Fosse Green Energy

Fosse Green Energy

EN010154

6.3 Environmental Statement Appendices

Appendix 8-D: Terrestrial Invertebrates

VOLUME

6

Planning Act 2008 (as amended)

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

18 July 2025

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulation 2009 (as amended)

Fosse Green Energy

Development Consent Order 202[ ]

6.3 Environmental Statement Appendices

Appendix 8-D: Terrestrial Invertebrates

Regulation Reference	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	EN010154
Application Document Reference	EN010154/APP/6.3
Author	Fosse Green Energy Limited

Version	Date	Issue Purpose
Rev 1	18 July 2025	DCO Submission
Rev 2	02 September 2025	Procedural Decision

Table of Contents

Tables

1. Introduction

1.1 Background

1.1.1 This report forms a technical appendix to the Environmental Statement (ES), specifically to accompany **Chapter 8: Ecology and Nature Conservation** of this ES **[EN010154/APP/6.1]**. The report characterises the terrestrial invertebrate baseline conditions within the DCO Site Boundary of the Fosse Green Energy project, hereafter referred to as the Proposed Development, reporting on a desk study and a scoping assessment (and targeted sampling) undertaken in the field.

1.1.2 Further information on the Proposed Development is included within **Chapter 3: The Proposed Development** of this ES **[EN010154/APP/6.1]**.

1.2 Aims and Objectives

1.2.1 The aim of this appendix is to set out the terrestrial invertebrate baseline conditions within the DCO Site Boundary. This was achieved through a combination of desk study data and surveys for terrestrial invertebrates, with the aim to assess the potential value of the habitats present within the DCO Site Boundary for terrestrial invertebrate species and assemblages of conservation value. The results from this assessment were then used to inform the design of the Proposed Development, to enable the Proposed Development to proceed without potential impact to protected or notable terrestrial invertebrates and assemblages.

1.2.2 The objectives, therefore, are to:

a. Review existing ecological data to identify any records of terrestrial invertebrates occurring within the Study Area (see **Section 3.1**); and

b. Identify areas of potentially suitable terrestrial habitat (such as grassland) for terrestrial invertebrates and undertake an assessment to determine whether such areas are of greater importance to notable terrestrial invertebrate species and assemblages.

1.2.3 Combined, this is being used to:

a. Inform the decision as to whether any more detailed and, or, focussed surveys were needed;

b. Determine the biodiversity importance of the DCO Site Boundary for terrestrial invertebrates; and

c. Inform the design of the Proposed Development, with regards to avoidance of areas deemed of greater importance for terrestrial invertebrates.

2. Relevant Legislation, Policy and Guidance

2.1 Legislation

Wildlife and Countryside Act 1981 (as amended) Schedule 5

2.1.1 Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref 1) lists animals and species that are protected under Section 9, which prohibits the intentional killing, injuring or taking of the species listed in Schedule 5 and also prohibits possession and trade of the animals and species listed. The species listed, of which there are 55 terrestrial invertebrate species (Ref 2), are also further protected from disturbance by prohibiting actions that affect places they use for shelter.

Conservation of Habitats and Species Regulations 2017 (as amended)

2.1.2 The Conservation of Habitats and Species Regulations 2017 (as amended) (Habitats Regulations) (Ref 3) transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) (Ref 4) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations.

2.1.3 Three invertebrate species are protected within the UK under these regulations:

a. Fisher's Estuarine Moth (*Gortyna borelii lunata*);

b. Large Blue Butterfly (*Phengaris arion*); and,

c. Lesser Whirlpool Ramshorn Snail (*Anisus vorticulus*).

2.1.4 For these species, it is illegal to capture, kill, disturb or injure them; damage or destroy their breeding or resting places or obstruct access to their resting or sheltering places (either deliberately or accidentally).

2.2 Species of Principal Importance

2.2.1 In England, The Natural Environment and Rural Communities Act 2006 (NERC) (Ref 5) requires the Secretary of State for Environment, Food and Rural Affairs to publish and maintain a list of habitats and species that are of 'principal importance' for the purpose of conserving biodiversity and are regarded as conservation priorities under the UK Biodiversity Framework (Ref 6), which supersedes the UK Biodiversity Action Plan (UKBAP) (Ref 7). The UKBAP was launched in 1994 and established a framework and criteria for identifying species (and habitat types) of conservation concern.

2.2.2 In the region of 400 invertebrate species are Species of Principal Importance (SPI) for conservation in England. These species are of material consideration during the planning process and are used to guide decision-makers such as public bodies (including local and regional authorities) in implementing their duty under Section 40 of NERC (Ref 5).

2.3 Local Priority Species

2.3.1 The Proposed Development is located within the county of Lincolnshire. Formerly, the Lincolnshire Biodiversity Action Plan (BAP) (3rd edition) (Ref 9) provided context to inform identification of threatened or uncommon species of local relevance, alongside priorities for conservation and enhancement targeted at a local level. However, under the Environment Act 2021 (Ref 10), BAPs are being replaced by Local Nature Recovery Strategies (LNRSs), which are a system of spatial strategies for nature which will support delivery of biodiversity net gain (BNG) and provide more focussed action for nature recovery. Whilst this is still being developed for Lincolnshire and with no specific habitat or species plans currently in place, this report references the Lincolnshire BAP; however, no terrestrial invertebrates are listed as BAP priority species.

3. Methods

3.1 Characterising the Baseline

3.1.1 Within this report, the following terminology is used when referring to the geographic areas within which assessments were made:

a. Study Area – the area within the DCO Site Boundary and a 2km radius which was subject to collection of background information e.g., collation of desk study records to supplement the findings of the survey work;

b. Zone of Influence (ZoI) – the area over which terrestrial invertebrates may be affected by the Proposed Development which, using the criteria below and proportionate to the project's impacts, will not extend beyond 100m from the DCO Site Boundary (see **Section 3.1.2**). The results of the desk study and review of likely impacts of the Proposed Development were then used to define the scope of field survey; and

c. Survey Area – the area within which survey work was undertaken. For the terrestrial invertebrate surveys, this was the Principal Site only and excluded the Cable Corridor, acknowledging that the habitat with potential to support notable terrestrial invertebrate species (or assemblages) and to be permanently impacted upon (i.e., lost) by the Proposed Development, is within the Principal Site. Habitat disturbed by laying the cable along the Cable Corridor will be reinstated post laying works.

3.1.2 The ZoI is based on:

a. The nature of the project (a solar farm, including associated infrastructure), project activities, and the potential for effects at all development stages (construction, operation and decommissioning);

b. The nature of the land use (minimum 80% arable) and habitats in the vicinity (majority being arable), their connectivity (e.g. through hedgerows, grassland margins), and how they may be used by terrestrial invertebrates;

c. The assemblage of terrestrial invertebrate species which may be in the area based on the location of the DCO Site Boundary and desk study data; and

d. The different habitat preferences of different terrestrial invertebrate species that could be affected, and whether these were within the developable areas of the Proposed Development.

3.2 Desk Study

3.2.1 A desk study was undertaken in April 2023 as part of the Preliminary Ecological Appraisal (PEA). This desk study obtained records from Lincolnshire Environmental Records Centre (LERC) of protected and/or notable terrestrial invertebrates, including beetles, flies and butterflies within the Study Area. This information was indicative of the level of recording within

the Study Area and records were indicative of the habitats found within it. Any records of rare or otherwise notable species occurring within the ZoI were considered in the assessment.

3.2.2 Only records of terrestrial invertebrates up to ten years from the data request date (April 2023) were considered within the assessment, as any records older than ten years are unlikely to be still representative of presence in the local area.

3.2.3 Aerial imagery was reviewed to inform desk-based preparation for scoping 'routes' around each of the accessible land parcels within the DCO Site Boundary.

3.3 Field Survey

3.3.1 A walk-over of the Survey Area was led by an independent consultant entomologist with over 30 years' experience, to evaluate the habitats that were present and to identify potential habitats likely to support notable terrestrial invertebrates, or assemblages of invertebrates. This survey was carried out on 30 March and 4 April 2023.

3.3.2 The walkover survey focussed on arable margins and grassland habitats within the Principal Site. Boundary features, such as isolated trees, hedgerows, copses and plantation blocks will, where possible, be retained and not impacted by the Proposed Development and therefore, did not form part of the survey.

3.3.3 A route was devised which allowed a sufficiently close approach to all parts of the Principal Site to assess the likely relative importance of each area for invertebrate diversity. Whilst this involved walking over the majority of the Survey Area, it did not necessitate walking over all habitats, as some areas could be assessed from a distance including by using binoculars. This particularly applied to large areas of arable crops and the more common boundary features, such as species-poor, defunct hedgerows.

3.3.4 The primary objective of the survey was to walk the perimeter of accessible fields within the Survey Area, noting any habitats that might support significant assemblages or individual species of invertebrate, particularly any that have International Union for the Conservation of Nature (IUCN) threat status or partial or full legal protection. Particular attention was given to saproxylic habitat. This usually manifests as dead wood, often within standing dead or dying trees. Saproxylic invertebrates utilise dead and dying wood and its associated decay micro-habitats (*e.g.*, fungi) for at least part of their life cycle development. Oak (species of *Quercus*) are particularly important due to the diversity of saproxylic species supported.

3.3.5 The presence of floristically diverse short-sward grassland in areas of lowland habitats, particularly where this habitat is found on free-draining soils and where there is also some degree of low-level disturbance, *e.g.*, by Rabbit (*Oryctolagus cuniculus*) grazing and digging activity, was also of interest.

3.3.6 During the walkover survey, any visually obvious and readily identified invertebrate species were noted at the time and limited sampling of invertebrates was undertaken. Habitat photographs were taken of any features that were considered of interest, and brief notes were made in the field.

3.3.7 Areas that were identified as being of potentially greater importance to support notable terrestrial invertebrates, or assemblages of terrestrial invertebrates were then subject to targeted sampling on a single occasion (on 30 March and 4 April 2023) to appraise the broad level of terrestrial invertebrate interest within such areas.

3.3.8 Targeted sampling involved using sieving, which is a method of surveying that extracts invertebrates from debris such as leaf litter and rotting wood. This method can record a wide range of invertebrates and is also useful in finding larvae of flies or beetles, plus adult organisms such as worms, pseudoscorpions and *Dermaptera* (earwigs).

3.4 Assessment Criteria

Nationally Rare and Nationally Scarce Species

3.4.1 Since 2010, IUCN reviews have been produced for many invertebrate groups and the recent IUCN review (Ref 11) assesses the restricted distribution categories, standardised to Nationally Rare (NR) and Nationally Scarce (NS) without further subdivision. The Great Britain (GB) system of assessing rarity based solely on distribution is used alongside IUCN criteria, although also using measures of geographical extent, are primarily concerned with assessing National and International Threat in terms of decline of species populations.

3.4.2 In this report, for the taxa found within the Survey Area, the IUCN criteria (Ref 11) has been used. Otherwise, where no such IUCN reviews exist for the species recorded, they are referred to, in this appendix only, to the older categorisations of Nationally Scarce (NS) 'Notable Nb', 'Notable Na' and 'Notable' and for Red Data Book (RDB) species, 'RDB' categories.

3.5 Biodiversity Importance

3.5.1 An essential prerequisite step to allow an ecological impact assessment of the Proposed Development, as presented in **Chapter 8: Ecology and Nature Conservation** of this ES **[EN0010154/APP/6.1]**, was an evaluation of the relative biodiversity importance of the Survey Area for terrestrial invertebrates. This is necessary to set the terms of reference for the subsequent ecological impact assessment.

3.5.2 The method of evaluation that was utilised has been developed with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines (Ref 12) for scoping and carrying out environmental assessments, placing appraisal in the context of relevant policies and at a

geographical scale at which a given feature matters (*i.e.* international, national, regional, county, district, local or site). Data received through desk study and field-based surveys were used to identify the importance of the species encountered. Professional judgement was also applied, where necessary. Relevant published national and local guidance and criteria have been used, where available, to inform the assessment of biodiversity importance and to ensure consistency in evaluation.

3.5.3 Furthermore, whilst there is no standard method for assessing the biodiversity importance of the invertebrate habitat of a site, guidelines set out by Colin Plant Associates (UK Consultant Entomologists (Ref 13)) have been used to determine the importance of the Survey Area (see **Table 1**).

Table 1: Guidelines for evaluating the biodiversity importance of a site

Geographical Scale	Description	Minimum qualifying criteria
International	European Important Site	Internationally important invertebrate species, or assemblages, present.
National	Nationally Important Site	A site that: a. achieves SSSI invertebrate criteria; b. supports sustainable populations of species listed as critically endangered; c. supports sustainable populations of species listed in the Habitats Directive; d. supports sustainable populations of species listed as Endangered within the Red Data Book; e. supports sustainable populations of any species listed on the WCA; or f. contains important invertebrate habitats that are actively threatened nationally.
Regional	A site with populations of invertebrates or invertebrate habitats considered scarce or rare or threatened in a region of England (i.e., East Midlands)	Habitat that is scarce or threatened in the region or which has, or is reasonably expected to have, the presence of an assemblage of invertebrates including at least ten Nationally Notable species or at least ten species listed as Regionally Notable for the English Nature region in question in the Recorder database or elsewhere or a combination of these categories amounting to ten species in total.
County	A site with populations of invertebrates or invertebrate habitats considered scarce or rare or threatened in the county	Habitat that is scarce or threatened in the county and/or which contains or is reasonably expected to contain an assemblage of invertebrates that includes viable populations of at least five Nationally Notable species or viable populations of at

Geographical Scale	Description	Minimum qualifying criteria
	in question, (*i.e.*, Lincolnshire)	least five species regarded as Regionally Scarce by the county records centres and / or field club.
District	A site with populations of invertebrates or invertebrate habitats considered scarce or rare or threatened in the administrative district (*i.e.*, North Kesteven District).	A rather vague definition of habitats falling below county significance level, but which may be of greater significance than merely Local. They include sites for which NS (nationally scarce) species in the range from 1 to 4 examples are reasonably expected, but not yet necessarily recorded, sites that have 1 to 4 Priority Species and sites that have an outstanding assemblage of Research Only Section 41 moths.
Local	A site with populations of invertebrates or invertebrate habitats considered scarce or rare or threatened in the affected and neighbouring Parishes.	Habitats or species unique or of some other significance within the local area.
Site	-	Although almost no area is completely without significance these are the areas with nothing more than expected "background" populations of common species and the occasional NS species.

3.6 Assumptions and Limitations

Desk Study

3.6.1 The aim of the desk study was to help characterise the baseline context of the Proposed Development and provide valuable background information that would not be captured by site surveys alone. Information obtained during the course of the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for terrestrial invertebrates (as is the case here) does not necessarily mean that these do not occur in the Study Area. Likewise, the presence of records of species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Development.

Field Survey

3.6.2 The level of assessment and survey effort were determined based on the findings of the walkover survey and with consideration to the Proposed Development design that avoids impacts to adjacent and/or boundary features such as woodlands and hedgerows. Whilst it is acknowledged that the

approach reported in this document will have only detected a subset of the total range of invertebrate interest in selected areas of perceived greater importance for terrestrial invertebrates, the scoping assessment and targeted sampling, undertaken in March and April 2023, are adequate for determining the invertebrate interest in and around the Principal Site, in consideration of the Proposed Development's retention and avoidance of existing boundary features.

3.6.3 No surveys were undertaken for terrestrial invertebrates within the Cable Corridor as the temporary nature of the construction of the Cable Corridor in these areas will not significantly impact upon any terrestrial invertebrates, or their habitats.

4. Results

4.1 Desk Study

4.1.1 The desk study returned two records of protected and/or priority species of terrestrial invertebrate species, both butterflies, within the preceding ten years and within 2km of the DCO Site Boundary. There was one record of White-letter Hairstreak (*Satyrium w-album*), the closest of which is approximately 650m from the DCO Site Boundary, a species protected under Schedule 5 of the WCA (sale only) and a SPI under NERC and UK BAP priority species; and one record of Purple Emperor (*Apatura iris*), the closest of which is approximately 1.5km from the DCO Site Boundary, a species protected under Schedule 5 of the WCA (sale only).

4.2 Field Survey

4.2.1 The walkover survey identified 22 areas within the Principal Site that, due to the habitat, had potentially more value to terrestrial invertebrates and at the time of survey had the potential to be within the developable areas of the Proposed Development.

4.2.2 A summary of these 22 areas is presented in **Table 2**, and their locations are presented in **Figure 8-D-1** (**Annex A** of this appendix **[EN010154/APP/6.3]**). Additional areas of saproxylic habitat with a lower value to terrestrial invertebrates are also presented.

Table 2: Summary description of areas of more value to terrestrial invertebrates

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
1	Stocking Wood, consisting largely of oak woodland with some notably mature and damaged examples along its perimeter. This wood is now excluded from the DCO Site Boundary and is present along the boundary of the Principal Site.	

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
2	An apparently unexceptional, but relatively large compartment of poor semi-improved grassland.	
3	Ditch containing water; in places with emergent water plants including stands of Reedmace (*Typha* species) and occasional Water-cress (*Nasturtium officinale*), but a large amount of algae suggested run-off contamination from surrounding agricultural land and associated eutrophication.	
4	A relatively large grassland area of set-aside that appeared to have been seeded with wildflowers including Ox-eye Daisy (*Leucanthemum vulgare*), Ribwort Plantain (*Plantago lanceolata*), Yarrow (*Achillea millefolium*), Common Knapweed (*Centaurea nigra*), Spear Thistle (*Cirsium vulgare*), some clover species of *Trifolium*, Nettle (*Urtica dioica*), some docks (species of *Rumex*), Common Ragwort (*Jacobaea vulgaris*) and Dandelions (*Taraxacum officinale* agg.).	

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
5	Small plantation of Hazel (*Corylus avellana*) and some willow species (*Salix* species) with a perimeter of oak (*Quercus* species).	
6	Deep ditch, unexceptional for invertebrates but bordered on both sides by a relatively broad strip of rough grassland containing Creeping Buttercup (*Ranunculus repens*), Hogweed (*Heracleum sphondylium*), Cow Parsley (*Anthriscus sylvestris*), Lesser Celandine (*Ficaria verna*), docks and Teasel (*Dipsacus fullonum*).	
7	Relatively small pocket of rough ex-arable grassland; plant diversity was poor.	
8	Small area of set-aside/rough grassland; plant diversity was poor.	No photo.

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
9	Small circular field pond with emergent Reedmace (*Typha* species); with Bittersweet (*Solanum dulcamara*) and Rosebay Willowherb (*Chamerion angustifolium*) with Burdock (*Arctium* species) at the margins.	
10	Broad headland strip bordering cultivated arable, and containing many Brassicaceae (cabbage family), planted as foraging habitat for birds.	No photo.
11	One of the better examples of ephemeral weedy areas within the Principal Site, particularly well-represented in the western half of this field. If this field was purposefully left as set-aside it may be found to contain a diverse assemblage of invertebrates associated with sparsely vegetated arable habitats, but the likelihood is that it will be ploughed. Previously cropped for Maize (*Zea mays*). Field Pansy (*Viola arvensis*), Scentless Mayweed (*Tripleurospermum inodorum*) and Common Chickweed (*Stellaria media*) were noted.	
12	A number of dead elms (*Ulmus* species) in the northern section of this hedgerow which should support associated saproxylic invertebrates.	No photo.
13	Hedgerow with plentiful dead Ash (*Fraxinus excelsior*) and Elm (*Ulmus* species) and a notable large dead Ash in field corner.	

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
14	Ditch containing water and variously choked up by Reedmace and shrubs (Blackthorn (*Prunus spinosa*) and willows) along its length. Water quality appeared to be poor.	
15	Ditch containing water and with stands of emergent water plants – the water quality improved in mid-northern section, but the ditch is likely compromised by run-off contamination.	
16	Small copse, predominantly Ash with Hawthorn (*Crataegus monogyna*) and Blackthorn at its perimeter.	No photo.
17	Row of old willows along a stream; some signs of historic pollarding, many with exposed rot on trunks.	
18	Unmanaged section of ditch with tall vegetation of Reedmace, Willowherb and Bramble (*Rubus fruticosus* aggregate).	

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
19	Grass-dominated headland.	
20	Large grassland headland with Knapweed and Ox-eye Daisy, probably wildflower-mix seeded area.	No photo
21	Pasture grazed by sheep with Cowslip (*Primula veris*), Common Sorrel (*Rumex acetosa*), Self-heal (*Prunella vulgaris*), Hoary Plantain (*Plantago media*), Mouse-ear Hawkweed (*Pilosella officinarum*) and high intensity sheep grazing and with a high percentage (>50%) bare ground.	
22	Two broad, permanent headland strips bordering cultivated arable, and containing many Brassicaceae as well as Broad-leaved Dock (*Rumex obtusifolius*), willowherbs, Spear Thistle and Burdock; retained as foraging habitat for birds.	
Additional examples / photos of saproxylic habitat.		
23	An Oak on the east perimeter of Area 7 showing significant fracture damage to the trunk and additional limb damage, located at grid ref. SK90616258.	

Area Code (see Figure 8-D-1)	Brief Habitat Description	Photograph
24	Ash with significant damage, probably as a result of Ash dieback (*Hymenoscyphus fraxineus*). Located in a hedgerow at grid ref. SK88956378.	
25	Oak with significant damage to trunk (which is partially hollowed) at grid ref. SK88306442	

4.2.3 Targeted sampling of terrestrial invertebrates, following the walkover survey resulted in a total of 170 invertebrate species being recorded. Most of these were sieved from ground vegetation. The majority were common and widespread species.

4.2.4 Two species with British Rarity value (i.e. Nationally Scarce) were recorded, both associated with woody vegetation and dead wood:

a. *Coeliodes transversealbofasciatus,* a weevil beetle, which is widely but sparsely distributed in England; and

b. *Orchesia micans*, a saproxylic beetle, the characteristically pink larvae of which develop in bracket fungi (particularly Shaggy Polypore (*Inonotus hispidus*)) on decaying Ash trees.

5. Evaluation

5.1 Desk Study

5.1.1 The desk study identified two species of terrestrial invertebrate species, both butterfly species, occurring within 2km of the DCO Site Boundary. These were Purple Emperor and White-letter Hairstreak. Purple Emperor is found in woodland habitats, the caterpillar of this species particularly favouring Goat Willow (*Salix caprea*) and Grey Willow (*Salix cinerea*). White-letter Hairstreak is found in sheltered hedgerows, mixed scrub and on the edges of woodland and breeds on various elm species, including Wych Elm (*Ulmus glabra*), English Elm (*Ulmus procera*) and Small-leaved Elm (*Ulmus minor*).

5.1.2 Whilst woodland, scrub and hedgerow habitats did not form part of the scope of the surveys reported in this document, any such habitats that may support Purple Emperor or White-letter Hairstreak would be retained as part of the Proposed Development, therefore these species would not be impacted upon, even if present.

5.2 Field Survey

5.2.1 The walkover survey for terrestrial invertebrates identified 22 areas plus individual trees that, due to the type of habitat, were of potentially greater value to terrestrial invertebrates than the remainder of the Principal Site. These areas amounted to about 24.6ha of grassland and woodland (<3% of the Survey Area), 2.8km of ditches, 0.5km of hedges, and individual trees as shown on **Figure 8-D-1** (**Annex A** of this appendix **[EN010154/APP/6.3]**) and were subject to targeted sampling to appraise their invertebrate interest, recording 170 terrestrial invertebrate species during the survey.

5.2.2 No species that are afforded full protection under UK or International legislation or SPI were recorded during the survey. Two Nationally Scarce species, both associated with woody vegetation and dead wood were recorded *Coeliodes transversealbofasciatus,* a weevil beetle; and *Orchesia micans*, a saproxylic beetle.

5.2.3 The most important habitat features across the Principal Site were the dead, dying and damaged Oak and Ash trees, located along boundary hedgerows and as individual trees as these are likely to support significant invertebrate assemblages. Providing these are retained as per the recommended tree and hedgerow buffers (see the **Framework Landscape and Ecological Management Plan (LEMP) [EN010154/APP/7.15]**), then there will be no need for any further, targeted invertebrate species surveys (*e.g*. for saproxylic species).

5.2.4 The grassland habitat within the Principal Site was botanically relatively species poor and hence unexceptional for invertebrate species. It is not expected that invertebrate assemblages of significance occur in these isolated and relatively small parcels of land, but it is desirable to retain these as their

value to invertebrates will be greater than the value of monoculture crops and narrow field margins so typical of the majority of the existing arable farmland (approximately 90% of the DCO Site Boundary, currently arable agriculture, part of the crop husbandry of which includes applications of pesticides, *e.g.*, insecticides and molluscicides). No further surveys are proposed in these habitats.

6. Conclusion

6.1.1 The desk study identified two species of notable butterfly species (Purple Emperor and White-letter Hairstreak) occurring within the Study Area. The field survey identified two Nationally Scarce species of beetle, both associated with woody vegetation and dead wood within the Principal Site. None of these species are likely to be impacted by the Proposed Development as they prefer woodland, individual trees (*i.e*. mature/veteran trees), hedgerows and scrub, all or most of which will be retained and buffered from disturbance.

6.1.2 Overall, based on the habitats within the Principal Site, the avoidance that will be built into the design for the Proposed Development, the embedded mitigation measures (as presented in **Chapter 8: Ecology and Nature Conservation** of this ES **[EN010154/APP/6.1]**), and the small number of terrestrial invertebrates of conservation interest that were recorded or are likely to be present within the Proposed Development, the value of the DCO Site Boundary to terrestrial invertebrates is of District value only.

6.1.3 This District value comes from the often isolated and relatively small parcels of suitable habitat within the Principal Site (*i.e*. woodland, individual trees and hedgerows) and it is desirable to retain these as their value to invertebrates will be greater than the approximately 90% of the DCO Site Boundary currently in arable agriculture. Where woodland habitat, individual trees and, or hedgerows are removed, it may be necessary to undertake a further assessment for example, saproxylic species, to determine any necessary mitigation. This will depend on such factors as the length or area of habitat to be lost and its condition, e.g. age of tree.

6.1.4 The Proposed Development presents an opportunity to include habitat creation within the design that would enhance the habitats for terrestrial invertebrates, *e.g*., through the creation of nectar rich grassland and additional tree/shrub planting.

7. References

Ref 1 His Majesty's Stationary Office (HMSO). (1981). Wildlife & Countryside Act 1981 (as amended). HMSO, London. [online] Available at: https://www.legislation.gov.uk/ukpga/1981/69. [Accessed February 2025]

Ref 2 Buglife. (2014). Policy and Legislation Summary. [online] Available at: [redacted]/2019/07/Policy-and-legislation-summary-final-2014_0.pdf [Accessed February 2025]

Ref 3 HMSO. (2017). The Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London. [online] Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents/made. [Accessed February 2025]

Ref 4 European Council (EC). (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. EC, Brussels. [online] Available at: [redacted] Accessed February 2025]

Ref 5 HMSO. (2006). Natural Environment and Rural Communities Act 2006. HMSO, London. [online] Available at: https://www.legislation.gov.uk/ukpga/2006/16/contents. [Accessed February 2025]

Ref 6 JNCC on behalf of the Four Countries' Biodiversity Group. (2024)UK Biodiversity Framework. [online] Available at https://data.jncc.gov.uk/data/19a729f6-440e-4ac6-8894-cc72e84cc3bb/uk-biodiversity-framework.pdf [Accessed February 2025]

Ref 7 HMSO. (1994). Biodiversity The UK Action Plan. HMSO, London. [online] Available at: https://data.jncc.gov.uk/data/cb0ef1c9-2325-4d17-9f87-a5c84fe400bd/UKBAP-BiodiversityActionPlan-1994.pdf. [Accessed February 2025]

Ref 8 Joint Nature Conservation Committee (JNCC) and Department for Environment, Food and Rural Affairs. (Defra) (2012). UK Post-2010 Biodiversity Framework. [online] Available at: https://data.jncc.gov.uk/data/587024ff-864f-4d1d-a669-f38cb448abdc/UK-Post2010-Biodiversity-Framework-2012.pdf [Accessed February 2025]

Ref 9 Lincolnshire Biodiversity Partnership. (2011). Lincolnshire Biodiversity Action Plan 2011-2020 (3rd edition). [online] Available at: https://www.nelincs.gov.uk/wp-content/uploads/2016/02/201110-LincolnshireBAP-3rd-edition.pdf [Accessed February 2025]

Ref 10 HMSO. (2021). Environment Act 2021. HMSO, London. [online] Available at: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted. [Accessed February 2025]

Ref 11 IUCN. (2024). Evaluations Database. [online] Available at: [redacted] [Accessed February 2025]

Ref 12 Chartered Institute of Ecology and Environmental Management (CIEEM). (2018). Guidelines for Ecological Impact assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, version 1.3.

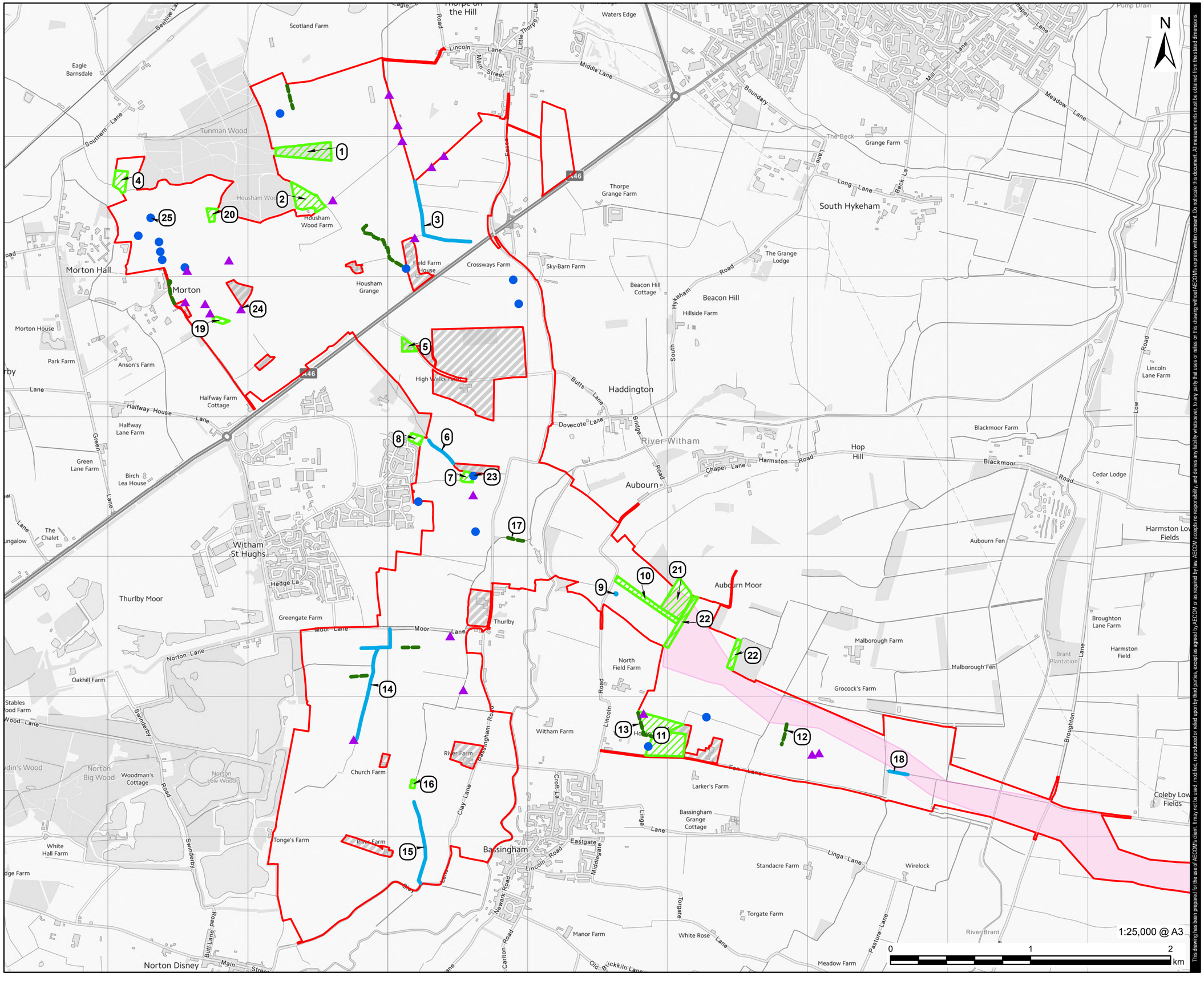
Ref 13 Colin Plant Associates. (2006). EcIA Guideline Comments. Unpublished Report to the Institute of Ecology and Environmental Management.

Annex A Figures

Figure 8-D-1 Habitats of greater value to terrestrial invertebrates

Revision: 0 Drawn: BF Checked: LL Approved: NS Date: 2025-08-22

Filename: \\na.aecomnet.com\lfs\EMEA\London-UKLON06\Legacy\UKLON06\FPPSW001\UKLON06FPPSW001-V1\DFE\Library\GIS_DATA\Projects\Fosse Green Energy Park\02_Maps\Environmental Statement\Chapter 08 - Ecology\FGE_Figure8D_Terr_Invertebrate\FGE_Figure8D_Terr_Invertebrate.aprx



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

Fosse Green Energy

PROJECT

Fosse Green Energy

CLIENT

Fosse Green Energy Ltd

CONSULTANT

AECOM Limited
Sunley House
4 Bedford Park
Surrey, CR0 2AP, UK
www.aecom.com

LEGEND

- DCO Site Boundary
- Land not included in the DCO Site Boundary
- Grid Connection Corridor
- Saproxylic habitat (significantly damaged hedgerow oak), labelled with Area Code
- Saproxylic habitat (Ash), labelled with Area Code
- Areas of grassland or broad arable headland, with Area Code
  These areas amounted to about **24.6ha (2.3% of the Site)**
- Relatively noteworthy ditch features, labelled with Area Code
  These amount to about **2.8km**
- Unmanaged and relatively species-rich hedgerows, labelled with Area Code where applicable
  Labelled features amount to about **0.5km**

NOTES

Contains OS data © Crown copyright 2025

LEGISLATION

Regulation 5(2)(a) Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.

ISSUE PURPOSE

DCO Submission

FIGURE TITLE

Habitats of greater value to terrestrial invertebrates

FIGURE NUMBER	REV.
Figure 8-D-1	02

DOCUMENT REFERENCE

EN010154/APP/6.2.