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MITIGATION AND BIODIVERSITY
ENHANCEMENT FOR NEW ENTRANCE AND
SOLAR FARM AT DREAM FIELDS,
LLANDARCY.

ON BEHALF OF

HALE ENERGY LTD

December 2024

Ref: HE/47/2023 Entrance and solar – Issue 2

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All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

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Figure 1: Locations of mitigation and biodiversity enhancement measures

1 INTRODUCTION

- 1.1 Hawkeswood Ecology was instructed by Hale Energy Ltd to prepare a statement of actions proposing biodiversity enhancements and mitigation at Dream Fields, Gelli Bwch Farm (approximate central Grid reference of the Site is SS 718 948) in particular reference to:
- Application reference no P2023/0550, Site entrance, Dream Fields, Llandarcy;
 - Applications reference no P2023/0356, Dream Fields Solar Farm Project;
 - Mitigation for underground cabling in woodlands adjacent to Prettyman Drive.
- 1.2 The Mitigation and enhancements are planned around a proposed solar farm, a new main entrance to the Site off the B4290 and to mitigate against works undertaken in a protected woodland to allow undergrounding of electric cables.
- 1.3 Under the Environment (Wales) Act 2016 and Planning Policy Wales 12, Local Planning Authorities (LPA's) and other public bodies must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. Assessment of the Ecosystem Resilience is therefore an integral part of the LPA's duty and they need to consider the impacts of a proposed development upon the resilience of both on Site and adjacent habitats in this context, i.e. looking at impacts on a Landscape scale. LPA's are directed to consider the resilience of ecosystems early in the planning process to aid assessment of the impacts of any proposed development upon biodiversity. Planning Policy Wales 12 (2023) has confirmed the Chief Planning Officer's position and states that any new development must provide '*a net benefit for biodiversity*'.
- 1.4 At its most simple, this would mean that the LPA must protect any biodiversity value current to the Site and require enhancements that will result in a biodiversity gain. In this instance, following survey, it is considered that there is little potential for any significant negative impacts for biodiversity from the proposed development if retention of the existing trees and hedge banks is achievable. It is possible that any development will result in the removal of some of the existing hedge banks and may affect some of the existing trees therefore this would need mitigation and compensation on the Site.
- 1.5 The premise for Ecosystem Resilience is laid out in The Wellbeing of Future Generations (Wales) Act 2015 and Section 4 of The State of Natural Resources Report, a 2018 document produced by Natural Resources Wales (NRW) on behalf of the Welsh Government. These documents lay out a framework for assessing ecosystem resilience. However, despite the duty placed on LPA's, there is no currently agreed format for this assessment. In addition, Planning Policy 12 (2023) chapter 6 identifies the 'stepwise approach' to development in which biodiversity is a key factor.

- 1.6 As part of the framework, Green Infrastructure Statements are required to be produced which demonstrate how the step-wise approach has been undertaken and biodiversity/ecosystem resilience has been considered.
- 1.7 This Mitigation and Biodiversity Enhancement plan aims to fulfil those requirements and to guarantee a Net Benefit for Biodiversity from the current schemes. The proposals, whilst focussed upon the three main areas referred to in paragraph 1.1, are also based on a holistic approach across the wider farm area and are aimed at maintaining and increasing connectivity across the Site.

2 AUTHOR EXPERIENCE

- 2.1 The report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. He has extensive experience of protected species survey and holds Natural Resources Wales scientific and conservation licenses for bats and dormice. He has been a professional in the nature conservation field for thirty four years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.

3 STATEMENT OF MITIGATION AND BIODIVERSITY ENHANCEMENT AT DREAM FIELDS, GELLI BWCH

- 3.1 The following proposals will be carried out to mitigate the works undertaken to date and to offer biodiversity enhancements for the Site. See Figure 1 for mitigation details. The aims of the mitigation are to create connectivity across the Site and encourage the development of species rich grassland habitat across the Site. Compensation for the undergrounding of electric supply cables is based on infilling areas removed to facilitate the works and to monitor the natural regeneration of the routes with appropriate action taken where necessary (i.e. further planting).
- 3.2 An Ecological Clerk of Works (ECW) will be engaged for the duration of the works. The mitigation proposals are detailed below and will be undertaken to enhance Site biodiversity.
- 3.3 Figure 1 shows the location of the proposals which will be developed as part of a long term approach to enhance biodiversity across the wider farm.
- 3.4 Details of proposals are given below. Table 1 summarises the projects and offers an initial schedule of works; actual timings are dependent upon planning decisions. Locations of works are identified in Figure 1.

New Woodland Creation

- 3.5 A new woodland planting is identified in the Solar Farm fields. An approximately 0.2 hectare new woodland is planned (drawing 23-011-SK-01) which will help to screen the installation and also add to the existing woodland. Planted trees and shrubs will be native species of local provenance and reflect those found locally. Canopy should be common oak with birch and field maple. Locally occurring species such as hazel and hawthorn will provide the majority of the shrub layer species.
- 3.6 Twenty two new trees will be planted at the new Site entrance to replace those removed to allow construction of the access point. These are detailed on drawing number 2014-33.
- 3.7 In addition, a small block of woodland planting, approximately 0.05 Ha will be planted to improve connectivity between existing hedgerows and existing woodland blocks.
- 3.8 All species will be agreed with the ECW prior to commencement. In addition, the woodland planting will be monitored and managed in the longer term.

Infill Planting

- 3.9 Areas affected by the woodland clearance for underground cabling will be left to naturally regenerate. Where openings to the field have resulted, infill planting will be undertaken to produce a continuous woodland edge. Species used will be shrub species such as hazel and hawthorn planted at 1 metre squares. Two locations are identified and these account for approximately 0.03 hectares of planting.
- 3.10 Currently the field adjoining the woodland is not grazed and there are no plans to do so. Continued use for silage and or hay making is proposed. Should use be changed to include grazing the new planting and woodland will be protected by erection of a sheep netting fence along the field edge of the woodland, a length of approximately 300 metres.
- 3.11 A small area of infill planting will be undertaken near the new farm track, approximately 0.03 hectares, this will be to maintain and enhance connectivity across the Site. Species will reflect those in the existing scrub including gorse and hawthorn.
- 3.12 A mature wooded belt of oak species trees runs alongside the access track from the new entrance to Gelli Bwch farm. Where there are gaps in this minimum of two year old common oak whips will be planted. Groups of three whips with 1 metres centres will be used and maintained in accordance with nursery specifications.

Hedgerows

- 3.13 A new native species rich hedge will be planted on the western side of the Solar farm on an existing hedge bank. A length of approximately 100 metres, the hedgerow species will reflect those found locally, predominantly hawthorn and hazel.
- 3.14 Where feasible, gaps in existing hedgerows will be planted up with new material. Plantings will be of whips, age specified in the detailed plans, and the hedgerows protected against grazing. In addition, the scrub woodland alongside the new track north of the marshy grassland will be formalised and maintained with gaps also planted up to promote connectivity across the Site.

Wildflower Mixes

- 3.15 Wildflower mixes will be used in two locations as below:
- Emorsgate EM2 Standard general purpose meadow mix will be spread along the new farm track where shown in Figure 1, an area of approximately 0.07 hectares. This will provide a source of nectar and foraging for invertebrates;
 - Emorsgate EM2 will also be used in the Solar Farm field dominated by agriculturally improved grassland. Here the seed will be sown on areas disturbed for trenching and undergrounding cables. An actual area of this is unknown at this stage.

Semi Improved Acid Grassland

- 3.16 Where works are to take place in the area of the solar farm field supporting semi-improved acid grassland, turves will be removed from areas identified for trenching and stored whilst the works take place.
- 3.17 Turves will be stored in a manner not to cause dieback of herbs (i.e. not stacked) and kept damp if cut during the growing season.
- 3.18 Following completion of the works, the turves will be carefully placed into position on the prepared fill. No imported material will be used to fill in any gaps.

Grazing

- 3.19 The preferred method of management of the solar farm will be light grazing. Exact details and grazing regimes will be detailed before grazing commences.

General

- 3.20 All plantings will be monitored in accordance with the timescales shown in Table 1. All plantings will be managed in accordance with nursery specifications. Failed trees, shrubs or whips will be replaced with new material as informed by monitoring. Monitoring and management works will be undertaken by an appropriately qualified contractor.
- 3.21 Existing scrub identified in Figure 1 will be retained. Currently not fenced against grazing, light grazing may occur in this area but will be monitored for any negative impacts and fenced if necessary.

Table 1: Proposed Mitigation and Biodiversity Enhancements.

<i>Proposal</i>	<i>Details</i>	<i>Approximate length/area/amount</i>	<i>Approx. Timing post approval</i>
New Woodland creation	1. New woodland in solar farm field (drawing number 23-011-SK-01); 2. Planting of 22 trees to mitigate for losses at Site entrance, trees will also be planted into the existing woodland along the existing track where gaps are present (drawing 2014-33); 3. Woodland planting to fill gaps between existing hedgerow and woodland; 4. Species to reflect those already present, be of local provenance and agreed with the ECW.	1. 0.20 Ha 2. 22 standard trees 3. 0.05 Ha	Year 2 Year 1 Year 2
Infill planting	1. Areas affected by tree and shrub removal for the undergrounding works will be allowed to naturally regenerate, where opening onto the fields infill planting will be undertaken following completion of the undergrounding works. Native species of local provenance will be used. 2. The plantings and woodland will be fenced against grazing livestock (should grazing be introduced to the adjacent field) and managed for a minimum period of ten years replacing any failed stock; 3. For connectivity, a gap in an area of scrub will be infill planted with trees/shrubs to enhance site connectivity;	1. ~0.03 Ha, 40 metres length 2. ~300 metres 3. 0.03 Ha	Year 1 Year 1 Year 1

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	4. Any gaps in the mature woodland belt alongside the access track from the new entrance will be planted with canopy common oak whips. 5. Species to reflect those already present, be of local provenance and be agreed with the ECW.	4 Estimated use of 10-20 2 year old whips	Year 1
Hedgerow	1. A new native species rich hedge will be planted on an existing hedge bank bounding the solar farm field.	~100 metres	Year 2/3
Wildflower mixes	1. Emorsgate EM2 Standard General Purpose Meadow Mix will be used to bound the farm track where shown in Figure 1; 2. EM2 will also be used to facilitate the introduction of wildflower species into the solar farm field where cabling and ground works have been undertaken during construction. These works will be limited to the area of the field dominated by agriculturally modified grassland; 3. A management plan indicating aftercare and monitoring to be implemented.	1. 0.07 Ha 2. Unknown area	Year 1 On completion On completion
Semi-improved acid grassland	1 Where works are to take place in the area of the solar farm field supporting semi-improved acid grassland, (as identified in the PEA) the turves will be removed and stored whilst the works take place. Once complete, the turves will be replaced; 2 Turves will be stored in a manner not to cause dieback of herbs (i.e. not stacked) and kept damp.	1. Unknown area	Year 1/ASAP
Grazing	1. Low intensity grazing will be introduced when the construction phase is complete. Management of the solar farm field may also involve cutting, final details will be agreed on completion.		

	2. Existing scrub will be retained where shown on Figure 1. Currently unfenced, this may be subject to continuing light grazing which will be monitored for negative impacts.		
Monitoring	1. Monitoring of all new plantings and seeded areas will take place to measure success of the works; 2. Monitoring of regrowth in the Woodland Conservation Area will be undertaken in years 2, 4 and 10 post completion.		Years 2/4 post completion Years 2/4/10 post completion

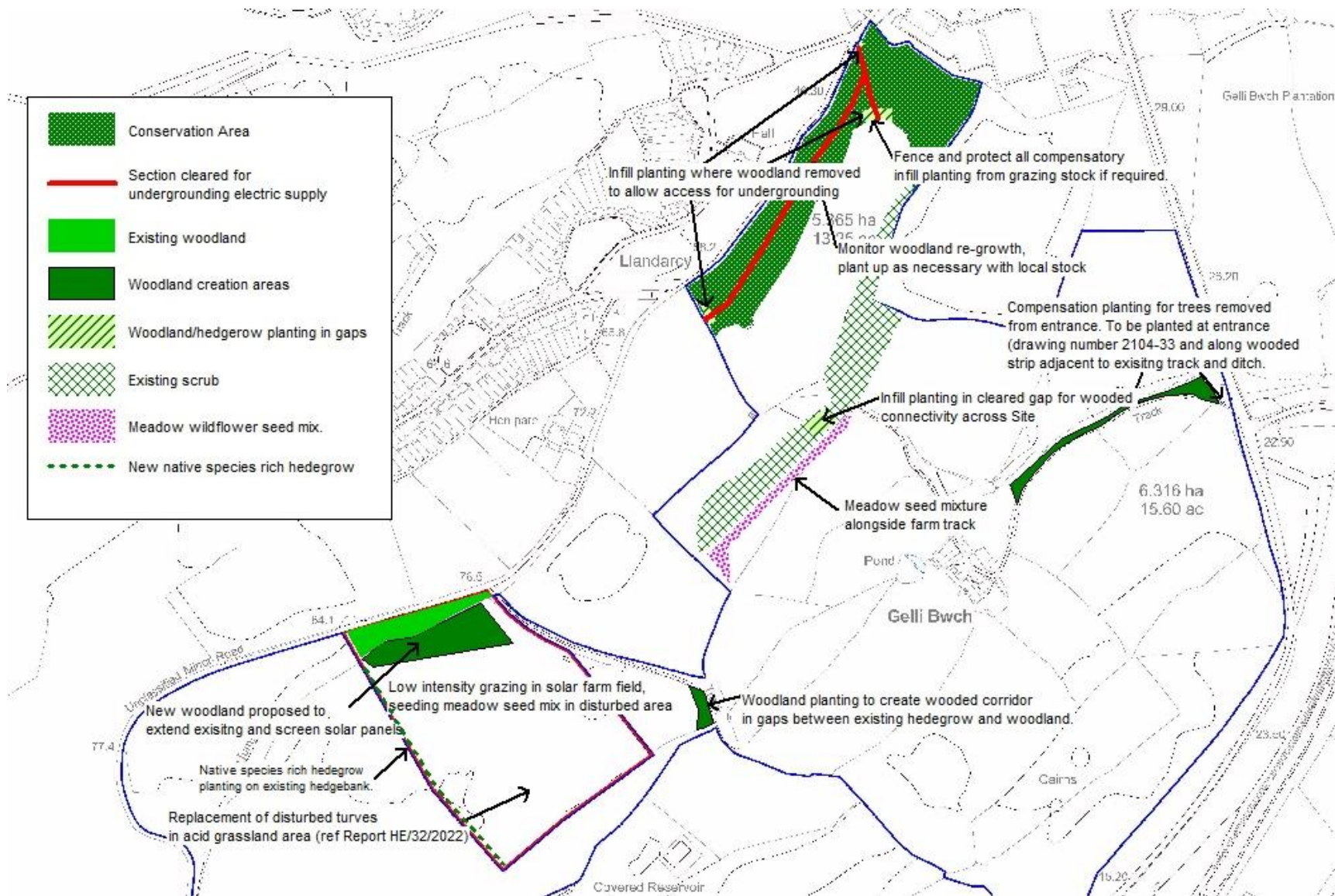
Future management will be informed by monitoring

4 CONCLUSIONS

- 4.1 This document lays out the mitigation strategy to provide holistic mitigation and biodiversity enhancements at Gelli Bwch Farm in relation to two applications and an area of woodland identified in paragraph 1.1.
- 4.2 The document is aimed at providing mitigation and biodiversity enhancement outcomes to secure an Ecologically Resilient Site which will play a full part in developing ecological connectivity within the wider landscape and would be secured by way of a suitably worded pre-commencement condition.

FIGURE 1
LOCATIONS OF MITIGATION AND BIODIVERSITY ENHANCEMENT
MEASURES

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