East Stour PV
Biodiversity Net Gain

Prepared for Engena

September 2024

Rev01

SURVEY AND REPORT VALIDITY

It is important that planning decisions are based on up-to-date ecological reports and survey data. However, it is difficult to set a specific timeframe over which reports or survey data should be considered valid, as this will vary in different circumstances. In some cases there will be specific guidance on this (such as for the age of data which may be used to support a protected species licence application) but in circumstances where such advice does not already exist, the Chartered Institute of Ecology and Environmental Management (CIEEM) has provided the general advice set out below.

Age of Data / Survey / Report	***Validity***
Less than 12 months	Likely to be valid in most cases.
12-18 months	Likely to be valid in most cases with the following exceptions: • Where a site may offer existing or new features which could be utilised by a mobile species within a short timeframe; • Where a mobile species is present on site or in the wider area, and can create new features of relevance to the assessment; • Where country-specific or species-specific guidance dictates otherwise.
18 months to 3 years	A professional ecologist will need to undertake a site visit and then review the validity of the report. Some or all of the other ecological surveys updated.
Protected Species Licensing	Licence applications usually only possible using data less than 2 years old

The likelihood of surveys needing to be updated increases with time and is greater for mobile species or in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Factors to be considered include (but are not limited to):

- Whether the site supports, or may support, a mobile species which could have moved on to site, or changed its distribution within a site;
- Whether there have been significant changes to the habitats present (and/or the ecological conditions/functions/ecosystem functioning upon which they are dependent) since the surveys were undertaken, including through changes to site management;
- Whether the local distribution of a species in the wider area around a site has changed (or knowledge of it increased), increasing the likelihood of its presence.

Project Number:	TT3176
Project Title:	East Stour Solar Farm
Document Reference:	R03-Biodiversity Net Gain-Rev01

Document Issued To:	Engena
Document Issued By:	Turnstone Ecology Limited

Revision Number	Author(s)	Reviewer(s)	Issuer	Issue Date
REV00	AR Senior Ecologist	MF (Senior Ecologist) MG (Director)	AR	23/09/2024

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1 INTRODUCTION

1.1 Purpose of Report

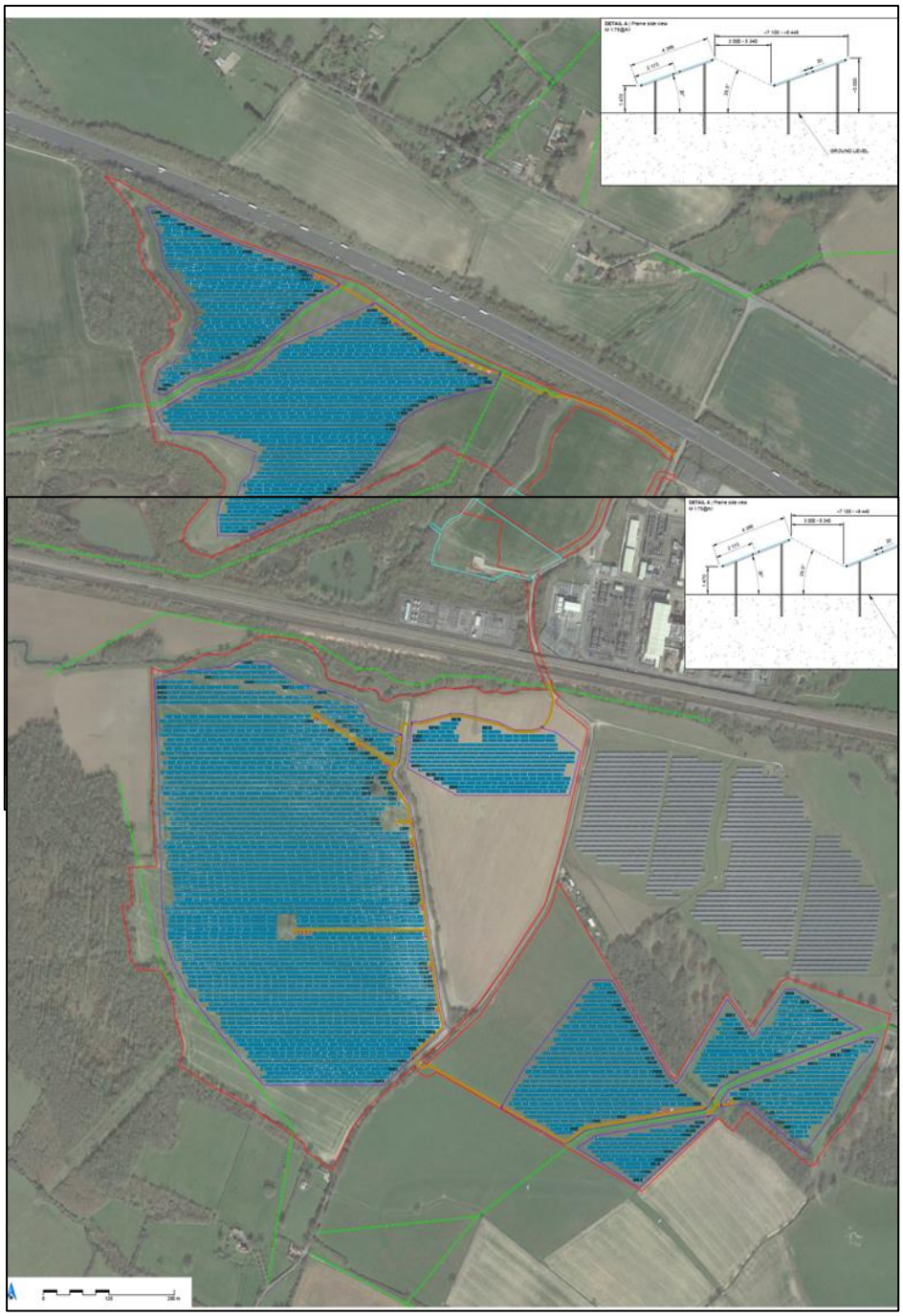
This report has been produced to provide a Biodiversity Net Gain Assessment (BNG) for a proposed PV project on Land South of the M20, Kent (22/00668/AS) in support of an appeal. The initial Environmental Statement (ES) considered the likely ecological impacts of the scheme and proposed mitigation and enhancement to ensure that the scheme resulted in a positive impact on valued ecological receptors, thus resulting in an increase in biodiversity. In light of the evolution of the emerging Aldington and Bonnington Neighbourhood Plan, in particular draft Policy AB1, it was decided that it would be beneficial to submit a full BNG Assessment to demonstrate the substantial net gain the proposals will provide. The soon to be adopted Aldington and Bonnington Neighbourhood Plan states that "Proposals should be designed to create, conserve, enhance and manage green and blue spaces…with the aim of delivering a measurable biodiversity net gain of 20%, where possible, but at a minimum, a net gain of at least 10%." This BNG Assessment will demonstrate that proposed East Stour PV project exceeds these requirements. The full details of the Ecological Assessment can be found in the Environmental Statement *Environmental Statement Volume 2A, Chapter 10 Ecology* (*Engena and Turnstone Ecology, 2021*) and in the Supplementary Environmental Statement *Supplementary Environmental Statement Volume 2A, Chapter 10 Ecology (Engena and Turnstone Ecology, 2024)*

The proposals are to construct and operate a solar power plant within agricultural fields west of Sellindge, Kent (approximate Grid Reference TR 071 387). The location of the proposed development sites is shown in *Figure 1*.

A Preliminary Ecological Appraisal of the site was carried out on 7th April 2021 and consisted of a Phase 1 Habitat Survey and a Protected Fauna Survey. The site was revisited on 29th July 2024 which consisted of updated Phase 1 Habitat and Protected Fauna Survey as well as habitat condition assessments.. All surveys were completed by suitably experienced staff from Turnstone Ecology Ltd, with the habitat condition assessments completed by Molly Foulds, Senior Ecologist, MCIEEM and FISC Level 4.

This report details methodology and results for the Biodiversity Net Gain Assessment.

Figure 1. Location of proposed development (application site)



1.2 Ecological Context

The application site is dominated by arable fields and sheep grazed, improved grassland. The site boundary is located within the field boundaries across the site, which includes several hedgerows. Features adjacent to the site include the East Stour River with associated riparian corridor, a tree lined brook which flows south to an area of fishing lakes and broad-leaved woodland.

A number of off-site ponds are present within 500m of the application boundary, including; a balancing pond adjacent to Church Lane; ponds within the woodland associated with the brook; and the fishing lake to the south of the Northern Array. There are no ponds within the redline application boundary.

The site is split by the high-speed London – Paris rail line and an existing substation, the wider landscape is dominated by arable and pasture fields with scattered woodlands and villages as well as extensive areas of the build environment associated with Ashford which is approximately 4.7 km north-west of the site and Hythe which is approximately 6.9 km south-east of the site.

2 METHODOLOGY

2.1 Baseline Habitat Assessment

The survey methods were based on the UK Habitat Classification approach *(https://ukhab.org, updated January 2021),* which is a standardised method to survey main habitat types in the UK. Plant nomenclature in this report follows Rose *(Revised Edition 2006)* for native, naturalised and garden varieties of vascular plant. Introduced species and garden varieties are not always identified. UK Habitat Classification is the industry standard survey method used when determining baseline conditions for Biodiversity Net Gain Assessments using the Statutory Biodiversity Metric (https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides).

The Statutory Biodiversity Metric calculation tool has been used to determine the baseline biodiversity units for this site and how the proposed development will impact biodiversity by calculating the lost, retained, enhanced and created habitats using a quantitative approach.

2.2 Proposed Habitat Type and Condition Assessment

Within the landscaping plans for the site there are areas of proposed wildflower, grassland and riparian mix planting. Within this assessment all of these habitat types have been classified as "other neutral grassland" as this habitat type is the best fit for the proposed planting / habitat creation.

Proposed condition assessments for the "other neutral grassland" throughout the site vary depending on location, all areas of grassland under solar panels have been limited to "poor" condition, small areas of buffer planting have been limited to "moderate" condition and larger mitigation areas have been assigned a target of "good" condition.

The proposed solar panels have not been mapped and quantified as hardstanding as they do not have "feet" rather they have a pilling design, with a worse case of one pile for every 2 panels, these will be inserted into the ground with approximate dimensions of 200mm x 100mm per pile. As such these have not been mapped within the metric.

2.3 Constraints

The initial survey work and submission of planning application was undertaken in 2021 which was prior to the Statutory Biodiversity Net Gain being in place and as a result a River Corridor Assessment (RCA) was not undertaken at the site. This means the East Stour River and the brook running through the northern array of the site have not been included within the assessment. Whilst these watercourses are within, and adjacent to, the application boundary, no works are proposed within 10m from the top of the bank and as such the development will not have a direct negative impact on either watercourses. Indirect impacts (e.g. pollution run-off, silt run-off) are also not anticipated as standard control measures will be

implemented during the construction. As a result it is predicted there will be a neutral impact on both water courses which will result in a change of net 0%.

Furthermore, with the reduction of eutrophication from agricultural runoff and the improved surrounding habitat types as a result of the change in management, it is likely that the project will result in a (minor) positive change post-development.

3 BASELINE HABITATS

The update walkover survey confirmed no changes to the main habitat types present throughout, and adjacent to, the application site. UK Habitats Classification was used to record habitat types within the proposed development site in this updated survey. Due to the timing of the original surveys, habitat classification was completed using JNCC Phase 1 Habitat categorisation. These habitats are in brackets below. All habitats are listed below and show in *Figure 2:*

- Cereal crops (previously arable land)
- Modified grassland (previously improved grassland)
- Built linear features
- Other woodland; broadleaved
- Other woodland; Mixed
- Native hedgerow – associated with bank or ditch
- Native hedgerow

Figure 2. Habitats present within the survey area



The red line development area boundary totals approximately 103.05 ha with 2.01 km of hedgerows.. It is proposed there will be approximately 69.3ha of solar panels within the site boundary. Individual area sizes per habitat were measured during the survey when habitat borders were defined and mapped. Where condition scores differed across the site for the same habitats these have been separated out.

A summary of the habitats present on site, current habitat condition scores and their total area size in hectares can be seen in *Table 1* with the same for hedgerows shown in *Table 2*. Habitat/hedgerow unit values, as calculated using the Statutory Biodiversity Metric Tool have also been included. Please note numbers in these tables are rounded and may result in the appearance of rounding errors, the full metric in *Appendix 1* shows the complete numbers.

Table 1. Area sizes and condition scores for all baseline habitats present on site

Habitat Type	Condition	Area Size (Ha)	Habitat Units
Cereal crops	N/A	78.3003	156.60
Modified grassland	Poor	21.4678	42.94
Modified grassland	Moderate	2.0077	8.03
Built linear feature	N/A	0.3756	0.00
Other woodland; broadleaved	Moderate	0.1461	1.17
Other woodland; mixed	Moderate	0.7545	6.04
Total		**103.05**	**214.77**

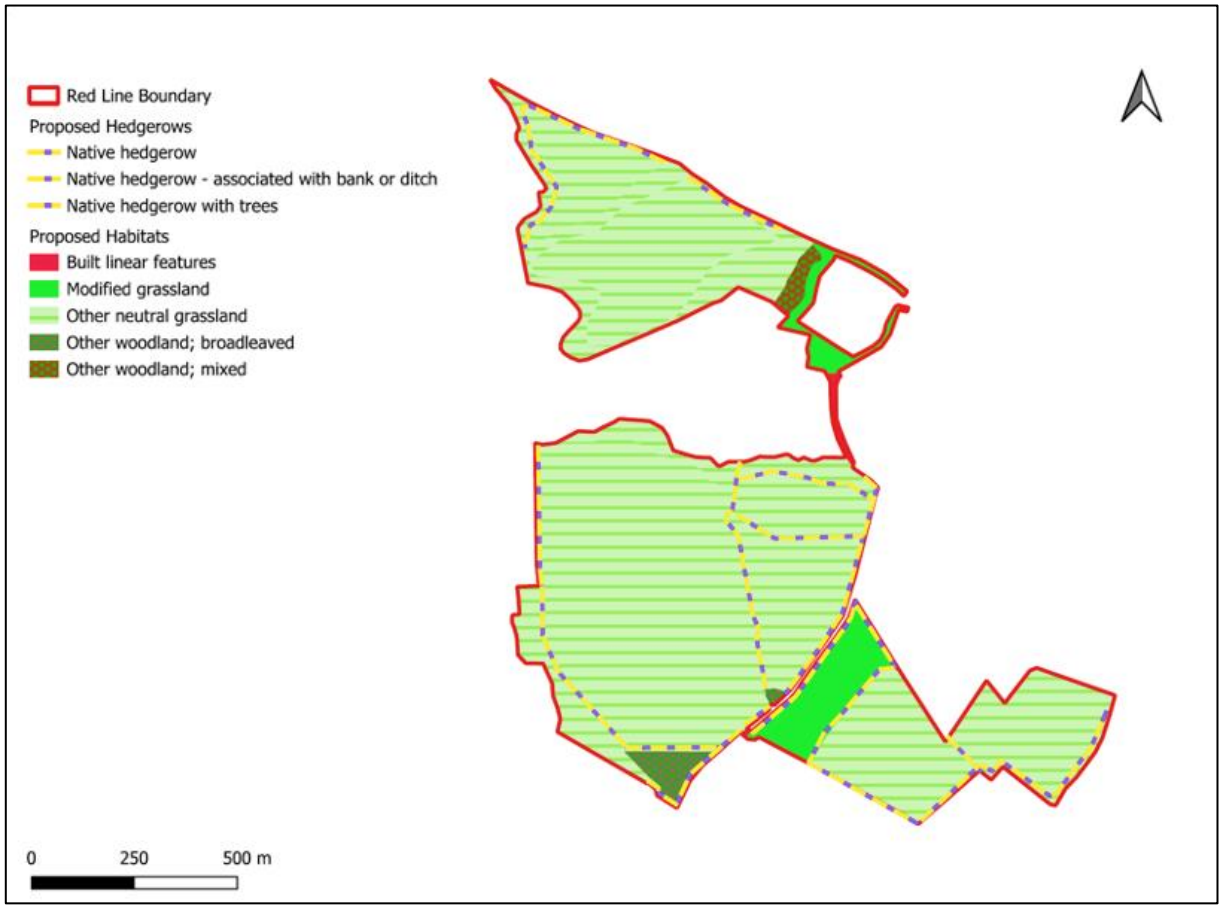
Table 2. Length and condition scores for all baseline hedgerows present on site

Hedgerow Type	Condition	Length (km)	Hedgerow Units
Native hedgerow – associated with bank or ditch	Poor	0.572	2.29
Native hedgerow	Moderate	1.44	5.76
Total		**2.01**	**8.05**

4 PROPOSED HABITATS

The proposed development plan will directly impact areas of cereal crops and modified grassland, areas of woodland will not be impacted by the development. The proposed post-works habitats are showing in *Figure 3* below.

Figure 3. Proposed habitat creation, enhancement and retention



4.1 Habitat Retention

The proposed development will result in the retention of areas of modified grassland in the eastern and northern array, an area of mixed woodland in the northern array and a section of native hedgerow in the southern array and eastern array.

A summary of the retained habitats, proposed habitat condition scores and their total area size in hectares can be seen in *Table 3* with the same for hedgerows shown in *Table 4*.

Table 3 Proposed habitat retention

Habitat Type	Condition	Area Size (Ha)	Habitat Units
Modified grassland	Moderate	2.0077	8.03
Modified grassland	Poor	5.0644	10.13
Built linear feature	N/A	0.3756	0.00
Other woodland; broadleaved	Moderate	0.1461	1.17
Other woodland; mixed	Moderate	0.7545	6.04
Total		**8.35**	**25.36**

Table 4. Proposed hedgerow retention

Hedgerow Type	Condition	Length (km)	Hedgerow Units
Native hedgerow	Moderate	0.445	1.78
Total		**0.445**	**1.78**

4.2 Habitat Enhancement

The proposed development will result in the enhancement of the remaining existing hedgerows and areas of modified grassland throughout the site. Hedgerows will be enhanced through additional planting which will 'gap up' areas that are currently in poor or moderate condition to help them achieve 'good' condition. Native species planting is recommended, with a variety of fruiting and flowering species which will allow new foraging opportunities for wildlife.

Grassland will be enhanced from modified grassland to other neutral grassland by the planting of new seed mixes and a hay meadow style management scheme.

A summary of the enhanced habitats, proposed habitat condition scores and their total area size in hectares can be seen in *Table 5* with the same for hedgerows shown in *Table 6*.

Table 5 Proposed habitat enhancement

Baseline Habitat Type	Enhanced Habitat Type	Baseline Condition	Enhanced Condition	Area Size (Ha)	Habitat Units Delivered
Modified grassland	Other neutral grassland	Poor	Moderate	0.4026	2.49
Modified grassland	Other neutral grassland	Poor	Poor	16.0008	62.88
Total				**16.4**	**65.38**

Table 6. Proposed hedgerow enhancement

Hedgerow Type	Baseline Condition	**Enhanced Condition**	Length (km)	Hedgerow Units Delivered
Native hedgerow – associated with bank or ditch	Poor	Moderate	0.572	4.34
Native hedgerow	Moderate	Good	0.995	5.83
Total			**1.57**	**10.18**

4.3 Habitat Creation

The proposed development will result in the creation of areas of other neutral grassland throughout the site, including areas under solar panels, mitigation areas and buffering around areas of solar panels. Areas of other neutral grassland that will be under solar panels have been limited to a proposed condition score of "poor" and small areas of other neutral grassland have been limited to a proposed condition score of "moderate". The development will also result in the creation of a small area of woodland in the south of the southern array and numerous new hedgerows throughout the site.

A summary of the habitat creation, proposed habitat condition scores and their total area size in hectares can be seen in *Table 7* with the same for hedgerows shown in *Table 8*.

Table 7 Proposed habitat creation

Proposed Habitat Type	Proposed Condition	Area Size (Ha)	Habitat Units Delivered
Other neutral grassland	Good	8.0854	67.94
Other neutral grassland	Moderate	15.4916	103.71
Other neutral grassland	Poor	53.3035	198.55
Other woodland; broadleaved	Poor	1.4198	4.75
Total		**78.3**	**374.96**

Table 8. Proposed hedgerow creation

Proposed Hedgerow Type	Proposed Condition	Length (km)	Hedgerow Units Delivered
Native hedgerow with trees	Moderate	0.298	1.67
Native hedgerow	Moderate	3.872	12.96
Total		**4.17**	**14.63**

5 STATUTORY METRIC SUMMARY

The proposed development will result in a net gain of 250.93 habitat units which equates to a **116.84% net gain on habitats** and a net gain of 18.54 hedgerow units which equates to an **230.36% net gain on hedgerows.** Trading rules have been met and satisfied for both habitat and hedgerow units (*Figure 4*).

Appropriate habitat management prescriptions will need to be implemented for all retained and created habitats on site to ensure the net gains detailed within this report are met. A full detailed Landscape and Ecological Management Plan (LEMP)should be completed prior to works commencing with full details of required management and monitoring per habitat type.

Figure 4. Statutory Metric Summary

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	250.93
	Hedgerow units	18.54
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	116.84%
	Hedgerow units	230.36%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

6 APPENDIX 1: BIODIVERSITY NET GAIN METRIC DATA

The Statutory Biodiversity Metric Tool (full metric) was used to calculate baseline habitat units, habitat unit loss, creation and enhancement as a result of the proposed development works. A summary of the metric results can be found in net gain summary section of this report; detailed results tables taken from the metric are show below (*Figures 5 - 7*).

Figure 5. Habitat units on site (target, baseline, requirements and changes proposed)

Net project biodiversity units (Including all on-site & off-site habitat retention / creation)		
	Habitat units	250.93
	Hedgerow units	18.54
	Watercourse units	0.00

Total project biodiversity % change (Including all on-site & off-site habitat creation + retained habitats)		
	Habitat units	116.84%
	Hedgerow units	230.36%
	Watercourse units	0.00%

Combined habitat retention and enhancement	Habitats	Hedgerows	Watercourses
Total on-site and off-site baseline area / length	103.05	2.01	0.00
Total on-site and off-site baseline units	214.77	8.05	0.00
Total on-site and off-site baseline area / length retained	8.35	0.45	0.00
Total on-site and off-site baseline units retained	25.36	1.78	0.00
Total on-site and off-site area / length proposed for enhancement	16.40	1.57	0.00
Total on-site and off-site baseline units proposed for enhancement	32.81	6.27	0.00
Total on-site and off-site baseline area / length lost	78.30	0.00	0.00
Total on-site and off-site baseline units lost	156.60	0.00	0.00

Figure 6. Trading summary for Habitat Units

Trading Summary		
Distinctiveness Group	**Trading Rule**	**Trading Satisfied?**
Very High	Same habitat required – bespoke compensation option ⚠	Yes ✓
High	Same habitat required =	Yes ✓
Medium	Same broad habitat or a higher distinctiveness habitat required (≥)	Yes ✓
Low	Same distinctiveness or better habitat required ≥	Yes ✓

Figure 7. Trading summary for Hedgerow Units

Trading Summary		
Distinctiveness Group	**Trading Rule**	**Trading Satisfied?**
Very High	Same habitat required =	Yes ✓
High	Like for like or better	Yes ✓
Medium	Same distinctiveness or better habitat required	Yes ✓
Low	Same distinctiveness or better habitat required	Yes ✓
Very Low	Same distinctiveness or better habitat required	Yes ✓