Pen Cae'r Lan Farm, Seven Sisters, Neath

Landscape and Ecology Management Plan (LEMP)

R01

24 January 2025

Prepared on behalf of Greentech Invest UK Ltd

tir collective
LANDSCAPE ARCHITECTS

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Landscape and Ecology Management Plan (LEMP)

This LEMP has been prepared by:

With input from GE Consulting:

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Contents

1.0 Introduction

1.1 Background

1.1.1 Tir Collective has been instructed by Greentech Investment UK Ltd to prepare this Landscape and Ecological Management Plan (LEMP) with Ecology input from GE Consulting, and other specialists on the project team including Lighthouse Development Consulting. The LEMP relates to the proposed solar farm on land at Pen Cae'r Lan Farm, Seven Sisters, Neath.

1.1.2 The LEMP provides details of mitigation and enhancement requirements during the construction, operational, and decommissioning phases, and a management framework during the operational phase. The implementation of the LEMP is central to protecting the landscape, visual and ecological importance of the Site. This document covers the operational lifetime of the project (40 years).

2.0 Scope and Aims

2.1.1 The aim of the LEMP is to provide details of the measures proposed to protect ecological receptors (habitats and species) and prescriptions for the creation and management of the new and retained habitats.

2.1.2 The LEMP should be read in conjunction with information used to support the planning application including the Ecological Impact Assessment (EcIA) – (GE Consulting, November 2024) and the detail provided on the Landscape Masterplans drawings, included in **Appendix 4** of this report:

- L.100**:** Landscape Masterplan
- Figure 2: Enhancement and Mitigation Plan (GE Consulting, November 2024).

2.2 The Site

2.2.1 The site comprises an area of 23 hectares and is located on the north/ northwestern side of the Dulais Valley, circa 500m west of the settlement of Seven Sisters, within the county borough of Neath Port Talbot.

2.2.2 The site comprises several medium sized rough pasture fields with an irregular pattern. The series of small watercourses that cross the site contributes to the field pattern and tree structure. The fields are generally bounded by outgrown hedgerows to form gappy linear tree groups, with some occasional scattered trees. Several of the linear tree groups are relatively prominent on the valley side, including the southeastern boundary of the site which lines a watercourse within the site. The southwestern boundary is also defined by a mature line of trees.

2.2.3 The topography of the site is sloping towards the south/ southeast due to the site's location on the north/ northwestern side of the Dulais Valley with a high point of approximately 216m Above Ordnance Datum in the north to approximately 164m AOD in the in the south.

2.3 Development Proposals

2.3.1 The proposal is for the installation of a 25MW ground mounted photovoltaic (solar electric) system and associated infrastructure.

2.3.2 The design for the development includes supporting infrastructure consisting of permanent grid connection hub, mounting framework, inverters, underground cabling, stock proof fence, CCTV, internal tracks and associated infrastructure, proposed landscape and environmental enhancements for a temporary period of up to 40 years. As shown on the overall landscape masterplan drawing L.100 and Figure 2: Enhancement and Mitigation Plan (GE Consulting, November 2024) in **Appendix 4**.

3.0 Landscape Design Concepts

3.1 Key design concepts

3.1.1 The below list defines the key landscape design concepts which have guided the preparation of the landscape proposals.

3.1.2 Protection and/or enhancement of ecologically valuable habitats and features, including:

- Retention and protection of existing trees and trees lines, ditches and watercourses through provision of 15m buffers.
- Retention and buffering (15m) of 'complex habitat mosaic' and partial retention of M23b, M25b and M25c communities.
- Strengthening and gapping up of outgrown tree lines to reduce visual effects and reinforce these landscape elements which make an important contribution to landscape character. Species chosen will be native species consistent with adjacent trees.
- Some native trees and groups of native shrub planting is proposed along field boundaries to help screen and filter views of the proposed development which enhancing existing field pattern.
- Management techniques on site to provide habitats suitable for grazing sheep of grassland areas.

3.1.3 The management and maintenance objectives have been formulated to achieve and fulfil the overall design concepts.

3.2 Design objectives

3.2.1 Design objectives aim to establish planting to:

- Reduce the visual impact of the proposed development when viewed from publicly accessible locations.
- Reduce the visual impact of the development when viewed from public rights of way and access land.
- Protect, enhance and maintain the retained habitats and the wildlife they support.

3.3 Phases of Development

3.3.1 The phasing regime for habitat creation / enhancement will be carried out as follows:

- **Phase 1:** Installation of bird boxes, bat boxes, hibernacula and otter holt. Planting to be carried out in the first season following construction completion and installation (see Appendix 4 drawings)
- **Phase 2:** Ongoing habitat management, native tree and shrub planting management, and bird box, bat box, hibernacula and otter holt condition checks, years 2-40 (refer to Sections 5.0 Protection Measures, Management Objectives and Prescriptions and 8.0 Annual Maintenance Schedule).
- **Phase 3:** Reinstatement / restoration landscaping plan and ongoing landscape and ecological management specification (refer Section 9.0 Restoration).

3.4 Management objectives

3.4.1 Management objectives will involve short term and long-term commitments to achieve and fulfil the overall design concepts.

Short term objectives (0-5 years):

- Successfully establish plants with acceptable rates of growth;
- Remove undesirable species/weeds from the planting areas;
- Replace dead plants within the structure planting where necessary;
- Provide sufficient resources including necessary labour, materials and machinery;
- Protect and maintain retained existing habitats of ecological value; and
- Install bird boxes, bat boxes, hibernacula and otter holt and monitor their condition.

Long term objectives (5-40 years):

- To carry out periodic maintenance as necessary;
- Overall, maintain and enhance the biodiversity and ecological value of the site in line with the Environment (Wales) Act 2016 and Planning Policy Wales 11 (Chapter 6).

3.4.2 With all aspects of landscape management, it is essential that the principle of an 'on-going commitment' is established and that sufficient recourses are made available to ensure continuity.

3.5 Maintenance objectives

3.5.1 Maintenance objectives will include regular planting checks and maintenance to ensure that the planting is establishing and is consistent with the original design intentions. This will involve continuous / ongoing routine operations throughout the year, for which a detailed maintenance schedule is to be followed. The bird boxes, bat boxes, hibernacula and otter holt will undergo condition checks on an annual basis.

3.6 Monitoring

3.6.1 Monitoring is an essential element of the plan to ensure that the results of any management work are measured and evaluated. Monitoring reports will be provided to the Local Planning Authority (LPA). Any lessons learnt from this monitoring can then be reflected in a review of the management plan (to be agreed with the LPA), which should normally be made every five years.

4.0 Site description

4.1 Habitats

4.1.1 Habitats present on site include the following:

- M23a (*Juncus effusus/ acutiflous-Galium palustre* rush-pasture *Juncus acutiflorus* sub-community (runnels and flushes))
- M23b (*Juncus effusus/acutiflorus - Galium palustre* rush-pasture *Juncus effusus* sub-community)
- M25b (*Molinia Caerulea - Potentilla erecta* mire *Anthoxanthum odoratum* sub-community)
- M25c (*Molinia Caerulea- Potentilla erecta* mire *Angelica sylvestris* sub-community)
- MG7b (*Lolium perenne* leys and related grasslands *Lolium perenne-Poa trivialis* leys sub-community)
- 'Complex habitat mosaic'

- Dense scrub
- Tree lines and associated ditches
- Watercourses

M23a community

4.1.2 A small area of M23a community habitat is present in the southernmost field. This habitat satisfies the South Wales SINC Designation Criteria and is considered to be of **County** importance.

M23b community

4.1.3 M23b is the dominant habitat within the central fields with significant areas also present in the northern and southern fields and along the proposed access track. This habitat satisfies the South Wales SINC Designation Criteria and is considered to be of **County** importance.

M25b community

4.1.4 M25b is the dominant habitat within the northern and central fields. This habitat satisfies the South Wales SINC Designation Criteria and qualifies under the Purple Moor Grass and Rush Pastures Priority Habitat and is considered to be of **County** importance.

M25c community

4.1.5 Several discrete areas of M25c are present in the central and northern fields. This habitat satisfies the South Wales SINC Designation Criteria and qualifies under the Purple Moor Grass and Rush Pastures Priority Habitat and is considered to be of **County** importance.

MG7b community

4.1.6 A discrete stretch of MG7b community is present within the access track and this is considered to be of **Negligible** importance.

Complex habitat mosaic

4.1.7 A complex mosaic of habitats is present adjacent to the main watercourse running through the Site. Given the irregular nature of the landforms and the small fragmentary areas of habitat in this area (which frequently merge M23a, M23b, M25b and M25c communities into each other to create habitat mosaics) this area could not satisfactorily be sampled for NVC survey. The complex habitat mosaic is considered to be of **County** importance.

Dense scrub

4.1.8 A small parcel of dense scrub is present in the north-east of the Site and this is considered to be of **Negligible** importance.

Tree lines, ditches and watercourses

4.1.9 The majority of fields are bound by tree lines (containing a number of veteran trees) and associated ditches and watercourses, with the most significant watercourse running through the Site from the north-west to the south-east. The tree lines, ditches and watercourses are considered to be of **Local** importance

4.2 Protected species

4.2.1 The Site supports commuting and foraging bats, a 'good' population of common lizard, a notable assemblage of breeding birds (including red-listed species), common amphibians and badger.

4.2.2 The Site also provides suitable habitat for hedgehog, invertebrates and otter.

Amphibians

4.2.3 The tussocky pasture provides optimal habitat for amphibians during their terrestrial phase and a single ephemeral waterbody, associated with an old quarry pit, is present within the Site. However, the waterbody is considered sub-optimal for amphibians due to a lack of aquatic vegetation and poor water quality. In addition, this pond was subject to an eDNA survey in 2021 as part of a previous survey effort (BSG Ecology, 2021) and a negative result for great crested newt was returned; although common frog and toad were both recorded. Given the lack of species records, poor quality of aquatic habitat and historic survey data, great crested newt are considered to be **absent** from the Site and have been scoped out of further assessment. However, given their known presence, the Site is considered to be of **Site** importance for other amphibian species.

Badger

4.2.4 The Site provides suitable foraging, commuting and sett building habitat in the form of tussocky pasture and tree lines with associated ditches. Widespread evidence of foraging badger, in addition to a number of disused badger setts, were recorded within the Site; however, no active setts were recorded. Badgers are not listed as a species of principal importance for the conservation of biodiversity in Wales and have therefore not been assigned a scale of importance in this case but will be considered further in this report in relation to their legal protection only.

Bats

4.2.5 A number of the trees within the tree lines support potential roost features (PRFs) for roosting bats. However, as all tree lines are set to be retained, buffered and protected from light spill as part of the development, no impacts on roosting bats (if present) are anticipated.

4.2.6 The tree lines, ditches and watercourses provide suitable commuting and foraging habitat for a variety of bat species, and these are connected to a network of suitable habitat (hedgerows, tree lines, watercourses and woodland) within the wider area. The assemblage of bats recorded during the surveys is considered to be fairly typical given the Site's geographic location and habitats available both on Site and within the wider landscape. The vast majority of activity within the Site belonged to soprano pipistrelle and common pipistrelle, both of which are considered to be common and widespread within the UK and are considered to be light-tolerant. No Annex II species were recorded. The Site is predominantly used by common and widespread species and is therefore considered to be of **Site** importance for commuting and foraging bats.

Birds

4.2.7 The tussocky pasture, dense scrub, tree lines and watercourses provide optimal habitat for a number of bird species. The breeding bird surveys recorded a total of 41 species. These species were recorded throughout the tussocky pasture and boundary vegetation, and a particular concentration of records were noted within and adjacent to the major watercourse and along the north-eastern Site boundary. Of these, 24 were notable species (at least Amber-listed BoCC 5, SPI, Local BAP or Sch1 WCA) and 13 species (including four ground-nesting species) were classified as breeding within the Site. Both meadow pipit and skylark were observed entering or leaving suitable nest sites within the tussocky pasture, and confirmed to be breeding, on multiple surveys. The peak counts for meadow pipit and skylark were 23 and 11 respectively and it is clear that the Site supports a considerable population of Welsh and UK Red list designated ground nesting birds.

4.2.8 Furthermore, significant probable breeding populations of Red list (Welsh BoCC4) passerine species were observed within the Site; most notably eight concurrent grasshopper warbler and fourteen willow warbler territories.

4.2.9 Although it is important to note that the habitats present within the Site are relatively common and widespread in the local area, there are notable breeding species within the Site and the Site is therefore considered to be up to **County** importance for breeding birds.

Invertebrates

4.2.10 The tussocky pasture, tree lines and associated ditches and watercourses provide suitable habitat for a range of invertebrates, especially deadwood-associated species. However, these

habitats are common and widespread in the local area and the Site is therefore considered to be of no more than **Site** importance for invertebrates

Reptiles

4.2.11 The reptile surveys recorded the presence of a breeding common lizard population, with the majority of observations recorded within the tussocky pasture habitat in the north-east of the Site. A peak count of 6 adults was recorded, which according to good-practice guidelines (Froglife, 1999), is classified as a 'good' population size. However, due to the abundance of similar habitat within the local area, the Site is considered to be of no more than **Local** importance for reptiles.

Other Notable Species

4.2.12 The tussocky pasture and tree lines provide suitability for hedgehog whilst the watercourses, primarily the one running from north-west to south-east through the Site, provides some suitability for otter. Although no evidence of either species was recorded within the Site, it is considered possible that both species could utilise the Site to commute and forage. The Site is considered to be of **Site** importance for hedgehog and precautionary measures will be adopted during construction and operation to avoid potential impacts on otter should they be present.

5.0 Proposed Habitat Enhancement / Creation

5.1.1 Some habitats will be enhanced or created on site as a result of the proposals. Their extent is detailed below, and their locations are illustrated in the Landscape Masterplan **Figure L100** and **Figure 2** Enhancement and Mitigation Plan (GE Consulting, November 2024). (refer to **Appendix 4**).

Native tree, hedgerow and shrub planting

5.1.2 There are opportunities for new tree and shrub planting to fill in existing gaps. There are also opportunities to reinstate hedgerows. The new planting will help to screen views into the site from the surrounding landscape and to improve habitat connectivity. This will be undertaken outside the breeding bird season to avoid disturbance (March to September (inclusive)).

5.1.3 Trees, hedgerows, and shrubs will comprise of a mixture of locally sourced native species such as oak, hawthorn, blackthorn, rowan, Guelder-rose and European gorse.

Bird boxes

5.1.4 15 no. tree mounted bird boxes will be installed on trees within the existing tree lines along the Site boundaries (see **Figure 2**). Boxes will be erected singly on trees, out of direct sun and

the prevailing weather and away from perches where birds are at risk from predators. Boxes will be positioned at a minimum of 3m above the ground and attached to an open section of the trunk that is not obscured by vegetation.

Bat boxes

5.1.5 15 no. tree mounted bat boxes will be installed on trees within the existing tree lines along the Site boundaries **(Figure 2)**. Boxes will be erected on trees at a minimum height of 3m above the ground and attached to an open section of the trunk that is not obscured by vegetation. Boxes will be positioned away from lighting and positioned so that a clear, unlit flight path into the box from the adjacent tree line is present.

Hibernacula

5.1.6 6 no. hibernacula will be created within areas of undisturbed boundary vegetation and the river corridor **(Figure 2)**. The hibernacula will be constructed from dead wood and rubble, topped with loose soil and turf. Dimensions to be a minimum of 2m length x 1m width x 1m height.

Otter holt

5.1.7 1 no. otter holt will be created within an undisturbed area of the river corridor **(Figure 2)**. The holt will be constructed using log piles to a minimum specification of 5m x 3m x 4m. Large logs will be used for the base and these will form a series of chambers, whilst thinner logs can be used to roof the chambers and debris piled on top to make the structure waterproof.

6.0 Habitat Protection Measures, Management Objectives and Prescriptions

6.1.1 The following details the protection measures for the existing retained habitats and prescriptions for the enhancement and creation of the new habitats, in addition to the ongoing management of the site during the operational phase.

Existing 'Complex habitat mosaic' and M23b/M25b/M25c communities

Objectives

6.1.2 The existing 'Complex habitat mosaic' will be fully retained and protected with a 15m buffer.

6.1.3 The existing M23b, M25b and M25c communities will be partially retained and protected with a 15m buffer. Where habitat has been temporarily lost during construction, natural regeneration will be encouraged through continuation of its current management regime (low intensity sheep grazing).

Protection Measures

6.1.4 The fully retained 'complex habitat mosaic' will be protected within a 15m buffer. This buffer will be marked out with Heras fencing (or similar) to avoid damage caused during construction.

6.1.5 The partially retained areas of M23b, M25b and M25c communities will be protected within a 15m buffer. This buffer will be marked out with Heras fencing (or similar) to avoid damage during construction.

Management Prescriptions

6.1.6 Management for the 'complex habitat mosaic' will remain unchanged to maintain the habitat type and condition. Low-intensity sheep grazing will continue once the construction phase is complete.

6.1.7 Where areas of M23a, M23b, M25b and M25c have been completely or partially 'lost' (i.e. cut short to facilitate installation of panels), the habitats will be allowed to naturally regenerate following construction. In order to give the habitats, the best opportunity to return to their original type and condition, the current management regime of low-intensity sheep grazing (listed above) will continue.

6.1.8 No fertilisers will be used as this will promote the proliferation of competitive species (i.e. agricultural grasses etc) at the expense of botanical diversity.

Existing tree lines, ditches and watercourses

Objectives

6.1.9 All retained tree lines, ditches and watercourses will be protected with a 15m buffer.

6.1.10 Retained trees lines will be protected during construction operations following the BS5837:2012 "Trees in Relation to Design, Demolition and Construction – Recommendations".

6.1.11 Where there are gaps, they will be in-filled using locally sourced native species.

6.1.12 Ongoing management of trees lines will aim to promote mature trees, including dead-wood habitat.

Protection and Enhancement Measures

6.1.13 All buffers will be marked out with Heras fencing (or similar) and Pollution Prevention for Businesses (2024)[1] will be followed to avoid run-off entering the ditches and watercourses during construction.

[1] https://www.gov.uk/guidance/pollution-prevention-for-businesses

6.1.14 Tree lines will be retained, and the existing gaps will be used to facilitate site access, wherever possible. Tree removal will be limited to the removal of 3no. Category C trees (Goat Willow) in the north of the site to facilitate the proposed solar arrays. New tree planting will mitigate the loss of the 3no. at a minimum replacement ratio of 3:1, in accordance with PPW12.

6.1.15 The trees lines will be subject to a buffer of 15m or the RPAs where cable crossing is required. No machinery and/or excavation will be permitted within these buffer zones, with the exception of the installation of the stock proof boundary fence. Where work within buffer zones is required, this should be a trenchless solution, if possible, carried out according to section 7.6 of BS5837-2012.

6.1.16 A full BS5837 survey has been undertaken on site in order to identify the RPA and the level of impact that electrical cables will have upon trees. Gappy tree lines will be enhanced using the following species which are typical of the local area: oak, hawthorn, blackthorn, rowan, Guelder-rose and European gorse.

Management Prescriptions

6.1.17 The hedgerows will be managed to promote structural diversity and the fruiting of flowers and berries. Hedgerows will be trimmed on a two-to-three-year rotation[2] in January – February using a flail trimmer, to allow berries to fruit and provide foraging opportunities to wildlife. They will be maintained at a width of 2m and a minimum height of 3m. Not all the hedgerows on site will be trimmed in the same year so as to retain structural diversity and foraging opportunities. Trimming in winter will also avoid disturbing nesting birds, reptiles and dormice which potentially use the site.

6.1.18 Tree management will be avoided unless there are overriding safety concerns. Where tree works are necessary, an assessment of the tree's features to support protected species will be carried out by a suitably qualified ecologist in advance. Where removal of tree features capable of supporting protected species are necessary, then further surveys following recommended standard published guidelines and where necessary mitigation will be carried out prior to works commencing.

6.1.19 Deadwood habitat will be maintained in situ where possible. In the event that it cannot, the wood will be placed in a specific habitat pile(s) and left to degrade naturally.

[2] This trimming frequency will help to maintain the health, thickness and species diversity of the hedgerows. Hedgerows left unmanaged for long periods become tall and 'leggy', often resulting in gaps at the bases.

Native tree, hedgerow and shrub planting

Objectives

6.1.20 The new native tree, hedgerow and shrub planting along field and site boundaries will provide screening and also enhance vegetative connectivity along the boundaries.

6.1.21 The planting will be fenced from the adjacent grassland, preventing access by livestock. Ongoing management of the native planting habitats will aim to promote structural and botanical diversity.

Creation Prescriptions

6.1.22 The following measures will be carried out to prepare planting areas:

- The soil will be stripped to a depth of 500mm where possible and stones of greater than 75mm will be removed;
- Native species will be planted between mid-October and April at a depth of at least 500mm into free-draining and friable rootable soil;
- Individual plants will be at 1m centres in single species blocks of three to ten plants. Larger specimen trees will be planted in locations as shown on the drawings.

Management Prescriptions

6.1.23 Management of ground vegetation should be kept to a minimum and only where vigorous growth of coarse grasses threatens to smother the transplants in the first three to four years following planting. A weed free area of at least 1 m in diameter will be maintained around trees and shrubs for the first five years. Where necessary, ground vegetation should be restricted, either through the cutting of annuals in late summer or the spot application of glyphosate to undesirable perennials.

6.1.24 The proposed shrub species are all native and will be managed to a height of 5m to avoid shade being cast onto the panels. The planting is protected from grazing livestock with a stock-proof fence and rabbit guards will be installed around the individual plants.

6.1.25 It will be necessary to undertake occasional formative pruning of certain shrubs; this should be done with respect to the overall form and shape of the shrub. Species selection and the location of planting should ensure that shrubs will not require severe pruning. It is not intended that the shrub planting will be cut back on a frequent basis. Where pruning occurs in the bird breeding season (March – September), works will avoid impacting active nests. If an active nest is found during pruning operations, an appropriate buffer (usually considered to be a minimum of 5m) will be established around the nest in which no works will occur until

any young have fledged. The period that nests are active for varies between species of birds but can be several months.

6.1.26 Favoured trees should normally have full rounded crowns and any competitors should be thinned out before the favoured trees become over topped. Thinning will help trees grow faster once they have clear space around the canopy into which they can grow and will also allow for more light to filter through the trees. Thinning should be avoided during the bird nesting season, which is usually between March to September.

6.1.27 The hedgerows will be managed to promote structural diversity and the fruiting of flowers and berries. Hedgerows will be trimmed on a two-to-three-year rotation[3] in January – February using a flail trimmer, to allow berries to fruit and provide foraging opportunities to wildlife. They will be maintained at a width of 2m and a minimum height of 3m. Not all the hedgerows on site will be trimmed in the same year so as to retain structural diversity and foraging opportunities. Trimming in winter will also avoid disturbing nesting birds, reptiles and dormice which potentially use the site.

6.1.28 No fertilisers will be used as this will promote the proliferation of competitive species at the expenses of botanical diversity.

6.1.29 Once the area becomes established, ongoing management will follow that detailed above.

7.0 Species Protection Measures

7.1 Amphibians and reptiles

7.1.1 The boundary vegetation, ditches and watercourses all provide suitable habitat and will be retained and buffered. Where suitable habitat is being 'lost' (i.e. cut short), they will be allowed to naturally regenerate following construction. In order to give the habitats the best opportunity to return to their original type and condition, the current management regime of low-intensity sheep grazing will continue. It is also considered that the provision of solar panels, enhancements to tree lines and creation of hibernacula will provide new basking, sheltering and brumating opportunities for reptiles.

7.1.2 Furthermore, where habitat is to be 'lost', the following method statement will be followed to protect any amphibians and reptiles present from harm:

- Initially, the vegetation removal will be cut to approximately 150mm, (starting from the centre of each field and working towards retained and buffered boundary vegetation) with the arisings removed and habitats left for a minimum of 48 hours in suitable weather conditions i.e. no rain or high winds;.

[3] This trimming frequency will help to maintain the health, thickness and species diversity of the hedgerows. Hedgerows left unmanaged for long periods become tall and 'leggy', often resulting in gaps at the bases.

- A further cut will then be made to 50mm, in the same direction as outlined above, to encourage any remaining reptiles/ amphibians towards the retained and buffered areas of suitable habitat; and
- Once complete, the vegetation will be maintained at a low-level (<50mm) until the start of development works.

7.2 Badger and hedgehog

7.2.1 An update badger walkover will be undertaken 3 months prior to the commencement of construction activities to check for any fresh signs of sett building. If evidence of fresh sett building is identified, monitoring may be required.

7.2.2 Notwithstanding the above, to protect any badgers that may be utilising the Site for commuting and foraging, the following precautionary measures will be followed during construction:

- Trenches will be covered at the end of each working day and any temporarily exposed pipes will be capped to prevent badger gaining access during the night;
- Any trenches or deep pits which must be left open overnight will be provided with a means of escape should a badger enter. This would simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface;
- Any trenches/pits will be inspected each morning to ensure no badgers have become trapped overnight. Should a badger become trapped in a trench it may attempt to dig itself into the side of a trench and form a temporary sett. Should a trapped badger be encountered, the advice of an ecologist must be sought immediately. If necessary, the ecologist will contact the RSPCA or a vet who will move the badger to safety or provide treatment if required;
- The storage of topsoil or other 'soft' building material within the construction site will be given careful consideration. Badgers may readily adopt such mounds as setts. To avoid this, mounds will be kept to a minimum and any essential mounds will be subject to daily inspections;
- Food and litter are not to be left within the working area overnight to minimise the potential for any roaming badgers to be attracted to the construction site; and
- The storage of any chemical within the construction site will be contained in such a way that they cannot be consumed or knocked over by any wildlife.

7.2.3 The mitigation measures outlined above will also serve to protect hedgehogs and other mammals from harm. In addition, any features with potential to support hedgehog will be removed sensitively either by a check prior to removal, or by sensitive removal to ground level

to allow a visual check for hedgehog. If a hedgehog is found at any point during construction works then works must stop immediately and an ecologist contacted in the first instance.

7.3 Birds

7.3.1 To partially mitigate impacts on birds, all boundary vegetation, ditches and riparian habitats will be retained and protected with a 15m buffer as part of the development. The buffers will be clearly marked through Heras fencing (or similar) and will be subject to regular checks throughout construction to ensure they are still intact. This retention and protection of suitable habitat will mitigate impacts on the nine non-ground-nesting birds recorded breeding within the Site.

7.3.2 Where habitat will be 'lost' to facilitate the installation of solar panels, the pasture will be allowed to naturally regenerate to mitigate impacts on ground-nesting birds. In addition, a recent study has been published titled '*Solar parks can enhance bird diversity in agricultural landscape* (Jarčuška *et al*., 2024)'. The study concludes that solar farms can enrich vegetation structural diversity, bird species diversity, abundance of invertebrate-eaters and abundance of ground foragers. Therefore, the results of this study suggest that the loss of suitable ground-nesting habitat under the solar panels will be suitably compensated for through an increase in structural diversity, creation of new microclimates and an increase in invertebrate abundance. In addition, the conversion of the Site to a solar farm will lead to a cessation of the current topping management technique, which will also be favourable for breeding birds, and the solar panels will provide new perching and singing habitats for a number of bird species.

7.3.3 Given the protection afforded to all breeding birds, their nests, eggs and young, any vegetation clearance, including the future management of habitats, should be undertaken outside of the breeding bird season (March to August inclusive). If this is not practicable, then works should be preceded by a nesting bird check by a suitably qualified ecologist within 48 hours of the commencement of works. If evidence of nesting is recorded, works within that particular area should not until the chicks have fledged, with a buffer zone around the active nest of 10m minimum.

7.4 Bats

7.4.1 To minimise the impacts on commuting and foraging bats, all boundary vegetation will be retained and protected with a 15m buffer as part of the development.

- During the construction phase, the following mitigation measures will be implemented:
- All works will be undertaken during daylight hours, with works commencing no earlier than 30 minutes prior to sunrise and finishing no later than 30 minutes after sunset. No artificial lighting will be left on outside of normal working hours; and

- Where security lighting is required, it is recommended that these are motion activated with hooded luminaires, and these must be directed away from boundary vegetation and bat and bird boxes.

7.4.2 No additional lighting will be installed as part of the operational phase and as such no impacts on commuting and foraging bats are anticipated. Furthermore, it is considered that the installation of bat boxes and the tree line enhancements will provide new habitats for roosting and commuting and foraging bats.

7.5 Invertebrates

7.5.1 Although a notable invertebrate assemblage hasn't been recorded within the Site, the habitats within the Site do provide optimal habitat for invertebrates. To partially mitigate impacts on invertebrates, all boundary vegetation, ditches and riparian habitats will be retained and protected with a 15m buffer as part of the development. The buffers will be clearly marked through Heras fencing (or similar) and will be subject to regular checks throughout construction to ensure they are still intact.

7.5.2 Where habitat will be 'lost' to facilitate the installation of solar panels, the pasture will be allowed to naturally regenerate. Although it is considered possible that, due to additional shading, the purple moor grass/rush pasture may not regenerate to the same condition as it was pre-construction, it is anticipated that the pasture will still provide the necessary vegetation structure to support the invertebrate assemblage within the Site. In addition, the studied mentioned above '*Solar parks can enhance bird diversity in agricultural landscape* (Jarčuška *et al*., 2024)' concludes that the installation of solar arrays can increase abundance of invertebrate-feeding bird species, which indicates that the proposals could lead to an increase in invertebrate numbers.

7.6 Otter

7.6.1 Although no records or evidence of otter was recorded within or adjacent to the Site, there is the potential for otter to be negatively impacted through pollution and run-off into the watercourses during construction, should they be present. Therefore, the standard Pollution Prevention for Businesses (2024) guidance will be followed throughout construction to prevent pollution and run-off into the watercourses. Furthermore, the installation of the otter holt will provide additional habitat for otter within the Site.

8.0 Monitoring

8.1.1 The monitoring commitment for proposed scheme is five years post construction of the solar farm then once every five years.

8.1.2 An annual assessment of the habitats will be carried out by suitably qualified ecologist and landscape architect in June to establish the extent of the habitats, their species composition and their general condition.

8.1.3 A monitoring report will be compiled which reviews the aims and the management prescriptions against the site conditions. Monitoring reports will be provided to the LPA. The management prescriptions may therefore change where necessary to ensure that habitats and protected species are favourably conserved on site.

9.0 Annual maintenance

9.1 Maintenance programme

9.1.1 The annual maintenance programme for the site will be carried out in line with the following programme to ensure that the maintenance works is carried out at the most beneficial time. For all seasons, the following will need to be undertaken:

- Inspections;
- Watering – may be necessary during the establishment period or through periods of drought to ensure the planting/grass areas continue to thrive; and
- Pest and disease control.

Table 8-1 Timetable for Implementation and Habitat Management

Action	January	February	March	April	May	June	July	August	September	October	November	December	Notes
Pre-construction													
Toolbox talk													To all construction staff prior to any works commencing
Erection of tree protective fencing													Prior to any works commencing
Construction and Operation													
Hedgerow trimming													On two to three year rotation to maintain height and shape
Prune native shrub planting													
Rotational grazing of sheep													With some areas left

Action	January	February	March	April	May	June	July	August	September	October	November	December	Notes
in grassland													ungrazed between April - July
Clearance of scrub encroachment into ditches, watercourses and grassland													
Creation of reptile hibernacula and otter holt													Any time of year
Installation of bat / bird boxes													Ahead of the breeding season
Bat / bird box, hibernacula and otter holt condition checks													

9.2 Annual maintenance schedules

Table 8-2 Annual Maintenance: Shrub and tree planting

Action	Details	Timing	Standard
Weed control	**Hand weed** a minimum of 4 times per year. **Apply a herbicide** to kill re-growth when required.	February; April; May; July; September	Refer to **Appendix 1**: Q35/ 645; 650; 657; 670
Fertilizer	Applications of fertilizer to be carried out early in the growing season.	April	Ensure correct fertilizer application. Refer to **Appendix 1**: Q35/ 695
Pest and disease control	To be carried out if necessary and in accordance with best practice.	When required	To eradicate all pests and disease to a high standard

Action	Details	Timing	Standard
Pruning	At the appropriate season for the species, pruning to be carried out to remove all damaged diseased or dead wood. To be commenced from year 5.	February – October Where pruning occurs in bird breeding season (Mar – Sept), works must avoid impacting nests	**Shrubs**: Prune to ensue the plant is kept well balanced and in good shape. Refer to **Appendix 2** for pruning techniques and **Appendix 3** for pruning schedule. Refer to **Appendix 1**: Q35/ 170; 540; 545; 550; 575; 580
Tree thinning	Once every five years, to stop favoured trees becoming suppressed and weakened by other vegetation.	Avoid nesting season between March-Sept	Refer to **Appendix 1:** Q35/715

Table 8-3 Annual Maintenance: hedgerow/ tree line buffers

Action	Details	Timing	Standard
Pest and disease control	To be carried out if necessary and in accordance with best practice	January/ February	To eradicate all pests and disease to a high standard
Weed control – first year	Control annual weeds formed in the first growing season by topping or mowing.	First season	Refer to **Appendix 1: Q35/273**
Weed control – general	Unwanted perennial weeds to be controlled by occasional spot treatment with herbicide.	Throughout	Refer to **Appendix 1: Q35/657**
Grazing/cutting	Low-intensity sheep grazing	To control scrub and bramble development tussocky areas may need cutting or grazing every 2-3 years between October and February	Refer to **Appendix 1: Q35/273**

10.0 Restoration

10.1.1 After 40 years of operation the solar farm site will be restored to its original condition, with the exception of new areas of wildlife habitat which have been created, which will be retained.

10.1.2 It is recommended that prior to the restoration the ecological and landscape value of the pre-restored site is appraised by a suitably qualified ecologist and landscape architect.

10.1.3 Habitats created/maintained in the 40-year period have the potential to be ecologically valuable and support protected species and as such the restoration impacts should be assessed in advance of works commencing as mitigation may be required.

Appendices

Appendix 1: Maintenance Specification Q35

Generally

110 NOTICE: Give notice before:

- Application of herbicide.
- Application of fertilizer.
- Watering.
- Each site maintenance visit.
- Period of notice: 1 week before site visit.

130 REINSTATEMENT: Damage or disturbance to soil structure, planting, grass: Reinstate to original condition and within a reasonable period of time (according to season).

140 CONTROL OF MAMMALIAN PESTS: Employ only approved firms and methods.

155 WATERING

- Supply: Potable mains water.
- Quantity: Ensure the full depth of topsoil is thoroughly wetted.
- Application: Do not damage or loosen plants. Use a fine rose or low-pressure hose where appropriate to avoid damaging or loosening plants.
- Compacted soil: Where necessary, loosen soil or form depressions around the stem base of plants to ensure that water reaches the root zone instead of dispersing on the surface.
- Frequency: As necessary for the continued thriving of all planting/grass areas.

160 WATER RESTRICTIONS: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

170 DISPOSAL OF ARISINGS GENERALLY: unless specified otherwise, dispose of arisings from all specified operations by removing from site.

180 CHIPPING OR SHREDDING: Not permitted on site.

197 CLEANLINESS: Leave the works in a clean, tidy condition at completion and after any maintenance operations.

Existing grassland Areas

210 MAINTENANCE OF GRASS AREAS: Maintain grass in a manner appropriate to the intended use. Carry out the following as necessary:

- Grass height: to be maintained with Low-intensity sheep grazing on rotation, leaving some grassland within field units free to flower and set seed throughout spring – summer.
- Condition: Maintain grass in a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
- Water logging and compaction: ensure that soil and grass does not become compacted or waterlogged.

New grassland areas

222 MAINTENANCE OF IMPROVED/ SPECIES RICH GRASS AREAS:

- Grass height: to be maintained with Low-intensity sheep grazing on rotation, leaving some grassland within field units free to flower and set seed throughout spring – summer.
- Condition: Maintain grass in a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
- Water logging and compaction: ensure that soil and grass does not become compacted or waterlogged.

273 MAINTENANCE OF RHYNE/HEDGEROW BUFFERS: Carry out the following:

- Times of year/frequency of cutting: October to March
- Height of cut: 80mm eight weeks after sowing in first year; subsequent years 150mm, with exception of vegetation 2m radius around refugia, which will not be cut.
- Arisings: Cuttings will be left to dry and shed seed for approximately one to seven days and the resulting cuttings removed from the site and composted.

275 MAINTENANCE OF TUSSOCKY/NECTAR RICH PLANTING: Carry out the following:

- Times of year/frequency of cutting: October to March
- Height of cut: 80mm eight weeks after sowing in first year; subsequent years 150mm, with exception of vegetation 2m radius around refugia, which will not be cut.
- Arisings: Cuttings will be left to dry and shed seed for approximately one to seven days and the resulting cuttings removed from the site and composted.

Native Shrubs / Trees

500 ESTABLISHMENT OF NEW PLANTING

- Duration: 0-5 years.
- Weed control: refer to Q35/645; 650; 657; 670.

- Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.

510 TREE STAKES AND TIES (IF REQUIRED): Inspect as scheduled and additionally immediately after strong winds, and carry out the following:

- Check stakes for looseness, breaks and decay and replace as necessary to original specification. If a tree with a defective stake has grown sufficiently to become self supporting, remove stake(s) and fill the hole(s) with lightly compacted soil.
- Adjust, refix or replace loose or defective ties as necessary, allowing for growth since planting and to prevent chafing. Where chafing has occurred, reposition or replace ties to prevent further chafing.
- Where stakes are longer than half the height of the clear stem of the tree, cut the stake to this height in spring and retie to tree firmly but not tightly with a single tie.
- Remove redundant tapes, tags, ties, labels and other encumbrances.
- Remove stakes and ties during spring when no longer required to support tree.

520 REFIRMING: Ensure that trees and shrubs remain firmly bedded after strong winds, frost heave and other disturbances. Refirm by treading around the base. 'Collars' at the base of tree stems created by tree movement to be broken up by fork, avoiding damage to roots, backfilled with topsoil as necessary, and refirmed.

530 TREE SHELTERS: Adjust, refix or replace any loose or defective guards to original specification and to prevent chafing. Remove tree shelters and dispose off site once trees / shrubs are fully established.

540 PRUNING GENERALLY:

- Prune in accordance with good horticultural practice. Prune larger branches and woody stems in accordance with good arboricultural practice.
- Thin, trim and shape appropriately to each species, location, season, and stage of growth, leaving a well balanced natural appearance.
- Use clean sharp secateurs, hand saws or other tools to carry out works. Trim off ragged edges of bark or wood with a sharp knife.
- Remove branches without damaging or tearing the stem.
- Keep wounds as small as possible and cut cleanly back to sound wood. Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
- Prune larger branches neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.

545 PRUNING OF EXCESSIVE OVERHANG: Remove annually any growth encroaching onto grassed

areas.

550 PRUNING OF EXCESSIVE HEIGHT: Remove excessive height of more than five metres within the edge mix, and eight metres within woodland mix and dispose off site.

570 FORMATIVE PRUNING OF YOUNG TREES:

- Do not prune whips or feathered trees.
- Type and timing of pruning operations to be carried out to suit the plant species.
- Do not prune during the late winter/early spring sap flow period, unless specified otherwise.
- Crown prune young trees up to 4 m high by removing dead branches and reducing selected side branches by one third to preserve a well-balanced head, ensuring the development of a single strong leader and the removal of duplicated branches and potentially weak or tight forks. In each case cut back to live wood.

580 PRUNING FLOWERING SPECIES: Unless otherwise specified or instructed, prune:

- Winter flowering shrubs in spring.
- Shrubs flowering between March and July immediately after the flowering period.
- Shrubs flowering between July and October back to old wood in winter.

611 TRIMMING ESTABLISHED HEDGES:

- Time of year: January/February.
- Operations:
- Form: Trim carefully and neatly to regular line and shape with vertical sides.
- Trim: Remove current growth rather than old wood.
- Tools/ Cutting: suitable mechanical cutters.

620 REMOVAL OF DEAD PLANT MATERIAL: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

635 REINSTATEMENT OF PLANTING AREAS:

- Remove dead and damaged plants
- Carefully move any mulch materials to one side and dig over the soil, leaving it fit for replanting. Take care not to disturb roots of adjacent plants.
- Replace plants, using pits and plants to the original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
- Dress with Enmag slow release fertilizer at 70g/sq m.

645 WEED CONTROL GENERALLY:

- Remove and/or prevent plant growth that is not required in the landscape to achieve the following level(s) of weed control: 90% control; no weed species in excess of 150mm high.
- Ensure that the methods used cause the minimum of damage to adjacent plants, trees or grass.
- All tree and shrub planting to be maintained weed free throughout planting area.

650 HAND WEEDING: Remove all weeds, including roots, by hand using hoes, trowels or forks, taking care to remove not more than a minimum quantity of soil, causing minimum disturbance to trees, plants, mulched surfaces and leaving the area in a neat, raked, clean condition.

657 HERBICIDE TO KILL REGROWTH:

- Apply a suitable foliar acting herbicide to kill regrowth.
- Allow the recommended period before clearing arisings.

670 WEED CONTROL WITH SUMMER HERBICIDE:

- Apply a suitable foliar acting herbicide.
- Re-apply as necessary to maintain required level of weed control.
- Allow the recommended period before clearing arisings.

680 SOIL AERATION: Prick up trodden or otherwise compacted soil surfaces using a border fork as specified in BS 7370: Part 4, to aerate the soil of root areas. Do not damage plants and their roots.

690 MAINTENANCE OF MULCH:

- Top up with Melcourt Forest Biomulch to thickness of 50mm.
- Sweep up and replace mulch spilling onto adjacent areas and, if not contaminated with weeds or rubbish, return to planted area.
- Remove weeds growing on or in mulch by hand weeding or herbicide.

695 FERTILIZING ESTABLISHED TREES AND SHRUBS: Spring spread of Enmag slow release fertilizer, at a uniform rate of 70g/m^2.

710 NATIVE TREE AND SHRUB PLANTING MAINTENANCE

- Watering: In exceptional circumstances to prevent plants dying.
- Loose plants: Refirm surrounding soil, without compacting.
- Vegetation: Except trees and coppice shoots to be retained, cut down to 5m in edge mix area and 8m in woodland mix area.
- Arisings: Leave between rows.
- Ditches and drains: Keep clear.

715 NATIVE TREE AND SHRUB THINNING: Thin out the northern edge of the existing woodland, every five years, by removing dead/dying trees and favouring straight, upright trees. Prune low branches along the northern edge. Allow the removal of branches to be left on woodland floor to decay and return nutrients into the soil. Avoid thinning during the bird nesting season (generally March-September).

Tree work

810 TREE WORK GENERALLY

- Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
- Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
- Removing branches: Cut as shown in Arboricultural Association Leaflet No 8 'Mature tree maintenance'. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
- Appearance: Leave trees with a well balanced natural appearance.
- Chain saw work: Operatives must hold a Certificate of Competence.
- Tree work: To be carried out by an approved member of the Arboricultural Association.

815 ADDITIONAL WORK

- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

820 PREVENTION OF WOUND BLEEDING

- Standard: To BS 3998, clause 8.

825 PREVENTION OF DISEASE TRANSMISSION

- Standard: To BS 3998, clause 9 and Appendix B.

830 CLEANING OUT AND DEADWOODING

Remove:

- Rubbish, wind blown or accumulated in branch forks.
- Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
- Other unwanted objects, e.g. tree houses, swings.

835 CUTTING AND PRUNING GENERALLY

- Tools: Appropriate, well maintained and sharp.

Final pruning cuts:

- Chainsaws: Do not use on branches of less than 50 mm diameter.
- Hand saws: Cut in one continuous operation to form a smooth cut surface.
- Anvil type secateurs: Do not use.

Removing branches: Do not damage or tear the stem.

- Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.

Large branches: Remove in small sections and lower to ground with ropes and slings.

- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

840 CROWN REDUCTION/ SHAPING

- General: Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.

845 CROWN LIFTING

- Clearances: Remove branch systems to give clearance.
- Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

850 CROWN THINNING

- Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches.
- Thinning: Selectively remove approximately 2.0 metres of secondary and small live branch growth evenly throughout the crown.
- Branches: Cut back to lateral or sublateral buds or branches without leaving stumps.
- Appearance: Leave a uniform and well balanced structure of branches and foliage

855 CUTTING TREE ROOTS

- Excavating: Use hand tools only.
- Protected area: Do not cut roots within an area which is the larger of:

- The branch spread of the tree.
- An area with a radius of half the tree's height, measured from the trunk.
- Outside protected area: Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.

Cutting:

- Make clean smooth cuts with a hand saw.
- Wounds: Minimize. Avoid ragged edges.
- Finishing: Pare cut surfaces smooth with a sharp knife.

Backfilling:

- Protection: Cover cut roots with clean sharp sand.
- Material: Backfill with original topsoil.

860 REMOVING TREES

- Standards: To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
- Existing services: Check for below and above ground services. Give notice if they may be affected.
- Shrubs and smaller trees: Cut down and grub up roots.

Tree stumps:

- Removal by winching: Give notice. Do not use other trees as supports or anchors.
- Work near retained trees: Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.

Filling holes:

- Material: Use as-dug material and/ or imported soil as required.
- Finishing: Grade to marry in with surrounding ground level

865 BARK DAMAGE

Wounds:

- Bark: Gently remove ragged edges using a sharp knife.
- Wood: Remove splintered wood from deep wounds.
- Size: Keep wounds as small as possible.

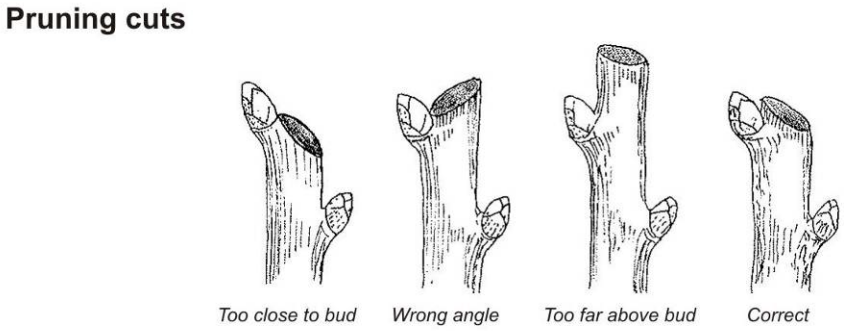
870 CAVITIES IN TREES

- Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
- Water filled cavities: Do not drain.
- Sound wood inside cavities: Do not remove.

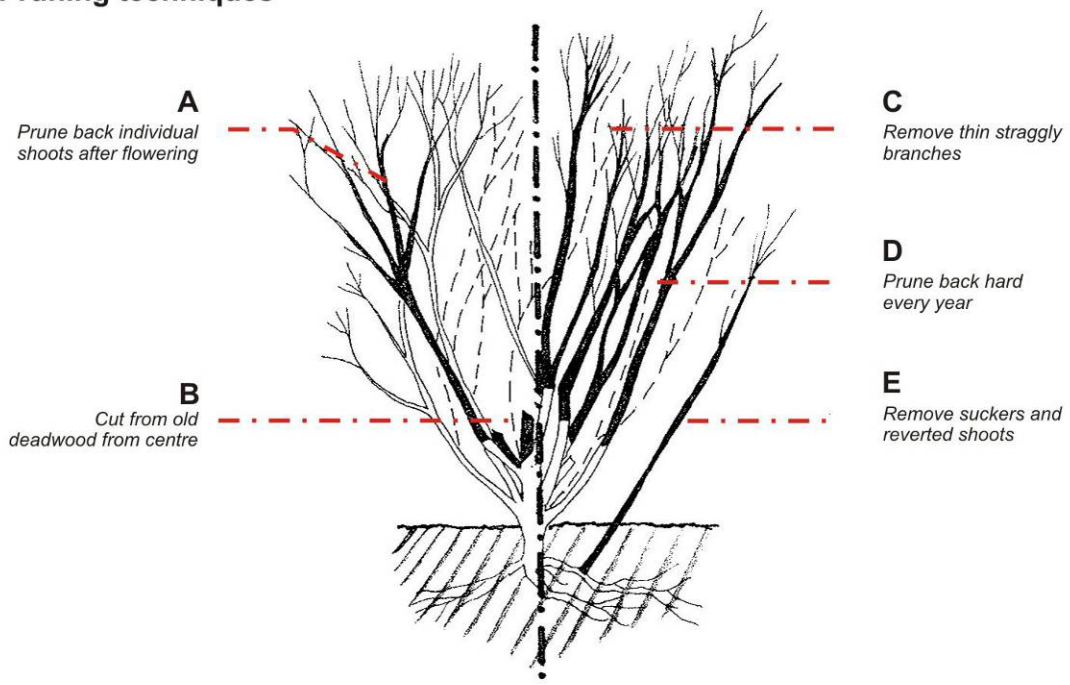
Appendix 2: Pruning Techniques

General notes

- All pruning cuts shall be made in accordance with BS 7370
- Priming shall be undertaken to promote flowering and fruiting in accordance with the species and age of the plant
- Stems shall only be removed so as to retain the natural appearance of the individual plant species
- All damage, diseased or deadwood material shall be removed from trees/shrubs
- Any crossing or rubbing branches are to be removed from trees/shrubs.
- Plants may be permitted to overlap hard areas e.g. paving. If growth restricts the use of the paving, it will be necessary to trim by shortening long growths NOT by cutting indiscriminately along the edge.
- Ground cover plants should not overhang grass areas because of the difficulty in keeping edges trimmed, prune back encroaching growth.
- Pruning cuts and techniques



Pruning techniques



taken from Landscape Management & Maintenance Handbook, Jones, Hing P (1990)

Appendix 3: Pruning schedule

Table 11-1 Pruning Schedule for Proposed Structure planting

Proposed Structure planting		
Plant name	**Pruning requirements**	**Month to prune**
Crataegus monogyna	Selective pruning only (if needed). Prune in **January** to remove dead, diseased, damaged, congested, or crossing shoots. Shoots that are growing in unwanted directions can also be pruned out. Prune back to just above a healthy bud. If the buds are positioned on alternating sides of the stem, prune to an outward facing bud as this will avoid future congestion within the plant. If the plant is producing flower buds wait until it has finished flowering. [4]	January
Prunus spinosa	Selective pruning only (if needed). Prune in **January** to remove dead, diseased, damaged, congested, or crossing shoots. Shoots that are growing in unwanted directions can also be pruned out. Prune back to just above a healthy bud. If the buds are positioned on alternating sides of the stem, prune to an outward facing bud as this will avoid future congestion within the plant. If the plant is producing flower buds wait until it has finished flowering. [5]	January
Salix caprea	Selective pruning only (if needed). Prune in **January** to remove diseased, damaged, congested or crossing shoots. Shoots that are growing in unwanted directions can also be pruned out.	January
Viburnum opulus	Prune in **June** to remove unsightly shoots (pest & diseased / damaged shoots and deadheading), only when needed. Prune by lightly cutting back shoots after flowering. Be cautious as the natural habit of these is easily damaged. [6]	June

[4] http://www.shootgardening.co.uk/plant/crataegus-monogyna?referrer=%2Fplant%2Fsearch%3Fq%3DCrataegus+monogyn
[5] http://www.shootgardening.co.uk/plant/prunus-spinosa?referrer=%2Fplant%2Fsearch%3Fq%3DPrunus+spinosa
[6] http://www.shootgardening.co.uk/plant/viburnum-opulus?referrer=%2Fplant%2Fsearch%3Fq%3DViburnum+opulus

Appendix 4: Drawings

- L.100**:** Landscape Masterplan
- Figure 2**:** Enhancement and Mitigation Plan (GE Consulting, November 2024).

Greentech Investment UK Ltd

Pen-Cae'r-Lan Farm, Seven Sisters, Neath

Landscape Masterplan **L100**

Key

- Site boundary
- Existing trees to be retained - RPA shown as pink dashed line
- Existing trees to be removed - 4no. Category C trees to removed to accommodate solar arrays, 4no. surveyed as Category U
- Existing scrub vegetation to be retained
- Existing waterways
- Existing pylons with overhead cables shown as dashed white lines
- Existing public rights of way
- Proposed solar arrays
- Proposed substation
- Proposed access track
- Proposed access gates
- Proposed fence

Landscape and Ecology proposals

- Proposed tree planting
  Indicative species:
  Alnus glutinosa
  Crataegus monogyna
  Quercus robur
  Salix caprea
- Proposed scrub planting
  Indicative planting species:
  Crataegus monogyna
  Prunus spinosa
  Ulex eutopeaus
  Molinia caerulea
  Salix caprea
  Sorbus aucuparia
  Viburnum opulus
- Grass beneath the panels to be retained and manage to naturally regenerate in areas with little disturbance during construction. In areas where there is more trafficking or excavations, Emorsgate EG1 to be seeded or a locally supplied mix
- Proposed Tree mounted bat box
- Proposed Tree mounted bird box
- Proposed Habitat piles
- Proposed Otter holt

0 25 50 100 150 200m

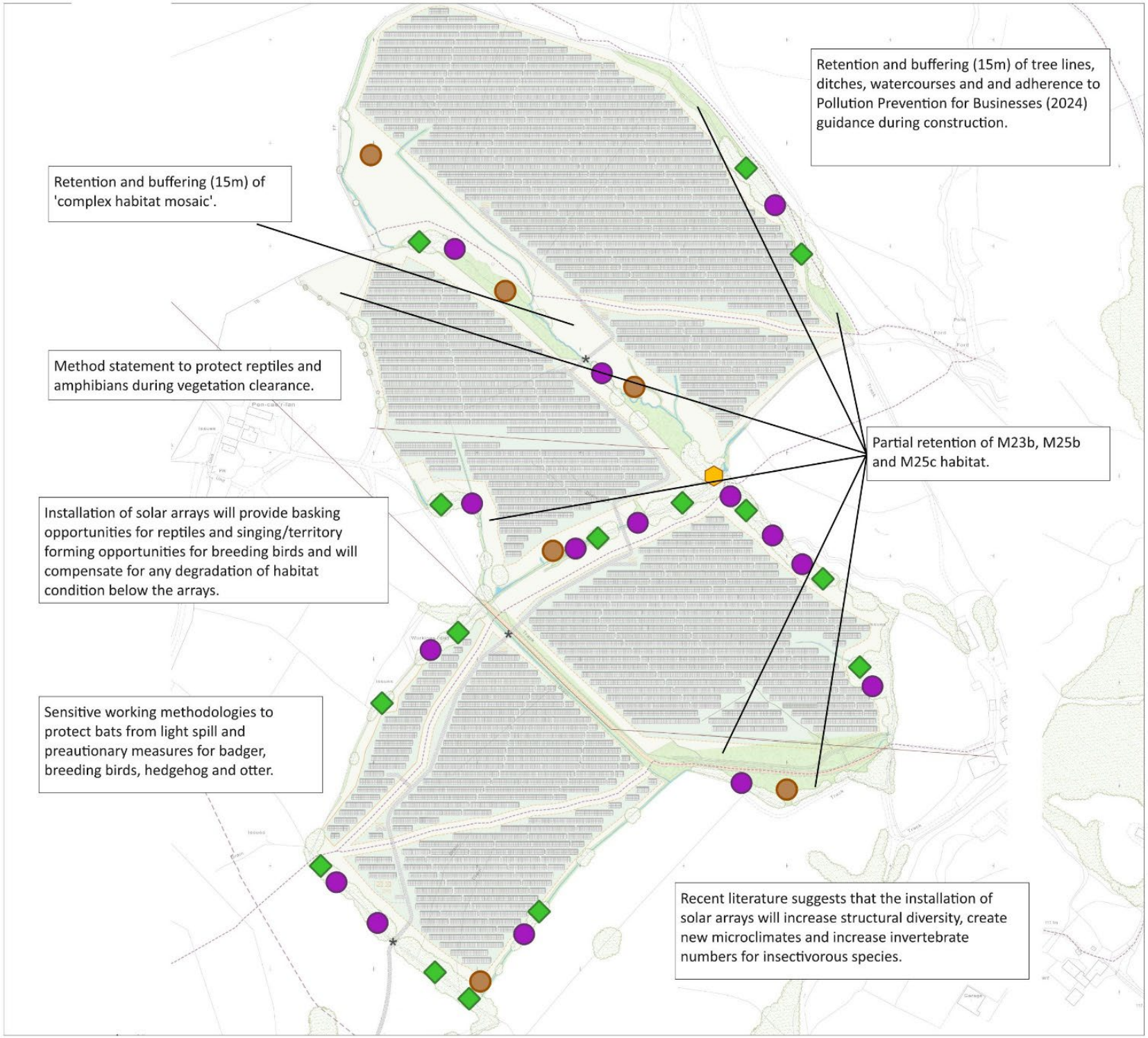
North

Scale 1:2000@A1

TC23191_LEMP.100v2.dwg 24 January 2025

tir collective LANDSCAPE ARCHITECTS

Floor 7, Brunel House, 2 Fitzalan Road, Cardiff, CF24 0EB



Key:

- Otter holt
- Habitat Piles
- Tree Mounted Bat Box
- Tree Mounted Bird Box

0 50 100 150 200 m

Figure 3:
Enhancements and Mitigation

Project:
Pen Caer Lan, Seven Sisters

Client:
Greentech Invest UK

Date: 19/11/2024
Drawn: RY
Ref: 2258-EclA-F3
Revision: -

N

tir collective
LANDSCAPE ARCHITECTS
Floor 7, Brunel House, 2 Fitzalan Road, Cardiff, CF24 0EB