



# Great Harmeston Solar Farm Environmental Statement

Technical Appendix 4.2

Outline Construction Biodiversity  
Management Plan



## **Introduction**

This document is the Outline Construction Biodiversity Management Plan for Great Harmeston Solar Farm.

The document relates to Biodiversity and has been prepared by Tyler Grange Group Ltd on behalf of ASUK HoldCo 4 Ltd (“the Applicant”), a subsidiary of Arise Renewable Energy UK Ltd.

To inform the preparation of the draft planning application for statutory consultation, an Environmental Statement (ES) was coordinated by Pegasus Group and its Ecological Chapter was prepared by Tyler Grange, supported by species-specific technical reports for bats, badger *Meles meles*, otter *Lutra lutra* and breeding birds. The findings of these assessments have informed this Outline CBMP.

These species-specific assessments were supported by wider baseline ecological surveys including an Extended Phase 1 Habitat Survey and UKHab classification, bat activity surveys (transects, static detectors), breeding bird surveys (2024), wintering bird surveys (2024/2025), badger surveys (2024 and update 2026), and otter survey and water vole habitat assessment (2026).

The ES and species specific technical reports provide details of the ecological features within the zone of influence including the results of a field survey, describes the actual or potentially significant ecological effects as a result of the proposed development and describes mitigation and enhancements proposals, together with planning controls to ensure conformity with legislation and planning policy.

A Ground Level Tree Assessment (GLTA) of trees proposed for clearance was also undertaken to identify potential bat roost features and inform further survey requirements, where applicable.

An Arboricultural Impact Assessment<sup>1</sup> was also prepared to inform the planning application and has been referred to where relevant within this OUTLINE CBMP section, with locations shown on the Tree Protection Plan (TPP), which identifies retained and removed trees, Root Protection Areas (RPAs) and tree protection measures in accordance with BS 5837:2012..

### *Purpose*

This OUTLINE CBMP has been prepared to align with the mitigation by design and additional mitigation described within ES Chapter 7 (Ecology) and the supporting species technical reports. The scheme has been designed to retain the principal ecological features of the Site, including hedgerows (with trees), woodland edges/blocks, ponds and the watercourse/riparian corridor, areas of Purple moor-

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<sup>1</sup> Appendix 5.5

grass and rush pasture, and two veteran ash trees (T84 and T85), with only limited localised works to accommodate access, construction compounds and cable route sections. These retained features form the primary ecological framework for the scheme and will be protected throughout construction in accordance with this OUTLINE CBMP.

The measures set out below are intended to prevent accidental encroachment, pollution and disturbance effects on retained habitats and associated protected species.

The OUTLINE CBMP Biodiversity has been prepared to expand upon the ecological protection measures outlined within the ES and species specific technical reports which will be submitted to inform the planning application including:

- Ensure adequate protection, mitigation, and compensation for protected and priority species and habitats;
- Ensure mitigation and compensation works are carried out and completed as approved and in line with current best practice guidelines; and
- Ensure adequate professional ecological expertise is available to assist those implementing the development to comply with statutory requirements and planning conditions.

The OUTLINE CBMP implementation period will commence prior to any works on site, including vegetation clearance, and will continue through to completion of all construction activities.

This OUTLINE CBMP sets out the strategy to ensure the protection of habitats and species on the site during construction. The measures within this OUTLINE CBMP expand upon the commitments made within the ES and associated technical reports and translate them into practical on-site actions:.. This OUTLINE CBMP section is set out as follows:

- Part 1 describes the site context, habitats present, and the protected species recorded and likely to be affected by construction at the site; and
- Part 2 sets out the protection measures for habitats and protected species within the site and details the strategies to be employed to avoid impacts both at the site and in the local area. These measures have been prepared in accordance with the British Standards for Biodiversity: BS 42020:2013.

### *Responsibilities*

This document must be thoroughly reviewed by the client and the appointed contractor; if the measures prescribed are not workable, then the ecologist must be consulted as soon as possible to discuss alternative approaches. If any amendments to this OUTLINE CBMP are necessary after submission to the Council, it will need to be resubmitted to the Council for approval.

The responsibility for ensuring works proceed in accordance with this OUTLINE CBMP will lie with the appointed contractor for the works. Overall control will be held by the contractor's site manager or a suitable delegate within the contractor's company. The site manager will be responsible for ensuring that all site teams are aware of the OUTLINE CBMP and the measures prescribed within it.

All site workers will have a responsibility to adhere to the OUTLINE CBMP

An Ecological Clerk of Works (ECoW) will provide a 'toolbox' talk to the site manager to go through the content of the OUTLINE CBMP; outlining the ecological features to be protected and the key protection methods to be employed.

The ECoW will keep a record of any site visits they make and report any potential new ecological constraints or non-compliance to the site manager, with corrective actions agreed and implemented where required.

## **Part 1: Site Description and Ecological Features**

This part of the OUTLINE CBMP summarises the existing ecological features within the site.

### *Site Context*

The boundary of the Proposed Development extends to approximately 128 hectares across a number of land parcels. The site is located entirely within the administrative boundary of Pembrokeshire County Council (PCC), on land near Great Harmeston Buildings, Pembrokeshire, SA62 3HM. The village of Johnston lies immediately north, village of Steynton (1.1 km) south and Milford Haven (2.9 km) south of the site. A Habitat Features Plan with site boundary and onsite habitats is provided in Appendix 1.

The Site comprises predominantly agricultural land separated by field boundaries, with infrastructure including two 'A' roads and a railway line intersecting parts of the wider landholding.

### *Baseline Habitats*

The site comprises fields predominantly for arable use, bound by a mixture of mature woodland, trees, hedgerows, fencing, tracks, road and a railway line. An unnamed stream is located in the southwest of the site.

Additional habitats recorded within the Site include areas of improved grassland, marshy grassland, neutral grassland, ponds and riparian vegetation associated with the watercourse, as described in ES Chapter 7 (Ecology). Areas of Purple moor-grass and rush pasture are also present within the Site and are to be retained as part of the layout. In addition, two veteran ash trees identified in the Arboricultural Impact Assessment are to be retained and protected throughout construction.

The majority of boundary hedgerows, woodland blocks and the watercourse corridor are to be retained as part of the mitigation-by-design approach. This also includes retention of Purple moor-grass and rush pasture and the veteran ash trees, with protection measures to be implemented to prevent accidental encroachment, compaction or damage during construction.

Ecological surveys undertaken to inform the Environmental Statement identified the presence of invasive non-native species within the Site, specifically recorded stands of Japanese knotweed. These stands are primarily associated with boundary habitats and represent a constraint requiring careful management to prevent spread and further colonisation of retained habitats and adjacent land.

### *Protected and Notable Species*

Full details of protected and notable species are included within the ES and species specific technical reports which should be read in conjunction with this report. The main ecological constraint onsite relates to the potential for foraging and commuting bats, breeding birds including skylark *Alauda arvensis*, badger, amphibians, reptiles and otter.

Otter activity has been confirmed within the Site watercourse, and along surveyed sections of the riparian corridor no holts or resting places were recorded. It should be noted, however, that a short section of watercourse to the east of the proposed substation, where a drainage outfall is now proposed, was not included within the original otter survey coverage and will require further survey prior to works. Three active badger setts are present within or adjacent to the Site, and under the current pre-application layout one sett lies within 30 m of the proposed development footprint.

### *Relevant Legislation*

Construction cannot be undertaken which compromises the survival or success of the fauna described above or which results in the spread of non-native invasive species.

Otters, along with all bats, their roosts and their habitat are European Protected Species (EPS) under the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') and are afforded protection under the WCA 1981 (as amended).

In Wales, these protections are further reinforced by the Environment (Wales) Act 2016, under which Local Planning Authorities must seek to maintain and enhance biodiversity and promote ecosystem resilience (Section 6 Duty).

All British birds are legally protected under the WCA 1981 (as amended) from disturbance while actively nesting (generally acknowledged to occur between March and August inclusive). As such any removal of suitable habitat, such as trees, hedgerows and woodland will be timed to avoid the bird nesting season or preceded

by checks for nesting birds by a suitably trained ecologist immediately prior to any removal. Should any nesting birds be recorded within the site during works, no work will take place in that location until the young have left the nest.

Badger and their setts are afforded protection under the Protection of Badgers Act 1992. As badger can readily dig new setts, an updated badger survey will be undertaken 3 months prior to construction work starting. If any active sett have potential to be impacted by construction works then Tyler Grange or an appropriate specialist would be contacted, and a badger licence from Natural Resource Wales will be required.

Common amphibians including common toad *Bufo bufo*, hedgehog *Erinaceus europaeus* and common reptile species are afforded protection under the WCA 1981 (as amended) although it is important to note that this legislation protects the species and not their habitat. As such, should any impacts occur to suitable these species habitats, appropriate mitigation measures will be implemented to ensure that none of these species are harmed during works.

Otter, bat species, hedgehog are also Species of Principal Importance in Wales under Section 7 of the Environment (Wales) Act 2016, and have therefore been considered as ecological receptors within the ES assessment. In addition, hazel dormouse *Muscardinus avellanarius* is a Section 7 species in Wales, and has been considered on a precautionary basis where suitable hedgerow/woodland edge habitat is present and could be affected. Some bat species recorded/likely within the wider area (e.g. barbastelle *Barbastella barbastellus*) are also listed on Annex II and Annex IV of the Habitats Directive, and are therefore subject to enhanced consideration in relation to both strict protection and designated site features where relevant.

## **Part 2: Outline Construction Biodiversity Management Plan**

### ***Risk Assessment of Potentially Damaging Construction Activities***

To inform the preparation of this OUTLINE CBMP, a risk assessment has been completed on all proposed construction-type activities likely to impact important biodiversity receptors within the site and local area, as detailed below. Due to the nature of the proposals, the principal ecological features of the Site (including hedgerows with trees, woodland edges/blocks, ponds and the watercourse/riparian corridor) will be retained where practicable, with only limited localised habitat loss associated with access, infrastructure and the cable route. Limited localised works may also be required in proximity to the riparian corridor in relation to widening of existing farm tracks and installation of the proposed drainage outfall to the east of the substation. Purple moor-grass and rush pasture and the two retained veteran ash trees will be protected as biodiversity protection features during construction.

An Invasive Non-Native Species Management Plan will be prepared and implemented by a suitably qualified specialist contractor prior to the commencement of works. The Plan will set out appropriate control measures, buffer zones, biosecurity protocols and treatment methodologies to ensure Japanese knotweed is effectively managed and not spread during construction or operation of the development.

A pre-construction walkover survey will also be undertaken to confirm the current extent of Japanese knotweed and identify any additional stands prior to the commencement of works.

### *Site Clearance*

Based upon the habitats present and outlined in the ES and species specific technical reports, the habitats being lost comprise namely arable fields, improved grassland and discrete lengths of hedgerows. During the clearance of habitats, there is potential for impacts to occur as a result of the following:

- Run-off from the site works resulting in damage to retained and adjacent habitats including onsite and adjacent watercourses, hedgerows and trees;
- Killing and injury of nesting birds, amphibians, reptiles, badger, otter, dormouse and small mammals resulting from habitat removal or destruction during constructions works;
- Dust deposition resulting in damage to retained and adjacent onsite and offsite habitats;
- Noise resulting in disturbance of species adjacent to the site; and
- Temporary lighting disturbing nocturnal species, namely bats, badger and otter.

### *Site Set-up*

Site offices, huts and temporary toilets, including their drainage, will be created onsite, as will storage areas for stockpiles of materials. Site set-up could result in impacts occurring as a result of the following:

- Damage to retained and immediately adjacent habitats as a result of pollution from plant maintenance and storage of oils, fuels and chemicals, including toilets;
- Site lighting, in particular overnight lighting, has the potential to cause disturbance to foraging and/or commuting bats and riparian mammals such as otter; and
- Construction activities including compaction of ground and accidental damage to onsite and immediately adjacent offsite habitats.

In addition to these pathways negative impacts could also occur as a result of dust, noise and artificial lighting as detailed above.

### *Groundworks*

Construction groundworks including creating foundations and excavations could result in impacts including:

- Damage to retained onsite and offsite habitats through accidental damage; and
- Impacts to wildlife, namely small mammals, amphibians, reptiles and hedgehog should these become trapped in pits and trenches created during groundworks.

In addition to these pathways, groundworks impacts could occur as a result of killing or injury of wildlife, dust, noise and artificial lighting as detailed above.

#### *Material Storage and Removal from Site*

The improper storage and disposal of materials during site clearance and construction could cause impacts to retained and adjacent habitats including watercourses, hedgerows and trees, as a result of dust and noise (as detailed above) which could result in direct impacts through damage or long-term impacts such as loss of function.

Inappropriate storage of topsoil could also result in the value of this resource being negatively impacted and may create conditions attractive to burrowing mammals such as badger

#### *Construction*

During construction there is potential for impacts to occur as a result of killing or injury of wildlife, damage to retained onsite and immediately adjacent offsite habitats, dust, noise, run-off and artificial lighting (as detailed above), particularly in proximity to boundary habitats and the watercourse corridor..

#### *Environmental Incidents*

Whilst not part of any specific construction stage, environmental incidents have the potential to occur at any time during the works, such as from:

- Vandalism resulting in impacts to retained onsite and offsite habitats through direct damage or pollution events, should fuel or chemical containers become damaged;
- Fires and burning waste could result in impacts to adjacent habitats and protected/priority species should this occur close to retained onsite and offsite habitats; and
- Emergency incidents such as spillages or extreme weather resulting in impacts to adjacent habitats, including downstream effects on the watercourse and associated riparian habitats.

#### **Identification of 'Biodiversity Protection Zone'**

Areas within the site identified as 'biodiversity protection zones' include:

- Retained habitats including trees, woodland, woodland edges, hedgerow and ponds, area of Purple moor-grass and rush pasture, and the retained veteran ash trees (T84 and T85);
- Three badger setts located within and adjacent to the Site, including one sett for which the precautionary 30 m buffer overlaps with the current pre-application layout (refer to Badger Ecology Report for exact location);
- Trees with bat roosting potential;
- The unnamed watercourse in the southwest of the site and associated riparian corridor, including the section to the east of the proposed substation where a drainage outfall is proposed and where further otter survey is required prior to works; and
- Hedgerows and woodland margins providing connective habitat for dormouse and commuting/foraging bats.

Temporary protective fencing will therefore be provided to exclude and protect these retained areas during construction, including the badger setts and riparian buffer zone. This fencing will be installed as per BS 5837:2012 Trees in relation to design, demolition and construction and detailed within the Arboricultural Impact Assessment<sup>2</sup> with locations shown on the Tree Protection Plan (TPP). This fencing will be inspected monthly by the site manager during the construction works and if signs of damage occur, the fence will be fixed or replaced by the construction team. Signage will be affixed to the fencing to deter access. Protection fencing and exclusion zones will also be used where necessary to prevent accidental encroachment into retained Purple moor-grass and rush pasture and into the Root Protection Areas of the retained veteran ash trees.

Such fencing will also provide site security and prevent potential impacts to retained habitats, such as from vehicle movements, soil compaction and storage of materials. Where possible, vehicles with a low ground-pressure should be used to avoid soil compaction and avoid the rooting areas of trees and sensitive grassland margins adjacent to retained features..

### **Practical Measures to Avoid or Reduce Impacts During Construction**

Practical measures will be enacted to ensure that the retained biodiversity features are protected during construction.

#### *Site Clearance*

Prior to the commencement of any works on the site, an initial 'toolbox' talk will be completed with the contractors, to explain the sensitive features present on the site and the requirements for protection measures. This toolbox talk will also provide detail on the working methods to be employed during all works affecting sensitive habitats, protected/priority species that could be encountered, their legal protection and

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<sup>2</sup> Appendix 5.5

necessary mitigation measures, including actions to be taken if any of these species are encountered on site, during works. This toolbox talk will be delivered by an appointed Ecological Clerk of Works (ECoW), comprising a suitably experienced ecologist, who will also undertake a walkover of the site prior to works commencing to check for any potential constraints, including checks for badger setts, otter holts or resting features, and dormouse habitat connectivity. The ECoW will be present as and when required to supervise sensitive works and provide ecological advice.

Further to the above, specific supervision measures will also be implemented in respect of the following species:

**Bats (Roosting, Foraging and Commuting)** – Trees identified through the Ground Level Tree Assessment (GLTA) as having potential to support roosting bats are currently being retained and protected within the development layout pending completion of further surveys. These include trees T17, T74, T75, T76 and T122, along with tree groups G7 and G47. All assessed trees contain potential roost features, with the majority supporting features of moderate potential, and one tree within group G7 and multiple trees within group G47 containing features of higher suitability. In addition, trees T57 and T63, which were subsequently added to the removal scope following completion of the GLTA, have not yet been assessed for bat roost potential and will therefore be treated precautionarily as having bat roost potential. These trees will be retained and protected until further survey work has been undertaken to confirm roost feature classifications and the presence or absence of bats prior to any works affecting them. No overnight lighting is proposed during construction. Should temporary task lighting become unavoidable at any stage, it will be designed and implemented in accordance with best practice guidance to avoid illumination of retained habitats and key bat commuting corridors, and will only be installed following agreement with the Ecological Clerk of Works.

To avoid disturbance to roosting bats, if present in trees with bat roosting potential, and foraging and commuting bats during construction the following will be implemented:

- Work is to be undertaken during the daytime where practicable, when bats are least active, to minimise disturbance to their foraging activities;
- No overnight lighting is proposed as part of the development;
- Noise and vibration should be kept to a minimum when working in the vicinity of boundary features, particularly to the south east of the site; and
- Retained veteran trees and other retained trees will be protected in accordance with the Arboricultural Impact Assessment and Tree Protection Plan, with no storage of materials, plant movement or ground disturbance permitted within fenced Root Protection Areas.

Indirect impacts associated with dust and noise during the construction phase will be minimised through the methods outlined within this OUTLINE CBMP.

**Badger** – One badger sett was originally recorded within 30 m of the Site boundary in the south of the Site, with subsequent surveys undertaken in 2026 identifying a total of three badger setts within and adjacent to the Site. All recorded setts will be retained as part of the proposals and protected by appropriate fencing, integrated with tree protection measures where relevant. Under the current pre-application layout, one sett lies within the precautionary 30 m buffer of the proposed development footprint, although no direct impacts to sett entrances are proposed. Where works are required within this precautionary buffer, they will be undertaken in accordance with a Precautionary Working Method Statement (PWMS) under ecological supervision as necessary. Should the layout be amended following consultation such that all works are located outside the 30 m buffer, this additional measure may no longer be required. Should any construction works be required within 30 m of a sett entrance, the need for a badger licence from Natural Resources Wales will be reviewed in accordance with current guidance and based on the nature and extent of works proposed. Where works would result in disturbance, damage or temporary closure of a sett, appropriate licensing will be sought and implemented in line with an approved method statement and seasonal constraints.

The following actions will also be undertaken to minimise the potential for badger entering the site during construction and causing delays and/or potential injury or disturbance:

- No works should be undertaken within 30 m of the identified setts without advice from a suitable qualified and experienced ecologist and, where required, implementation of a PWMS;
- Tree protection fencing erected along retained habitat will also provide protection to the badger sett. Where required, a 30 m precautionary buffer around the relevant sett will be indicated on site protection plans and demarcated with Heras fencing or similar, except where controlled works are approved under a PWMS;
- Manage the construction site to ensure that ground is flat and compacted and there are no loose earth banks for badgers to readily dig in to
- All exposed earth works and excavations over 1m deep, and pipeworks with openings larger than 125mm diameter which could potentially trap a badger should be completely covered over with boarding at the end of daily operations where practicable to prevent badgers from entering trenches, or have an inclined plank included overnight to offer a means of escape for badgers that may have become inadvertently trapped;
- Work is to be undertaken during the daytime where practicable, when badger are least active, to minimise disturbance to their foraging activities;
- Tracked vehicles to remain outside of the 30 m buffer fencing around the badger sett;
- No overnight lighting is proposed during construction;

- All chemicals and construction materials are to be safely and securely stored to prevent any spills or contamination; and
- Contractors are to be briefed during a 'toolbox talk' by an ecologist prior to starting works. After this, a Contractor should be nominated to undertake regular monitoring of the site and if any exploratory digging or new setts are identified they must contact the designated ecologist immediately.

If a new sett is identified or works are located in closer proximity to the badger sett, work should stop and advice sought from a suitable qualified and experienced ecologist prior to works commencing. This may require a change in mitigation, further monitoring and a licence from Natural Resource Wales to enable the works to proceed legally.

No works should be undertaken within 30 m of the identified setts without advice from a suitable qualified and experienced ecologist and confirmation of the appropriate working method..

**Birds** - The site including arable fields, improved grassland, trees, woodland and hedgerows provide potential nesting habitat for a range of common birds. Should any removal of potential breeding bird habitat be proposed within the bird nesting season (generally taken to be March to August inclusive, though this is not defined in law and birds can nest outside of this time), a detailed search of the vegetation would need to be undertaken by the appointed ECoW immediately prior to its removal, to check for signs of active nests. If any active nests are found, a suitable buffer to be determined onsite by the ECoW, will be provided until the young have fledged and the nest is no longer active. This buffer would be protected by fencing, installed under the supervision of the ECoW, with appropriate signage provided in order to ensure no accidental damage occurs.

General precautions during the construction phase will also be implemented onsite including:

- All cleared debris will be removed from within the construction boundary;
- Avoid burning or removal of any potential hibernacula, if present, (e.g. wood piles, debris etc.) without a thorough hand search for amphibians, reptiles and hedgehog;
- Machinery and materials will be stored on areas of artificial unvegetated surface or raised off the ground on pallets where possible; and

**Dormouse** - The Site contains hedgerows and woodland edge habitats that provide suitable habitat and connectivity for hazel dormouse. Although no evidence of dormouse was confirmed during surveys, a precautionary approach will be applied where works affect suitable habitat, including the removal of short lengths of hedgerow and any woodland edge vegetation. All works to hedgerows and woodland/woodland edge habitats will be undertaken in accordance with the following Precautionary Working Method Statement (PWMS), under the supervision of a suitably qualified

ecologist (ECoW), to minimise the risk of harming dormice or damaging resting/nesting features.

Prior to any works affecting hedgerows or woodland vegetation, an ECoW will deliver a toolbox talk to all relevant contractors covering dormouse identification, legal protection, working methods, and stop-work procedures. The ECoW will undertake a pre-works check of the working area (including hedgerow bases, brash piles) immediately prior to clearance. Where practicable, removal of hedgerows and woodland edge vegetation will be scheduled to avoid the main dormouse active season. Works will not be undertaken during winter when dormice may be in torpor/hibernation within dense vegetation or leaf litter, unless otherwise agreed with the ECoW following site-specific checks. Works will also be planned to avoid the bird nesting season, or be preceded by nesting bird checks, as set out elsewhere in this OUTLINE CBMP. Hedgerow and scrub clearance will be undertaken using a two-stage approach to encourage any animals present to move into retained habitat:

- Stage 1: Vegetation will be cut back to approximately 300 mm above ground level using hand tools or a hand-held strimmer/brushcutter, working directionally towards retained habitat and away from the construction footprint.
- Stage 2: Following a minimum 48-hour delay, vegetation will be reduced to ground level and stumps removed where required, under ECoW supervision.

Where feasible, clearance will be undertaken from the centre of the working area outwards or in a single direction towards retained habitat, ensuring that continuous connectivity is maintained along retained hedgerow/woodland edge routes.

Where sections of hedgerow are to be removed, works will be phased to maintain temporary connectivity where possible, and retained hedgerows/woodland edges will be protected from accidental damage by fencing in accordance with the Biodiversity Protection Zone measures set out in this OUTLINE CBMP.

Working methods:

- Clearance will be undertaken sensitively using hand tools and/or low-impact machinery where practicable, with particular care at hedgerow bases and within dense ground vegetation.
- Brash and arisings will be removed from the working corridor promptly and will not be stockpiled within retained hedgerows or woodland edges.
- Any excavations associated with root removal in suitable habitat will follow the trench safety measures set out elsewhere in this OUTLINE CBMP (covering/ramps and daily checks).

If a dormouse, nest, or any evidence suggestive of dormouse is identified during checks or vegetation clearance, works will stop immediately in that area and the ECoW will be contacted. Works will not recommence until appropriate measures have been agreed. Where a resting place would be disturbed or where dormice are confirmed

and would be affected by the works, the need for licensing from Natural Resources Wales will be reviewed and, if required, secured prior to works proceeding.

**Otter** – The watercourse and associated riparian corridor within and adjacent to the Site are known to support commuting and foraging otter and form an important linear ecological corridor within the wider landscape. No active holts or resting places were recorded within the Site during surveys. It should be noted, however, that a short section of watercourse to the east of the proposed substation, where a drainage outfall is now proposed, was not included within the original otter survey coverage and further survey of this section will therefore be required prior to works. The Proposed Development has been designed to avoid direct impacts on the watercourse and riparian corridor wherever possible. Very limited localised works may be required in relation to widening of existing farm access tracks within the riparian corridor and construction of the proposed drainage outfall to the east of the substation. The only area where works are anticipated in proximity to this corridor relates to an existing access point, where temporary construction activities may be required. These works will be short-term in nature and will not directly affect the watercourse itself. Where underground cabling is required in this location, trenchless techniques such as directional drilling will be utilised where feasible to minimise disturbance to riparian habitats (subject to final design confirmation). Construction-phase mitigation measures set out within this OUTLINE CBMP will ensure protection of the watercourse, including controls relating to pollution prevention, runoff management, dust suppression, noise and lighting. As a precautionary measure, a suitably qualified ecologist will undertake a pre-works check of the working area prior to commencement of construction to confirm the absence of otter resting places. Should any holts be identified that could be affected by the works, appropriate mitigation and, where required, licensing from Natural Resources Wales will be sought prior to works proceeding.

General precautions during the construction phase will be implemented onsite in relation to otter including:

- Before any clearance of vegetation suitable for otter takes place, all contractors will be fully briefed by a toolbox talk from the ECoW (suitably experienced ecologist), regarding the potential presence of otter (and other protected species) and the mitigation measures that must be adhered to during clearance works, including the requirement for additional survey of the outfall watercourse prior to works in that location;
- No wheeled or tracked vehicles (of any kind) should be used within 20 m of the watercourse with the exception of existing tracks or locations specifically agreed with the ECoW in relation to controlled works for track widening or installation of the proposed outfall;;
- Temporary fencing will be installed along the watercourse, at a minimum distance of 20 m with signage affixed requesting 'No Access', except where access is required for agreed and supervised works;

- Where crossing of the watercourse is required, ledges, or a suitable alternative will be required to enable otter and other species to cross the watercourse beneath the bridge. This includes within culverts;
- No dogs will be brought to the work site;
- All exposed earth works and excavations over 1m deep, and pipeworks with openings larger than 125mm diameter which could potentially trap an otter should be completely covered over with boarding at the end of daily operations where practicable to prevent otter from entering trenches, or have an inclined plank included overnight to offer a means of escape for badgers that may have become inadvertently trapped;
- Work is to be undertaken during the daytime where practicable, when otter are least active, to minimise disturbance to their foraging activities;
- No overnight lighting will be required during construction;
- All chemicals and construction materials are to be safely and securely stored to prevent any spills or contamination; and
- Contractors are to be briefed during a 'toolbox talk' by an ecologist prior to starting works. After this, a Contractor should be nominated to undertake regular monitoring of the site and if any exploratory digging or new setts are identified they must contact the designated ecologist immediately. For the avoidance of doubt, any signs of otter resting places, holts or couches identified during works must trigger immediate cessation of works in that area pending ecological advice.

In the event that an otter is discovered during construction works, if not already present, all works will stop and a suitably experienced otter ecologist will be contacted.

**Reptiles and Amphibians** –amphibians are known within the wider landscape, woodland and hedgerow onsite clearance should be undertaken under Precautionary Working Method Statement (PWMS) to minimise impacts to amphibians (and other priority / protected fauna species) through injuring and killing.

The majority of the site offers low suitability for reptile species (foraging/ hibernation), the field boundary features, such as hedgerows, field margins and boundary woodland provide suitable foraging habitat and provide shelter and refuge.

A precautionary approach following PWMS will be implemented onsite during the construction works.

#### *Precautionary Working Method Statement*

Any works to suitable terrestrial habitats for amphibians and reptiles will be subject to PWMS to minimise impacts to these species, if present. Any development related activities onsite, such as vegetation clearance (removal of short lengths of hedgerow or long dense grass/ruderal), removal or tidying up of logs or other debris or excavations in areas of potentially suitable habitat may potentially affect amphibian and reptile species.

The PWMS will include:

- Before any vegetation clearance takes place, all contractors will be fully briefed by a toolbox talk from the ECoW (suitably experienced ecologist), regarding the potential presence of amphibians, including, reptiles and other protected species, and the mitigation measures that must be adhered to during clearance works;
- In advance of works, suitable grassland and discrete areas of hedgerow to be lost should be managed to reduce suitability for amphibians and reptiles, including a two-stage directional vegetation removal, with the first cut by hand trimmer to c.150 mm, and the second, 48 hours later, to ground level under supervision. This will aid visual searches and encourage individuals to temporarily move away from the working areas;
- Timings of clearance of suitable grassland and discrete areas of hedgerow should occur between March/April – October inclusive, when overnight temperatures are consistently above 5°C. No clearance work of suitable habitat should occur during winter, when amphibians and reptiles are likely to be hibernating/in torpor (late October and mid-March inclusive);
- Outside of hibernation period (late October and mid-March inclusive), a hand search of any suitable refugia (logs, other materials that could be used as cover) and around the base of hedgerows is required immediately prior to work commencing. This will include checks of root bases where access allows and the supervision by the ECoW of the removal of these root balls. Avoid dragging vegetation or tracking vehicles and machinery over unchecked areas;
- General precautions during the construction phase will also be implemented onsite including:
  - All cleared vegetation will be removed from within the construction boundary;
  - Avoid burning or removal of any potential hibernacula, if present, (e.g. wood piles, debris etc.) without a thorough hand search for amphibians and hedgehog;
  - Machinery and materials will be stored on areas of artificial unvegetated surface or raised off the ground on pallets where possible;
  - Excavations should be backfilled, covered overnight or ramps installed to allow any animals to escape. Excavations and working areas are to be managed so as to not create temporary waterbodies which may attract newts onto site; and
  - Refuge areas such as logs or stones will be checked before the manipulation works commence, removed and placed within the retained habitat by a supervising ecologist. The hedgerow would then be grubbed out slowly using an excavator fitted with a toothed bucket;

The measures implemented above will also minimise impacts to common toad. If a common toad or reptile is found, it will be moved to retained habitat around the boundaries of the site.

**Other Species** - Regard will be had for other protected and priority species that may be present within the Site, with particular consideration given to hedgehog. Prior to vegetation clearance, any obvious piles of brash, debris or suitable refuges will be carefully checked and dismantled by hand under ecological supervision where required. Should a hedgehog be encountered, it will be carefully moved by a gloved hand to suitable retained habitat along the Site boundary, away from areas of active works. If a hedgehog is encountered during hibernation, works in the immediate area will cease and the animal will be left undisturbed. Should a hedgehog be inadvertently disturbed or awakened, advice will be sought from a suitably qualified ecologist or local wildlife rescue centre, and appropriate action taken to ensure the animal's welfare.

**Protecting Retained Habitats** – Woodland, hedgerows, trees, waterbodies, along with offsite habitats will be retained and protected as part of the proposals. These habitats include riparian corridors of value to otter and commuting bats. These features will be fenced and protected during site clearance to ensure no impacts occur.

Tree protection barriers must be erected prior to the commencement of construction activities and should consist of the default specification recommended within BS 5837:2012 Trees in relation to design, demolition and construction, Arboricultural Method Statement and TPP comprising a scaffold framework, well braced to resist impacts, with vertical tubes spaced at a maximum of 3 m to add further stability. Onto this, weldmesh panels will be securely fixed with wire or scaffold clamps. Tree protection fencing must be maintained to ensure it remains fit for the purpose intended. All-weather notices will be attached to the barriers with words such as 'Construction Exclusion Zone – No Access'. Once erected, fencing should remain in place and be maintained until works are complete. The tree protection fencing follows the boundaries of the site, except for small areas used for access.

**Run-off** - To prevent run-off and pollution occurring especially onto onsite and offsite retained habitats including the watercourse, protection measures will be implemented during the site clearance and all subsequent stages, as set out below. No contaminated water will be permitted to enter the watercourse or drainage network. This is of particular importance in relation to works within or adjacent to the riparian corridor, including any widening of existing farm tracks and installation of the proposed drainage outfall to the east of the substation. Construction methodology will be designed to comply with good practice guidelines and will include the following measures as necessary:

- Use double stacked straw bales or other methods to collect any potential run-off;

- Using secondary containment such as bunds around storage tanks where necessary;
- Ensuring deliveries are completed away from any drains;
- Ensure chemicals and hazardous substances are securely stored, labelled appropriately and regularly inspected;
- Provision of jet washer and water bowser to remove mud from vehicles as necessary; and
- Strategic silt fencing will be installed in locations identified by the Ecological Clerk of Works, particularly downslope of construction activities and in proximity to the watercourse and drainage features, to intercept sediment-laden run-off. Silt fencing will be regularly inspected and maintained by the site manager, with accumulated sediment removed as required.

A pollution/spillage plan will also be put in place prior to the start of works. This will include training for site management, 'toolbox talks' for operatives and provision of a spill kit. Any spill incidents will be reported immediately to the site manager and ECoW and remedial action implemented.

All mobile plant and machinery operating away from site compounds will carry spill kits to enable immediate response to accidental spillages.

**Dust** - Dust arising during construction work is generally considered to only have a significant ecological impact within 20 m, where heavy soiling of vegetation can occur. Retained trees along the western and eastern boundaries of the site, and hedgerows and offsite adjacent habitats will all have buffers (root protection zones), marked with Heras fencing, to protect this feature (see Arboricultural Method Statement). Contractors will suppress dust emissions with water whilst loading waste materials for disposal and machinery exhaust emissions will be kept as low as is practicable by using well maintained vehicles and machinery at all times. These will be turned off when not in use.

Dust pollution will be minimised during construction works with water including specialist spray equipment if required to dampen any arising debris and dust. Water from the dust suppression will then be controlled by suitable methods to prevent run-off (see above). With all other measures outlined within this OUTLINE CBMP implemented onsite it is anticipated that the retained habitats will not be adversely impacted during construction.

Impacts to other designated sites are not likely to be significant given the fact that the majority of works will be beyond 20 m of any sensitive offsite receptor.

**Noise** - Although based on the location of the site and the results of the survey work undertaken, noise is not anticipated to create a significant impact, specific measures will be undertaken following best practice as necessary. Works will be limited to standard daytime working hours where practicable to minimise disturbance to fauna.

**Lighting**- In order to prevent disturbance to nocturnal species, including bats and otter, no works will occur after dusk with working hours on the site. Shorter hours will be undertaken during winter months, due to less daylight hours, with working hours still finishing one hour prior to sunset dusk where possible. It is anticipated that no lighting will be required during construction. It is therefore considered that commuting and foraging bats and otter can continue to use the site and adjacent habitats during construction works. Where temporary task lighting is unavoidable, this will be directional, cowled and positioned to avoid illumination of retained hedgerows, woodland edges, veteran trees and the riparian corridor, and will only be used following agreement with the ECoW.

### *Site Set-up*

**Pollution** - Construction activities will be predominantly located away from the most sensitive habitats, namely retained onsite and offsite woodland, hedgerows, and watercourse. To ensure that no accidental impacts occur, these features will also be fenced and protected during works (see above).

To avoid impacts to retained onsite and offsite habitats, site offices (including welfare facilities), material storage areas (including oils, fuels, chemical toilets) and wheel wash facilities will be located within the central area of the site and away from the retained habitats. In addition, the areas used for the storage of materials will be regularly inspected for leaks by the site manager and during any ECoW visits.

Refuelling will be undertaken in designated areas over impermeable surfaces and avoided during periods of heavy rainfall where practicable.

**Protection of habitats** – During the site set-up and subsequent stages of the works, retained habitats and the adjacent offsite habitats will be fenced to provide protection from accidental damage (see above).

The protective fencing within the site will be regularly inspected (monthly) by the site manager in order to check the condition and positioning of this fencing. Should the fencing be damaged or in the incorrect location, it will be repaired, replaced and/or moved to the correct location adjacent to the retained habitats. In addition to monthly inspections, the site manager will undertake daily visual checks of biodiversity protection fencing and buffer zones during active construction periods to ensure integrity is maintained.

**Warning signs** - Warning notices will be positioned on the tree protection fencing and Heras fencing around retained habitats to identify the protection area and discourage access (see above).

**Wildlife exclusion barriers** – Heras fencing will be installed around the boundaries of the site and retained habitat including the watercourse and badger setts to protect these features. No other wildlife exclusion barriers will be required during construction.

**Disruption of mammal runs or paths** - Whilst temporary and permanent fencing has the potential to disrupt mammal runs or movement routes, access along the Site margins will be maintained to ensure connectivity to off-site habitats is retained. Gaps beneath fencing will be incorporated where safe and practicable to allow passage of mammals, including badger, hedgehog and other small mammals, and to facilitate continued movement of amphibians..

#### *Ground Works*

**Protection of retained habitats** - In order to protect retained habitats, appropriate fencing will be erected prior to any construction or groundworks beginning and will be implemented in line with British Standards BS 5837:2012 (see above).

**Protection of wildlife** – During ground works, there is potential for mammals including badger, otter and hedgehog, if present to become trapped within trenches or pits which are left open overnight. Any trenches or deep pits that are to be left open overnight will be covered or provided with a means of escape should wildlife enter, such as a roughened plank of wood placed in the trench as a ramp to the surface.

Any trenches or pits will be inspected each morning to ensure no animals have become trapped overnight. Should a badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped badger be encountered Tyler Grange, or an appropriate expert will be contacted immediately for further advice.

#### *Material Storage and Removal from Site*

**Material storage** - Site works will follow best practice with building materials as well as oils, fuels and chemical toilets not stored adjacent to the retained onsite and offsite habitats. Run-off protection measures (as detailed above) will also be implemented to ensure that no run-off of materials will occur. All hazardous substances will be stored within appropriately bunded areas in accordance with pollution prevention guidance.

**Topsoil storage** - In order to protect and safeguard the soil resources during construction, such as from excessive compaction, appropriate handling measures will be implemented. Ground preparation works will follow best practice with soil to be temporarily stored within areas of open space so as to maintain soil viability. Soil handling and storage will be undertaken in accordance with a Soil Management Plan following best practice guidance to maintain soil structure and suitability for reinstatement.

The storage of topsoil or other 'soft' building materials on the site will also be given careful consideration as badger will readily adopt such mounds as setts, which would then be afforded the same protection as established setts. Such mounds will be regularly inspected to check for use by badger throughout the construction period.

Where possible, material stockpiling will be limited to the temporary storage of stripped soil retained for reinstatement and no covering is anticipated to be required. Stockpiles

will be located away from retained habitats, watercourses and drainage features, and at a minimum distance of 15 metres from the watercourse and associated riparian corridor, unless otherwise agreed with the Ecological Clerk of Works.

Surplus topsoil produced during construction will be immediately removed from the site or temporarily stored, if necessary, prior to removal. All site activities will continue to comply with this OUTLINE CBMP for the full duration of the construction period.

### *Construction*

The protective measures detailed above for other phases of the works would also be implemented through the construction phase and as such no additional protection measures would be necessary.

### **Environmental Incidents**

Should any retained onsite or offsite habitat or features be damaged, suitable mitigation measures will be implemented. If damage is not considered to be significant the habitats will be allowed to regenerate naturally, although if required, replacement planting will be provisioned, with the scale of replacement to be determined by the ECoW. Any significant environmental incident will be reported immediately to the site manager and ECoW, with remedial actions agreed and implemented as soon as practicable.

Vandalism protection - Measures will be implemented within the site to prevent potential impacts from vandalism, with such measures to include:

- The site will be securely fenced in its entirety with steel mesh (Heras) fencing to prevent access;
- All offices and welfare facilities will be steel anti-vandal units;
- All construction plant will have anti-vandal shutters and keys will be kept in a locked strong box within the site office;
- Security alarm systems will be used which are linked back to a remote monitoring station as the building becomes enclosed;
- Temporary doors will be kept locked out of hours to prevent illicit access; and
- No tools will be left on site unless kept in secure steel containers.

These security measures will ensure that materials within the site are protected, preventing potential for pollution to occur as a result of vandalism.

Spill response equipment will be available onsite at all times.

### **Critical Periods and Locations**

During the implementation of the OUTLINE CBMP, critical periods and locations where construction works will need to be controlled to avoid causing harm to biodiversity features, will comprise the following:

- An ECoW visit will be completed prior to the commencement of any works to provide a toolbox talk and undertake a walkover of the site to check for any potential constraints, including signs of badger;
- Implementation of the PWMS by an experienced ECoW during clearance of any habitat with sub-optimal potential to support common amphibians and reptiles;
- Ecological supervision by the ECoW or suitably qualified ecologist will be undertaken during the clearance of any habitat with potential to support amphibians including rubble piles and debris to ensure no impacts occur to this faunal group;
- Ecological inspection and supervision by a suitably qualified and experienced ecologist will be undertaken for works within 20 m of the watercourse or clearance of any habitat with potential to support otter to ensure no impacts occur to this faunal group, including the section of watercourse to the east of the proposed substation where further otter survey is required prior to construction;
- Where works are proposed within the precautionary 30 m buffer of the affected badger sett under the current layout, these will be undertaken in accordance with a Precautionary Working Method Statement (PWMS) and under ecological advice/supervision as required;
- During the bird nesting season (generally taken to be March to August inclusive, though this is not defined in law and birds can nest outside of this time) any removal of vegetation, will require a detailed search, undertaken by an ECoW, immediately prior to its removal/demolition, to check for signs of active nests. Should any active nests be recorded suitable protection measures will be implemented as detailed above;
- Where trees identified as having bat roost potential are proposed for removal or could be affected by works, further bat surveys will be undertaken by a suitably qualified ecologist in advance of any works to confirm roost feature classifications and the presence or absence of bats, with appropriate mitigation and licensing implemented where required. Retained trees will be protected in accordance with best practice guidance, including the retained veteran ash trees which will remain fenced and protected throughout construction;
- Ecological supervision will be provided for any works affecting hedgerows, woodland edges or riparian habitats where dormouse or other protected species may be present; and
- At the end of the construction period, a verification report by the ECoW or similarly competent person(s) shall be submitted to the Local Planning Authority.

All other protection measures outlined within this OUTLINE CBMP and associated method statement will be implemented for the duration of construction where relevant.

The maintenance of all such protection measures will be the responsibility of the site manager, however, an experienced ecologist acting as an ECoW will be available to attend the site at short notice if required throughout the construction period should any issues arise.

Where works are proposed in proximity to sensitive habitats including hedgerows, woodland edges and the riparian corridor, the ECoW will be consulted in advance to confirm whether ecological supervision is required.

### **Responsible Persons and Lines of Communication**

During the construction period, the following responsible persons and lines of communication have been identified in order to guide the implementation of this OUTLINE CBMP.

Advice and monitoring, including with regard to legal consents, planning conditions and contractual arrangements, will be provided by the site operator, the site manager and ECoW, as appropriate.

The details of the site manager will be displayed on the site boundary with the site manager responsible for addressing any issues which are raised during construction.

The site manager will make all contractors aware of the presence of retained ecological onsite and offsite features and the measures implemented to protect these features. Prior to the start of works an ECoW will provide a 'toolbox' talk to detail the ecological features to be protected and the methods employed.

The site manager will act as the primary point of contact for ecological matters on site and will liaise directly with the ECoW where advice, supervision or incident response is required.

Subsequent to this initial 'toolbox' talk, where any subsequent supervision of works is required, such as removal of woody vegetation with nesting bird potential by a suitably qualified ecologist, prior to these works commencing, works around suitable habitat for amphibians, along with an updated walkover of the site to check for the signs of any protected or priority species and to check the methods detailed in the OUTLINE CBMP are being adhered to.

In the event of accidents or damaging incidents occurring during construction, the site manager will liaise with the ECoW and local authority as necessary, to agree solutions and contingency measures.

### **Role and Responsibilities on Site of an ECoW**

An ECoW will comprise a suitably qualified and experienced ecologist, appointed to supervise the implementation of the OUTLINE CBMP.

The responsibilities of the ECoW will include attending the site prior to the start of works to deliver an initial 'toolbox' talk and to set out the ecological constraints and

protection measures required. The ECoW will also attend site to supervise clearance if any habitat with potential to support nesting birds, otter, reptiles, amphibians and hedgehog (as detailed above). This will include review and supervision of works undertaken within the precautionary 30 m buffer of the affected badger sett where relevant.

The ECoW will also provide advice in relation to bats, dormouse, riparian habitats and any trees identified with bat roost potential where disturbance may occur.

As long as the measures detailed in this OUTLINE CBMP are implemented, an ECoW is not anticipated to be required for the majority of site works.

Whilst no other supervision of works is anticipated to be required, the ECoW will be available to provide advice and undertake appropriate steps, including supervision, should any previously unidentified or unexpected protected or priority species be encountered during site works.

As required, and during any site visits, the ECoW will also undertake compliance checks of all mitigation measures implemented as part of this OUTLINE CBMP

The ECoW will also keep a record of all site visits and report any potential issues to the site manager. At the end of the construction period, a verification report by the ECoW or similarly competent person(s) shall be submitted to the Local Planning Authority.

The appointed ECoW will have the necessary skills and experience required to deal with the potential issues which have been identified within the site and to provide advice to the client on any relevant issues, as necessary.

Copies of all ecological reports relevant to the site works as well as copies of planning conditions and the OUTLINE CBMP will be kept on site and be made available to the ECoW and site manager at all times, so that they are familiar with identified ecological constraints relating to the development.

### **Compliance Checking**

Procedures will be put in place to allow third party compliance checks to be undertaken of the site throughout the construction period. Any request for a compliance check would be made to the site manager who would arrange for the required site visit to be completed as soon as reasonably practicable.

Findings from compliance checks will be documented and retained as part of the site environmental records.

### **Identifying and Rectifying Remedial Measures**

As part of any compliance checks or ECoW site visits, should any potential issues of non-compliance with the OUTLINE CBMP be identified, these will be immediately reported to the site manager and appropriate actions agreed.

A record of identified non-compliance issues, agreed corrective actions and timescales for implementation will be maintained by the site manager in consultation with the ECoW.

In the event a significant issue occurs, such remedial measures shall be reported to the local authority, as required, with appropriate remedial measures to be discussed and agreed with all relevant parties. Further checks will then be completed within an appropriate time frame to confirm that remedial measures have been correctly implemented to the satisfaction of the local authority.