

SIX OAKS RENEWABLE ENERGY PARK, CAMBRIDGESHIRE: BIODIVERSITY AND LANDSCAPE MANAGEMENT PLAN



DRAFT V2 FOR
CONSULTATION

Report to Ridge Clean Energy

Steve Percival

Ecology Consulting, Swallow Ridge Barn, Old Cassop, Durham DH6 4QB

Email: steve.percival@ecologyconsult.co.uk

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SIX OAKS RENEWABLE ENERGY PARK, CAMBRIDGESHIRE: BIODIVERSITY AND LANDSCAPE MANAGEMENT PLAN

Introduction

1. The purpose of this document is to provide detail of how the Biodiversity Management Plan (BMP) for the site Six Oaks Renewable Energy Park (the Project) will be delivered. It is intended that this BMP and the agreed mitigation will be secured via an appropriate planning condition attached to any future planning permission.
2. The following habitat enhancement measures are proposed and the below measures should be read alongside Figure 1, which provides a visual representation:
 - ♣ **Restoration of lowland species-rich grassland** –most of the site is currently arable farmland of low diversity and low ecological value. This will be restored to grassland habitat, will be managed after construction of the Project either by sustainable grazing or cutting. This will promote the re-establishment of a diverse meadow community, with abundant wildflowers to provide food for pollinators. The arable farmland will be enhanced to deliver a more biodiverse neutral grassland wildflower meadow. This will be located under and around the proposed solar arrays within the site.
 - ♣ **Native hedgerow planting** –1.1km of new native hedgerow will be planted and a further 2.5km of existing hedge restored to native species-rich hedgerow.
 - ♣ **Native tree planting** –a line of Rowan *Sorbus aucuparia* will be planted in the south-east corner of the site.
 - ♣ **Fence design/management** - to avoid barriers to mammal movement (including brown hare, badger and hedgehog).
 - ♣ **Bird and bat box provision** –to provide enhanced nesting/roosting opportunities
3. Additionally, a **Breeding Bird and Protected Species Protection Plan** will be implemented during construction (see Appendix 1 of this report).

Baseline Ecological Conditions

4. The site is located approximately 9km east of Cambridge. It is predominantly arable farmland. The A14 and A11 trunk roads run adjacent to the northern and eastern edges of the site. It lies mainly within the 'East Anglian Chalk' NE Natural Area.
5. Key Ecological Receptors that could potentially be affected by the Project (and hence are considerations within the BMP) comprise:
 - ♣ Ground-nesting farmland birds including **quail, grey partridge, lapwing, skylark, yellow wagtail** and **corn bunting**.
 - ♣ Other farmland breeding birds - **duncock, linnet, yellowhammer**, and **reed bunting**.
 - ♣ Resident mammals – **brown hare, hedgehog, [REDACTED] bats** are all present at the site, though the effects of the Project on these species are likely to be generally positive (through the habitat improvements resulting from the BMP).

Ecological Impacts of the Proposed Renewable Energy Park

6. The Project has the potential to cause a range of ecological impacts including:
 - ♣ Habitat loss during construction.
 - ♣ Pollution from noise, vibration, dust, surface water run-off during construction.
 - ♣ Disturbance/harm during construction.
 - ♣ Change in habitat during operational phase (dependent on the management of the site after construction).
 - ♣ Disturbance during operation (if species are displaced as a result of the presence of the solar panels and other infrastructure).
7. The solar panels and associated infrastructure would all be located on land that is currently agriculturally improved grassland. The panels will cover approximately 30ha. of the 76ha total land within the site. Only a small proportion of this area of arable farmland would actually be lost. With the solar panels raised above the ground, the permanent land take would typically be only about 5% of the site (BRE 2014¹).
8. There would be 1.8km of new and upgraded site access track (plus approximately 2km of maintenance access tracks), and a loss of approximately 1ha. for the site compound/battery storage facility, and the transformers. All of this loss would be of arable farmland. There would be no new watercourse crossings.
9. Most of the adverse effects on key ecological receptors have been largely avoided in the design of the scheme through buffering of more sensitive habitat including the hedgerows, trees and the Local Wildlife Site. There would however be some residual loss of hedgerow, and also loss of open ground habitat in areas where the solar panels would be located. This is particularly likely to affect ground-nesting birds that prefer open habitats such as lapwing.

Biodiversity Management Plan: Objectives

Construction Phase

10. The aims of the BMP during the construction phase of the development are as follows:
 - ♣ To ensure that the development is constructed and commissioned without any significant adverse ecological effects (and ensure compliance with the nature conservation legislation), through the implementation of a Breeding Bird and Protected species Protection Plan (see Appendix 1).
 - ♣ To restore and enhance habitats within the site to deliver a net biodiversity gain, including restoration of 76ha of wildflower meadow within the solar farm area of the site, and planting of 1.1km of new native species-rich hedgerow, and a further 2.5km of hedgerow restoration.

¹ BRE (2014) Biodiversity Guidance for Solar Developments. Eds G E Parker and L Greene.

Operational Phase

11. The aims of the BMP during the operational phase of the development are as follows:
 - ♣ To manage the restored/enhanced habitat to ensure that they continue to deliver a net biodiversity gain through the lifetime of the Project.
 - ♣ To provide ongoing management for these habitats to be able to accommodate key species.

Management Prescriptions

Species-rich grassland

12. The arable farmland within the whole of the solar farm area will be restored to a diverse wildflower meadow. There are several options available to establish the wildflower meadow, informed by Natural England guidance (Technical Notes 062-068):
 - ♣ Sowing with wildflowers/grass seed.
 - ♣ Slot seeding with wildflower/grass seed.
 - ♣ Spreading species-rich green hay –usually considered best as an option for lower soil fertility but could be useful at this location to encourage spread of species from the Local Wildlife Site.
13. The choice of method and seed mix will be finalised dependent on the site soil nutrient status and pH level.
14. It is initially proposed that management of the grassland should be carried out primarily by grazing stock (sheep) if available (or if not, by cutting). This will be reviewed in light of consultations on the current management of the Local Wildlife Site (to ensure that the management delivers optimal results across the site). Levels of grazing (or cutting) will be varied through the year to optimise the wildflower meadow diversity, adopting the following regime (though to be refined as the restored grassland becomes established, informed by the monitoring programme):
 - ♣ No grazing March-June
 - ♣ Heavier grazing (5-10 sheep per ha) July –October
 - ♣ Grazing continued at a lower level (3-5 sheep/ha) through the winter (October –February) unless ground conditions too wet (in which case no grazing over-winter).
15. If grazing with sheep were not possible, then an alternative cutting regime would be implemented to achieve a similar effect on the vegetation, with a single cut per year, in August/September.

Hedgerow Planting

16. A total length of 1.1km of new native hedgerow will be planted within the site (see Figure 1). An additional 2.5km of currently gappy hedgerow will be restored through further planting.
17. The recommended species mix with approximate target proportions for this planting is as follows: hawthorn (35%), blackthorn (35%), field maple (15%), hazel (10%) and elder (5%) (reflecting the composition of other species-rich hedges locally).
18. With regard to ongoing management, the hedge will be trimmed annually (between January and March) in the first three years after planting to encourage bush growth. Thereafter it will

be trimmed once every three years. A target 3m height will be maintained through lifetime of the Project.

Tree Planting

19. A line of Rowan trees will be planted in the south-east corner of the site (see Figure 1). This tree planting will be monitored annually during establishment (first 5 years), and pruned to encourage strong growth as required. Any trees that die during this period will be replaced. After that tree guards will be removed and the planting will be left to grow without further intervention.

Additional Measures

20. A range of bird and bat boxes will be installed to improve the availability of nesting and roosting resources, all to be manufactured from high quality long-lasting material such as 'Woodcrete'. This will include:
 - ♣ Barn owl box –one to be erected at a secure location within the site (specific location confidential to avoid disturbance to this species which is specially protected from disturbance under Schedule 1 of the 1981 Wildlife and Countryside Act).
 - ♣ Songbird nest boxes –20 boxes of mixed type (5 x small hole for tits, 5 x larger hole for sparrows, 5 x larger boxes for starlings and 5 x open-fronted boxes for flycatchers/robins/thrushes). These will be erected within existing woodland patches and on trees within existing hedgerows/field boundaries.
 - ♣ Bat boxes –10 boxes –the same locations as songbird nest boxes.
21. An area of grassland will be set aside for ground nesting birds.
22. Wood piles would be provided for invertebrates.
23. Measures will be implemented to ensure that mammal access routes across the site are not impeded by site fences. This will be achieved by either leaving a minimum gap of 20cm between the ground and the fence, cutting gaps at the bottom of fences to allow passage through, or installation of mammal 'gates'.

Monitoring

24. In order to ensure that the BMP is delivering its objectives and that a net gain is being achieved, an ecological monitoring programme will be implemented. This will include an annual visit to assess the site's habitat condition, in years 1-3, 5, 10 and 15 of operation. During each visit the condition of the site's habitats will be assessed, and recommendations made to fine-tune the future management of the site.
25. Additionally, breeding bird surveys will be carried out to inform the implementation of the BMP. Surveys will follow the same methodology as the baseline surveys carried out in 2020 and 2022 (so they will be directly comparable) and will be undertaken during the first three years of the operation of the renewable energy park. After that the results will be reviewed and the surveys discontinued as long as the BMP has delivered the required net gain to the local breeding bird population. If not then measures to improve the site's management will be recommended and the survey continued in years 5, 10 and 15.

APPENDIX 1. BREEDING BIRD AND PROTECTED SPECIES PROTECTION PLAN

Breeding Birds

Two bird species specially protected under Schedule 1 of the Wildlife and Countryside Act from disturbance during breeding were found during the 2020 and 2022 surveys, hobby and quail, and given the habitat present it is possible that other species such as barn owl could breed there in the future. It would be important to ensure that no Schedule 1 species are disturbed during the breeding season, particularly during the construction phase of the development. Given the potential to breed within the site, a Breeding Bird Protection Plan (BBPP) will be implemented. This will include further surveys for Schedule 1 species at fortnightly intervals through the breeding season (March-August) for the construction period to inform the BBPP and ensure compliance with the 1981 Wildlife and Countryside Act.

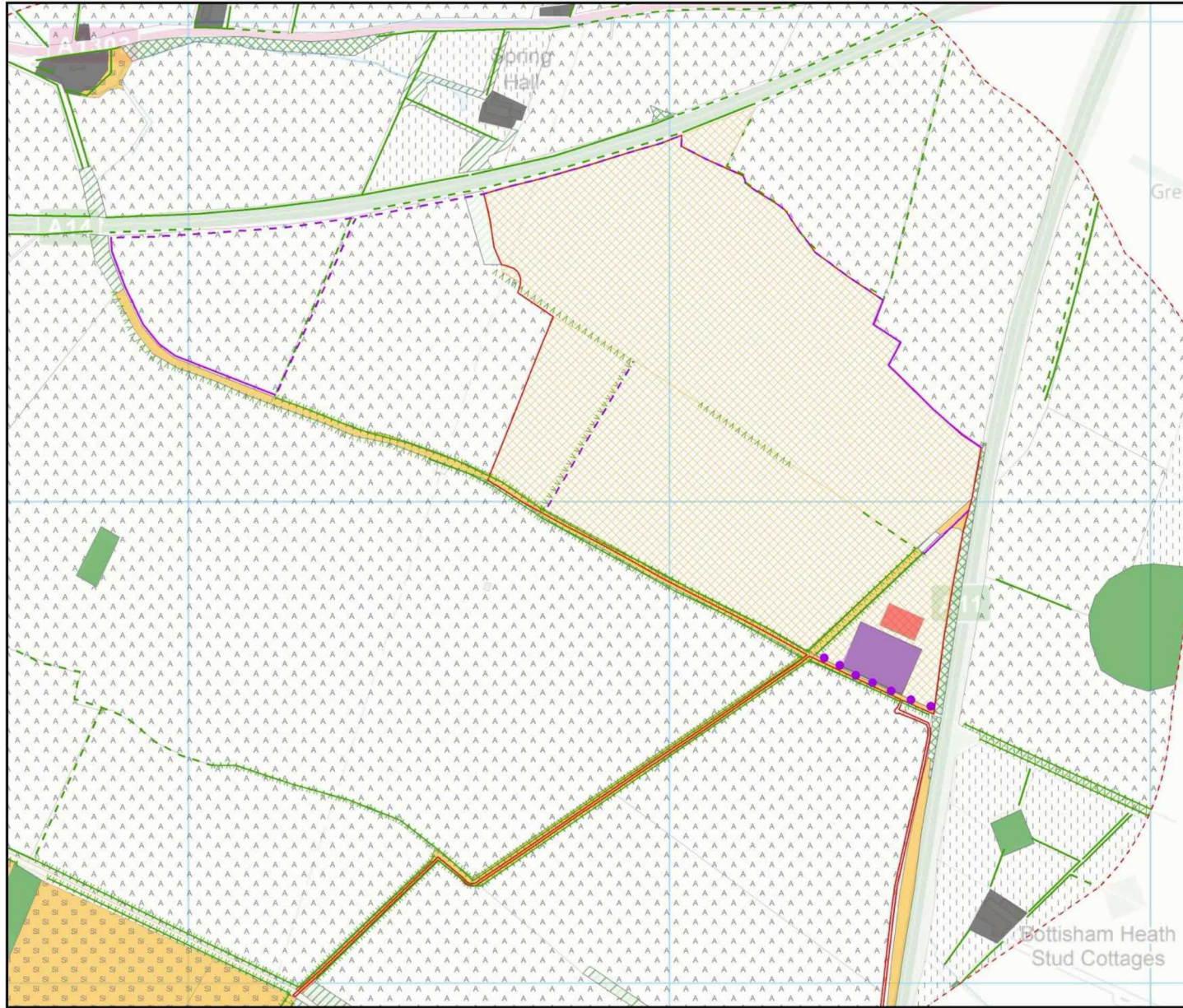
The BBPP will also include measures to ensure the protection of all other nesting birds. Where works affecting habitats that could be used by nesting birds must take place between March and August (inclusive), they should only be carried out following an on-site check for nesting birds by an experienced ecologist, to ensure compliance with the 1981 Wildlife and Countryside Act.



Six Oaks Renewable Energy Park: Ecological Assessment

FIGURE 1

Biodiversity Management Plan



KEY:

	Ecology survey area
	Six Oaks Site Boundary
	Construction Compound
	Battery Storage Compound
Habitat	
	NEW Neutral grassland
	A1.1.1 - Broadleaved woodland - semi-natural
	A1.1.2 - Broadleaved woodland - plantation
	A1.2.2 - Coniferous woodland - plantation
	A1.3.2 - Mixed woodland - plantation
	A2.1 - Scrub - dense/continuous
	B2.1 - Neutral grassland - unimproved
	B2.2 - Neutral grassland - semi-improved
	B4 - Improved grassland
	Arable
	Buildings
Hedgerow	
	J2.1.1 - Species-rich hedge intact
	J2.1.2 - Existing species-poor intact
	J2.2.1 - Species-rich hedge defunct
	J2.2.2 - Existing species-poor defunct
	Hedgerow restoration
	New hedgerow
	New line of rowans

Contains Ordnance Survey OpenData
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BIODIVERSITY MANAGEMENT PLAN

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