offshore Wind Project. To achieve this the key objectives of the Outline LEMP are to:

- Support the construction team of the Mona Offshore Wind Project in ensuring compliance with the DCO requirements
- Provide the mechanism to deliver the environmental commitments as set out in the Environmental Statement
- Promote environmental best practice
- Ensure the protection and health of retained vegetation within the Mona Onshore Development Area
- Ensure the creation, establishment and protection of new and replacement habitat and planting

- Ensure the continued retention of natural habitat for species and support the natural environment where possible.

1.2.1.3 This is an outline document that is based on the design set out in Volume 1, Chapter 3: Project Description of the Environmental Statement.

1.2.1.4 This Outline LEMP should be read in conjunction with the Outline Code of Construction Practice (CoCP) (Document Reference J26 F02) and its supporting appendices. This Outline LEMP has also been informed by the following documents where relevant:

- Volume 1, Chapter 3: Project description of the Environmental Statement
- Volume 3, Chapter 3: Onshore ecology of the Environmental Statement
- Volume 3: Chapter 4: Onshore and intertidal ornithology of the Environmental Statement
- Volume 3, Chapter 6: Landscape and visual resources of the Environmental Statement.
- Design Principles (Document Reference J3 F02)
- Outline Operational Drainage Management Strategy (APP-231).

1.3 Scope of the Outline LEMP

1.3.1.1 This Outline LEMP applies to the onshore site preparation works, construction and operations and maintenance activities of the Mona Offshore Wind Project located landward of MLWS. The Outline LEMP does not apply to activities associated with offshore works (i.e. seaward of MLWS).

1.3.1.2 Onshore site preparation works will be undertaken prior to commencement of construction and will comprise the following activities (as defined in the draft DCO (Document ReferenceC1 F04)):

- Site clearance
- Early planting of landscaping works
- Environmental surveys (including pre-construction ecology surveys)
- Ecological mitigation
- The erection of any temporary means of enclosure
- Creation of site accesses

1.3.1.3 The onshore site preparation works listed in 1.3.1.2 will be carried out in line with the following sections of this Outline LEMP as certified through the DCO (Document Reference C1 F04):

- Section 1.10.1: Onshore site preparation works
- Appendix D: Great crested newt mitigation strategy
- Appendix E: Outline bird protection plan – section E1.5: Pre-construction management measures

1.3.1.4 The final LEMP (or LEMPs) will be in general accordance with the principles established in the Outline LEMP and will be agreed with the relevant planning authority prior to construction commencing. For the purpose of this Plan, the term 'construction' includes all related engineering, construction and restoration activities as authorised by the DCO within the Order Limits. The term ‘operations and maintenance activities’

relate to the monitoring and management of habitats and protected species described in the LEMP.

1.4 Document Structure

1.4.1.1 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 – preconstruction and construction mitigation
- **Section 1.11** – Species monitoring and management.
- **Section 1.12** – Outline habitat monitoring and maintenance timescales

1.4.1.2 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 Great Crested Newt (GCN) Mitigation Strategy, which details the mitigation and monitoring requirements for GCN
- **Appendix E** – Outline Bird Protection Plan, which details the mitigation and monitoring requirements for breeding birds
- **Appendix F** – Mitigation land requirements and justification, which sets out the areas of land needed for mitigation and provides suitable justification.

1.5 Relevant guidance

1.5.1.1 There are a number of guidance documents that inform this Outline LEMP which will also inform the final LEMP. Good horticultural practice and the current relevant British Standards relevant to this Outline LEMP include:

- BS 3998: Tree Work – Recommendations
- BS8545: Trees: From Nursery to Independence in the Landscape
- BS5837: Trees in Relation to Design, Demolition and Construction - Recommendations
- BS 4428: Code of practice for general landscape operations
- BS 7370: 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.

1.5.1.2 The Outline LEMP is also informed by ecological guidance including:

- Advice Note 5. Great Crested Newt Habitat Suitability Index Amphibian and Reptile Groups of the United Kingdom (ARGUK) (2010). ARG UK
- Badger Protection: Best Practice for Developers, Ecologists and Planners (Wales) 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)
- Great crested newt mitigation guidelines. English Nature (2001).

1.6 Roles and responsibilities

1.6.1 Project team

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

Primary management

1.6.1.2 The Applicant and its onshore project management team will be responsible for coordinating the onshore and intertidal works, ensuring that the measures in the LEMP are being implemented and giving necessary direction to Principal Contractor(s) (e.g. setting contractual obligations). The Principal Contractor(s) management team will be responsible for coordinating the works within each Principal Contractor(s) respective contracts.

Secondary management

Site Manager

1.6.1.3 The Site Manager will be responsible for maintaining the LEMP 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 will be responsible for recording the content and attendance for all site inductions and tool-box talk activities.

1.6.1.4 Responsibilities will also include managing the coordination between the environmental specialists and the engineering teams.

Environmental co-ordinator

1.6.1.5 The Environmental Co-ordinator will be responsible for the interface between the environmental specialists and engineers during construction. They will 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

1.6.1.6 An Ecological Clerk of Works (ECoW) will 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 environmental commitments are met and compliance with the conditions of all licences and permits.

1.6.1.7 It is likely there would be a lead ECoW and several assistant ECoWs working under the direction of the lead ECoW.

1.6.1.8 The ECoWs will undertake pre-construction checks and regular site inspections. The ECoW will 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 will also assist in delivering site inductions and toolbox talks on ecological issues. The ECoW will assist in the preparation of the final Onshore Construction Method Statement (CMS) and will monitor implementation of the LEMP. The ECoW will notify the Environmental Coordinator of any incidences where the LEMP is not being implemented.

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

1.6.1.10 The ECoW may also undertake licensable works under an EPS mitigation licence (hazel dormouse, bat roosts, GCN and badger) 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 1.6.1.12).

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

Named Ecologist

1.6.1.12 The Named Ecologist(s) is a professional ecological consultant who has satisfied Natural Resources Wales (NRW) 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 will support the ECoW(s) in implementing the EPS mitigation licences.

Responsible body

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

1.7 Outline principles and commitments

1.7.1 Guiding design principles

1.7.1.1 The landscape and ecology management proposals have been developed to avoid, reduce and manage impacts on landscape and ecology during construction, operations and maintenance of the Mona Offshore Wind Project. These principals are maintained within this Outline LEMP and will be integral to the final LEMP and its implementation.

1.7.1.2 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 Onshore Substation, 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 Mona Onshore Development Area; 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 LANDMAP Visual and Sensory Aspect Area that is directly affected by the Mona Onshore Development Area
- **Landscape amenity**: to respond to the scale and character of the area and enhance the experience of people working and local communities that live next near Mona Onshore Development Area and people travelling through the area
- **Biodiversity retention:** to avoid, minimise and protect 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 the Mona Onshore Development Area. Primarily this is achieved through creating new woodland, ponds, grassland and hedgerow around the Onshore Substation and at locations along the Onshore Cable Corridor.

1.7.2 Guiding landscaping proposals

1.7.2.1 Further to the design principles outlined above, the following landscape requirements were adopted during the design process and will be integral to the final LEMP:

- Ensure landscape and ecological requirements are integrated into a coherent landscape and ecology strategy
- Ensure green infrastructure assets are retained wherever possible and adverse impacts on the important features and locally distinctive patterns of development are minimised
- Minimise adverse impacts on the character of surrounding landscapes and townscapes
- Ensure that visually significant vegetation is retained to minimise adverse effects on visual receptors, for example on the public right of way to the west and local residential receptors

- Ensure a high-quality environment is created within the Mona Onshore Development Area and surrounding landscape, for example new tree and woodland planting could strengthen existing vegetated field boundaries
- Provide replacement/compensation planting where vegetation will be removed, as a result of the Mona Offshore Wind Project
- Aim to implement planting as early as possible to maximise the benefits it will bring and to improve the likelihood of success
- Ensure the spacing of all new planting is designed to maximise growth rates and the screening effect, where relevant.

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

- The woodland mitigation area to the west of the Onshore Substation will be planted on an area of reprofiled raised ground to ensure that it provides as greater and as immediate visual screen as possible; that it minimises adverse effects on visual receptors; and also provides an opportunity for the creation of diverse habitats.

1.7.3 Guiding ecology proposals

1.7.3.1 Further to the design principles outlined above, the following ecology requirements were adopted during the design process and will be in the final LEMP:

- Avoid the unnecessary removal or degradation of habitats, and retain significant and valuable habitats (including hedgerows, woodland, trees, shrubs and amenity planting) within the Mona Onshore Development Area (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 will 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 will 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 will be integrated with retained habitats to maintain and enhance the ecological function of the Mona Onshore Development Area.

1.7.3.2 The final LEMP will include plans illustrating where habitats will be retained, enhanced and created.

1.7.4 New habitat creation and enhancement.

1.7.4.1 New habitat creation will be undertaken as part of the embedded design of the Mona Offshore Wind Project. The majority of the new habitat creation will be located around the Onshore Substation: it includes habitat creation for GCN, visual impact screening and broader habitat and ecological mitigation. The proposed areas are shown in the Illustrative Landscape and Ecology Strategy Plan (see Figure 1.4). A description of the

landscape and ecological works proposed for each parcel of land within the Mona Onshore Development Area is provided in Appendix F of this Outline LEMP.

1.7.4.2 The Outline GCN Mitigation Strategy, which summarises the proposed habitat creation for GCN, is provided in Appendix D of this Outline LEMP. The Outline GCN Mitigation Strategy focuses primarily on GCN but the habitat creation and the requisite monitoring and management has also been designed to manage and enhance visual impact screening of the Onshore Substation and the broader habitat and species requirements.

1.7.4.3 Habitat creation at the Onshore Substation includes:

- Woodland belts to the southwest, west and north of the Onshore Substation to compensate for woodland and trees lost in other parts of the site, in addition to mitigation for landscape and visual impacts in locations that extend to existing woodland and enhances connectivity
- Species rich hedgerows and tree planting to the south, east, west, and north of the Onshore Substation in location that extend to existing woodland and hedgerows and enhances connectivity at a landscape level for fauna including GCN and reptiles
- Creation of GCN mitigation ponds and high value habitat including species-rich grassland, scrub, hedgerows and wildflower planting. This habitat is strategically located to maximise connectivity, which will encourage GCN and reptiles to naturally colonise this area post construction from adjacent important ecological receptors such as ponds and ancient woodland sites.

1.7.4.4 In addition to the habitat creation and enhancement at the Onshore Substation, additional hedgerow planting and enhancement will be implemented at strategic points along the Onshore Cable Corridor. In these locations existing hedgerows will be enhanced to improve landscape connectivity to off-site hedgerows and woodland; this will also enhance their ecological particularly for bats and hazel dormice.

1.7.4.5 New hedgerow planting and habitat creation/enhancement is presented in the Hedgerow Enhancement Plan (Figure 1.1 to Figure 1.3) and the Illustrative Landscape and Ecology Strategy Plan (Figure 1.4).

1.7.5 Land rights requirements

1.7.5.1 As rights of compulsory acquisition are needed to ensure delivery of the Mona Offshore Wind Project the Applicant is required to minimise its interference with and use of the land within the Order Limits.

1.7.5.2 For landscape and ecological works at the Onshore Substation that are required to mitigate the effects of the Onshore Substation on nearby receptors and ecological features, permanent acquisition of land is needed to ensure that the relevant mitigation works are delivered and maintained for the duration of the Mona Offshore Wind Project.

1.7.5.3 For certain works, only rights are sought at the Onshore Substation and along the Onshore Cable Corridor to access and undertake ecological mitigation, habitat creation and enhancement works (including hedgerows), and rights to inspect and maintain created habitat. This will 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 will also be a need to maintain areas of long grass until hedgerows establish in order 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 GCN habitat, rights to access land for the lifetime of the Mona Offshore Wind Project 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 only requires rights to maintain and protect existing landscaping and vegetation to provide necessary mitigation.

1.7.5.4 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 will be required under such consent or licence to maintain such works which is expected to be up to five years. Where there will be an ongoing requirement to maintain and manage works for the duration of the Mona Offshore Wind Project, for example areas of hedgerow enhancement, permanent rights and restrictions are needed to ensure the works deliver the required ongoing ecological benefit.

1.7.5.5 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.

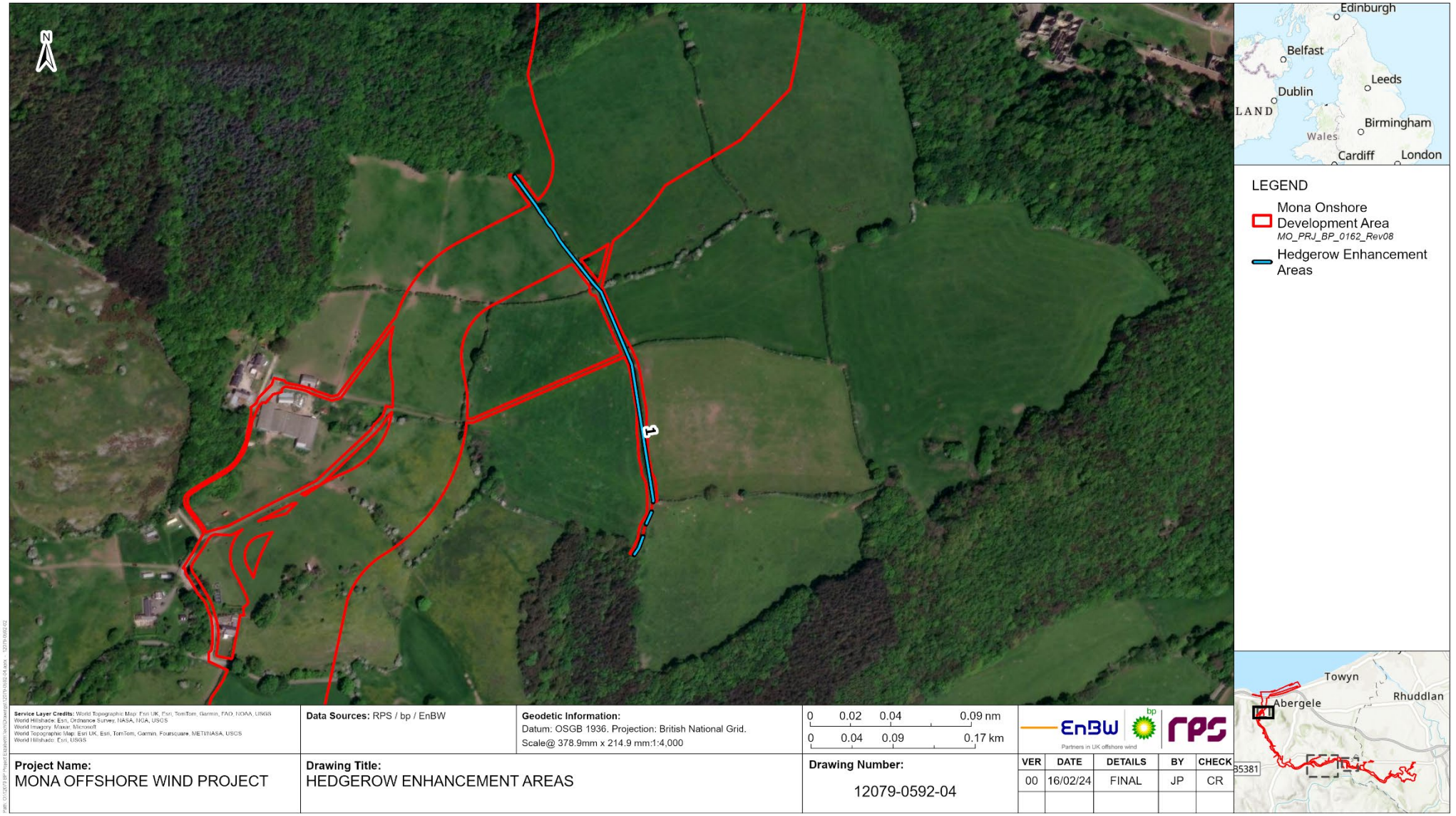

Figure 1.1: Hedgerow enhancement areas (Sheet 1).

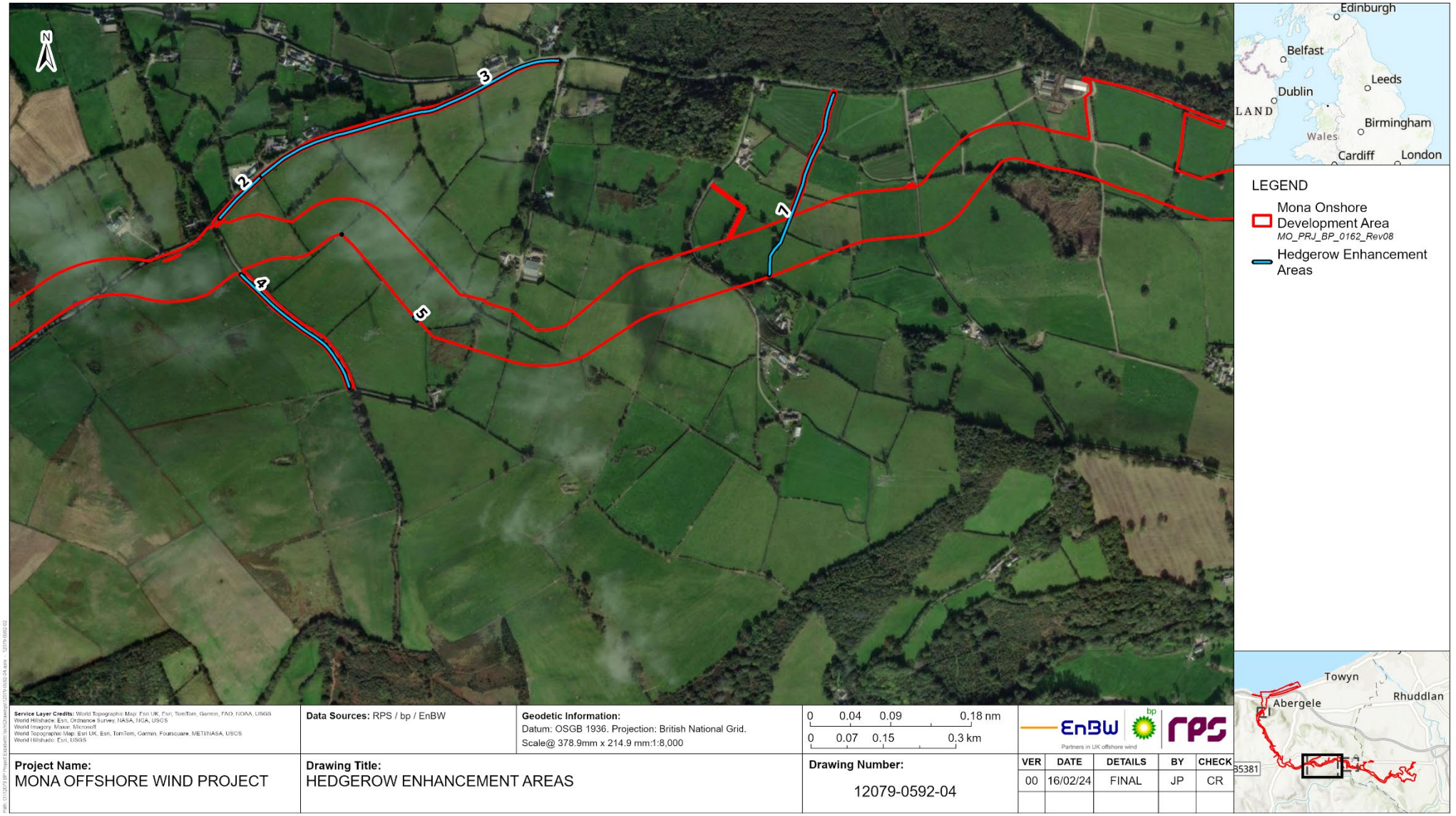

Figure 1.2: Hedgerow enhancement areas (Sheet 2).

Figure 1.3: Hedgerow enhancement areas (Sheet 3).

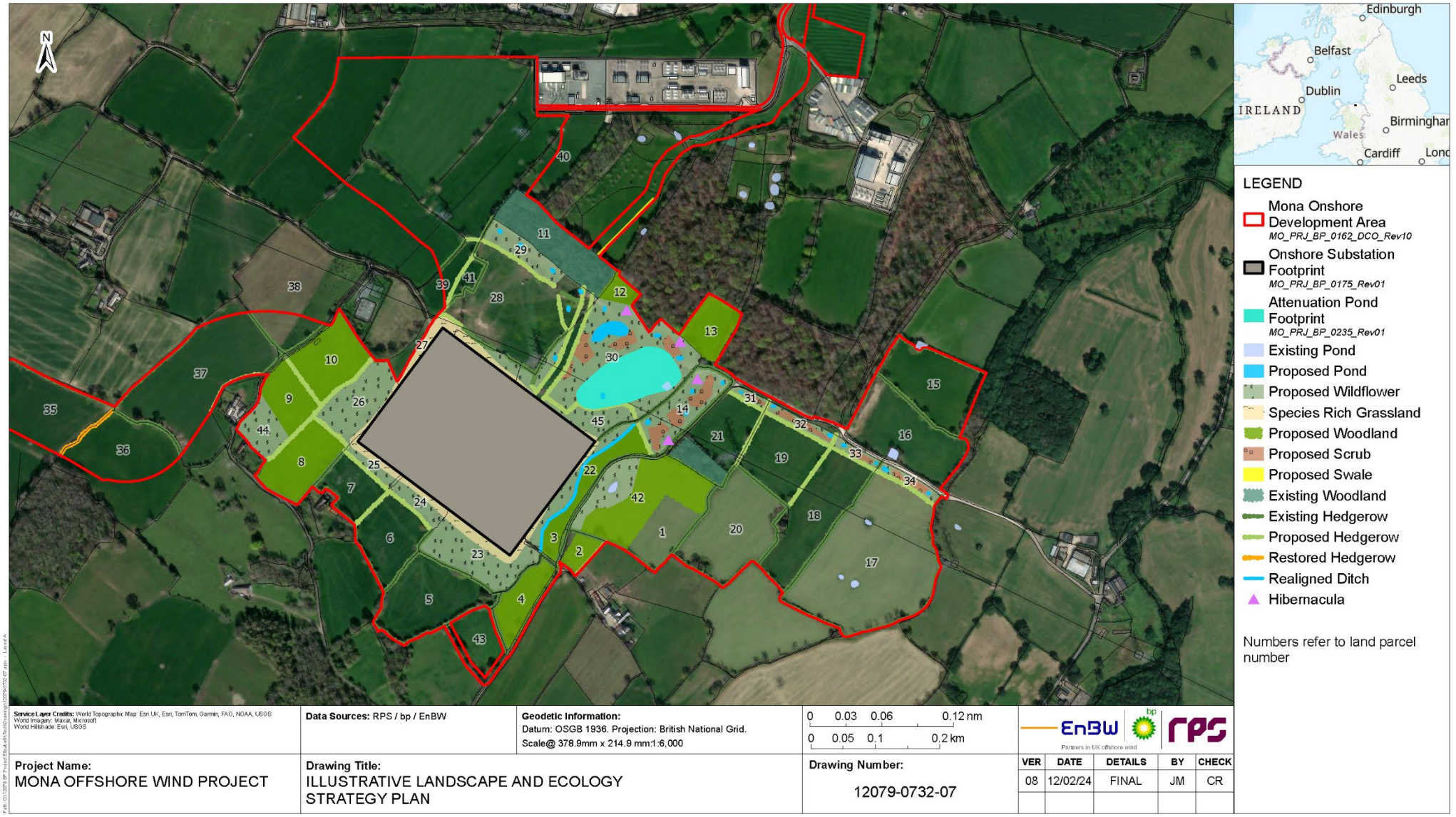

Figure 1.4: Illustrative landscape and ecology strategy plan.

1.8 Outline habitat maintenance and management

1.8.1 General principles and objectives for establishment

1.8.1.1 In accordance with the guidance set out in Section 1.5 above, the following will be adhered when maintaining and managing newly created habitats within the Mona Onshore Development Area:

- All planted trees and shrubs must be protected from browsing by animals
- All weeds must be controlled to protect the new planted stock
- Invasive weeds must be actively removed
- All woodland, hedge and tree planting will respect the current above and below ground services and utilities
- Maintenance strips and access for ongoing management will be designed into the landscape works.

Woodland

1.8.1.2 Woodland establishment will follow and comply with the latest UK Forest Standard 2023 and NRW guides on the establishment and management of woodlands.

1.8.1.3 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)
- Get help to plant trees and woodland (NRW, 2022)
- The UK Forestry Standard (Forestry Commission, 2023)
- Forest Resilience Guide 2: Improving the tree species diversity of Welsh woodlands (NRW, 2017)
- Forest Resilience Guide 3: Managing the genetic diversity of Welsh woodlands (NRW, 2017).

1.8.1.4 The following commitments relevant to woodland within the Mona Onshore Development area 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
- Screen views of all new infrastructure, where practicable
- Monitor the growth and health of all new woodland planting for the duration and the Mona Offshore Wind Project
- Implement adaptive and correct management if monitoring identifies any failure or reduced success of woodland creation.

1.8.1.5 The following commitments relevant to each habitat within the Mona Onshore Development area must also be adhered to, where relevant:

Hedgerows

- Create new native hedges, especially where connectivity with off-site hedgerows and woodland could be improved
- In-fill gaps in existing and affected hedgerows to improve hedgerow continuity
- Improve the species diversity of hedgerows by planting a mix of locally native species
- Plant intermittent trees within all hedgerows and supplement existing ground flora with native species that will benefit species, including hazel dormouse and bats (no trees will be planted within the permanent cable easement).

Individual tree planting

- Plant new trees for all lost or degraded trees
- Plant new trees to enhance the landscape
- Use locally native trees (if possible, locally sourced)
- All new tree species must be appropriate to the site conditions.

Native scrub planting

- Create naturalistic scrub banks within grassland around the GCN mitigation ponds and the attenuation basin close to the Onshore Substation. The scrub banks will be designed to allow the maintenance of the attenuation basin
- Use a diverse mix of native shrubs (locally sourced if possible)
- 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 meadow
- Use a species-rich seed mix of native grasses and wildflowers (of local prevenance of possible)
- Maintain a high proportion of wildflowers within the sward
- Provide good ground cover suitable as foraging habitat for GCN and reptiles.

Ponds

- Create and plant ponds to maximise their value for GCN habitat
- Provide a mix of open water habitat, submerged and marginal vegetation
- Create a mix of open sunny, and partially shaded banks.

1.8.2 Habitat Creation

Woodland natural regeneration

1.8.2.1 It is proposed that natural regeneration of woodland will be used to supplement the areas of planted woodland and 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)
- Exclusion of browsing animals.

1.8.2.2 The ash woodland to the north of the Onshore Substation will be selectively cleared to remove trees affected by ash dieback disease. Clearance of the diseased trees will be undertaken during a single operation to reduce seed impacts from the ash trees, particularly as the ash trees when effected by ash dieback will produce greater quantities of seed. The infected trees will be removed from site and the ground cleared. Mechanical scarification (localised scraping away of surface vegetation) is the preferred method of cultivation to avoid excessive soil disturbance and still produce a seedbed. This will also facilitate the removal of the ash seed bank.

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

1.8.2.4 Cultivation will 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 will be limited to the minimum intensity necessary to deliver germination.

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

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

1.8.2.7 All the sites identified for natural colonisation will be protected using deer fencing. This fencing will be suitable for the exclusion of fallow and roe deer that are known to be found locally. Fencing will be in accordance with the Construction Fencing Plan (Document Reference J26.5 F02), which is a part of the CoCP (Document Reference J26 F02), which is secured as a requirement of the draft DCO (Document Reference C1 F04).

1.8.2.8 It will 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

1.8.2.9 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.

1.8.2.10 Where large areas of planting are proposed, the boundary of the planting area will be fenced to prevent damage from browsing animals. In smaller planting areas where few trees are proposed appropriate tree shelters will be used. Tree fencing will be installed in accordance with the Construction Fencing Plan (Document Reference J26.5 F02) and the Arboriculture Method Statement (Document Reference J26.18 F02), which both form part of the CoCP (Document Reference J26 F02), which is secured as a requirement of the draft DCO (Document Reference C1 F04).

1.8.2.11 The sites identified for woodland planting are predominantly open grass fields currently used for grazing livestock. Weed control for the individual tree positions will be achieved prior to planting using an approved spot herbicide in the planting position (two months prior to planting), or a mulch mat at the time of planting.

1.8.2.12 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 (NPS). True to name and with certification that the trees comply with the NPS and to the relevant part of BS 3936 – Nursey Stock (BSI, 1992), name, forms, dimensions, and other criteria as scheduled.

1.8.2.13 Plants which are not to be planted on day of delivery to site will 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)

1.8.2.14 The proposed hedge planting will 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 cables.

1.8.2.15 Individual tree planting will 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 Cable Corridor and 400kV Grid Connection Cable Corridor. Trees will also be planted individually or in groups to create local landscape character features.

1.8.2.16 New/enhanced hedges will 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 will be removed using an approved herbicide; this will increase the success of tree/shrub establishment. Areas of species rich ground flora will be left in situ.

1.8.2.17 Planting will be carried out in accordance with detailed planting plans to be provided in the final LEMP. A summary of the outline planting schedule is provided in Appendix C of this Outline LEMP.

1.8.2.18 Planting will need protection from browsing animals and livestock; this will take the form of tree and shrub guards in accordance with the Arboriculture Method Statement (Document Reference J26.18 F02), which forms part of the CoCP (Document Reference J26 F02), which is secured as a requirement of the draft DCO (Document Reference C1 F04). Where high levels of browsing are considered likely then the use of rabbit proof fencing shall be considered.

Scrub

1.8.2.19 Planting will 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

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

1.8.2.21 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.

1.8.2.22 Ground conditions will 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.

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

1.8.2.24 During establishment the grassland will 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

Ponds

1.8.2.25 No special ground preparation is required for pond creation. Detail specification of the new ponds will be provided in the final LEMP.

1.8.3 Habitat monitoring and maintenance

1.8.3.1 Woodland, tree and hedgerow planting will be maintained to ensure healthy establishment and plant growth and to maximise benefits for biodiversity.

1.8.3.2 Monitoring and maintenance inspections will be completed annually for a minimum of five years following initial planting (defined as the ‘establishment period’). This will 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. Long-term habitat monitoring and maintenance timescales will be agreed in consultation with NRW. The monitoring and maintenance requirements will be

different for different habitats, and for protected species subject to NRW licensing will be driven by the conditions specified in the NRW licence as issued.

1.8.3.3 Regular inspections of the areas that form part of the landscape mitigation works will be carried out within the establishment period. In the case of the woodland, tree and hedge works this will 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.)
- Stress of plants due to moisture deficit.

Woodland natural regeneration

1.8.3.4 The success of the germination will 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 will be considered.

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

Planted woodland areas

1.8.3.6 The need for remedial tree planting to achieve the desired habitat/outcomes will 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 Onshore Substation that, within a period of five years after planting dies or becomes, in the opinion of Denbighshire County Council, seriously damaged or diseased it will be replaced. Any replacement planting will 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 Denbighshire County Council, and all damaged shelters, supports and fencing must be replaced.

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

Hedges, shrub and individual trees

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

- Replacement of damage guards/supports and repair of fencing
- Weed control where needed
- Replacement of dead or diseased 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

1.8.3.9 Existing grassland with a reduced grazing density will 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 within the establishment period will be carried out to assess the degree to which the management is producing a sward with potential value as GCN foraging habitat. The findings of the inspections will inform the ongoing management.

1.8.3.10 New wildflower meadow and species-rich grassland at the Onshore Substation will be inspected annually during the establishment period to assess the degree to which the sown wildflower species have become established.

1.8.3.11 Inspection by an ecologist in mid-summer will 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.

1.8.3.12 The monitoring surveys will 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 will follow the recommendations of the seed provider. Subsequent cutting in the establishment period and beyond will be informed by the ongoing monitoring inspections, the timescales for which will be agreed with NRW.

Ponds

1.8.3.13 Ponds will be inspected annually during the establishment period to ensure the marginal and aquatic planting is established. It will also include checks for invasive aquatic plants that would compromise the successful establishment of the planted vegetation. Long-term monitoring and maintenance timescales will be agreed with NRW.

Invasive non-native species.

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

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

1.9 Landscaping and habitat monitoring and management options

1.9.1 Overview

1.9.1.1 Following establishment of the woodland, trees and hedgerow planting at the Onshore Substation, regular habitat monitoring and management activities will be undertaken on a timescale to be agreed with NRW. . The frequency of monitoring and

management will decrease over time as the habitats become established and thus require reduced management to maintain their biodiversity interest.

1.9.1.2 Woodland, tree, hedgerow grassland and pond management will also be targeted to maximise and maintain the biodiversity value of new habitats in particular for hazel dormouse, bats and GCN. The NRW EPS mitigation licences for dormouse, bats and GCN will also set out a defined period for monitoring, habitat management and reporting to NRW, which will be incorporated into the long-term management and monitoring programme.

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

1.9.1.4 The programme of works in the LEMP will include annual monitoring in the establishment period followed by a longer-term period of monitoring and management to a timescale to be agreed with NRW. Monitoring will be carried out against defined biodiversity objectives detailed in the LEMP and in accordance with the supplementary protected species monitoring requirements. Regular monitoring reports will be prepared after each monitoring period to provide a summary of the status of managed habitats against their objectives. Monitoring reports will also make recommendations for any remedial action if the objectives are not being met.

1.9.1.5 The following habitat management commitments must be adhered to within the final LEMP.

1.9.2 Woodland

1.9.2.1 The primary aim of new woodland planting and natural regeneration of woodland will 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.

1.9.2.2 Once the woodlands have become established, selected thinning should be considered. Thinning of selected trees will facilitate a diverse stratified structure and encourage a resilient woodland. The thinning will 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.

1.9.3 Hedgerows

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

1.9.3.2 Hedgerows 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.

1.9.3.3 New and enhanced hedgerows at the Onshore Substation will 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 will also feed). It will also maintain shelter the will be beneficial for foraging bats.

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

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

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

1.9.4 Scrub

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

1.9.5 Grassland and wildflower meadows

1.9.5.1 Grassland management will be primarily focussed within the GCN mitigation area. Grassland in this area is intended to fulfil the dual purpose of providing good terrestrial habitat for GCN while also providing wildflower grassland of high ecological value as mitigation for grassland loss.

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

1.9.5.3 After the establishment period the core area of wildflower meadows and species-rich grassland around the Onshore Substation will 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.

1.9.6 Ponds

1.9.6.1 After the establishment period, management of the GCN mitigation ponds will be minimal to avoid disturbance of GCN; adjacent scrub will be managed to prevent encroachment. Ponds will be inspected routinely during management of scrub and surrounding grassland. Interventions will only be recommended if a pond is becoming unsuitable as GCN aquatic habitat, for example if vegetation growth or the presence of invasive plants is removing all open water. Where this is the case, excessive vegetation will be removed in winter to leave at least one third of the pond surface as open water free of vegetation. In the case of invasive plants, a more detailed strategy of control and eradication would be developed and implanted as part of the long-term management.

1.9.6.2 The primary function of the attenuation basin is to manage surface runoff from the Onshore Substation. Its maintenance will be in accordance with the Operational Drainage Management Plan (APP-231), which is a requirement of the draft DCO (Document Reference C1 F04) and will include keeping the inlet and outlets clear from

vegetation and ensuring the capacity of the basin is maintained. Where possible, the basin will also be managed in-line with the GCN mitigation ponds.

1.10 Protected species mitigation – onshore site preparation works and construction mitigation

1.10.1 Onshore Site Preparation Works

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

1.10.1.2 Pre-construction surveys will be carried out before any works on the ground that could affect the species or species groups in question.

1.10.1.3 The pre-construction surveys will cover:

- 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 and through NRW protected species licensing.

1.10.1.4 The results of the pre-construction surveys will be used to identify whether any changes to the measures are required prior to the final LEMP and licensing submission or the discharging of the requirements .

1.10.1.5 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 will be undertaken by suitably experienced/ licensed ecologists.

Table 1.1: Onshore Site Preparation Works – Pre-construction Surveys.

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 Mona Onshore Development Area	**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 or 30m of the Mona Onshore Development Area .	**February to April** - when badgers are most active and prior to the commencement of construction. Sett closures can only occur between July and November and a licence is required from NRW to close a badger sett.	Pre-construction surveys for badgers to be undertaken in accordance with Badger Protection: Best Practice Guidance for Developers, Ecologist and Planners (Wales) (Badger Trust, 2023).
Birds	Suitable habitats for nesting birds within the Mona Onshore Development Area, including areas where Schedule 1 species (including barn owl) are known, or are thought, 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 will 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). This will include a desktop review to inform barn owl survey locations will take place prior to surveys.
GCN	All accessible ponds within the Mona Onshore Development Area. Survey data from St Asaph GCN Steering Group will also be reviewed.	**Mid-April to June** – for Environmental DNA (eDNA) surveys and Habitat Suitability Index (HSI) assessments prior to the commencement of construction. **Mid-March to mid-June** – for GCN population size class assessments prior to the commencement of construction.	HSI assessment of all accessible ponds would be undertaken in accordance with Amphibian and Reptile Groups (ARG) UK Advice Note 5: GCN Habitat Suitability Index (ARG, 2010). The eDNA surveys of all accessible ponds would be undertaken in accordance with Analytical and methodological development for improved surveillance of the Great Crested New (Biggs *et al*, 2014). Population size class assessments undertaken on all accessible ponds in accordance with GCN Mitigation Guidelines (English Nature, 2001).

Species/species group	Survey area	Survey timing	Surveys and methods
Fish and eel	All water courses within or immediately adjacent to the Mona Onshore Development Area	**June to October** – for electric fishing surveys of watercourses prior to the commencement of construction.	The pre-construction surveys will be undertaken in accordance with Electric fishing operations: equipment and working practices (Environment Agency, 2019).
Water vole	All water courses within or immediately adjacent to the Mona Onshore Development Area.	**April to Septembe**r – prior to the commencement of construction.	The pre-construction surveys will be undertaken in accordance with The Water Vole Mitigation Handbook (Dean *et al*, 2016).
Otter	All water courses within or immediately adjacent to the Mona Onshore Development Area.	**3 to 6 months prior to construction commencing** – optimal survey period between October to February.	The pre-construction surveys will be undertaken in accordance with Ecology of the European Otter (Chanin, 2003).
Hazel dormouse	All hedgerows and woodland within or immediately adjacent to the Mona Onshore Development Area.	**May to November** - prior to the commencement of construction.	The pre-construction surveys will be undertaken in accordance with Surveying dormice using nest tubes: results and experiences from the South West Dormouse Project (Chanin & Woods, 2003) and The Dormouse Conservation handbook (Bright *et al*, 2006).
Reptiles	All suitable habitat within or immediately adjacent to the Mona Onshore Development Area	**April to May** and **September to October** - prior to the commencement of construction.	The pre-construction surveys will 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).

1.10.2 Species mitigation

Birds

1.10.2.1 Breeding birds may be directly or indirectly disturbed and displaced during the onshore site preparation works, construction, operations and maintenance and decommissioning phase of the Mona Offshore Wind Project.

1.10.2.2 As such, mitigation measures are proposed as part of the Outline Bird Protection Plan (Appendix E) 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 Mona Offshore Wind Project. These measures can be summarised as follows:

- Onshore site preparation works - - surveys for Schedule 1 species to be undertaken by the ECoW, where these have been recorded within the Mona Onshore Development Area
- Undertaking vegetation clearance outside of the breeding bird season (i.e. March to August inclusive) under supervision of a qualified ECoW
- Netting of vegetation outside of the breeding bird season will be considered where appropriate
- During the nesting period, pre-construction surveys for nesting birds to be undertaken by the ECoW 48 hours prior to vegetation clearance
- The creation of appropriate Bird Protection Zones (BPZs) where nest building or breeding has been confirmed.

1.10.2.3 Further detail with regard to the measures included in the Outline Bird Protection Plan is provided Appendix E of this Outline LEMP.

Badgers

Onshore site preparation works

1.10.2.4 Several active badger sets were identified in the baseline surveys within the Mona Onshore Development Area or with 30 m of the working area. Where closures are required, the setts will be closed under a sett closure licence issued by NRW.

1.10.2.5 Badger sett monitoring will be undertaken followed by pre-construction site investigation surveys to update the locations and status of badger setts within 30 m of the Mona Onshore Development Area where required. The number and location of setts that need to be closed will be confirmed following the pre-construction surveys and the LEMP updated accordingly.

1.10.2.6 A badger sett closure licence will be obtained from NRW following confirmation of the number and locations of setts to be closed. No works will be permitted within 30 m of any active badger setts, or which could otherwise disturb or obstruct access to a sett.

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

1.10.2.8 Where larger setts are to be closed (such as main setts, annex setts or sometimes large subsidiary setts) the need to provide replacement setts will be reviewed and

included where appropriate in the licence application. New setts will be constructed in suitable locations where they will be readily occupied by badgers and undisturbed by construction or maintenance activities. New setts will be constructed prior to excluding badgers from existing setts.

1.10.2.9 All elements of the sett closures licence application and mitigation will be designed in accordance with best practice measures set out on NRWs website and provided in Badgers – A Guide for Developers (NRW, 2023).

1.10.2.10 All licensable works will be carried out by, or under the supervision of a suitable experienced and qualified ecologist.

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

1.10.2.12 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.

1.10.2.13 Micro-siting of works to avoid disturbance or obstructing access to the sett will 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 NRW. No works will be permitted within 30 m of the sett until the licence is obtained and any mitigation detailed in the licence implemented.

Construction

1.10.2.14 Even where no direct impacts to badger setts are likely, given the badger activity recorded throughout the Mona Onshore Development Area, best practice measures will be implemented to ensure that no badgers are harmed during the construction phase.

1.10.2.15 Species protection measures, including maintaining stand-offs from retained badger setts will be specified in the final CoCP, which will be developed in general accordance with the Outline CoCP (Document Reference J26 F02).

1.10.2.16 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
- 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

Onshore site preparation works

1.10.2.17 Two tree roosts will need to be closed under an EPS mitigation licence, which will be obtained from NRW. These are:

- A roost of three noctule bats, in a tree located in the Onshore Substation which will be removed

- A roost of one soprano pipistrelle bat in a tree located within the Temporary Construction Compound at the Onshore Substation, which will be retained, but potentially subject to disturbance during construction.

1.10.2.18 Other known roosts identified in the baseline surveys are located outside of the Mona Onshore Development Area and sufficiently far away that they will not be disturbed during the construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project.

1.10.2.19 Any additional roosts identified in the pre-construction surveys will be assessed for potential impacts during all phases of the Mona Offshore Wind Project, 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.

1.10.2.20 Any roosts which cannot be retained without damage or disturbance will also be closed under a mitigation licence obtained from NRW.

1.10.2.21 Removal or pruning of a tree or structure containing a bat roost, or significant disturbance or obstruction to bats or their roost will require an EPS mitigation licence from NRW, which will be obtained prior to the commencement/continuance of works that could affect the roost.

1.10.2.22 Therefore, if pre-construction surveys identify the presence of a bat roost, as soon as practicable, the ECoW will notify the Principal Contractor 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 will 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.

1.10.2.23 The ECoW will 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 will be informed by findings of the pre-construction surveys and will include a detailed method statement and mitigation strategy.

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

1.10.2.25 For all known bat roosts, following the pre-construction surveys, bats will be excluded from the roosts in accordance with the methods specified in the NRW licence method statement.

1.10.2.26 As stated in UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats (Reason and Wray, 2023), 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 an NRW licenced ecologist.

1.10.2.27 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 an NRW licensed ecologist.

1.10.2.28 The felled sections containing the roost features will 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 will 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 will be completed by the licenced ecologist and approved by the ECoW. A copy of this form and report will be provided to NRW and the relevant Local Planning Authorities as soon as practicable and as required under the conditions of the licence.

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

1.10.2.30 Suitable locations will 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

1.10.2.31 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) will be specified in the mitigation licence method statement and in the final CoCP.

1.10.2.32 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 will not be permitted until the relevant NRW licence has been obtained.

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

1.10.2.34 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 a line of potted shrubs/trees, screening, and/or temporary fencing.

1.10.2.35 Permanent replacement hedgerow planting will be undertaken as part of the ecological mitigation during construction. The location of new hedgerow planting within the Mona Onshore Development Area is presented in Figure 1.1 to Figure 1.3 and Figure 1.4.

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

1.10.2.37 Where possible, works in the vicinity of bat roosts will be completed during daylight hours only. However, should construction lighting be required, lighting will follow best

Bats and Artificial Lighting at Night (BCT and ILP, 2023) and light fixtures will be directed away from the roost.

1.10.2.38 Any artificial lighting installed near to replacement hedgerows will be in accordance with the Artificial Light Emissions Plan and will 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.

1.10.2.39 The Artificial Light Emissions Plan (Document Reference J26.10 F02), which is part of the Code of Construction Practice (Document Reference J26 F02), which is secured as a requirement of the draft DCO (Document Reference C1 F04).

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

Hazel dormouse

Onshore site preparation works

1.10.2.41 Removal of hedgerows where hazel dormouse presence is confirmed will be carried out under an NRW EPS mitigation licence. Currently this is required in two locations, of the Mona Onshore Development Area. Any additional locations with hazel dormouse identified during the pre-construction surveys will be included in the EPS mitigation licence.

1.10.2.42 Prior to the commencement of vegetation clearance, permanent hazel dormouse boxes will be installed in retained hedgerows / treelines connected to the hedgerows being removed.

1.10.2.43 Where hazel dormice have been identified, hedgerow clearance will 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 will be cut above ground to 200 to 500 mm height in November to early March. There will be no ground disturbance, to avoid affecting hibernating dormice.

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

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

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

1.10.2.47 Hedgerow loss and fragmentation within the Mona Onshore Development will be mitigated with new hedgerow planting and enhancement of existing hedgerows.

1.10.2.48 Hedgerow planting and enhancement for hazel dormouse will be carried out prior to hedgerow removal, where possible, and will involve planting of additional hedgerows and gapping up of existing hedgerows. The location of new hedgerow planting within the Mona Onshore Development Area is presented in Figures 1.1 to Figure 1.3 and Figure 1.4.

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

Construction

1.10.2.50 Planting of replacement habitat and species protection measures implemented under the NRW EPS mitigation licence will all be completed pre-construction.

1.10.2.51 Monitoring and management (see Section 1.11.4 of this Outline LEMP) may begin while construction is ongoing in other parts of the Mona Onshore Development Area, where dormice are not affected.

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

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

GCN

1.10.2.54 The entire Mona Onshore Development Area will be covered by an EPS mitigation licence granted by NRW. However, a risk-based approach will be adopted, whereby habitats likely to have higher value for GCN (based on the desktop study and field surveys) will be subject to a more rigorous approach to managing the risk to GCN during construction of the Mona Offshore Wind project (e.g. capture and exclusion). Whereas habitats considered less likely to be of value for GCN will be managed via Reasonable Avoidance Measures (RAMs).

1.10.2.55 The mitigation measures proposed as part of the Outline GCN Mitigation Strategy (Appendix D) to avoid or reduce potential impacts to GCN during construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project can be summarised as follows:

- The utilisation of Reasonable Avoidance Measures (RAMs) for the Mona Onshore Cable Corridor, 400 kV Grid Connection Cable Corridor and associated Temporary Construction Compounds

- The utilisation of capture and exclusion zone within and surrounding the areas for the Onshore Substation, associated Temporary Construction Compounds and permanent access road
- The translocation of GCN from the capture and exclusion zone to an enhanced receptor site located across three fields to the east of the Onshore Substation
- The creation and enhancement of habitat suitable for supporting GCN within and surrounding the Onshore Substation to compensate for the permanent loss and temporary damage to aquatic and terrestrial habitat respectively
- The commitment to undertake management and monitoring before, during and after construction of the Mona Offshore Wind Project, to ensure retained or newly created aquatic and terrestrial habitat remain suitable for supporting GCN.

1.10.2.56 Further detail with regard to the measures included in the Outline GCN Mitigation Strategy is provided Appendix D of this Outline LEMP.

Reptiles

Onshore site preparation works

1.10.2.57 Low numbers of common reptiles' species are assumed to be present throughout the Mona Onshore Development Area. Three species of reptile were recorded within the reptile survey area, grass snake *Natrix helvetica*, slow worm *Anguis fragilis* and common lizard *Triturus cristatus*

1.10.2.58 A detailed reptile mitigation strategy will be prepared and agreed with NRW to ensure that no reptiles are significantly harmed by the works that will be set out in the final LEMP. The strategy will include a combination of displacement, vegetation control, capture and translocation of reptiles.

1.10.2.59 Small numbers of slow worm and grass snake were recorded within the Onshore Substation. These reptiles will be translocated to the receptor site as part of the GCN capture and exclusion regime (see Appendix D of this Outline LEMP).

Construction

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

1.10.2.61 RAMs will 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.

1.10.2.62 Mitigation will 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 will be undertaken under the supervision of the ECoW.

1.10.2.63 The management of vegetation (by strimming or flailing) and removal of potential refugia 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.

Otter

Onshore site preparation works

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

1.10.2.65 Watercourses within the Mona Onshore Development Area 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.

1.10.2.66 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 Section 6.3 above).

Construction

1.10.2.67 If pre-construction surveys or ECoW pre-clearance checks conclude that otter is present 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.

1.10.2.68 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.

Water vole

Construction

1.10.2.69 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
- Minimising disturbance from light and human presence via temporary screening and potentially amending working hours.

1.10.2.70 The translocation of water voles would require a licence from NRW. Discouraging water vole may not, depending on the degree of disturbance.

1.10.2.71 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

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

Fish and eel

Construction

1.10.2.73 The Mona Offshore Wind Project has made a commitment to the use of trenchless techniques for installation of the onshore export cable where European eel was identified. However, to accommodate the haul road, the watercourse would be dammed, and a pipe flume installed to ensure continued water flow (even during times of low water) and movements of eels along the watercourse during construction of the Mona Offshore Wind Project.

1.10.2.74 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

1.11.1 Overview

1.11.1.1 The following commitments to monitor rare and/or notable species within the Mona Onshore Development Area will be undertaken in accordance with relevant guidance, including those set out in Section 1.10.1 above and Welsh and UK legalisation. In addition, species monitoring and management will be undertaken in accordance with relevant permits and licences, which will be detailed in the final LEMP.

1.11.2 Birds

1.11.2.1 No post construction monitoring is proposed for birds.

1.11.3 Badger

1.11.3.1 As stated in Section 5.2.2 above, where larger setts are to be closed (such as main setts, annex setts or sometimes large subsidiary setts) the need to provide replacement setts and their location within the Mona Onshore Development Area will be reviewed and included where appropriate in the licence application.

1.11.3.2 Monitoring of replacement badger setts following set 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 will be designed to ensure they are suitable and away from disturbance or obstructed access. Therefore, no post construction monitoring for badgers is proposed.

1.11.4 Bats

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

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

1.11.4.3 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.

1.11.4.4 Monitoring of the newly planted flightlines for bats (hedgerows) will be undertaken in years one, three and five following planting. Surveys will involve placing four automated static bat detectors on the new hedgerows around the Onshore Substation 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.

1.11.5 Hazel Dormouse

1.11.5.1 As stated in Section 6.4 above, prior to the commencement of vegetation clearance in areas where hazel dormouse presence is confirmed, permanent dormouse boxes will be installed in advance of removal, in retained hedgerows / treelines connected to the hedgerows being removed. Post-construction monitoring of hazel dormouse nest boxes will involve checks annually for at least three years after construction is complete.

1.11.5.2 Planting of replacement habitat and species protection measures implemented under the NRW EPS mitigation licence will be completed pre-construction as part of the onshore site preparation works.

1.11.5.3 Monitoring requirements including locations of hazel dormouse nest boxes and frequency of checks will be as per agreements with NRW and as specified in the EPS mitigation licence conditions.

1.11.5.4 Retained and new hedgerows will be subject to ongoing management with the aim of maintaining and enhancing existing habitat quality. Long-term hedgerow condition monitoring will be undertaken on a timescale to be agreed with NRW.

1.11.6 GCN

1.11.6.1 Full details of the proposed species protection mitigation and enhancement measures for GCN are provided in The Outline GCN Mitigation Strategy (see Appendix D). The habitat creation and enhancement required for GCN will be implemented while the exclusion fence remains in place. Following construction and completion of all new habitat creation in the exclusion area, the exclusion fence will be removed from the receptor site, and GCN will be allowed to naturally re-colonise the newly created habitats.

1.11.6.2 Monitoring surveys (presence/absence) of existing and new ponds will be undertaken once per year during the first five years of operation post construction. After the five-year period has elapsed monitoring surveys would be undertaken during years seven and ten of operation of the Mona Offshore Wind Project.

1.11.7 Reptiles

1.11.7.1 As stated in paragraph 1.10.2.1 above, reptiles will be translocated to the receptor site as part of the GCN capture and exclusion regime (see Appendix D). The habitat creation and enhancement required for reptiles will be implemented while the exclusion fence remains in place. Following construction and creation of all new habitat the exclusion fence will be removed from the receptor site, and reptiles will be allowed to naturally re-colonise the newly created habitats.

1.11.8 Otter and water vole

1.11.8.1 Otter and water vole are absent from habitats within or close to the working area. Trenchless cable installation across water courses with potential otter and water vole habitat will 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.

1.11.9 Fish and European eel

1.11.9.1 With the use of trenchless cable installation across watercourses and best practice measures to avoid habitat disturbance as specified in the Outline CoCP (Document Reference J26 F02), which is a requirement of the draft DCO (Document Reference C1 F04), no post construction monitoring or management for fish and European eel is required.

1.12 Outline Monitoring and Management and Reporting Timescales

1.12.1.1 Monitoring and maintenance inspections will be completed for a minimum of five years following initial planting (defined as the ‘establishment period’). This will 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.

1.12.1.2 Following the establishment period, there will be long-term habitat monitoring and management, the timescales for which will be agreed with the relevant planning authority in consultation NRW. The long-term monitoring and maintenance/ management requirements will be different for different habitats, and for protected species subject to NRW licensing will be driven by the conditions specified in the relevant NRW licence.

1.12.1.3 Monitoring reports will be prepared to confirm the status of habitats and protected species (as necessary) and to detail habitat management and any remedial action taken where habitat creation and enhancement targets are not being met, the timescales for which will be agreed with the relevant planning authority in consultation with NRW. The monitoring reports will be submitted to the relevant planning authority (along with NRW for any monitoring pertaining to protected species licences) before 31 December in each monitoring year.

1.12.1.4 Compliance audits will be undertaken to confirm that the mitigation (as described in the final LEMP) is being implemented appropriately. The audit will be undertaken against key performance indicators (KPIs) that will be identified for the ecological features set out in this Outline LEMP. The detailed KPIs will be set out in the final LEMP together with the frequency and dissemination of the compliance audits. The final LEMP will be agreed with the relevant planning authority (in consultation with NRW) as secured through the DCO.

1.13 References

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Appendix A. Typical programme of operations

Appendix Table 1: Typical programme of 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)												

Activity	January		February		March		April		May		June		July		August		September		October		November		December	
Native shrub and hedge planting																								
Maintain mulch (where used)																								
Weed control																								
Selective pruning/Coppicing																								
Hedge Clipping																								
Watering (until establishment)																								
Trim groundcover & climbers																								
Grass and wildflower meadow areas																								
Mow grass																								
Strim meadow																								
Weed control																								
Litter control																								
Collect litter																								
Plant nutrition																								
Apply fertiliser (if required)																								

Activity	January	February	March	April	May	June	July	August	September	October	November	December
Pest and disease control												
Physical / Mechanical means												
Monitoring and inspection												
All habitats and species												
Timing of operations												
Avoid nesting birds												
Avoid disturbing bats												

Appendix B. Landscape maintenance schedule

Appendix Table 2: Landscape maintenance schedule.

Landscape/ Ecological Element	Maintenance Objectives	Maintenance Requirements	Relevant standards/ guidance
Woodland (Including existing tree belts and tree groups)	Manage existing woodlands to ensure resilience and health. Encourage and promote areas of natural regeneration in woodlands. Retain trees in a safe condition of good general health, vigour and structural stability. Enhance visual amenity. Protect and enhance landscape character. Enhance biodiversity. Bats: Maintain and enhance existing bat foraging habitats. Habitats: Create and maintain new areas of woodland, scrub and small copses. Integrate with surrounding landscape and character.	Work to agreed woodland management plans to enhance and promote sustainable forest practice. 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. Exercise extreme care when working in close proximity to fall risks. Adopt a 'man-safe' or similar system of working. 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. Selectively control excessive invasive growth such as bramble. Particular invasive weed species such as rhododendron. Manage woodland edges to benefit habitat creation and maintain its value for wildlife. Inspect trees for diseases and take appropriate action (e.g. ash dieback). Carry out any remedial pruning and/or general tree works in accordance with BS:3998 and forestry safety guides.	UK Forest Standard 2023 Guidelines and Practice BS:3998: Recommendations for tree work BS 7370-4: Grounds maintenance The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works. Forest Resilience Guide 2: Improving the tree species diversity of Welsh woodlands

Landscape/ Ecological Element	Maintenance Objectives	Maintenance Requirements	Relevant standards/ guidance
		Stagger operations to provide adjoining, alternative undisturbed areas for wildlife to migrate to.	
Solitary trees (Hedgerow trees)	Establish resilient and healthy trees in the landscape. Enhance visual amenity. 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.	Maintain a well-balanced crown, shape and character typical of the species, clear of any crossing or rubbing 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. Undertake pest and disease control using suitable pesticides or fungicides as advised, only if severe infestation occurs. Replace any damaged bat boxes.	BS 3998: Recommendations for tree work The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works. Forest Resilience Guide 2: Improving the tree species diversity of Welsh woodlands Forest Resilience Guide 3: Managing the genetic diversity of Welsh woodlands 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. 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	None Forest Resilience Guide 2: Improving the tree species diversity of Welsh woodlands Forest Resilience Guide 3: Managing the genetic diversity of Welsh woodlands UK Bat Mitigation Guidelines

Landscape/ Ecological Element	Maintenance Objectives	Maintenance Requirements	Relevant standards/ guidance
		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 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 be applied by weed wiper or spot treatment with a back-pack sprayer.	The dormouse conservation handbook
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	BS 8545:2014 Trees: From Nursery to Independence in the Landscape BS 3998: Recommendations for tree work BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works Forest Resilience Guide 2: Improving the tree species diversity of Welsh woodlands Forest Resilience Guide 3: Managing the genetic diversity of Welsh woodlands UK Bat Mitigation Guidelines.

Landscape/ Ecological Element	Maintenance Objectives	Maintenance Requirements	Relevant standards/ guidance
		and Disease Control using suitable pesticides or fungicides as advised, only if severe infestation occurs.	
Planted Native Hedgerow	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. Habitats: Create and maintain new patches of scrub and small copses.	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 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. Hedgerows on site are to be cut every 1-2 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.	BS 8545:2014 Trees: From Nursery to Independence in the Landscape BS 4428: Code of practice for general landscape operations BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape Forest Resilience Guide 2: Improving the tree species diversity of Welsh woodlands Forest Resilience Guide 3: Managing the genetic diversity of Welsh woodlands UK Bat Mitigation Guidelines The dormouse conservation handbook
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. 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	Natural Regeneration of Broadleaves J Evans FC Bulletin 78 Natural Regeneration – Woodland Trust Natural Regeneration: Expanding Tree Cover - Woodland Trust

Landscape/ Ecological Element	Maintenance Objectives	Maintenance Requirements	Relevant standards/ guidance
		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.	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. Enhance habitats and biodiversity. Bats: maintain and enhance existing bat foraging habitats around the site. 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 BS 4428: Code of practice for general landscape operations BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape
Planted Amenity Shrubs and Groundcover Areas	Establish a resilient and healthy landscape feature. Enhance visual amenity. Protect and enhance landscape character. Create visual interest and articulation in the soft landscape and integrate with hard landscape and built form where proposed. Create an attractive place to visit, work and socialise. Enhance biodiversity.	Ensure all planted areas are kept free of weeds by the use of suitable herbicides; maintain levels of mulch and hand weeding in more prominent areas as required. Where achievable maintain moisture availability to new planting by irrigation or watering in dry weather for first two years. Refirm any plants that have been disturbed by adverse weather or interference. Check condition of stakes, ties and guys and replace broken or missing items until plants establish. Adjust if necessary to allow for growth and prevent damage to plants. Check the condition of the supports for any non-clinging climbing shrubs until they establish. Note that climbing plants have potential to provide refuge for species such as bats and birds. Replace dead / dying plants, as necessary. Prune shrubs annually using normal horticultural standards to form attractive	BS 4428: Code of practice for general landscape operations BS 7370-4: Grounds maintenance Recommendations for maintenance of soft landscape

Landscape/ Ecological Element	Maintenance Objectives	Maintenance Requirements	Relevant standards/ guidance
		natural habit. Fork over beds as necessary to eliminate any hollows or cambers, ensuring the depth of mulch is maintained. Redistribute mulch as necessary to maintain specified levels. Cut back any damaged, dead or diseased branches to a healthy node or any growth obstructing adjacent areas of hard standing. Remove any dead flowers/foliage at times appropriate to the species. Undertake pest control with approved pesticides in accordance with manufacturer's instructions in approved locations only. Do not use adjacent to play areas. Clip ornamental hedges annually to form a neat, compact hedgerow. Maintain at approx. height of 0.9 - 1.2m. Compost arisings and vegetation waste on site where appropriate.	
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

A.1.1.1.1 The following mixes set out typical plant species, sizes and mixes that could be incorporated in detailed design proposals, subject to approval by the relevant authorities.

Appendix Table 3: Typical planting mixes.

Latin Name	Common Name	Form	Height in mm	% Mix
Acer campestre	Field maple	Transplant	450-600	5
*Alnus glutinosa**	Common alder	Transplant	450-600	3
Betula pendula	Silver birch	Transplant	450-600	10
Corylus avellana	Hazel	Transplant	450-600	10
Ilex aquifolium	Holly	Transplant	450-600	3
Prunus avium	Wild cherry	Transplant	450-600	5
*Populus tremula**	Aspen	Transplant	450-600	3
Quercus petraea	Sessile oak	Transplant	450-600	10
Quercus robur	Pendunculate oak	Transplant	450-600	40
*Salix caprea**	Goat willow	Transplant	450-600	3
Sorbus torminalis	Wild service tree	Transplant	450-600	3
Tilia cordata	Small-leaved lime	Transplant	450-600	5

*targeted to the wetter areas of the Mona Onshore Development Area.

Appendix Table 4: Native scrub mix.

Latin Name	Common Name	Form	Height in mm	% Mix
Cornus sanguinea	Dogwood	Transplant	450-600	10
Corylus avellana	Hazel	Transplant	450-600	15

Latin Name	Common Name	Form	Height in mm	% Mix
Crataegus monogyna	Hawthorn	Transplant	450-600	10
Euonymous europeaus	Spindle	Transplant	450-600	10
Ilex aquifolium	Holly	Transplant	450-600	10
Prunus spinosa	Blackthorn	Transplant	450-600	10
Rosa canina	Dog rose	Transplant	450-600	10
Salix caprea	Goat willow	Transplant	450-600	10
Viburnum opulus	Guelder Rose	Transplant	450-600	10

Appendix Table 5: Marginal planting mix.

Latin Name	Common Name	Form	% Mix
Caltha palustris	Marsh Marigold	9cm pot	15
Carex spissa	Sedge	9cm pot	10
Filipendula ulmaria	Meadowsweet	9cm pot	20
Iris pseudacorus	Flag Iris	9cm pot	15
Juncus effusus	Corkscrew Rush	9cm pot	15
Lythrum salicaria	Purple Loosestrife	9cm pot	15
Phalaris arundinacea	Reed Canary-grass	9cm pot	10

Appendix Table 6: 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
Malus sylvatica	Crab apple	Feathered	1-1.5 m	5
Quercus petraea	Sessile oak	Feathered	1-1.5 m	5
Quercus robur	Pendunculate oak	Feathered	1-1.5 m	10
Tilia cordata	Small-leaved lime	Feathered	1-1.5 m	5
Hedgerow shrubs				
Corylus avellana	Hazel	Transplant	450-600	10
Crataegus monogyna	Hawthorn	Transplant	450-600	20
Euonymous europaeus	Spindle	Transplant	450-600	5
Ilex aquifolium	Holly	Transplant	450-600	5
Ligustrum vulgare	Privet	Transplant	450-600	5
Prunus spinosa	Blackthorn	Transplant	450-600	10
Viburnum lantana	Wayfaring tree	Transplant	450-600	5

Appendix Table 7: Grassland and wildflower meadows.

Turfed Areas	
General Meadow Mix	EM6 Meadow Mixture for chalk and limestone soils (Emorsgate Seeds)
Meadow Grass Mix (if required)	EG9 Grass Mixture for chalk and limestone soils (Emorsgate Seeds)
Tussock Grass Mix (if required)	EG10 Tussock Grass Mixture (Emorsgate Seeds)

Turfed Areas	
Woodland Mix	EW1 Woodland Mixture (Emorsgate Seeds)
Hedgerow Mix	EH1 Hedgerow Mixture (Emorsgate Seeds)
Wet Meadow and Margins	EP1 Pond Edge Mixture (Emorsgate Seeds)

Appendix D. Outline Great Crested New Mitigation Strategy

1 Outline Great Crested Newt Mitigation Strategy

1.1 Introduction

1.1.1 Background

1.1.1.1 The purpose of this Outline Great Crested Newt (GCN) Mitigation Strategy is to present the mitigation and enhancement measures proposed to avoid, minimise or compensate potential impacts to GCN during construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project. In addition, this Outline GCN Mitigation Strategy also seeks to enhance the wider population of GCN within and surrounding the Mona Onshore Development Area.

1.1.1.2 This document forms Appendix D to the Outline Landscape Ecology Management Plan (LEMP) (document reference: J22) submitted with the Development Consent Order (DCO) application. However, this Outline GCN Mitigation Strategy may be subject to change depending on the provisions given in the European Protected Species (EPS) Mitigation Licence and granting of the EPS Mitigation License by Natural Resources Wales (NRW). The requirement for an EPS Mitigation License from NRW is secured under a requirement of the DCO and would form part of the discharge process post-consent.

1.1.1.3 This Outline GCN Mitigation Strategy has been prepared in accordance with relevant best practice and guidance, including Great Crested Newt Mitigation Guidelines (English Nature, 2001), Great Crested Newt Conservation Handbook (Froglife, 2001) and Amphibian Reptile Group (ARG) UK Advice Note 5: GCN Habitat Suitability Index (ARG, 2010). This Outline GCN Mitigation Strategy has also been informed by the following documentation, where appropriate:

- Volume 3, Chapter 3: Onshore ecology of the Environmental Statement
- Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement
- Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement
- Volume 7, Annex 3.3: Great Crested Newt survey technical report of the Environmental Statement.

1.1.1.4 In the event that the DCO is granted, a full detailed LEMP, including the GCN Mitigation Strategy will be developed in general accordance with the Outline LEMP (document reference: J22) and Outline GCN Mitigation Strategy. The measures to be included in the detailed GCN Mitigation Strategy would be prepared and agreed post-consent with relevant licensing authority (NRW).

1.1.2 Relevant legislation

1.1.2.1 Three key pieces of legislation are relevant for GCN under UK law: the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), the Wildlife and Countryside Act 1981, and the Environment (Wales) Act 2016.

1.1.2.2 GCN are listed under Schedule 2 of the Habitats Regulations making the species a European protected species. This makes it an offence to:

- Deliberately capture, injure or kill a GCN

- Deliberately disturb an GCN
- Damage or destroy a breeding site or resting place of a GCN.
- GCN are fully protected under Section 9 and Schedule 5 of the Wildlife and Countryside Act 1981. Under Schedule 5 it is an offence to:
  - Intentionally or recklessly disturb a GCN while it is occupying a structure or place, which it uses for shelter or protection
  - obstruct access to a any structure or place which GCN use for shelter or protection.

1.1.2.3 GCN are also afforded due regard in the planning system in Wales by the Environment (Wales) Act 2016, Section 7. GCN are listed as a Species of Principal Importance (SPI), giving public bodies and local planning authorities a legal duty to have regard for conserving a SPI when exercising their duties.

1.1.3 Objectives

1.1.3.1 This Outline GCN Mitigation Strategy seeks to demonstrate how compliance with the Favourable Conservation Status (FCS) of GCN under the Habitats Regulations will be met by the Mona Offshore Wind Project.

1.1.3.2 The overall objective of this Outline GCN Mitigation Strategy is to ensure that construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project complies with relevant legislative requirements with respect to GCN. This includes the 'three tests' set out in the Habitats Regulations, which are as follows:

1. **Regulation 53(2)(e)**: which states that a derogation licence can be issued for preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
2. **Regulation 53(9)(a)**: which states that the relevant licensing body (NRW) must not grant a licence unless that there is no satisfactory alternative; and
3. **Regulation 53(9)(b)**: which states that the relevant licensing body (NRW) must not grant a licence unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

1.2 Baseline characterisation

1.2.1.1 The mitigation and enhancement measures described in this Outline GCN Mitigation Strategy have been informed using a combination of desk based study and site-specific surveys, including Habitat Suitability Index (HSI) Assessments, Environmental DNA (eDNA) sampling and presence or likely absence surveys undertaken between April and September 2023.

1.2.1.2 Two separate areas have been defined for the purposes of this Outline GCN Mitigation Strategy. These include the 'study area', which describes the geographical extent subject to desk based research, and the 'survey area', which describes the area of land subject to site-specific surveys. The extent of the study area and the survey area were selected to ensure data was collected for the Mona Onshore Development Area and the surroundings that may support this species and may reasonably be affected by the Mona Offshore Wind Project.

1.2.2 Study area

1.2.2.1 The study area comprises the Mona Onshore Development Area, landward of Mean Low Water Springs (MLWS) and a 2 km buffer ('the GCN study area').

1.2.3 Survey area

1.2.3.1 The GCN survey area comprises an earlier iteration of the Mona Onshore Development Area and an additional 250 m survey buffer. Following the commencement of GCN surveys, the Mona Onshore Development Area has undergone multiple design iterations and now occupies a smaller geographical area. As such, the area of land subject to GCN surveys ('the GCN survey area') extends beyond the current iteration of the Mona Onshore Development Area. The results from surveys undertaken beyond the Mona Onshore Development Area (i.e. surveys undertaken based on an earlier design iterations) have been included in this Outline GCN Mitigation Strategy because they provide further context regarding the ecological sensitivity of the wider area and to inform Volume 3, Chapter 3: Onshore ecology of the Environmental Statement (where relevant). All the ecological data collected as part of the Environmental Statement for the Mona Offshore Wind Project has been made publicly available through the relevant data records centre.

1.2.3.2 The scope, methodology and findings of the GCN surveys, including those undertaken beyond the current Mona Onshore Development Area, were discussed, and agreed with stakeholders via regular Onshore Ecology Expert Working Group (EWG) Meetings. Further detail regarding consultation undertaken with respect to onshore ecology, including GCN surveys can be found in Volume 3, Chapter 3: Onshore ecology of the Environmental Statement and the Consultation Report (document reference: E3).

1.2.3.3 The location and geographic extent of the GCN study area and survey area is presented in Figure 1.1 below.

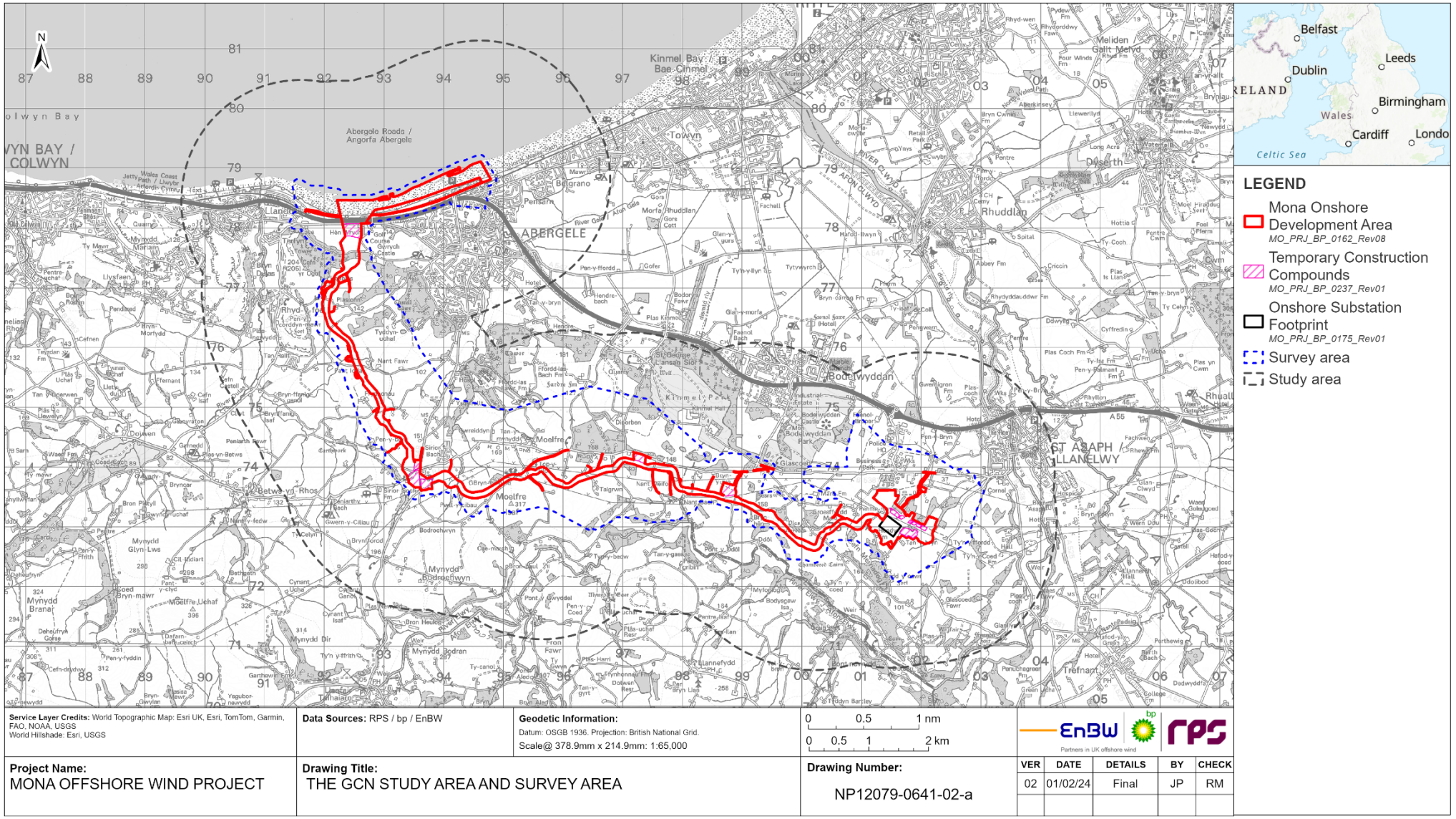

Figure 1.1: The GCN study area and survey area.

1.2.4 Desktop study

1.2.4.1 Information on GCN within the GCN study area was collected from existing studies and datasets. These are summarised in Table 1.1 below.

Table 1.1: Summary of key desktop sources.

Title	Source	Year	Author
Historical biological records	North Wales Environmental Information Services (Cofnod)	2023	Cofnod
DataMapWales	Welsh Government	2023	Welsh Government
Multi-Agency Geographic Information for the Countryside (MAGIC)	Department For Environment, Food & Rural Affairs (Defra)	2023	Defra
Great Crested Newt Survey Report	Burbo Bank Extension Offshore Windfarm – Onshore Infrastructure	2022 - 2023	RPS
Great Crested Newt Survey Report	Awel Y Môr Offshore Wind Farm Environmental Statement Annex	2022	RWE Renewables
St Asaph Business Park Monitoring GCN Report	St. Asaph Business Park Monitoring	2023	Biodiversity Advanced
St. Asaph Solar Farm Great Crested Newt Surveys	St. Asaph Solar Farm	2022	SLR

1.2.4.2 GCN have been recorded throughout eastern Wales but very infrequently in central or western Wales (DataMapWales, 2023). North-east Wales is recognised as being particularly rich in the species (Cofnod, 2023). Previous studies of GCN have assessed the metapopulation within the St. Asaph area as being of national importance (Haysom *et al*. 2018).

1.2.4.3 As reported in Volume 7, Annex 3.11: Great crested newt survey technical report of the Environmental Statement, there were 31 records of GCN within the GCN study area over the last 10 years. The most recent record was identified in 2023, in a pond at the St. Asaph Business Park, less than 500 m to the north of the Mona Onshore Development Area. Two of the records were within the Mona Onshore Development Area, to the north of the Onshore Substation. Multiple records were also identified just outside of the Mona Onshore Development Area, to the east of the permanent access road.

1.2.4.4 The historical biological records of GCN reported by Cofnod are provided in Volume 7, Annex 3.1: Onshore ecology desk study technical report of the Environmental Statement. In addition, existing studies and datasets associated with nearby proposed or consented developments were also reviewed and the data used in order to inform the baseline assessment for GCN, including the identification of meta populations in the area.

1.2.5 Site specific surveys

1.2.5.1 Several field-based surveys for GCN were undertaken to inform Volume 3, Chapter 3 Onshore ecology of the Environmental Statement. Surveys included desk-based assessment, HSI surveys, eDNA and presence/likely absence surveys, where access was granted. The desk based analysis in conjunction with the field surveys confirmed a large meta population of GCN within and surrounding the Onshore Substation. Further details on the survey types, methods and details results of the surveys can be found in Volume 7, Annex 3.11: Great Crested Newt survey technical report of the Environmental Statement.

1.2.5.2 Extended phase 1 habitat surveys identified several terrestrial and aquatic habitats with potential for supporting GCN within and surrounding the Mona Onshore Development Area, including scattered scrub, standing water, arable, semi-improved natural grassland, and marshy grassland. Further details regarding the habitats identified during the extended phase 1 habitat surveys can be found in Volume 7, Annex 3.2: Extended phase 1 habitat survey technical report of the Environmental Statement.

1.2.5.3 Several areas of terrestrial and aquatic habitat suitable for supporting GCN were identified in areas to be permanently or temporarily lost/damaged during construction of the Mona Offshore Wind Project, such as Temporary Construction Compounds or the Onshore Substation. The potential impacts at these locations and how these have been considered for the purposes of this Outline GCN Mitigation Strategy are described in more detail in Section 1.3 below.

1.2.6 Assumptions and limitations

1.2.6.1 A total of 127 waterbodies were identified within the GCN survey area. Of the 127 waterbodies, 58 waterbodies were surveyed, and 69 waterbodies were not. The 69 waterbodies were not surveyed because of access restrictions and safety concerns (e.g. livestock). The precautionary approach was subsequently adopted and GCN presence was assumed in all waterbodies that were not surveyed. This approach ensured that the Volume 3, Chapter 3: Onshore ecology of the Environmental Statement was robust and not based on insufficient or partial data.

1.2.6.2 Of the 58 waterbodies surveyed in the GCN survey area, only 3 waterbodies were subject to presence or likely absence surveys using traditional survey methods. This was due to a combination of sub-optimal weather conditions and land access restrictions. Additionally, only a single visit to each of the three waterbodies was undertaken. This was due to time constraints, poor weather conditions and land access restrictions. As such, full presence or likely absence surveys using traditional survey methods will be undertaken (where required) prior to the commencement of construction. Requirements for pre-commencement surveys are set out in the Outline Code of Construction Practice (CoCP) (document reference: J26).

1.2.6.3 Typically, GCN populations occur as a meta population, (i.e. a group of spatially separated populations which interact at some level across a landscape of breeding ponds and terrestrial habitat). A precautionary approach has been applied to the size of the GCN metapopulation within the Mona Onshore Development Area. A ‘large’ metapopulation has been assumed. Large populations are considered to hold 100 or more GCN (English Nature, 2001). This assumption is based on the well-studied status of GCN from previous surveys and monitoring undertaken in the region. This approach has been discussed and agreed with the EWG. Further limitations relating to site

specific surveys for GCN, can be found in Volume 7, Annex 3.11: Great Crested Newt survey technical report of the Environmental Statement.

1.2.7 Baseline summary

1.2.7.1 GCN were confirmed to be present within and surrounding the Mona Onshore Development Area. As described in Section 1.2.6 above, in the absence of recent and complete GCN survey data for all identified waterbodies, the precautionary approach has been adopted, whereby it has been assumed that the Mona Onshore Development Area supports a 'large' GCN meta population (100 or more GCN), particularly within and surrounding the Onshore Substation and permanent access road (which provides access to the Onshore Substation).

1.3 Predicted impacts

1.3.1.1 As reported in Volume 3, Chapter 3: Onshore ecology of the Environmental Statement, temporary and permanent impacts on GCN are anticipated during construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project. These impacts may include:

- Temporary loss of suitable aquatic habitat (directly or indirectly)
- Temporary damage to suitable terrestrial habitat (directly or indirectly)
- Permanent loss of terrestrial/aquatic habitat
- Accidental killing and injury and/or
- Accidental pollution to breeding ponds.

1.3.1.2 Permanent impacts to GCN are anticipated as a result of habitat loss (aquatic and terrestrial) during construction of the Onshore Substation and permanent access road. Habitats within these areas to be permanently lost include ponds, improved grassland, woodland, field margins and scrub. The areas of terrestrial and aquatic habitat suitable for GCN within the Mona Onshore Development Area to be permanently lost are described in Section 1.3.2 below and are presented in Figure 1.2 and Figure 1.3 respectively.

1.3.1.3 Temporary impacts to GCN are anticipated as a result of habitat loss (aquatic) and damage (terrestrial) during construction of the Mona Onshore Cable Corridor, 400kv Grid Connection Cable Corridor and Temporary Construction Compounds, including access. The areas of terrestrial and aquatic habitat suitable for GCN within the Mona Onshore Development Area to be temporarily lost/damaged during construction lost are presented in presented in Figure 1.2 and Figure 1.3 respectively.

1.3.1.4 However, the location and geographic extent of Temporary Construction Compounds presented in Figure 1.2 and Figure 1.3 remains indicative at this stage in the DCO application process and does not represent the final arrangement. The implications of any changes to the Temporary Construction Compounds with respect to GCN will be discussed and agreed with relevant licensing authority (NRW) as part of the detailed GCN Mitigation Strategy post-consent.

1.3.2 Aquatic impacts

1.3.2.1 Ponds suitable for supporting GCN located within the areas for the Onshore Substation and permanent access road would be permanently lost during construction of the Mona Offshore Wind Project. Ponds located within the Mona Onshore Cable Corridor,

400kv Grid Connection Cable Corridor and Temporary Construction Compounds would be temporarily lost during construction of the Mona Offshore Wind Project.

1.3.2.2 Two ponds with a combined area of 189.3 m^2 (0.02 ha) are to be permanently lost and seven ponds with a combined area of 737.5 m^2 (0.07 ha) will be temporarily lost during construction of the Mona Offshore Wind Project. These ponds were not subject to surveys, but GCN have been assumed present due to the large meta population in the area (based on the findings of the desktop study and field surveys). There are no historic known records for GCN within the ponds to be impacted.

1.3.2.3 The number and area of ponds located within the Mona Onshore Development Area to be permanently or temporarily lost during construction of the Mona Offshore Wind Project are set out in Table 1.2. The location and geographic extent of ponds within the Mona Onshore Development Area to be permanently or temporarily lost during construction of the Mona Offshore Wind Project are presented in Figure 1.2, all of which are located within or surrounding the Onshore Substation and permanent access road.

Table 1.2: Ponds suitable for supporting GCN to be permanently or temporarily lost during construction of the Mona Offshore Wind Project.

Permanent loss of ponds		Temporary loss of ponds	
Number	**Area (ha)**	**Number**	**Area (ha)**
2	0.02	7	0.07

1.3.3 Terrestrial impacts

1.3.3.1 Due to limited access, a precautionary approach has been adopted, whereby it has been assumed that all terrestrial habitats to be either permanently lost or temporarily damaged within the Mona Onshore Development Area during construction of the Mona Offshore Wind Project are suitable for supporting GCN.

1.3.3.2 Terrestrial habitats located within the areas for the Onshore Substation and permanent access road would be permanently lost during construction of the Mona Offshore Wind Project. Terrestrial habitats suitable for supporting GCN located within the Mona Onshore Cable Corridor, 400kv Grid Connection Cable Corridor and Temporary Construction Compounds would be temporarily damaged during construction of the Mona Offshore Wind Project.

1.3.3.3 Approximately 7.47 hectares (ha) of terrestrial habitats suitable for supporting GCN will be permanently lost during construction of the Onshore Substation and permanent access road. Approximately 12.9 ha of terrestrial habitat suitable for supporting GCN will be temporarily damaged during construction of the Mona Onshore Cable Corridor, 400kv Grid Connection Cable Corridor and Temporary Construction Compounds.

1.3.3.4 The total area of terrestrial habitat suitable for supporting GCN located within the Mona Onshore Development Area to be permanently lost or temporarily damaged during construction of the Mona Offshore Wind Project is set out in Table 1.3. The location and geographic extent of terrestrial habitat to be permanently lost or temporarily damaged during construction of the Mona Offshore Wind Project are presented in Figure 1.3.

Table 1.3: Terrestrial habitat suitable for supporting GCN to be permanently lost or temporarily damaged during construction of the Mona Offshore Wind Project.

Area of permanent loss (ha)	Area of temporary damage (ha)
7.47	12.9

Core, intermediate and distant terrestrial impacts

1.3.3.5 Terrestrial habitats suitable for supporting GCN to be temporarily damaged or permanently lost during construction of the Mona Offshore Wind Project may be functionally linked to breeding ponds for GCN located outside the Mona Onshore Development Area. Therefore, depending on the distance to breeding ponds, these areas of terrestrial habitat may provide either core (within 50 m of a breeding pond), intermediate (between 50 m to 100 m of a breeding pond) or distant (between 100 m to 250 m of a breeding pond) terrestrial habitat for GCN. With 250 m being the maximum distance at which terrestrial habitat suitable for GCN could be functionally linked to a breeding pond. The specific areas of core, intermediate and distant terrestrial habitat suitable for GCN within and surrounding the Mona Onshore Development Area would be identified as part of the detailed EPS Mitigation License application to NRW.

1.3.3.6 As such, the precautionary assumption that all terrestrial habitat (to be temporarily or permanently lost during construction) within the Mona Onshore Development Area is suitable for supporting GCN is considered appropriate, particularly given the known distribution of GCN based on existing studies and datasets (as set out in Table 1.1 above), including mitigation ponds for the Burbo Bank Extension Offshore Wind Farm, which confirmed the presence of GCN breeding and ponds north of the Glascoed Road at the St Asaph business park.

1.3.3.7 Furthermore, the permanent access road will bisect the ecological mitigation area associated with Gwnt y Mor Offshore Wind Farm, which is located south of the existing National Grid Bodelwyddan Substation. Therefore, the precautionary assessment of the area in terms of terrestrial impacts is considered proportionate given the cumulative impacts between the Mona Offshore Wind Project and Gwnt y Mor Offshore Wind Farm on the wider St Asaph great crested GCN metapopulation.

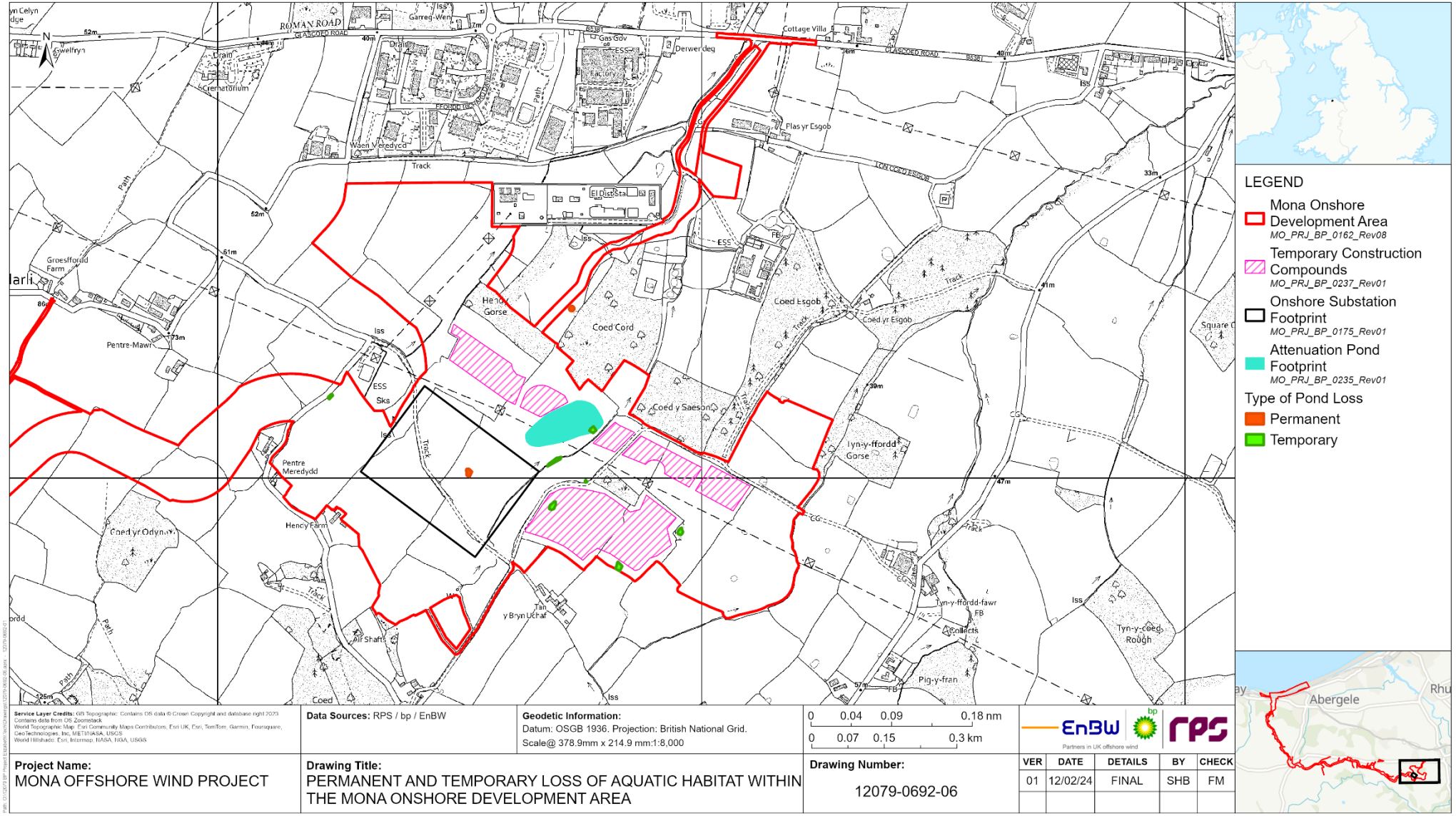

Figure 1.2: Permanent and temporary loss of aquatic habitat within the Mona Onshore Development Area.

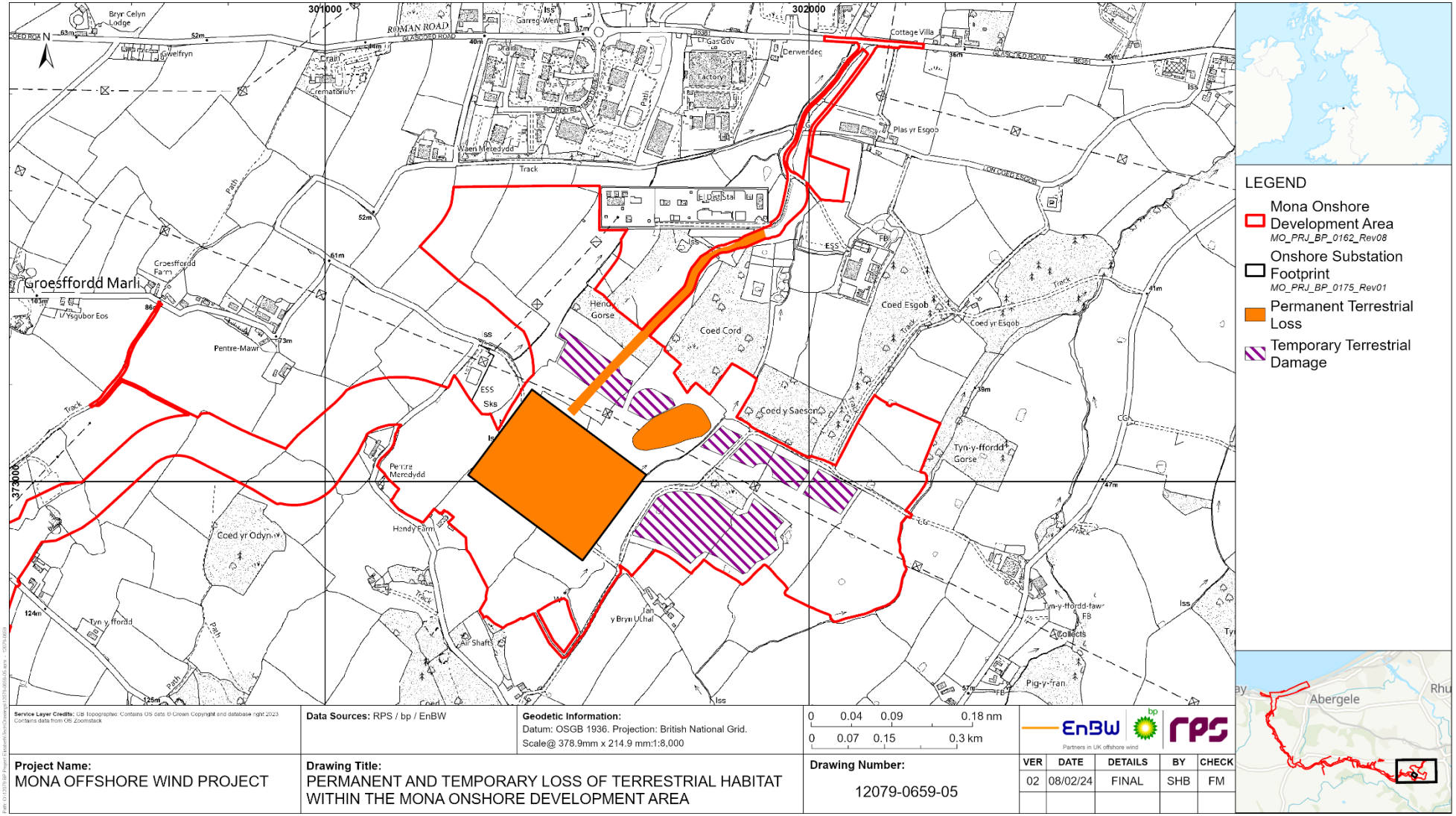

Figure 1.3: Permanent loss and temporary damage of terrestrial habitat suitable for GCN within the Mona Onshore Development Area.

1.4 Mitigation Strategy

1.4.1 Actions requiring a European Protected Species Mitigation Licence

1.4.1.1 In Wales, European Protected Species Mitigation License are required from Natural Resources Wales (NRW) if an activity is reasonably likely to affect a European Protected Species (EPS) in a manner that will result in an offence under the Habitats Regulations. As stated in Section 1.2.4 above, GCN are categorised as an EPS under Schedule 2 of the Habitats Regulations. Activities that require a EPS Mitigation License for GCN from NRW include:

- To disturb GCN
- To capture GCN, including pitfall traps, refugia and hand searches
- To handle and translocate GCN
- To damage, disturb or clear habitat suitable (or known) to support GCN.

1.4.1.2 The entire Mona Onshore Development Area will be covered by an EPS Mitigation License granted by NRW. However, a risk-based approach will be adopted, whereby habitats likely to have higher value for GCN (based on the desktop study and field surveys) will be subject to a more rigorous approach to managing the risk to GCN during construction of the Mona Offshore Wind project (e.g. capture and exclusion). Whereas habitats considered less likely to be of value for GCN will be managed via Reasonable Avoidance Measures (RAMs).

1.4.1.3 The area within and surrounding the Onshore Substation, including the permanent access road and Temporary Construction Compounds, where there is a higher density of ponds/GCN records in proximity to the known core breeding area of the St Asaph GCN meta-population, will be subject to a capture and exclusion regime prior to construction of the Mona Offshore Wind Project.

1.4.1.4 The remaining areas within the Mona Onshore Development Area, would be subject to RAMs under the EPS Mitigation License. Taking into consideration the baseline conditions of the Mona Onshore Development Area in combination with an understanding of GCN habitat preferences and likely dispersal behaviours, it is considered possible to protect individual GCN potentially present these areas via RAMs. In addition, this approach was adopted on the basis that RAMs would be sufficient to ensure no likely significant effects on the integrity of the metapopulation or FCS of GCN.

1.4.1.5 The measures proposed as part of this Outline GCN Mitigation Strategy would be undertaken under the instruction and supervision of an appropriately qualified and experienced ecologist(s), who would be the named ecologist on the EPS Mitigation License from NRW. The following actions that would require an EPS Mitigation License are proposed to help prevent injury, death or significant disturbance of GCN:

- Installation of amphibian exclusion and drift fencing
- Trapping and translocation of GCN within amphibian fenced areas prior to the clearance of habitat and construction works inside the fence line to capture and relocate any GCN to appropriate receptor areas outside the construction area
- Destructive searches of features of high potential value to hibernating or resting GCN, prior to the commencement of the hibernation period and construction
- Clearance of vegetation of potential value to GCN

- Draining down of watercourses and the trapping and translocation of GCN from drained watercourses to appropriate pre-prepared receptor sites
- Installation of culverts in watercourses
- Maintenance of exclusion fencing throughout the construction phase to prevent GCN from entering working areas and becoming injured or killed as a result of construction
- Careful removal of fencing following the completion of construction and any post-construction works that could result in injury or death of any GCN that could be present, including vehicle movements.

1.4.1.6 Further information with regard to RAMS and the capture and exclusion regime are provided in the following sections of this Outline GCN Mitigation Strategy.

1.4.2 Reasonable Avoidance Measures (RAMs)

1.4.2.1 The desktop study and field surveys identified considerably lower records of GCN within the Mona Onshore Cable Corridor and associated Temporary Construction Compounds, when compared to areas within and surrounding the Onshore Substation and permanent access road.

1.4.2.2 In addition, although there are records of GCN in the wider area, the Mona Onshore Cable Corridor has been designed to avoid ponds and will utilise trenchless techniques to avoid areas of woodland and important hedgerows. Thus, reducing the risk further of damaging aquatic and terrestrial habitats of value to GCN. GCN are also less likely to be present within terrestrial habitats located further away from the main breeding ponds and towards coastal habitats.

1.4.2.3 It is acknowledged that GCN dispersal can change over time. To account for this, the Mona Onshore Cable Corridor and associated Temporary Construction Compounds (i.e. the areas where RAMs are proposed under the EPS Mitigation License) will be further sub-divided upon submission of the EPS Mitigation License application to highlight potential risk areas. This would be supported by the pre-construction surveys, which will provide up to date distribution information for GCN. However, it is unlikely that there would be substantial change in the distribution of GCN, given the lack of aquatic habitats identified within the Mona Onshore Cable Corridor and associated Temporary Construction Compounds.

1.4.2.4 Given the information above, it is considered that RAMs would be sufficient to mitigate risks to GCN posed by construction works within the Mona Onshore Cable Corridor and associated Temporary Construction Compounds.

1.4.2.5 The zone within the Mona Onshore Development Area, which will be covered under the RAMs ('the RAMs zone') is presented in Figure 1.4 of this Outline GCN Mitigation Strategy. The RAMs proposed as part of this Outline GCN Mitigation Strategy during construction of the Mona Offshore Wind Project are set out in Table 1.4 below.

Table 1.4: RAMs to be implemented during construction of the Mona Onshore Cable Corridor and associated Temporary Construction Compounds.

Topic	RAMs description
Toolbox Talks	• All Site operatives will be informed by a 'toolbox' talk prior to any works commencing. The toolbox talk will include the possible presence of protected species within the RAMs working area, individual ecological responsibilities, site-specific requirements, and avoidance measures being

Topic	RAMs description
	implemented, what to look out for during works and what to do should a GCN be found when an ecologist is not present. • An informative leaflet will be available to all site operatives. All staff and operatives will sign the confirmation of briefing sheet to show they have received and understood the information disseminated on protected species..
Vegetation clearance	• In advance of any works, vegetation management must be undertaken to reduce the suitability for GCN, to discourage GCN from areas which will be soon stripped. Cut scrub and tall grass no lower than 150 mm; carefully remove arisings and leave habitat undisturbed for 48 hours. • To be followed by directional vegetation clearance (avoiding wet weather during the active period) and soil stripping – the direction of working to be determined by the location of good newt habitat to be retained (starting furthest away from the favourable habitat and working towards it, to encourage GCN to disperse towards safe areas). • This vegetation clearance can be undertaken during winter which avoids the main breeding season for birds. • No underground features offering potential places of shelter or refuge (e.g. rubble piles, stored materials) will be disturbed during the winter hibernation period when amphibians are likely to be overwintering and are most vulnerable to disturbance. • Vegetation management must be undertaken at the appropriate time (e.g. March to October inclusive) of the year and in appropriate weather conditions (i.e. temperatures not lower than 5 °C) to avoid killing/injuring GCN.
Licensed ecologist	• A licensed ecologist or their accredited agent must be present during all works considered to require advice and supervision (to include vegetation removal of stockpiled materials etc).
Clearance of hardstanding	• After vegetation clearance, clearance of any areas of hardstanding areas will be undertaken in the presence of a licensed ecologist or their accredited agent including hand/destructive searches/visual checks as necessary prior to the removal of features considered potentially suitable to provide refuge for GCN.
Preparatory works	• Any GCN located during the preparatory works will be move to outside the working area. • The risk assessment will identify potential areas for GCN to be located but given that the Mona Onshore Cable Corridor would utilise open trench and backfill or trenchless techniques through primarily agricultural land (not built up areas), the risk to displacing GCN is considered low. • Areas where the permanent/temporary access roads are close to ponds outside the Mona Onshore Development Area may need additional exclusion fencing should pre-construction surveys or licence risk assessment consider additional measures be required.
Excavations and storage	• Excavations left open overnight will be covered or barriers fitted (as required for health and safety purposes) erected around the excavation to prevent animals falling in during non-operational hours. • These should then be checked by an appointed site operative (trained by an ecologist) prior to the continuation of works or infilling. • Excavated material stored overnight should be searched prior to being used as infill or purposes. • Excavations and working areas must be managed so as not to create temporary waterbodies which may attract GCN onto site.
Materials and storage	• Stripped topsoil/subsoil from the Onshore Cable Corridor will be temporarily stockpiled in locations where vegetation has been removed and consultation with as agreed with the supervising ecologist where required. • Stockpiles within the Onshore Cable Corridor may be smoothed to remove surface crevices or voids that could potentially shelter amphibians. Alternatively, stockpiles would need to be fenced off to prevent access for GCN. • Measures must be implemented to avoid indirect impacts on retained or off-site habitats such as run-off or accidental encroachment from working vehicles, material or operatives.

Topic	RAMs description
	• Waste materials must be removed off site immediately or stored in line with the Site Waste Management Plan (document reference J26.9.
Working areas and access	• Working areas must avoid any retained habitat. • Access roads must use existing roads and tracks (where possible) and keep habitat disturbance to a minimum, avoiding any areas of sensitive or potentially valuable habitat.

1.4.3 Indicative capture and exclusion zone

1.4.3.1 Capture and exclusion of GCN is proposed within and surrounding the areas for the Onshore Substation, Temporary Construction Compounds and permanent access road. In addition, areas proposed for woodland planting or habitat creation have also been included within the indicative capture and exclusion zone, due to likely presence of plant/machinery and risk to GCN (e.g. killing, injury).

1.4.3.2 Prior to construction, the indicative capture and exclusion zone for GCN shown in Figure 1.5 will be fenced off using suitable newt exclusion fencing and GCN will be trapped for 60 days using standard drift fencing and pitfall trapping methods, as per Great Crested Newt Mitigation Guidelines (English Nature, 2001). It will not be possible to fence across the permanent access road as this will be in constant use during the construction and habitat re-instatement period. As such, newt exclusion channels have been proposed along the permanent access road.

1.4.3.3 A total of approximately 7250 m of exclusion fencing would be required to implement the indicative capture and exclusion zone for GCN. The precise location of drift fencing would be agreed with relevant licensing authority (NRW) as part of the EPS Mitigation License application (post-application in 2024). Capture and exclusion of GCN will be undertaken outside of the GCN hibernation period (between March and October) in suitable weather conditions (e.g. temperatures not lower than 5 °C).

1.4.3.4 The location and geographic extent of the indicative capture and exclusion zone for GCN within the Mona Onshore Development Area is presented in Figure 1.5 below.

Fencing specification

1.4.3.5 The specification for the fences to be used for the indicative capture and exclusion zone will be in accordance with the advice provided by Great Crested Newt Mitigation Guidelines (English Nature, 2001) and the Volume 2, Notes for Guidance on the Specification for Highway Works, Series NG 300 Fencing (Standards for Highways, 2009).

1.4.3.6 The proposed exclusion fencing has assumed a ten-year design life. However, the fencing would be removed following construction of the onshore elements of the Mona Offshore Wind Project, which is anticipated to last up to 33 months in duration. Two options for exclusion fencing are being considered at this stage in the application process for the Mona Offshore Wind Project. These are as follows:

- **Option 1**: Herpetosure type solid panels, which comprise 4mm thick preformed High-density Polyethylene (HDPE) sheet. The base of the sheet is buried, and the sheets jointed with a screwed / bolted joint. This type of fencing only requires minimal support as it is largely self-supporting particularly when installed on a radius. Longer straight runs will require some form of bracing, generally in the

form of wooden stakes. The disadvantage of the fencing type is with the number of joints required (i.e. one every 3 m) which over time, due to the deformation of the panels through expansion / contraction and wind loading, could give rise to gaps large enough to allow GCN to enter the Mona Onshore sub-station.

- **Option 2**: Pre-formed HDPE UV stabilised sheet, which comprises 2. 2 mm thick pre-formed HDPE sheet, mounted on heavy duty 150 mm x 150 mm pressure treated timber stakes. This has the benefit of being installed in continuous lengths with few joints. Over time this means there is less opportunity for joints to open allowing access for GCN. The limiting factor in terms of life span for this type of fence is the wooden stakes and potential for tears in the HDPE UV. However, the fencing will be subject to monitoring as part of the EPS Mitigation License conditions.

1.4.3.7 Both Option 1 and 2 would need to be replaced within ten years. The preferred option over most of the indicative capture and exclusion zone is Option 2 as this offers ease of installation and removes issues with joints opening. Over sections where the fence could be subject to being impacted by stones or loose materials rolling from stockpiles, Option 1 fencing (Herpetosure type solid panels) could be erected.

Fencing installation

1.4.3.8 The installation of exclusion fencing around the indicative capture and exclusion zone would be undertaken in accordance with the following methodology:

- Vegetation along the indicative capture and exclusion zone fence line will be assessed, and if required, a 2 m wide strip of vegetation will be cleared down to 100 mm by means of hand clearance, under the supervision of a qualified ecologist. Fingertip searching will be undertaken along the line of the fence. This process may require material stockpiled against the boundary to be pulled back to give a clear strip on which to construct the fence
- Herptile exclusion fences will be installed between the beginning of March and end of October, during appropriate climatic and seasonal conditions (i.e. when it is judged that the occurrence of overnight frosts is no longer likely over periods of more than about 3-4 days). The specification for the fences will be in accordance with the advice provided by Great Crested Newt Mitigation Guidelines (English Nature, 2001) and the Volume 2, Notes for Guidance on the Specification for Highway Works, Series NG 300 Fencing (Standards for Highways, 2009).
- Fencing will be installed using a mini skid with trenching attachment or a 2.7 tonne rubber tracked mini digger fitter with a 6 inch toothless bucket, dependent on ground conditions. The ecologist will work ahead of the operation to ensure no animals are sheltering in the grass.
- Any animals found will be moved out of the working area to an agreed receptor location. A furrow/trench will be excavated to a depth of 200 mm for the base of the fence. Any large stones or boulders will be removed. Stakes will be driven into the ground adjacent to the trench/furrow on the site side. 1 mm thick UV Stabilised HDPE (semi-permanent) amphibian fencing will be inserted into the trench with a 100 mm return away from the site. The trench furrow will be backfilled using well graded material and the earth compacted. The plastic fencing will be screwed or nailed to the posts with a large plastic washer to prevent the plastic tearing. Posts will be spaced at 1.5m to 2m dependant on

ground conditions and terrain (due to the grade of polythene used this has no detrimental effect on the stability of fence but greatly reduces the volume of wood used).

- Slots will be cut into the tarmac access roads and 100 mm x 100 mm steel box section with a 70 mm wide slot cut into the top of it will be sunk into the carriageway construction. This will be mounted into the road using either cold mix tarmac or concrete. A ramp will be formed at either end of the channel which will allow GCN and other amphibians / small mammals which fall into the channel to climb out.

Trapping

1.4.3.9 Following installation of the exclusion fencing along the perimeter indicative capture and exclusion zone, GCN trapping will be undertaken using a combination of pitfall traps and refugia. Pitfall traps will be installed at 10 m intervals along the exclusion fencing, where possible. Pitfall traps will comprise plastic buckets buried so that the top lip is flush with the surface or slightly prone. A hole will be drilled in the base of the bucket to allow water to drain. A mammal ladder, float and some vegetation will also be placed in each of the plastic buckets.

1.4.3.10 Sections of the exclusion fencing will cross hard surfaced areas where it would be difficult to break ground (e.g. permanent access road). In these areas, GCN refugia will be used at a density of one per 5 m. Refugia will comprise 60 cm square carpet tiles and/or squares of roofing felt. Refugia will also be placed in areas which are un-disturbed by regular vehicle and plant movements.

1.4.3.11 The pitfall traps and refugia located within the indicative capture and exclusion zone will be surveyed for 60 days (or until ten clear trapping visits are achieved), in suitable weather conditions. Refugia will be surveyed in the morning, before ten o clock each day. Trapped GCN will be kept in suitable lidded, ventilated containers and released as soon as possible after capture.

1.4.3.12 In addition to the pitfall trap and refugia checks, torch surveys will also be undertaken on weekly basis during the 60 day trapping period, in suitable weather conditions. Torch surveys are an effective method of detecting GCN moving along or adjacent to exclusion fencing. Torch surveys will be undertaken by an Ecologist holding a NRW Great Crested Newt Survey License, or by an Ecologist working as an accredited agent under a NRW Great Crested Newt Survey License.

1.4.3.13 The exclusion fencing will be maintained in herptile proof condition throughout the 60 day trapping period and construction of the onshore elements of the Mona Offshore Wind Project. Vegetation growing on the outer and inner perimeter of the exclusion fencing will be managed to allow animals to move back inside the indicative capture and exclusion zone.

Recording and Reporting

1.4.3.14 Ecologists named on the EPS Mitigation License from NRW would maintain a daily record of all captures during the 60 day capture period, including the location, species, sex, life-stage, method of trapping and conditions (e.g. average night temperature, occurrence of rain and/or dampness of soil).

1.4.3.15 During the 60 day capture period, the GCN licenced ecologist named on the EPS Mitigation License from NRW (or the designated ECoW) would collate all records from the assisting ecologists to assess trapping progress and determine the need for

changes in the method. For example, if large numbers of trapped GCN are being recorded in a particular section of the indicative capture and exclusion zone, it may be considered necessary to increase the survey effort in that area. Conversely, if very low numbers are captured in an area, habitat manipulation could be undertaken (e.g. strimming of ground cover to approximately 15 cm above ground) to focus remaining animals into smaller trapping zones for a more intensive survey effort.

1.4.3.16 A report of all trapping records during the 60 day capture period would be submitted to NRW either at the end of the EPS Mitigation License period, or as otherwise required under the licence (or requested by NRW).

1.4.4 Receptor site

1.4.4.1 A suitable receptor site for GCN will be provided across three fields located to the east of the Onshore Substation, with a combined area of approximately 9 ha. The receptor site would be enhanced to increase the carrying capacity (maximum population size) of GCN prior to construction, including the creation of ponds, hibernacula and grassland management regime. The enhancement works at the receptor site will be completed and established prior to commencement of the 60 day trapping period or works covered under RAMs.

1.4.4.2 Captured GCN would be translocated to the receptor site prior to construction of the Mona Offshore Wind Project. Other common reptiles caught in pitfall traps or present in refugia during the 60 day trapping period will also be translocated as part of this process. Any other animals found will be moved to a suitable area outside the indicative capture and exclusion zone.

1.4.4.3 The receptor site will not be fenced in isolation, allowing GCN to disperse into the wider landscape. Following construction of the Mona Offshore Wind Project, fencing will be removed from the receptor site, and GCN left to naturally re-colonise the newly created habitats of their own volition. In addition, additional ponds proposed as part of the Outline Landscape and Ecology Management Plan (document reference: J22) would encourage the recolonisation of wider area by GCN.

1.4.4.4 The location and geographic extent of the receptor site for GCN during construction of the Mona Offshore Wind Project is presented in Figure 1.6 below.

1.4.5 Removal of drift fencing and pitfall traps

1.4.5.1 Once the 60 day trapping period has been completed, internal drift fencing would be removed under the watching brief of an ecologist named on the EPS Mitigation License provided by NRW. Soil backfill would be removed carefully by hand to ensure any GCN that might be resting in cracks in the soil are not injured. If present, the licenced ecologist would capture and translocate the newts to the receptor site, before signing off these areas within the indicative capture and exclusion zone available to the principal contractor for construction to commence.

1.4.5.2 Following construction of the Mona Offshore Wind Project and reinstatement works, the removal of exclusion fencing would be undertaken in the same manner as drift fencing described above.

1.4.6 Pond draining and infilling

1.4.6.1 There are nine ponds located within the area for the Onshore Substation, which will need to be drained or infilled pre-construction of the Mona Offshore Wind Project.

However, seasonal restrictions apply when ponds will be damaged or lost as these works present significant risks to GCN.

1.4.6.2 Draining or infilling of existing ponds suitable for GCN within the Mona Onshore Development Area (to be permanently or temporarily lost during construction) may only be undertaken during between mid-September to early February (i.e. autumn/winter), to avoid sensitive breeding and hibernation periods for GCN. However, a pond which has ceased to hold water outside this period (i.e. spring/summer) would not be included under these restrictions. If there is a risk that GCN could use the substrate of the pond for hibernation, then a temperature restriction will apply during this period (i.e. temperatures not lower than 5 °C).

1.4.6.3 Ponds that support (or are likely to support) GCN to be permanently or temporarily lost during construction, will be drained down during the autumn/winter period (where practicable), using a fine mesh filter, followed by hand and destructive searches of the pond bed and immediate surroundings to capture any animals present.

1.4.6.4 If a pond is required to be drained during the spring/summer period, this will be justified within the EPS Mitigation License application to NRW and an intensive trapping exercise at this pond would be undertaken. This would comprise a minimum of 90 days of (bottle) trapping undertaken in conjunction with the use of netting and a high density of traps (where possible). If the pond holds insufficient water for bottle trapping, or if the pond has a hard substrate with little vegetation, only netting would be used.

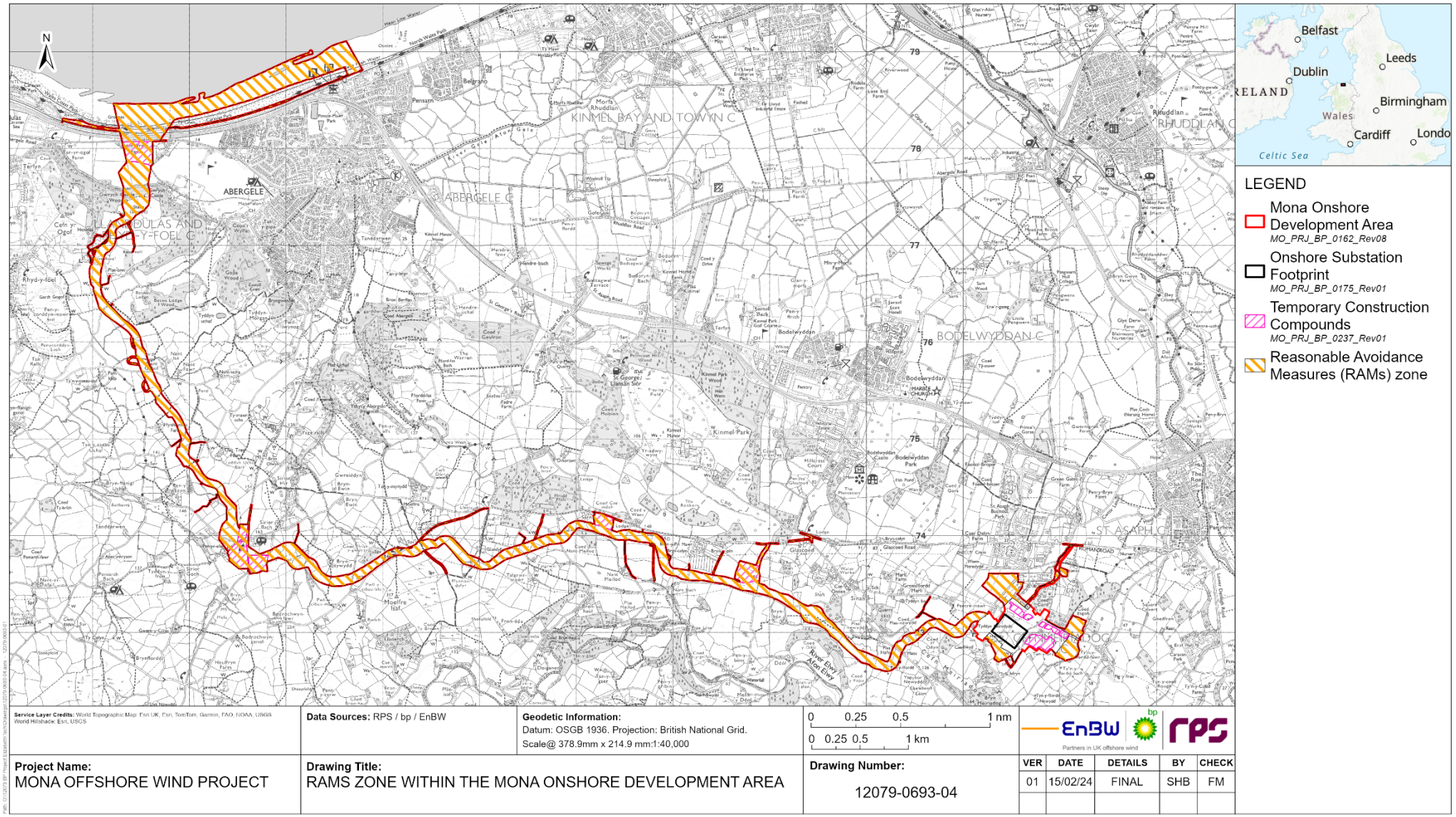

Figure 1.4: RAMS zone for GCN during construction of the Mona Offshore Wind Project.

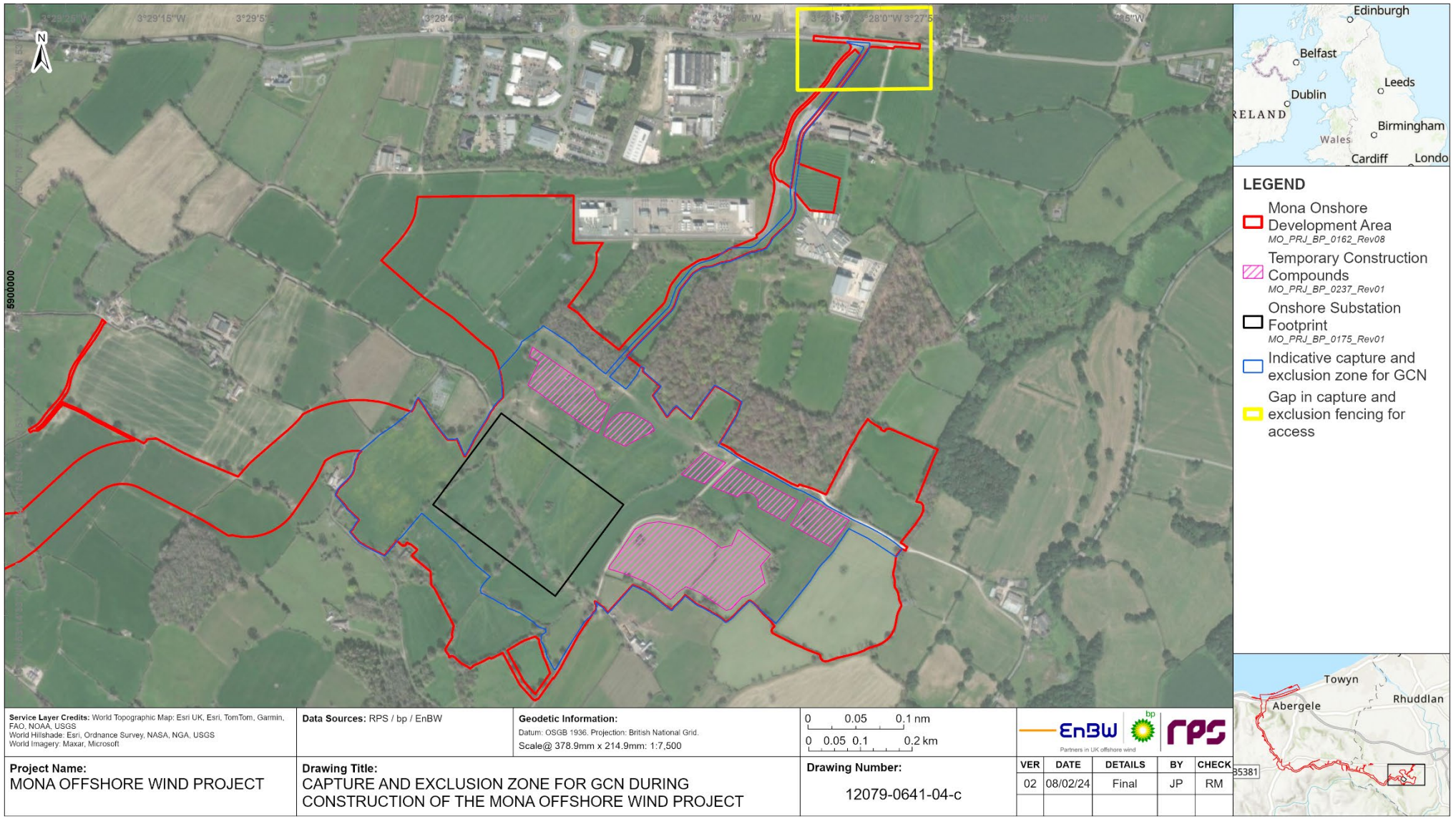

Figure 1.5: Indicative capture and exclusion zone for GCN during construction of the Mona Offshore Wind Project.

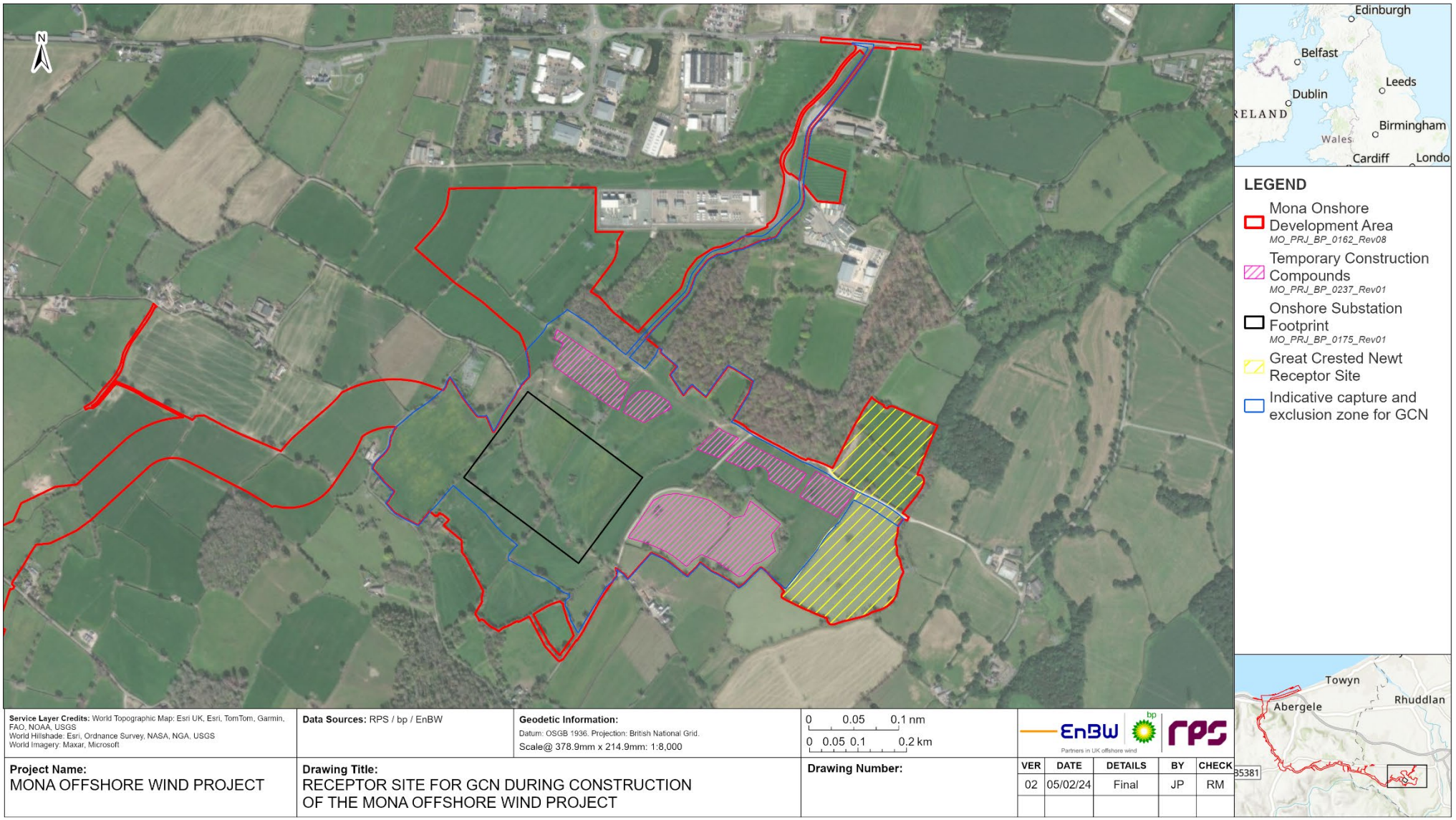

Figure 1.6: Receptor site for GCN during construction of the Mona Offshore Wind Project.

1.5 Habitat creation and enhancement

1.5.1.1 As stated in Section 1.3 above, terrestrial and aquatic habitat will be permanently and temporarily lost during construction of the Onshore Substation and permanent access road. To compensate for this loss, additional habitat suitable for supporting GCN will be created within the Mona Onshore Development Area. These areas are focused around the area for the Onshore Substation.

1.5.1.2 The additional habitats suitable for supporting GCN to be created within the Mona Onshore Development Area comprise 14.4 ha of wildflower meadows, scrub, hedges, species rich grassland and ponds. Existing hedgerows and ponds within the Mona Onshore Development Area would also undergo enhancement to improve their capacity to support GCN, and an additional 5.8 ha of woodland planting is proposed, which would provide further enhancement of the area or GCN.

1.5.1.3 As stated in Section 1.4.4 above, a receptor site for GCN, comprising 9.0 ha of land, will be provided toward the eastern extent of the Mona Onshore Development Area, adjacent to the indicative capture and exclusion zone. The receptor site would be enhanced for GCN pre-construction, including:

- The creation of three ponds and enhancement of existing ponds
- The planting of additional hedgerows and enhancement of hedgerows
- The installation of hibernacula
- The implementation of an appropriate grassland management regime.

1.5.1.4 The grassland management regime, including suitable livestock density, has been informed through discussions between the Mona Offshore Wind Project and Amphibian and Reptile Conservation (ARC) Trust.

1.5.1.5 In addition, due to the proximity of the receptor site to the newly created habitats proposed as part of this Outline GCN Mitigation Strategy, no impacts to GCN metapopulation dynamics are anticipated during construction, operations and maintenance and decommissioning of the Mona Offshore Wind Project.

1.5.2 Aquatic habitat

1.5.2.1 To compensate for the permanent and temporary loss of ponds during construction, a total of 16 additional ponds will be permanently created as part of the Mona Offshore Wind Project. The new ponds would be created within the areas for the Temporary Construction Compounds and receptor site following construction of the Mona Offshore Wind Project.

1.5.2.2 The creation of 16 ponds as part of the Mona Offshore Wind Project would result in an additional 0.80 ha of aquatic habitat (compared to baseline) suitable for supporting GCN within the Mona Onshore Development Area. Existing and newly created aquatic habitat for GCN within the Mona Onshore Development Area, including the number of ponds and combined areas is summarised in Table 1.5 below.

1.5.2.3 Following construction of the Mona Offshore Wind Project, it is anticipated that the additional ponds would act as ‘stepping stones’, providing ecological connectivity between the receptor site and the surrounding area, including the newly created habitats at the Onshore Substation. The location and geographic extent of existing and newly created aquatic habitat within the Mona Onshore Development is presented in Figure 1.7.

Table 1.5: Existing and newly created aquatic habitat for GCN within the Mona Onshore Development Area.

Existing aquatic habitat		Created aquatic habitat		Total aquatic habitat		Importance to GCN
No. Ponds	Combined area (ha)	No. Ponds	Combined area (ha)	No. Ponds	Combined area (ha)	
9	0.09	16	0.80	25	0.89	High

Terrestrial habitat

1.5.2.4 To compensate for the permanent loss and temporary damage of terrestrial habitat during construction, terrestrial habitat suitable for supporting GCN will be created as part of the Mona Offshore Wind Project. Terrestrial habitats to be created comprise 2.7 ha of wildflower meadow, 0.58 ha scrub, 3.4 ha species rich grassland, and 715 m of hedgerows would be enhanced and re-instated. In addition, a total 5.8 ha of woodland planting would be created around the Onshore Substation, which would provide further hibernation opportunities for GCN.

1.5.2.5 This would result in an additional 12.48 ha of terrestrial habitat and 220 m of hedgerows (compared to baseline) suitable for supporting GCN within the Mona Onshore Development Area. Existing and newly created terrestrial habitat for GCN within the Mona Onshore Development Area, including the broad habitat types, combined areas and importance to GCN is summarised in Table 1.6 below.

1.5.2.6 The location and geographic extent of existing and newly created terrestrial habitat within the Mona Onshore Development is presented in Figure 1.7.

Table 1.6: Existing and newly created terrestrial habitat for GCN within the Onshore Substation.

Broad Habitat Types	Area/distance of existing terrestrial habitat (ha)/(m)	Area/distance of created terrestrial habitat (ha)/(m)	Total area/distance of terrestrial habitat (ha)/(m)	Importance to GCN
Wildflower meadow	0.0	2.7	2.7	High
Scrub	0.0	0.58	0.58	High
Species rich grassland	0.0	3.4	3.4	High
Woodland	0.0	5.8	5.8	Moderate
Hedgerow	495 m	220 m	715 m	Moderate
Total	**495 m (hedgerow)**	**12.48 ha (220 m)**	**12.48 ha (715 m)**	

1.6 Mitigation and compliance mechanisms

1.6.1.1 The named ecologist on the EPS Mitigation License from NRW will be retained to oversee the implementation of measures set out in this Outline GCN Mitigation Strategy and will supervise on site as required.

1.6.1.2 As described in Section 1.4.2 above, all contractors will receive a 'toolbox' talk at the outset of works, to inform them of the presence of GCN, their protected status and the conditions and requirements of this Outline GCN Mitigation Strategy and any EPS Mitigation License which may be required for the works to take place.

1.6.2 Mitigation contingencies

1.6.2.1 Contingency measures will be set out in a 'toolbox talk' at the outset of works by the named ecologist on the EPS Mitigation License from NRW. It will be clearly understood that in the event of any GCN being found during works, all works will cease in the affected area and a licensed ecologist contacted to provide further advice.

1.6.2.2 Contact details for the licensed ecologist will be made available to all contractors working on site, on the understanding that the ecologist should be contacted immediately if any concerns are raised (or if GCN are encountered).

1.6.2.3 If a breach in the exclusion fencing is discovered, during construction of the Mona Offshore Wind Project (e.g. stockpiling), works would cease and a licensed GCN ecologist will be consulted for advice as to the most appropriate course of action. This course of action will be agreed with NRW.

Biosecurity

1.6.2.4 A Biosecurity Protocol will be prepared in general accordance with the Outline Biosecurity Protocol (document reference: J26.11) submitted within the DCO application for the Mona Offshore Wind Project. The Biosecurity Protocol will include the following measures to prevent the spread of Invasive and Non-Native Species (INNS) during construction:

- All equipment, including footwear and clothing that has come into contact with amphibians or fresh water will be disinfected, and disinfection procedures will be repeated between sites
- All debris, plant fragments and mud will first be scrubbed off and rinsed with water. Disinfection will comprise soaking in a bleach solution (1 measure of household bleach to 9 measures water) for 15 minutes; or Virkon solution (1 mg/ml) for 1 minute, or fabrics can be washed on a 40 °C cycle (with detergent, ensuring sufficient rinsing)
- Nets (if used) will be boiled for 10 minutes or disinfected with spray bleach and rinsed thoroughly with clean water.
- Field gear (traps, net frames, etc) will be kept inside plastic bags during transit and storage to reduce the likelihood of transmitting disease. All used disinfectant will be disposed of appropriately.

1.6.3 Management of the receptor site

1.6.3.1 It is the responsibility of the principal contractor to manage and maintain the receptor site during construction to ensure that habitats remain suitable for supporting GCN. The Mona Offshore Wind Project will stop grazing regimes within the receptor site during construction to promote good quality grassland growth and enhance existing habitats to increase the carrying capacity of GCN.

1.6.4 Monitoring

Construction monitoring

1.6.4.1 During construction of the Mona Offshore Wind Project, works required in areas identified as suitable habitat for supporting GCN within the Mona Onshore Development Area will be carried out under the supervision of a GCN licenced Ecological Clerk of Works (ECoW). The ECoW will be on site to provide ecological advice and monitor compliance with the measures set out in this Outline GCN Mitigation Strategy. The ECoW will be retained on site (where required) throughout the construction period and during any reinstatement works.

1.6.4.2 The exclusion fencing installed around the perimeter of the indicative capture and exclusion zone will be subject to inspections twice a week during construction of the Mona Offshore Wind Project. All findings would be recorded by the named ecologist or the accredited agent/ site ECoW undertaking the inspections. In addition, vegetation along the exclusion fence will be cut (or treated with herbicide) twice per year, during the growing season in May and July. Care will be taken to ensure that vegetation does not bridge the exclusion fence.

1.6.4.3 All stockpiled material will be maintained at a minimum distance of 1 m from the exclusion fence. Any loose material which rolls onto the exclusion fence will be

removed using a toothless bucket on an excavator. The presence of the exclusion fence and the reasons for maintaining it intact will be included within future site inductions and toolbox talks, to ensure all personnel are aware of the imperative to maintain it intact.

Monitoring during operation and maintenance

1.6.4.4 Monitoring of GCN populations will be a requirement of the EPS Mitigation License for GCN. Following construction of the Mona Offshore Wind Project, existing and newly created ponds would be subject to future monitoring surveys. These would comprise presence/absence surveys of the existing and newly created ponds undertaken once per year during the first 5 years of operation of the Mona Offshore Wind Project. In addition, existing and newly created ponds will also be checked annually to ensure that environmental conditions remain suitable for GCN (e.g. no evidence of eutrophication, introduction of fish, pollutants).

1.6.4.5 If any issues/concerns with respect to GCN are identified during the annual monitoring surveys, relevant local authorities would be informed, remedial actions identified, and relevant specialists/contractors employed to rectify the issue as soon as practicable.

1.6.4.6 Once the 5 year annual monitoring survey period has elapsed, monitoring surveys of existing and newly created habitats would be undertaken during year 7 and year 10 of operation of the Mona Offshore Wind Project.

1.6.4.7 Post construction and following any habitat re-instatement works required, the responsibilities of the management of the enhanced and newly created GCN habitat would be transferred to a suitable third party responsible body as defined Part 7 of the Environment Act 2021 (conservation covenants).

1.6.4.8 In addition to the EWG process described in Section 1.2 above, the Mona Offshore Wind Project also attended the St Asaph Business Park GCN Steering Group, which meets bi-annually with to manage stakeholders' objectives in relation to the St Asaph GCN population of national importance. There is the intention that the Mona Offshore Wind project will remain engaged with the St Asaph Business Park GCN Steering Group throughout the DCO application process to ensure co-ordination of monitoring of the St Asaph GCN metapopulation to avoid double handling of GCN during surveys.

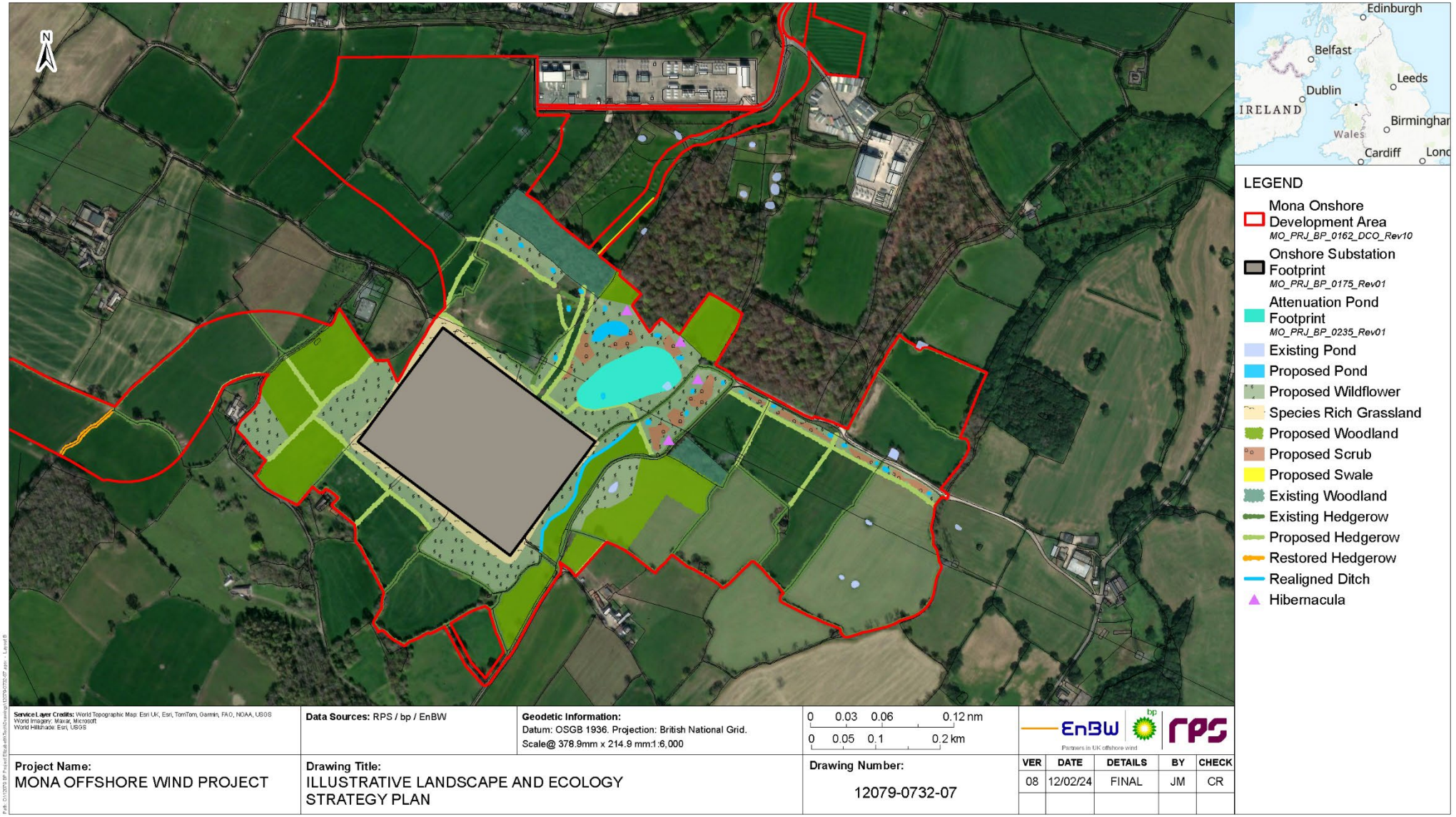

Figure 1.7: Existing and proposed aquatic/terrestrial habitat creation for GCN within the Mona Onshore Development Area.

1.7 Proposed timings of work

1.7.1.1 Table 1.7 below provides an indicative timeline for the management measures proposed as part of this Great Crested Newt Mitigation Strategy. However, the exact timings of works would be dependent upon the DCO application process and when a EPS Mitigation License mitigation license is approved by NRW.

Table 1.7: Indicative timeline for GCN management measures.

Activity	Ecologist supervision required	Timing of works	Additional comments
Preparation of the receptor site, including the creation of three new ponds, enhancement of terrestrial habitat and creation of hibernacula	No	**All year** – To take place prior to translocation of GCN to the receptor site.	Pond creation will not be possible during the GCN hibernation period (November to March).
Preparation of indicative capture and exclusion zone, including vegetation clearance where required	Yes	**All year** – excluding work below ground which is limited to March – October to avoid impacts to hibernating GCN.	Constraints will apply during the bird nesting season (March and August). There will also be a EPS Mitigation License for hazel dormouse in place for the Mona Onshore Development Area, which will have restrictions when removing trees, hedgerows, and scrub habitat.
Installation of GCN capture and exclusion fencing, drift fencing and pitfall traps	Yes	**March to October** - to avoid GCN hibernation period. Works to be undertaken in suitable weather conditions (i.e. temperatures not lower than 5 °C).	There will also be a EPS Mitigation License for hazel dormouse in place for the Mona Onshore Development Area, which will have restrictions when removing trees, hedgerows, and scrub habitat.
GCN translocation to receptor site	Yes	**March to October** - to avoid GCN hibernation period. Works to be undertaken in suitable weather conditions (i.e. temperatures not lower than 5 °C).	Minimum of 60 days trapping and 10 days clear before an area can be handed over to the Principal Contractor.
Drain ponds to be permanently or temporarily lost during construction	Yes	**September to February** - to avoid GCN breeding and hibernation periods. Works to be undertaken in suitable weather conditions (i.e. temperatures not lower than 5 °C).	This is a high impact activity that may be challenging to achieve in the winter months so each pond will need to be assessed for the practicalities of winter drainage prior to the EPS Mitigation License application to NRW.

Activity	Ecologist supervision required	Timing of works	Additional comments
Drift fence and pitfall trap removal	Yes	**March to October** - to avoid GCN hibernation period. Works to be upon completion of all construction works in the area.	As required when the named ecologist has confirmation that the translocation has been completed and the likelihood of GCN remaining present is low before handing a compartment over to the contractors for construction works.
Exclusion Fence removal	Yes	**March to October** - to avoid GCN hibernation period. Works to be undertaken following construction of the Mona Offshore Wind Project and reinstatement works.	Works to be undertaken following construction of the Mona Offshore Wind Project and reinstatement works.
Monitoring and management surveys (population assessment)	Yes	**March to June** – surveys to be undertaken annually following construction of the Mona Offshore Wind Project for a period of five years. After the five year annual monitoring period, monitoring surveys would be undertaken during year 7 and year 10 of operation of the Mona Offshore Wind Project.	To be agreed with NRW and co-ordinated with the St Asaph GCN Working Group.

1.8 References

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Appendix E. Outline Bird Protection Plan

A.1.2 Introduction

A.1.2.1 Background

A.1.2.1.1 The purpose of this Outline Bird Protection Plan (BPP) is to present the mitigation measures proposed 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 Mona Offshore Wind Project. Therefore, the measures set out within this Outline BPP ensure compliance with existing legislation protecting breeding birds.

A.1.2.1.2 This document forms Appendix E to the Outline Landscape Ecology Management Plan (Document Reference: J22) submitted with the Development Consent Order (DCO) application. The Outline LEMP sets out the in principle measures that will 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 both Conwy County Borough Council and Denbighshire County Council prior to the commencement of onshore works.

A.1.2.1.3 All mitigation measures within the Mona Onshore Development Area, landward of Mean Low Water Springs (MLWS), must be undertaken in accordance with the in principle measures presented in the Outline LEMP, including the Outline BPP. The LEMP will be maintained throughout the operational period of the Mona Offshore Wind Farm.

A.1.2.1.4 This Outline BPP 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 BPP has also been informed by the following documentation, where appropriate:

- Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement
- Volume 7, Annex 4.3: Onshore ornithology – breeding birds technical report of the Environmental Statement.

A.1.2.1.5 The terrestrial habitats identified within the Mona Onshore Development Area primarily consist of improved pasture used for sheep grazing and arable farming, with patches of woodland and stretches of hedgerow. There are no major watercourses within the Mona Onshore Development Area and very limited wetland habitat.

A.1.2.2 Relevant legislation

A.1.2.2.1 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.
- take or destroy the egg of any wild bird.

A.1.2.2.2 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.

A.1.2.2.3 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.

A.1.3 Baseline characterisation

A.1.3.1.1 Information with respect to breeding birds within and surrounding the Mona Onshore Development Area was collected through a detailed desktop review of existing studies and data sets. Further information regarding the baseline data sources used are provided in Volume 7, Annex 4.3: Onshore ornithology – breeding birds technical report of the Environmental Statement.

A.1.3.1.2 In addition to a desktop study, site-specific surveys were also undertaken in 2022 and 2023. These surveys aimed to characterise the distribution and abundance of breeding birds within the Mona Onshore Development Area. Further details of the 2022 and 2023 breeding bird surveys are presented in Volume 7, Annex 4.3: Onshore ornithology – breeding birds technical report of the Environmental Statement.

A.1.3.1.3 The site surveys identified a total of 20 (2022 surveys) and 52 (2023 surveys) species as probable breeders within the onshore ornithology study area. The most abundant species group recorded breeding during the surveys during the 2022 and 2023 surveys were passerines. Red kite, which is an Annex 1 and Schedule 1 species, was recorded as probably breeding within the onshore ornithology study area in 2022 and 2023. Little ringed plover, which is Schedule 1 species, was identified as confirmed breeding during the 2022 season.

A.1.4 Predicted impacts

A.1.4.1.1 Breeding birds may be directly or indirectly disturbed and displaced during the construction, operations and maintenance and decommissioning phase of the Mona Offshore Wind Project. 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.

A.1.4.1.2 As explained in Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement, construction and decommissioning of the Mona Offshore Wind Project is likely to have the greatest potential for adverse effects with respect to breeding birds. Therefore, the measures detailed below will 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 will also be implemented during the decommissioning phase of the Mona Offshore Wind Project.

A.1.4.1.3 As described in Volume 3, Chapter 4: Onshore and intertidal ornithology of the Environmental Statement, maintenance required during operation of the Mona Offshore Wind Project is expected to be minimal and was scoped out from further assessment. 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.

A.1.5 Protection plan

A.1.5.1 Pre-construction management measures

Vegetation clearance

A.1.5.1.1 Any vegetation clearance required in advance of construction works (including onshore site preparation works) will 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.

A.1.5.1.2 Cleared vegetation will 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 (onshore site preparation works)

A.1.5.1.3 Where it is known (or likely) that Schedule 1 species breed within the Mona Onshore Development Area (identified during site surveys), pre-construction surveys will be carried out by the Ecological Clerk of Works (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 will encompass the area of proposed works, with an appropriate recommended disturbance buffer zone (Goodship and Furness, 2022).

A.1.5.1.4 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 will 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).

A.1.5.1.5 Should evidence of breeding Schedule 1 species be identified, a visit will be made by a licenced ecologist to confirm the presence of eggs or young.

A.1.5.1.6 In the event of breeding being confirmed, either works will 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 Resource Wales in order to exclude birds from using the nest the following year (when works are due to commence).

Pre-construction checks for nesting birds

A.1.5.1.7 For areas not previously subject to vegetation clearance, pre-construction checks for nesting birds within the Mona Onshore Development Area will be carried out within 48 hours of the commencement of works. Checks for nesting birds will be carried out within the construction works area to establish the presence/absence (or observe evidence) of nesting birds.

A.1.5.1.8 Pre-construction checks will be undertaken by a suitably experienced ECoW and comprise a combination of site walkovers, vantage point surveys and vegetation searches. Pre-construction checks will be undertaken within the construction area and the survey method will follow current best practices (Ferguson-Lees *et al,* 2011).

A.1.5.1.9 Prior to the commencement of construction, all relevant personnel will 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 will 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.

A.1.5.1.10 If a bird nest is found or suspected to be present at any time (including Schedule 1 breeding species), works will 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).

A.1.5.2 Bird Protection Zones (BPZs)

A.1.5.2.1 BPZs for Schedule 1 species will 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 will depend on the Schedule 1 species concerned. Non-schedule 1 species for which disturbance buffers are not available from the literature will be given a minimum BPZ of 10 m.

A.1.5.2.2 The BPZs will be established once nest building or breeding has been confirmed by the ECoW, either during pre-construction checks or during construction of the Mona Offshore Wind Project. 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 will 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).

A.1.5.2.3 Critical works, which are unavoidable within BPZs, will be done so under supervision of the ECoW and upon completion of a Protected Species Risk Assessment and in consultation with Natural Resources Wales (NRW). The Protected Species Risk Assessment will consider the bird species protected status, types of works to be undertaken and local topography/natural screening.

A.1.5.2.4 The BPZs may be reduced under special circumstances (e.g. existing baseline disturbance) and if these are agreed upon following consultation with NRW. This will 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.

A.1.5.2.5 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) will 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 will be contacted. No works will be carried out within that area until a nesting bird check has been undertaken and appropriate mitigation has been identified by the ECoW.

A.1.6 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.

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Appendix F. Landscape and ecological land requirements

A.1.6.1.1 The mitigation land requirements for each parcel of land located at the Onshore Substation, including the definition (i.e. mitigation or enhancement) is provided in Apx Table 8 below. The location and geographic extent of these parcels is presented in the Figures 1.1 – 1.3figure below.

Appendix Table 8: Mitigation land requirements and biodiversity benefits justification.

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
Onshore Cable Corridor (Outline Landscape and Ecology Management Plan (Outline LEMP) Figures 1.1 – 1.3						
1 - 11	Hedgerow enhancement				✓ Enhance hedgerow structure/ canopy species diversity. Enhance ecological habitat connectivity within the wider landscape. Enhance value of hedgerows for bats and hazel dormouse	Enhancement of approximately 4.2 km of hedgerow at 10 strategic locations will deliver benefits for a range of other species including nesting and foraging birds, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
Onshore Substation (Outline LEMP Figure 1.4))						
1	Reinstatement of hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity	Habitat enhancement for a range of other species including nesting and foraging birds, terrestrial invertebrates.
2	Woodland planting	✓ Mitigation for tree and woodland habitat loss.	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
3	Woodland planting	✓ Mitigation for tree and woodland habitat loss.	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species in the local area including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
4	Woodland planting	✓ Mitigation for tree and woodland habitat loss.	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species in the local area including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
5	Reinstatement of hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
6	Reinstatement of hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
7	Reinstatement of hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
8	Woodland planting	✓ Mitigation for tree and woodland habitat loss.	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
9	Woodland planting	✓ Mitigation for tree and woodland habitat loss	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
10	Woodland planting	✓ Mitigation for tree and woodland habitat loss	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
11	Enhancement of existing area of woodland		✓ Visual screening for Onshore Substation			Habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
12	Woodland planting	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN Mitigation for tree and woodland habitat loss	✓ Visual screening for Onshore Substation		✓ Enhance ecological habitat connectivity within the wider landscape.	Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of other species including badger, reptiles, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
13	Woodland planting	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN Mitigation for tree and woodland habitat loss	✓ Visual screening for Onshore Substation		✓ Enhance ecological habitat connectivity within the wider landscape.	Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of other species including badger, reptiles, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
14	Creation of ponds, scrub and hibernacula	✓ Mitigation for habitat loss for GCN			✓ Enhance habitat for birds and reptiles	New habitats will create a range of new ecosystems for aquatic and terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad) and foraging habitat for bats.
15	Enhancement of existing hedgerows and ponds, creation of ponds and implementation of habitat management regime (i.e. cessation of grazing)	✓ Creation of receptor site for trapped and translocated GCN (and other amphibians and reptiles)				New habitats will create a range of new ecosystems for aquatic and terrestrial invertebrates, nesting and foraging birds, and foraging bats.

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
16	Enhancement of existing hedgerows and ponds, creation of ponds and implementation of habitat management regime (i.e. cessation of grazing)	✓ Creation of receptor site for trapped and translocated GCN (and other amphibians and reptiles)				New habitats will create a range of new ecosystems for aquatic and terrestrial invertebrates, nesting and foraging birds, and foraging bats.
17	Enhancement of existing hedgerows and ponds, creation of ponds and implementation of habitat management regime (i.e. cessation of grazing)	✓ Creation of receptor site for trapped and translocated GCN (and other amphibians and reptiles)				New habitats will create a range of new ecosystems for aquatic and terrestrial invertebrates, nesting and foraging birds, and foraging bats.
18	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN			✓ Enhance ecological habitat connectivity within the wider landscape	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
19	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
20	Reinstatement of hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
21	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
22	Habitat enhancements to diverted watercourse; improvements to channel form, substrate and sinuosity.	✓ Mitigation for impacts on aquatic flora and fauna due to watercourse diversion.				
23	Creation of wildflower meadows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape.	New habitat creation will benefit a range of other species including nesting and foraging birds, terrestrial invertebrates, foraging bats, other amphibian species (e.g. smooth newt, common frog and common toad).
24	Creation of wildflower meadows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape.	New habitat creation will benefit a range of other species including nesting and foraging birds, terrestrial invertebrates, foraging bats, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
25	Creation of wildflower meadows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape.	New habitat creation will benefit a range of other species including nesting and foraging birds, terrestrial invertebrates, foraging bats, other amphibian species (e.g. smooth newt, common frog and common toad).
26	Creation of wildflower meadows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape.	New habitat creation will benefit a range of other species including nesting and foraging birds, terrestrial invertebrates, foraging bats, other amphibian species (e.g. smooth newt, common frog and common toad).
27	Creation of species rich grassland and an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
28	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

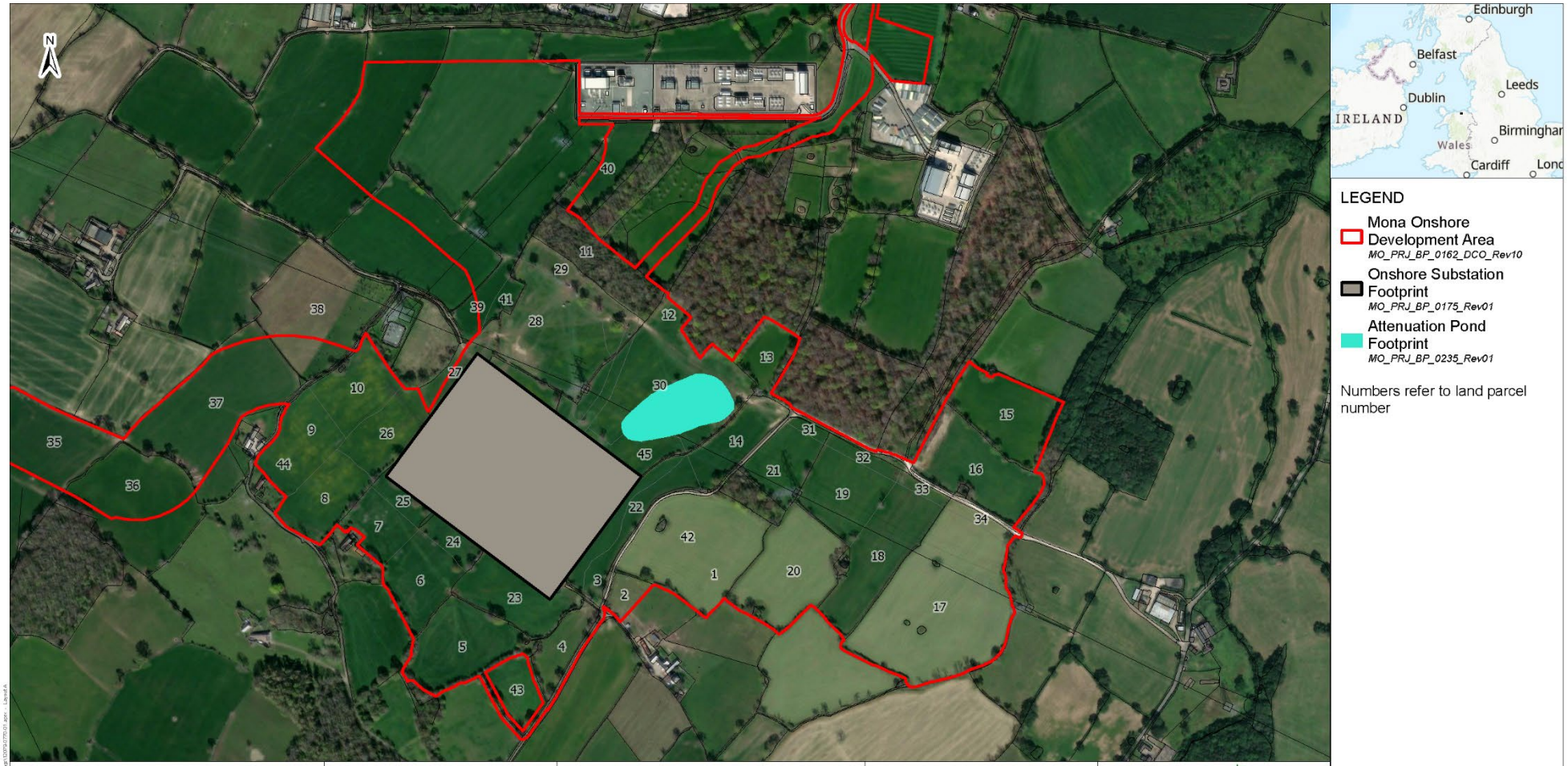
Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
29	Creation of wildflower meadows and ponds	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape.	New habitats will create a range of ecosystems for aquatic and terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad), nesting and foraging birds, and foraging bats.
30	Creation of hibernaculum and hedgerows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape.	New habitat creation will benefit a range of other species including nesting and foraging birds, terrestrial invertebrates, foraging bats.
31	Creation of ponds, hibernaculum and hedgerows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape. Enhance connectivity between GCN/ reptile receptor site and newly created/ enhanced habitats	New habitats will create a range of ecosystems for aquatic and terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad), nesting and foraging birds, and foraging bats.

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
32	Creation of ponds, hibernaculum and hedgerows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape. Enhance connectivity between GCN/ reptile receptor site and newly created/ enhanced habitats	New habitats will create a range of ecosystems for aquatic and terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad), nesting and foraging birds, and foraging bats.
33	Creation of ponds, hibernaculum and hedgerows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape. Enhance connectivity between GCN/ reptile receptor site and newly created/ enhanced habitats	New habitats will create a range of ecosystems for aquatic and terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad), nesting and foraging birds, and foraging bats.

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
34	Creation of ponds, hibernaculum and hedgerows	✓ Mitigation for habitat loss for GCN and reptiles			✓ Enhance ecological habitat connectivity within the wider landscape. Enhance connectivity between GCN/ reptile receptor site and newly created/ enhanced habitats	New habitats will create a range of ecosystems for aquatic and terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad), nesting and foraging birds, and foraging bats.
35	Creation of an additional hedgerow	✓ Mitigation for habitat loss for hazel dormouse				Habitat enhancement for a range of other species including GCN, bats, nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
36	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
37	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
38	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
39	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
41	Creation of an additional hedgerow	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).

Land Parcel Reference	Habitat creation/ enhancement measure	Primary purpose of habitat creation/ enhancement measure				Additional Biodiversity Benefits to be Delivered
		Onshore Ecology Mitigation (Environmental Statement (ES) Volume 3; Chapter 3 (APP-066))	Landscape & Visual Resources Mitigation (ES Volume 3; Chapter 6 (APP-069))	Historic Environment Mitigation (ES Volume 3; Chapter 5 (APP-068))	Biodiversity Benefit	
42	Woodland planting	✓ Mitigation for tree and woodland habitat loss.	✓ Visual screening for Onshore Substation			Once sufficiently mature, new woodland habitat will provide habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, reptiles, badger, terrestrial invertebrates, nesting and foraging birds, other amphibian species (e.g. smooth newt, common frog and common toad).
44	Creation of wildflower meadows			✓ To maintain historic landscape character of nearby listed building		Habitat enhancement for a range of protected species including bats, hazel dormouse, GCN, reptiles, nesting and foraging birds, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).
45	Creation of a wildflower meadow, hedgerow and watercourse diversion	✓ Mitigation for habitat loss for bats, hazel dormouse and GCN.			✓ Enhance ecological habitat connectivity within the wider landscape.	Habitat enhancement for a range of other species including nesting and foraging birds, reptiles, terrestrial invertebrates, other amphibian species (e.g. smooth newt, common frog and common toad).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Attenuation Pond Footprint
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Numbers refer to land parcel number
Service Layer Credits: World Topographic Map: Esri UK, Esri, TomTom, Garmin, FAO, NOAA, USGS
World Imagery: Maxar, Microsoft
World Hillshade: Esri, USGS
Data Sources: RPS / bp / EnBW
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