OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement
Appendix 5.6 – Outline Landscape and Ecological Management Plan
October 2024
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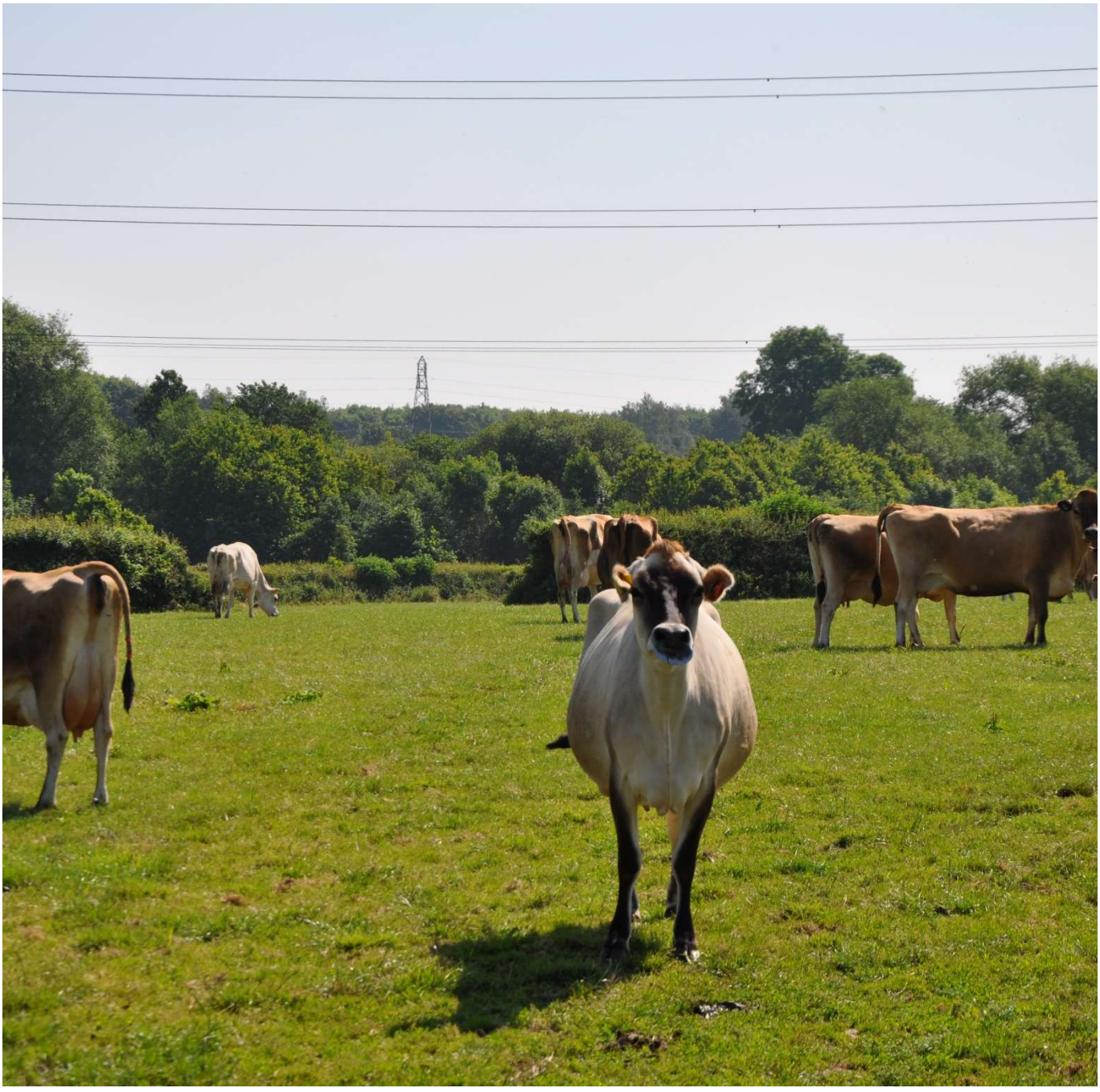
Planning Act 2008
Infrastructure Planning (Application: Prescribed Forms and Procedure) Regulations 2009 - 5(2)(a)

Oaklands Farm Solar Limited

Oaklands Farm Solar Park

Outline Landscape and Ecological Management Plan - Update for Deadline ~~3~~4

Final report
Prepared by LUC
~~August~~ September 2024



Oaklands Farm Solar Limited

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Project Number
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Contents

Chapter 1
Introduction

Terms of Reference

1.1 In April 2021, LUC was appointed by Oaklands Farm Solar Limited to provide ecological support to inform an application to construct and operate Oaklands Farm Solar Park, a proposed solar photovoltaic (PV) electricity generating facility, hereafter referred to as 'the Proposed Development'.

1.2 The purpose of this document is to set out habitat retention, protection, creation and enhancement measures, as well as outlining management and monitoring requirements of the Site. This report forms a Technical Appendix, which has informed an Ecological Impact Assessment (EcIA) for the Environmental Statement (ES), in support of a planning application for the Proposed Development. Assessment of impacts, mitigation requirements and enhancement measures will be provided as part of the ES Chapter and are not detailed within this report.

This Outline LEMP relates to the Park Farm, Fairfield Farm, and Oaklands Farm areas only[1], hereafter referred to as 'the Site'.

1.3 This report presents a summary of the existing conditions and ecological protection, creation and enhancement measures identified as part of the Preliminary Ecological Appraisal (PEA)0F[2] prepared by Arcus in 2020, and surveys carried out by LUC in 2021, 2022 and 2023, together with management and maintenance required to deliver ecological enhancements in the long term. The Outline LEMP has been designed to maximise the landscape value and ecological value of the Site. It also covers the requirement for screening of reflections from solar panels (which can

[1] See Figure 1.3: Areas of the Site in Volume 2 of the ES, included within Appendix C of this report for information.

[2] Arcus, (2020). *Preliminary Ecological Appraisal: Oaklands Solar Farm and Grid Connection Route prepared on behalf of BayWa r.e. UK Limited*

cause glint and glare effects). This will be achieved through the use of temporary opaque netting until hedgerows have matured.

1.4 This report has been prepared for the exclusive use of Oaklands Farm Solar Limited. No part of this report should be considered as legal advice.

1.5 This is an Outline LEMP prepared to accompany the Application for Development Consent. A detailed LEMP will be prepared prior to commencement as required by the Development Consent Order (DCO). This will include further detail on the proposed landscaping and how it will be implemented. This could include design plans, programmes, specifications, monitoring requirements, responsibilities and costs.

1.6 Appendix D of this report sets out the specific mitigation referred to within the relevant chapters of the ES and where this mitigation is covered within this LEMP.

1.7 Figures 1a – f which accompany this LEMP have been updated since submission at Deadline 1 with the following edits:

- A note has been added to the key after 'Proposed solar arrays' to make it clear that species rich grassland is beneath the solar arrays.
- Note 3 has been added to a section of hedgerow south of the BESS.
- Note 4 has been added to a section of hedgerow at the south east corner of the Site on Figure 1b and 1f.

Site Description

1.8 The Site (as shown in **Figure 1.1** from **Volume 2** of the ES, included in **Appendix C** of this report for information) is located to the east of Walton-on-Trent in South Derbyshire (OS Central Grid Reference: SK 23456 17577). The Site comprises land within Oaklands Farm, Park Farm and Fairfield Farm land-holdings, which are currently used for arable cropping and grazing, and National Grid Drakelow Substation in the north.

1.9 The majority of the Site, which is located with the Oaklands Farm, Park Farm and Fairfield Farm landholdings, is comprised of arable land and species-poor and agriculturally improved pasture, to maximise the productivity of cattle and sheep grazing. Grazing pressures, including trampling, erosion and physical damage by livestock has severely degraded many of the internal

site hedgerows, which are typically defunct and characterised by a species-poor assemblage and open, straggly growth form. A small section of the Site in the north is located within the National Grid land holding at Drakelow Power Station. This area of land is comprised of woodland, grassland, scrub mosaic and a pond. Areas of increased ecological value within the Site relate primarily to woodlands and an unnamed watercourse (see **Figures 6.5.1a and b**, included in **Appendix C** of this report for information).

1.10 The wider area comprises a mosaic of agricultural and pastoral land and woodland with Rosliston Forestry Centre located to the east and the River Trent to the west of the Site boundary.

Proposed Development Description

1.11 The Proposed Development comprises a proposed solar farm with an associated Battery Energy Storage System. It would have a generating capacity of over 50MW and would be situated on 191 hectares of land at Oaklands Farm to the south-east of Walton-on-Trent and to the west of Rosliston in south Derbyshire. The solar farm itself, comprising photovoltaic panel arrays, a central electricity substation and associated Battery Energy Storage System together with access, landscaping and other works would be located on 135 hectares of agricultural land currently in use for arable production and grazing. A high voltage underground electricity cable would then run through land at Fairfield Farm and Park Farm to the north to connect the solar farm to the national grid via an electricity substation located at the former Drakelow Power Station which sits south of Burton-upon-Trent. As the Proposed Development would be an onshore generating station with a generating capacity of over 50MW an application for a Development Consent Order is being made under the Planning Act 2008 to the Planning Inspectorate, for determination by the Secretary of State for Energy Security and Net Zero.

1.12 The Site boundary and proposed Landscape Strategy Plan is shown in **Appendix A.**

Baseline Surveys

1.13 This Outline LEMP has been informed by ecological surveys undertaken by LUC in 2021, 2022, and 2023, and Arcus in 2020[22]. The field surveys carried out to inform the application are set out in **Table 1.1** below.

1.14 Survey results and associated reporting are provided within **Appendices 6.1 to 6.15** in Volume 3 of the ES.

Table 1.1: Summary of Field Surveys

Field Survey	Survey Dates[3]
Extended Phase 1 Habitat Survey	**Oaklands Farm:** May and June 2020 **Park Farm:** April 2021 **Fairfield Farm:** April 2022. **Drakelow Power Station:** July 2022 An updated site walkover was completed for the whole site in March 2023 and at Drakelow Power Station in September 2023. Details of which are presented in **ES Volume 3 Appendix 6.5: Phase 1 Habitat Survey Report**.
Hedgerow Assessment	**Oaklands Farm and Park Farm:** September 2023.
Bat Roost Assessment	**Oaklands Farm:** May and June 2020 **Park Farm:** April 2021 **Fairfield Farm:** April 2022 **Drakelow Power Station:** July 2022, September 2023
Bat Roost Survey	**Oaklands Farm:** July to September 2021 **Park Farm:** July to August 2021
Bat Activity Survey	**Oaklands Farm:** August to September 2021

[3] There are four distinct areas where the Proposed Development will be focussed and as such relevant surveys have been undertaken separately at Oaklands Farm (South), Fairfield Farm, Park Farm (North) and Drakelow Power Station with initial surveys conducted by Arcus in 2020 prior to LUC's involvement. Surveys were designed to consider all areas to be affected by the Proposed Development.

Field Survey	Survey Dates[3]
	Park Farm: May to September 2021
Bat Static Activity Survey	**Oaklands Farm:** August to September 2021 **Park Farm:** June to September 2021
Great Crested Newt – eDNA Survey	**Oaklands Farm:** June 2020 **Park Farm:** April 2021
Reptile Survey	**Oaklands Farm:** August to September 2021 **Park Farm:** N/A – no suitable habitat affected by Proposed Development was identified in relation to reptiles.
Badger Survey	**Oaklands Farm:** May and June 2020 **Park Farm:** August 2021 **Fairfield Farm:** April 2022 **National Grid Drakelow Substation:** July 2022 An updated survey was undertaken in April 2022 for Oaklands Farm, Park Farm and Fairfield Farm.
Water Vole / Otter Survey	**Oaklands Farm:** September 2021 **Park Farm:** September 2021 **Fairfield Farm:** April 2022 and June 2022
Breeding Bird Survey	**Oaklands Farm:** April to June 2020 **Park Farm:** March to July 2021 An updated survey at Oaklands Farm was undertaken in April and May 2023.

Legislation and Planning Policy

1.15 This report has been prepared in cognisance of relevant legislation and policy. Further detail is provided in **Appendix B**. The primary documents of relevance are outlined below:

- The Wildlife and Countryside Act of 1981[4].
- The Countryside and Rights of Way Act, 2000 (CRoW Act)[5].
- The Natural Environment and Rural Communities Act 2006 (NERC Act)[6].
- The Conservation of Habitats and Species Regulations 2017[7].
- The Protections of Badgers Act 1992[8].
- Hedgerow Regulations 1997[9].
- The National Planning Policy Framework (2023)[10].
- South Derbyshire District Local Plan Part 1 (Adopted June 2016)[11].

[4] The Wildlife and Countryside Act 1981. Available at: https://www.legislation.gov.uk/ukpga/1981/69. [Accessed 29/09/23]

[5] The Countryside and Rights of Way Act (CRoW Act), 2000. Available at: https://www.legislation.gov.uk/ukpga/2000/37/contents [Accessed 29/09/23]

[6] The Natural Environment and Rural Communities Act 2006. Available at: https://www.legislation.gov.uk/ukpga/2006/16/contents [Accessed 29/09/23]

[7] The Conservation of Habitats and Species Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents/made [Accessed 29/09/23]

[8] The Protections of Badgers Act 1992. Available at: https://www.legislation.gov.uk/ukpga/1992/51/contents [Accessed 29/09/23]

[9] Hedgerow Regulations 1997. Available at: https://www.legislation.gov.uk/uksi/1997/1160/contents/made [Accessed 29/09/23]

[10] Department for Levelling Up, Housing and Communities 2023) The National Planning Policy Framework. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed 08/01/24]

[11] South Derbyshire District Council (2016) Local Plan Part 1 (Adopted June 2016). Available at: https://www.southderbyshire.gov.uk/our-services/planning-and-building-control/planning/planning-policy/local-plan/adopted-local-plan [Accessed 29/09/23]

- Department for Energy and Climate Change. 2011. Overarching National Policy Statement for Energy (EN-1)[12] and Draft NPS EN-1 for designation dated 2023[13].
- Department for Energy and Climate Change. 2011. National Policy Statement for Renewable Energy Infrastructure (EN-3)[14] and Draft NPS EN-3 for designation dated 2023[15].
- Department for Energy and Climate Change. 2011. National Policy Statement for Electricity Networks Infrastructure (EN-5)[16] and Draft NPS EN-5 for designation dated 2023[17].

1.16 Further to this, it should be noted that in September 2023, South Derbyshire District Council declared an ecological emergency in response to the ongoing threat to wildlife and ecosystem.

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[12] Department for Energy and Climate Change (2011) Overarching National Policy Statement for Energy. Available at: https://assets.publishing.service.gov.uk/media/5a79522de5274a2acd18bd53/1938-overarching-nps-for-energy-en1.pdf [Accessed 29/09/23]

[13] Department for Energy Security and Net Zero (2023) Draft Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/655dc190d03a8d001207fe33/overarching-nps-for-energy-en1.pdf [Accessed 16/01/24]

[14] Department for Energy and Climate Change (2011) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://assets.publishing.service.gov.uk/media/5a79c422e5274a684690bf53/1940-nps-renewable-energy-en3.pdf [Accessed 29/09/23]

[15] Department for Energy Security and Net Zero (2023) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf [Accessed 16/01/24]

[16] Department for Energy and Climate Change (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://assets.publishing.service.gov.uk/media/5a74877840f0b61938c7e2d9/1942-national-policy-statement-electricity-networks.pdf [Accessed 29/09/23]

[17] Department for Energy Security and Net Zero (2023) Draft National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://assets.publishing.service.gov.uk/media/655dc25e046ed400148b9dca/nps-electricity-networks-infrastructure-en5.pdf [Accessed 16/01/24]

Chapter 2
Vision and Objectives

2.1 This Chapter sets out the landscape and ecological enhancement vision and objectives, drawing on the Landscape Strategy Plan. A Landscape and Ecological Management Plan (LEMP) is a site-specific document which details the immediate and long-term commitments to manage the planting, protection and enhancement of biodiversity in and around a new development site. This has been provided in this Outline LEMP.

Vision

2.2 The vision for the Proposed Development is to provide a landscape which integrates all elements of the scheme into its context, whilst delivering biodiversity enhancements throughout the lifetime of the scheme. The Proposed Development seeks to sensitively respect and extend the existing landscape character, maintain and extend ecological connectivity, whilst screening the development from adjacent residential properties and Public Rights of Way. A new permissive path is proposed to connect to the existing Public Rights of Way network during the life of the project.

Consultation

2.3 In preparing this landscape strategy, consideration has been given to the scoping responses and other consultation which has been undertaken as detailed in **ES Volume 3 Appendix 6.1: Consultation Responses.**

Objectives and Design Approach

2.4 The landscape proposals to deliver this vision and ensure that a strong and resilient framework for development is provided , are illustrated on the Landscape Strategy Plan (see **Figures 1a-f** within **Appendix A** of this document). The proposals are informed by landscape and ecological assessments and aim to realise the opportunities identified in these, reinforcing, extending, and enhancing landscape and ecological assets in an integrated manner.

2.5 The landscape proposals consist of a range of landscape elements to enhance the sites ecological credentials including native tree and hedgerow planting, woodland understorey and scrub creation, wildflower meadow creation, species-rich grassland creation, and species specific mitigation measures. The landscape proposals demonstrate the scheme's sensitive environmental design that will deliver landscape and ecological benefits.

The Design Approach

2.6 The design approach considers the Site and its context within the local area, ensuring:

- The Proposed Development is well-integrated into the landscape and the key qualities of landscape character are preserved.
- Field patterns are preserved within the Site by setting PV panels back from the edges of fields.
- Loss of valued woodland and tree cover is avoided as much as possible.
- Adverse effects on views from settlements (in particular Rosliston) and nearby residential properties are avoided or minimised.
- The recreational value of the Site is maintained by minimising visual intrusion along the Cross Britain Way / National Forest Way long distance footpath and through the development of a new permissive path.
- Adverse effects are mitigated with new planting that is in character with the landscape of the Site and its surroundings and is in accordance with the aims of The National Forest.
- Maintenance and enhancement of ecological connectivity through each site; and
- Contribution to national strategy objectives, including the National Forest Strategy[18].

2.7 Key elements of the design approach are:

- Creation of habitat of principle importance, including species-rich grasslands, linear scrub, and tree lines and waterbodies.

[18] The National Forest (2014) The National Forest Strategy 2014 – 2024. Available at:https://www.southderbyshire.gov.uk/assets/attach/1546/The-National-Forest-Strategy-2014-2024.pdf

- **Retention and enhancement of existing vegetation and grassland** – The development has been sited to allow vegetation to be retained where possible. Areas of vegetation and grassland will be retained throughout the Site to maintain ecological connectivity. Appropriate buffers will be maintained between Proposed Development infrastructure and hedgerows (5m) and ancient woodland (15m).
- **Strengthening of existing hedgerows** – Additional planting is proposed to infill existing gaps, restoring and reinforcing defunct hedgerows (shown as Items 2, 3, 6, and 11 Figure 1b).
- **Additional visual screening along Coton Road** – An additional replacement hedgerow is proposed at the Coton Road junction to compensate for hedgerow losses due to the visibility splays, and provide additional visual screening (shown as Item 13 in Figure 1b).
- **Increased visual screening along surrounding roads** – Retained hedgerow along surrounding roads (Coton Road and Rosliston Road in particular) will be allowed to grow taller (up to 3m) to increase screening of the development (shown as Item 4 in Figure 1b).
- **Enhanced native hedgerow framework** – Additional hedgerow planting using UK native species[19] is proposed to strengthen ecological connectivity, integrate the development, and filter views where required (shown as Items 7, 10 in Figure 1b).
- **Enhanced grasslands** – Existing grasslands will be enhanced through seeding and improved management into species-rich grassland.
- **Woodland understorey creation and tree planting** – In line with the objectives of the National Forest, the design incorporates blocks of woodland understorey creation and additional tree planting of native species to increase tree cover across the development Site, and improve connectivity with the adjacent Rosliston National Forest and wider landscape (shown as Items 1 and 9 in Figure 1b).
- **Native scrub creation** – Additional scrub planting using native UK species is proposed across the development to provide greater habitat connectivity, with successional areas located adjacent to areas of created woodland understorey.

[19] As recommended in DCC's The Landscape Character of Derbyshire (2014)

- Creation of a permissive path to provide recreational and amenity to the public. The Cross Britain Way / National Forest Way long distance path which crosses the Site will not be changed or diverted. The new Permissive path will link the Cross Britain Way / National Forest Way long distance path with Coton in The Elms FP 1 (SD13/1/1).
- Applying a stand off distance between solar plant and residential properties of at least 100m (up to 150m for some propertties) to ensure the Proposed Development doesn't dominate in views and to reduce effects from noise and glint and glare.
- Access tracks have been designed to utilise existing farm tracks where possible and to follow field boundaries. They will be kept away from highly visible slopes where possible, will avoid tree root protection areas and badger setts where possible. Access tracks will be surfaced with locally sourced stone chippings which responds to the local vernacular or will be grass corridors (the adjacent grassland will be allowed to extend across the edges of the permanent operational tracks, reducing the extent of the visibility of tracks in the landscape).

The National Forest Strategy[18]

2.8 The Site is located within the Rosliston National Forest area and the Applicant has considered how the Proposed Development could contribute to the National Forest Company objectives.

2.9 The National Forest covers 200 square miles of the Midlands, spanning across parts of Derbyshire, Leicestershire, and Staffordshire. Large swathes of this landscape had been left scarred by centuries of coal mining and other heavy industry. For this reason, along with its low woodland cover, the area was chosen for the creation of a large-scale forest in the early 1990s. The landscape now features rolling farmland, ancient forests, and newly planted woodlands. The Site is located within the western half of the National Forest area.

2.10 The National Forest Strategy sets out the priorities and shifts in key activities to deliver the National Forest to 2024, including an objective to maximise value of all types – commercial, landscape, recreational, heritage, and wildlife. Key objectives include; increasing forest cover, the woodland economy growing in line with the forest, creation of an emerging visitor destination with a wide adoption of the National Forest brand, people from all backgrounds being able to enjoy the forest more readily, and the forest maturing as a national exemplar.

2.11 In line with this, the National Forest Company have been consulted as part of the EIA to ensure that the Landscape Strategy Plan aligns with the aims and objectives of the National Forest Strategy. Further detail of this consultation is detailed within in **ES Volume 3 Appendix 6.1: Consultation Responses**.

Aims of the Outline LEMP

2.12 The aim of this Outline LEMP is to ensure:

- Appropriate protection and enhancement of biodiversity,
- Increased habitat connectivity,
- A strengthened and coherent ecological landscape which maximises biodiversity,
- There is appropriate provision for natural habitat within the development,
- There is appropriate provision for amenity value (permissive path only), and
- Focused and adequate aftercare is provided which will secure the landscape and biodiversity net gain of the development.

Chapter 3
Summary of Baseline Landscape and Ecological Data

3.1 This Chapter sets out the baseline ecological and landscape data for the Site, thereby outlining the key drivers of the Outline LEMP.

Ecology and Landscape Baseline

Habitats

Landscape

3.2 The southern part of the Site (Oaklands Farm area) comprises a large area of mixed agricultural land to the south of Rosliston Road and west of Catton Lane, that wraps around the north and east of the farmstead at Oaklands Farm. A small part of the Site (fields O1 and O2, see **Figures 1.4a and 1.4b: Field Numbers** in **ES Volume 2**, included in **Appendix C** of this report for information) extends south of Coton Road. Land use comprises medium-large scale mixed arable and pastoral fields, enclosed by low-clipped hedgerows (consisting mainly of hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*) with occasional hedgerow trees, and post and wire fencing. Small copses and ponds are an occasional feature of this landscape, sometimes coinciding with former earthworks (marl pits). An area of mixed woodland at Redferns Wood abuts the eastern edge. Land is gently rolling across the Site with some localised undulations, rising to a maximum elevation of 90m AOD in the centre of the area, and generally falling towards the Pessall Brook to the north-east. A small section of the Cross Britain Way / National Forest Way long distance path (which runs between the villages of Walton-on-Trent and Rosliston), crosses this part of the Site in the north and is partly enclosed by woodland associated with the Rosliston Forestry Centre to the north-east.

3.3 The northern section of the Site comprises a narrow and elongated area of land north of Rosliston Road. Some of the land here is owned by Fairfield Farm with the majority owned by Park Farm. The land lies to the south-east and north-east of the farmstead at Park Farm. Similarly, to the Oaklands Farm area, land use comprises medium-large scale mixed arable and pastoral

fields, enclosed by low-clipped hawthorn and blackthorn hedgerows with occasional hedgerow trees. Land rises from 59m AOD from the Pessall Brook in the west to 75m AOD (to the north-west of the Hill Covert linear wooded copse). Two driveways lined by formal avenues of trees form the north-western boundaries of the Site and both provide access to the Park Farm area from Walton Road. A relatively large block of woodland (Grove Wood) abuts this area to the east and a small band of mixed woodland runs along the northern edge of this area, along the edges of Walton Road and the adjacent site of the disused Drakelow Power Station. Two pylon lines run northwards through this part of the Site (which both extend from the Oaklands Farm area) and connect to the National Grid Drakelow substation at the disused Drakelow Power Station in the north.

3.4 Part of the former power station is also included within the Site boundary, as the Proposed Development will connect to National Grid Drakelow substation in this location. The National Grid Drakelow substation is located to the north of Walton Road and separated from the edge of the road by a belt of mature woodland (subject to a Tree Preservation Order for the woodland area). Several pylons are located within this part of the Site.

3.5 The Site lies within the Village Estate Farmlands Landscape Character Type (LCT) and displays many of the key characteristics of this LCT, being a lowland landscape of gently rolling topography supporting a land use of mixed agriculture with medium to large fields of arable cropping and pasture bound by hawthorn (and blackthorn) hedgerows, and with the minor Pessall Brook draining the slopes.

Ecology

3.6 The vast majority of the Site comprised improved grassland or arable land. Additional habitats recorded included: semi-improved neutral grassland, ponds, species-rich and species-poor hedgerow, scrub, woodland, bare ground, wet and dry ditches, running water and scattered trees.

3.7 Phase 1 Habitat Survey maps for Oaklands Farm, Park Farm and Drakelow are provided within **Appendix C** of this report. Full habitat descriptions are contained within the **ES Volume 3 Appendices 6.3: Arcus, (2020), Preliminary Ecological Appraisal: Oaklands Solar Farm and Grid Connection Route, and 6.5: LUC (2023), Oaklands Farm Solar Park: Phase 1 Habitat Survey Report.**

Invasive Species

3.8 A number of Invasive Non-native Species (INNS) were recorded on Site and their locations shown on **Figures 6.5.1a and 6.5.1b** within **Appendix C** of this report and **ES Volume 3 Appendix 6.5: Phase 1 Habitat Survey Report**. Cherry laurel *Prunus laurocerasus* was noted in land between Park Farm and Oaklands, as well as within the National Grid Drakelow Substations. Also within the National Grid Drakelow Substation, Himalayan balsam *Impatiens glandulifera,* buddleia *Buddleja* sp. and rhododendron *Rhododendron* sp. were recorded. This area of the Substation will be affected by the underground cable route and as such there is potential for these species to spread elsewhere on Site and as such management and control measures will need to be implemented to prevent their spread.

Protected and Notable Species

3.9 A series of baseline surveys were completed in respect to the protected species as detailed below:

- Bats
- Badger
- Breeding Bird
- Great Crested Newt - Habitat Suitability Index, Environmental DNA Analysis
- Reptile
- Water Vole / Otter

3.10 Key species supported on Site and requiring consideration as being present, include the following:

- Bats
- Badger
- Breeding Birds
- Reptiles (Drakelow Power Station only)
- Otter

Bats

3.11 Baseline findings for key species from initial and further surveys are detailed below. Further detail, including locations of trees having bat roost suitability, is provided within the ES in **ES Volume 3 Appendix 6.3: Arcus (2020) Preliminary Ecological Appraisal: Oaklands Solar Farm and Grid Connection Route,** and **ES Volume 3 Appendix 6.6: LUC (2023) Oaklands Solar Park: Bat Survey Report.**

3.12 The majority of the Site comprised improved grassland and arable land of low suitability for bats. Habitats of increased value included hedgerows, watercourses, ponds, semi-improved grassland and woodland.

Preliminary Ground Level Roost Assessment of Trees

3.13 The Site supports a number of trees identified as having bat roost suitability. This included 33 trees identified as having bat roost suitability at Oaklands Farm. A further 29 trees were identified as having bat roost suitability in the cable route corridor within Park Farm and Fairfield Farm, and 18 trees identified as having bat roost suitability at Drakelow Power Station, as identified in **ES Volume 3 Appendices 6.3 and 6.6.** Of these trees, five trees at Oaklands Farm were subject to further emergence/re-entry surveys. No bat roosts were recorded in relation to any of these further surveyed trees.

3.14 Assessments of bat roosting suitability at Drakelow were focused on areas to be impacted by the underground cable route. A small number of trees were previously assessed to have low bat roosting suitability and comprised mostly young sycamore *Acer pseudoplatanus*, semi-mature Scot's pine *Pinus sylvestris*, young oak *Quercus robur* and two semi-mature oak trees. Features were mostly considered suboptimal and exposed. Additional ground level BRS assessments were undertaken by LUC in September 2023 at the National Grid Drakelow Substation, due to the potential for impacts from the grid cable route works. This included 18 trees being identified as having bat roost suitability, including three with Moderate suitability, two with High suitability and one Confirmed Roost with a singular bat in situ. These mostly comprised sycamore and beech trees with some birch, oak and *Pinus sp*.

3.15 Bat roost suitability survey was also undertaken at the Park Farm area outside of the Site boundary, which identified 11 trees as having low bat roost suitability, four trees as having

moderate bat roost suitability and one tree identified as having high bat roost suitability. Of these trees, three at the Park Farm area were subject to further emergence/re-entry surveys. No bat roosts were recorded in relation to any of these trees. These trees were surveyed to inform a previous iteration of the scheme design. This area at Park Farm has now been excluded from the Site boundary.

Activity Surveys: Transects and Static Monitoring

Park Farm

3.16 The bat activity surveys confirmed the presence of at least eight bat species within the Site and surrounding area: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, *Myotis sp.,* Leisler's bat *Nyctalus leisleri*, and serotine *Eptesicus serotinus*.

Oaklands Farm

3.17 The bat activity surveys confirmed the presence of at least eight bat species within the Site and surrounding area: including common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule, brown long-eared, *Myotis sp.,* Leisler's, and serotine.

3.18 An area of high bat activity was recorded along the hedgerow between fields O20 and O10 (see **ES Volume 2 Figures 1.4a and 1.4b: Field Numbers** which are included in **Appendix C** of this report), in the north-east of Oaklands Farm.

3.19 Nathusius' pipistrelle, noctule, Leisler's and serotine are considered Rarer species1[20]. These species are likely to use watercourses, waterbodies hedgerows and woodland to commute and forage.

3.20 The development will result in landscape scale enhancement of grassland and hedgerows which is expected to increase foraging and commuting opportunities for bats. However, during the construction phase there is potential to disrupt commuting and foraging bats.

[20] Wray, S., Wells, D., Long, E. and Mitchell-Jones, A. (2010). *Valuing Bats in Ecological Impact Assessment*. In Practice, 70: 23-25.

Badger

3.21 The Site as whole was considered to support optimum badger habitat with improved grassland, arable fields, woodland, bare ground, scrub and network of supporting hedgerows offering excellent opportunities for foraging, dispersing and sett building.

3.22 The wider landscape was also considered to support optimum badger habitat. Notably, large areas of woodland and scrub bordered the Site to the east, south and west, which provided optimum foraging and sett building habitat.

3.23 Signs of badger and their setts were recorded within, and in close proximity to, the Site. The Site plus a 50m buffer support suitable habitats, including woodland, scrub and grassland, for badger to forage and shelter. Specific detail is presented within **ES Volume 3 Appendix 6.7: LUC (2023), Oaklands Farm Solar Park: Badger Survey Report.**

3.24 The development will result in landscape scale enhancement of grassland and hedgerows which is expected to increase foraging, commuting and sett building opportunities for badger. However, during the construction phase there is potential to disrupt badgers setts or commuting and foraging badger.

Breeding Birds

3.25 Hedgerows, woodland, scrub, grassland and scattered trees provided suitable opportunities for nesting birds. Numerous trees immediately beyond the Site boundaries were also suitable for nesting. These habitats were well connected to other suitable habitats for birds in the surrounding landscape.

3.26 The breeding bird survey at Park Farm recorded a relatively poor assemblage of breeding birds, primarily consisting of common and widespread species. The degraded hedgerows and improved pasture were noted as being particularly lacking in avian interest. Of most interest were the agricultural buildings at Park Farm which supported colonies of house sparrow *Passer domesticus*, swallow *Hirundo rustica*, and house martin *Delichon urbicum*. Skylark *Alauda arvensis* were notable by their absence within the Park Farm boundary, but birds holding territories were noted in the wider area, including fields immediately adjacent to the site.

3.27 Breeding bird surveys of the Oaklands Farm area identified a total of 56 bird species, include 22 species of conservation concern. The study area was considered to have limited potential for Schedule 1 bird species. The Site has greater potential for bird species of conservation concern, for example ground nesting bird species, such as skylark, which are known to be present within the Site and the wider area. A total of 19 territory-holding males were recorded within the Site boundary, with a further 28 recorded within the Breeding Bird Survey Area. The Proposed Development will result in the permanent loss of the majority of open habitat which this species favours for nesting attempts. The land at Oaklands Farm is actively managed for crops and the pastures are subject to agricultural improvement and extensive cattle grazing. This is likely to reduce the success of nesting attempts through increased risk of trampling by livestock and by reducing the availability of invertebrate and seed sources. As a result, the land use at Oaklands Farm is considered to be sup-optimal for successful fledging of nests.

3.28 Significant adverse effects at the Local level (minor effect in the context of the EIA Regulations) cannot be fully mitigated onsite for skylark given this species' reliance on open habitats and the nature of the Proposed Development, which will result in the loss of this openness. Although, it is not feasible to fully mitigate for loss of potential nesting habitat within the Proposed Development, skylark nesting within the Site boundary is expected to be focused within larger expanses of species-rich grassland located in field corners at the edges of the solar arrays. Furthermore, the provision of a significant BNG, and subsequent management through this LEMP, is expected to provide better quality foraging resource for skylark in the wider landscape. Indeed, there is emerging evidence to show that solar farms with favourable ecological management and which provide BNG through the diversification of grassland habitats, provide optimal foraging habitat for this species and can improve the nesting success of nests located within offsite habitat[21],[22]. Therefore, a residual impact will remain with a

[21] Solar Energy UK (no date) Solar farms and song birds: could skylarks benefit from ground mounted solar? Available at: https://solarenergyuk.org/solar-farms-and-songbirds-could-skylarks-benefit-from-ground-mounted-solar/

[22] RSPB (2018) Bird use of solar farms – interim results. Available at: https://community.rspb.org.uk/ourwork/b/science/posts/bird-use-of-solar-farms-interim-results

significant adverse effect at the Local level only (minor effect in the context of the EIA Regulations) resulting from the Proposed Development. This is not significant in the context of EIA Regulations.

3.29 Further details of the breeding birds survey is present within ES Volume 3 Appendix 6.4: Arcus, (2020), Breeding Bird Survey Report: Oaklands Solar Farm and ES Volume 3 Appendix 6.9: LUC (2023), Oaklands Farm Solar Park: Breeding Bird Survey Report.

Reptiles

3.30 The majority of the Site was considered highly unlikely to support reptiles. All grassland was uniformly short due to intensive grazing, with opportunities limited to the periphery habitats including the riparian river corridor, woodland edge habitats, log/rubble piles, scrub and hedgerow bases, and wet ditches. The majority of these habitats will be retained as part of proposals and as such impacts associated with cable construction and operation were considered unlikely to affect reptiles. Only the area at Drakelow Power Station was considered to support suitable habitat for reptiles. This included a mosaic of woodland, scrub and rough grassland habitat. As detailed above, impacts associated with the cables construction and operation were considered unlikely to affect reptiles and therefore impacts to this species are considered unlikely. No reptile surveys were undertaken at Drakelow Power Station.

3.31 Further details of the reptile surveys undertaken are presented within **ES Volume 3 Appendix 6.11: Reptile Survey Report.**

Otter

3.32 The unnamed watercourse on Site and offsite ponds were considered suitable habitat for transient otters. All habitats supported dense vegetation with scrub, trees or woodland which provided cover and resting opportunities. These habitats were also well connected to good quality habitat for otter in the wider landscape. In addition, the unnamed watercourse and ponds supported limited foraging opportunities for otter, with greater opportunities located off-site. These habitats are therefore likely to be used by transient otters only and unlikely to represent a key foraging resource for this species.

3.33 No evidence of otter was identified during the dedicated field surveys. However, otter prints and feeding remains (freshwater mussels) were recorded on the unnamed watercourse during a River Condition Assessment on 13th June 2022, and a potential otter holt with an associated slide was recorded along the unnamed watercourse during a River Condition Assessment on 31st March 2023.

3.34 Further details and results of the otter surveys are present within **ES Volume 3 Appendix 6.8: Otter and Watervole Survey Report.**

Chapter 4
Protection, Retention and Creation

4.1 This Chapter sets out the measures for protection, retention, and establishment of new habitats, with measures to protect the species associated with these habitats.

Habitat Retention

Park Farm and Fairfield Farm

4.2 A large proportion of areas surveyed within Park Farm and Fairfield Farm, included previously, are now located outside of the Site boundary and as such no development is proposed within these areas. Fields P1 to P5, and fields F1 – F3 (see **ES Volume 3 Figure 1.4a: Field Numbers** included in **Appendix C** of this report) within Park Farm and Fairfield Farm are to be mainly retained. The creation of a construction access track linking the north and south of the Site, will result in small area losses of improved grassland within these fields, and temporary impacts on the water corridor due to the use of culverting. The trenching of underground cabling will also result in temporary losses of improved grassland and arable land, as well as impacts on the water corridor where the cabling crosses the stream.

4.3 The remaining habitats within Park Farm are to be retained, including areas of scrub, grassland, arable land, ancient and veteran trees, trees with high and moderate bat roost suitability (and application of appropriate buffer distances during works), tree lines and hedgerow.

Drakelow

4.4 The existing habitats within the National Grid Drakelow Substation are to be largely retained. The ponds and ditches will be protected by measures detailed within this Outline LEMP to prevent pollution and damage to onsite and offsite watercourses. In addition to protection measures for the retained woodland and trees outside the cable corridor and access tracks. Habitat loss and tree removal will be limited to within the cable route corridor and access track areas, affecting W6, S16 and U3.

Oaklands

Woodland and Scattered Trees

4.5 The woodland (W3,W4, W7, and W8 see **ES Volume 2 Figure 6.12.1a and b** (included in **Appendix C** of this report for information), and **ES Volume 3 Appendix 6.12: Biodiversity Net Gain Report**) and scattered trees on the Site will be retained within the proposed array fields across the site. Trees with high and moderate bat roost suitability, ancient woodland and veteran trees will be retained with the application of appropriate buffer distances during works. Development proposals have been sensitively designed to incorporate these existing high value areas and minimise impacts. Retained areas will be protected (in accordance with best practice (BS 5837), enhanced and expanded via new planting of native tree species and creation of woodland areas, in line with the National Forest's objectives. There will be localised impacts to woodland W5 and W6 within Drakelow due to the installation of the underground cable and access tracks, but these will be limited to the access tracks and the cable route corridor only, with the remaining woodland retained and protected. Tree protection fencing in line with BS 5837 and protection buffer of at least 15m from ancient woodland and at least 15 times larger than the diameter of any veteran and ancient trees.

Grassland

4.6 Grassland outside of the arrays and infrastructure will be retained and enhanced to species rich grassland through the use of a wildflower seed mix. This includes existing grassland polygons GL17 – GL22, GL25 – GL28, and GL31 (see **Figures 6.12.1a and 6.12.1b, Appendix 6.12**). Some areas of grassland will be lost to woodland creation and planting but part of the following polygons will be retained but not enhanced: GL1 – GL5, GL8, GL12, GL14, and GL34. In addition, habitats including woodland and grassland within the Grid Cable Route will also be retained with solar arrays not proposed in these areas, as well as not proposed within the Park Farm or Drakelow sections. All retained areas will be enhanced as detailed in **Chapter 5**.

4.7 Grassland and arable land beneath the solar arrays within the Oaklands Farm and Park Farm sections will be impacted during construction of the array infrastructure. At present a large proportion of the grassland will be temporarily lost for installation and reinstated as enhanced grassland. The extent of the temporary loss may depend on the current condition of the land,

quality of the grassland, and nutrient content of the soil as to which will greatest benefit future habitat management, in addition to the installation requirements of the arrays. Within the Biodiversity Net Gain Assessment (BNG), a conservative approach has been taken, with the assumption that grassland beneath the arrays will be lost and then reinstated with species rich grassland created in its place post array instalment, rather than retained and enhanced.

4.8 There will also be a minimal permanent loss of grassland for the duration of the operational life of the project, due to the construction of associated infrastructure such as transformers, site compounds, access tracks and solar array mounts.

Hedgerows

4.9 The majority of hedgerows will be retained and protected. A 5m buffer will be implemented between the Proposed Development infrastructure and the retained hedgerows. Retained hedgerows will be enhanced as detailed in **Chapter 5**. Sections of hedgerow will be impacted due to visibility splays along Coton Road. In addition, small localised sections within the Site will be impacted for the cable route and access tracks. Locations of hedgerow losses are detailed within the Tree Retention and Removal Plan, within **ES Volume 3 Appendix 6.14: Arboricultural Survey Report.**

Standing Water

4.10 All ponds and ditches will be retained and protected by measures detailed within this Outline LEMP to prevent pollution and damage to onsite and offsite watercourses.

Running Water

4.11 The stream will be retained and protected as detailed within this Outline LEMP. Enhancement measures specified for the grassland and woodland habitats, will assist in creating optimal conditions for the aquatic features associated with the stream corridor, including marginal habitats. The creation of the access track will cause a temporary impact to the stream within Park Farm with sections culverted as the track crosses the stream between fields P1 and F2. Underground cable trenching will also result in a small temporary impact where the cable crosses the stream within Park Farm between fields P1 and F2. During the operational phase, access

tracks across the unnamed watercourse will be culverted to ensure impacts from habitat loss are avoided and mitigated for.

Creation of Permissive Path

4.12 A permissive path linking the Cross Britain Way / National Forest Way long distance path with footpaths SD13/4/1 and SD/13/1/1 to the south-east of the Oaklands Farm is proposed. It will offer a new safe walking link from Lads Grave in the south of the Site to Rosliston and Walton-on-Trent via the Cross Britain Way / National Forest Way long distance path, and will remain open throughout the 40-year life of the project. The permissive path will be a grass path with hedgerow planted alongside to blend into the landscape. It will be also integrated into other landscape features such a woodland and wildflower planting.

Ecological Protection Measures

4.13 Full ecological protection measures are detailed within the ES and will be secured through either the Construction Environmental Management Plan (CEMP) (**ES Volume 3 Appendix 4.4: Outline Operational Environmental Management Plan**) in the case of best construction practice, or this Outline LEMP in the case of additional mitigation measures.

4.14 Measures secured in the CEMP are summarised in **ES Volume 3 Appendix 17.1: Mitigation Schedule** and below where relevant. Additional mitigation measures to be secured in this Outline LEMP are also set out below.

Habitats

Running and Standing Water

4.15 Wet and dry ditches, streams and ponds are present within the Site. Best practice construction measures will therefore need to be adopted to avoid potential impacts such as contamination during the construction phase. These measures are detailed within the CEMP (**ES Volume 3 Appendix 4.4: Outline Operational Environmental Management Plan**), and the Mitigation Schedule (**ES Volume 3 Appendix 17.1: Schedule of Mitigation**).

Protected Species

Bats

4.16 Legislation afforded to bats is summarised in **Appendix B**. Mitigation measures for bats are detailed within the CEMP (**ES Volume 3 Appendix 4.4: Outline Operational Environmental Management Plan**), and the Mitigation Schedule (**ES Volume 3 Appendix 17.1: Schedule of Mitigation**).

4.17 Additional mitigation to be delivered in this Outline LEMP includes replacement roost features, such as bat boxes, to be installed prior to the loss of trees identified as having bat roost potential.

Badger

4.18 Legislation afforded to badgers is summarised in **Appendix B**.

4.19 Due to the known presence of this species within the Site, it is advised that works proceed in line with best practice construction methods to minimise the risk of impact to any individuals foraging or dispersing through the Site. Full detail of best construction measures and additional measures to be implemented are included within the CEMP (**ES Volume 3 Appendix 4.4: Outline Operational Environmental Management Plan**), and the Mitigation Schedule (**ES Volume 3 Appendix 17.1: Schedule of Mitigation**).

Breeding Birds

4.20 Legislation afforded to breeding birds is summarised in **Appendix B**. Due to the suitability of the Site for nesting birds, best construction practices will be followed. These include the timing of works to suitable nesting bird habitat outside of the bird breeding season, as well as supervision by a suitably qualified person if such works are conducted during the breeding season. Mitigation measures for birds are detailed within the CEMP (**ES Volume 3 Appendix 4.4: Outline Operational Environmental Management Plan**), and the Mitigation Schedule (**ES Volume 3 Appendix 17.1: Schedule of Mitigation**).

4.21 Additional mitigation to be delivered in this Outline LEMP includes the erection of bird boxes, and additional planting of hedgerows and trees will mitigate for the loss of nesting bird habitats.

Otter

4.22 Legislation afforded to otter is summarised in **Appendix B**. Mitigation measures for otter are detailed within the CEMP (**ES Volume 3 Appendix 4.4**), and the Mitigation Schedule (**ES Volume 3 Appendix 17.1: Schedule of Mitigation**).

Reptile

4.23 Legislation afforded to reptiles is summarised in **Appendix B**. Any works that have potential to affect habitats suitable for reptiles such as at Drakelow Power Station or field edges, or known populations of reptiles will be required to undertake ecological protection measures. Full measures are detailed within the CEMP (**ES Volume 3 Appendix 4.4: Outline Operational Environmental Management Plan**), and the Mitigation Schedule (**ES Volume 3 Appendix 17.1: Schedule of Mitigation**), and will include habitat manipulation and the potential use of destructive searches prior to works.

Habitat Creation

Landscape

4.24 The development includes the creation of habitat of value to wildlife, including native hedge and tree planting, woodland understorey creation, and species-rich wildflower grassland.

Species-Rich Grassland (Moderate Condition)

4.25 Along the boundaries of fields; any areas which are disturbed during construction such as those areas used as a construction compound; and in open areas where solar arrays are not proposed, large areas of moderate condition species-rich grassland will be created, to maximise opportunities for biodiversity enhancement. These will consist of EM2 Standard General Purpose Meadow Mix or a similar species mix. Detail on the grassland condition is provided within **Appendix 6.12: Biodiversity Net Gain Report.**

4.26 This will be sown immediately following completion of the Proposed Development. Following consultation with Natural England, the area of the Site located within the River Mease Catchment will be sown at the earliest opportunity to further minimise any interaction the River Mease SAC. The timing of this will be confirmed in the full LEMP, once the detailed construction programme is known.

~~4.26~~4.27 For the purposes of this plan it is assumed that grassland will be managed by appropriate mechanical cutting, to be managed as a hay meadow.

~~4.27~~4.28 This management will encourage the establishment of a long tussocky sward, which will provide both sheltering and foraging opportunities for a range of wildlife, such as birds, small mammals and invertebrates. In particular, given the relative rapidity with which it will establish, the species-rich grassland will provide ecological enhancement within the Site whilst the tree and scrub planting establishes and matures. It will also reduce surface run-off and nutrient enrichment associated with current cattle/sheep farming and as such provide water quality benefits to minor watercourses and ditches in the locality.

Species-Rich Grassland (Poor Condition)

~~4.28~~4.29 Species-rich grassland is proposed beneath the solar array panels, anticipated to reach poor condition for BNG (see **Appendix 6.12: Biodiversity Net Gain Report**). This will provide an increased species diversity with improved provision and foraging opportunities for birds, small mammals, and invertebrates. Similarly to the moderate condition grassland above, given the relative rapidity with which it will establish, the species-rich grassland will provide ecological enhancement within the Site whilst the tree and hedgerow planting establishes and matures.

~~4.29~~4.30 Areas beneath panels will be seeded with EM2 Standard General Purpose Meadow Mix or a similar species mix, and managed in perpetuity through low density sheep grazing (or mechanical equivalent as detailed in **Chapter 5** of this report). Fencing will be installed to accommodate a rotational grazing regime, which will reduce poaching and overgrazing.

4.31 These areas will not be grazed or cut for between 8-10 weeks between April and August to allow grasses and wildflowers to flower and set seed.

~~4.30~~4.32 Following consultation with Natural England, the area of the Site located within the River Mease Catchment will be sown at the earliest opportunity to further minimise any interaction

the River Mease SAC. The timing of this will be confirmed in the full LEMP, once the detailed construction programme is known.

Hedgerow Planting

~~4.31~~4.33 Native species-rich hedgerows and infill planting is proposed throughout the Site, mainly along existing field boundaries and along the new permissive path. These will provide a valuable habitat, foraging resource, and additional commuting routes for a range of wildlife including bats, birds, small mammals and invertebrates bolstering habitat connectivity within the Site.

~~4.32~~4.34 New hedgerow and infill planting will consist mainly of:

- Hawthorn *Crataegus monogyna*;
- Hazel *Corylus avellana*;
- Holly *Ilex aquifolium*;
- Field maple *Acer campestre;*
- Blackthorn *Prunus spinosa*; and
- Purging buckthorn *Rhamnus cathartica*.

~~4.33~~4.35 Hedgerow trees will consist mainly of:

- Pedunculate oak *Quercus robur*;
- Field maple;
- Small leaved lime *Tilia cordata*;
- Crab apple *Malus sylvestris*;
- Aspen *Populus tremula*; and
- Rowan *Sorbus aucuparia*.

Woodland Creation

~~4.34~~4.36 Pockets of woodland understorey planting will be created across the Oaklands development Site to provide greater connectivity across the Site and within the surrounding

landscape, in accordance with the objective of the National Forest (**Figures 1a-f** within **Appendix A** of this document). The planting will be predominantly focused along the Site Boundary, particularly around Oaklands Farm and the north-east of the Oaklands Site to enhance connectivity to the adjacent Redferns Wood, Thompsons Wood, and the Rosliston National Forest area.

~~4.35~~4.37 Species will include:

- Hazel;
- Hawthorn;
- Holly;
- Blackthorn;
- Purging buckthorn; and
- Grey willow *Salix cinerea*.

~~4.36~~4.38 Woodland trees will consist mainly of:

- Pedunculate oak;
- Field maple;
- Holly;
- Crab apple;
- Aspen;
- Rowan; and
- Small leaved lime.

~~4.37~~4.39 Creating a woodland understorey habitat will enhance the ecological value of the Site through increasing species diversity within the Site and creating additional foraging, commuting and sheltering opportunities for wildlife within the woodland.

~~4.38~~4.40 The woodland creation will filter views from neighbouring properties, screen views of the panels, and provide mitigation for glint and glare.

~~4.39~~4.41 Climate change has been taken into consideration when designing the landscaping strategy for the Proposed Development to ensure the species selected for planting on the Site are resilient to wild fires. The deciduous woodland tree species are considered to be more fire resilient than coniferous trees (which are drier and contain more volatile oils and resins that can more easily catch fire). In addition, the provision of woodland understorey belts with trees, new hedgerows with hedgerow trees and the enhancing and strengthening of existing hedgerows to fill in gaps where necessary, helping to filter and slow wind speeds throughout the Proposed Development.

Tree Planting

~~4.40~~4.42 In addition to woodland understory creation, areas of scattered tree planting are proposed within the Oaklands Site to provide enhanced connectivity between the grassland and existing pockets of woodland. This will be focused to the north adjacent to Corner Farm and the existing river corridor, and to the south adjacent to the junction of Coton Road and Catton Lane. The tree planting will provide wildlife benefit and contribute to national tree planting and National Forest objectives by increasing the tree cover within the Site in locations previously dominated by arable land and grassland. The areas beneath will be enhanced to species rich grassland and species will comprise those previously detailed for woodland understorey planting. Proposed trees around the edge of the solar arrays should not exceed 8-10m in height at maturity to avoid shading of solar PV panels.

Scrub Creation

~~4.41~~4.43 As part of offsetting scrub losses elsewhere on Site, and to provide greater connectivity between planted areas, a section of mixed scrub will be created to the west of the PRoW within field O6. This area will be managed as scrub with clearings and glades created within, and active management of planting to allow establishment of a variety of species and age ranges. The scrub will provide benefit for wildlife such as invertebrates and nesting birds, as well as providing additional foraging potential for nearby badger setts within the adjacent fields.

~~4.42~~4.44 Species will include:

- Hazel;

- Hawthorn;
- Holly;
- Blackthorn; and
- Purging buckthorn.

Ditch Creation

~~4.43~~4.45 An additional wet ditch will be created along the southern boundary of field O18. The creation of a ditch in this location will provide greater connectivity to the existing ditch network directly to the west and north east of field O18, providing an important missing link. Drainage pipes are proposed to discharge into these existing ditches from the BESS/Substation, and this will help augment the water in the new wet ditch. The ditch will be checked annually for structure and hydrological function and remedial measures implemented where required.

Protected Species

~~4.44~~4.46 The proposed development includes the creation / inclusion of species-specific habitats and features to support the protected and notable species within the Site and surrounding areas.

Bats

~~4.45~~4.47 The creation of hedgerows, species-rich grassland, and woodland understorey within the Site will create and enhance foraging and commuting habitat for bats.

~~4.46~~4.48 The proposed development will include the provision of a range of woodcrete bat box designs mounted on retained trees. The boxes will be installed prior to the loss of trees identified as having low bat roost suitability, at a minimum height of four metres, and sited in sheltered wind-free areas, facing in south-easterly, southerly and south-westerly directions. Such examples include the following:

- Schwegler 2F boxes (or equivalent).
- Schwegler 1FF boxes (or equivalent).

Badger

~~4.47~~4.49 The planting of native scrub and tree species and areas of l and species-rich grassland within the Site will enhance the foraging habitat for badgers and will enhance connectivity with the surrounding landscape. The inclusion of fruiting, berrying and nut producing species, will also serve to increase foraging opportunities within the Site.

~~4.48~~4.50 In the long-term, ecological enhancements, such as increased hedgerow planting and wildflower meadow creation are likely to result in an increase in foraging opportunities within the Site.

~~4.49~~4.51 To prevent the restriction of movement of badger across the Site and enable continued access to existing badger setts, mammal gaps will be provided within the fencing. The indicative locations of the mammal gaps are detailed within **ES Volume 2 Figure 6.3**, and will allow the movement of small mammals, including badger and hedgehog to disperse through the Site. These gaps will be 20-30cm in size.

Nesting Birds

~~4.50~~4.52 The creation of hedgerows, species-rich grassland, and woodland understorey within the Site will provide high quality nesting and foraging habitat for various bird species. To mitigate any loss of large open areas favoured by species such as skylark and yellowhammer, several large open areas of species-rich grassland will be created and managed sympathetically for these species.

~~4.51~~4.53 The proposed development will include the provision of bird box designs mounted on trees between 2m to 4m high and facing between north and east. Suitable examples include the following:

- Vivara Pro Barcelona WoodStone Open Nest Box. This box type provides nesting opportunities for species such as wren, *Troglodytes troglodytes*, robin *Erithacus rubecula*, spotted flycatcher *Muscicapa striata*, pied wagtail *Motacilla alba*, grey wagtail *Motacilla cinerea*, song thrush *Turdus philomelos* and blackbird *Turdus merula* and may be used by dunnock.

- 2M Schwegler Nest Box 32mm hole. This box type provides nesting opportunities for species such as great tit *Parus major*, blue tit *Cyanistes caeruleus*, marsh tit *Poecile palustris*, coal tit *Periparus ater*, crested tit *Lophophanes cristatus*, redstart *Phoenicurus hoenicurus*, nuthatch *Sitta europaea*, collared flycatcher *Ficedula albicollis*, pied flycatcher *Ficedula hypoleuca*, wryneck *Jynx torquilla*, tree sparrow *Passer montanus* and house sparrow *Passer domesticus*.
- 2TF Schwegler Nest Box. This box is composed of Woodcrete material and provides nesting opportunities for kestrel.
- Wildcare outdoor barn owl box. This box is for installation on trees and provides nesting opportunities for barn owl *Tyto alba*, with a deep nest chamber and a wide platform with a lip.
- 22 Schwegler Little Owl Box. This box type provides nesting opportunities for little owl *Athene noctua* and is ideal for trees lacking suitable horizontal branches for box placement such as small or young trees.
- 3S Schwegler Starling Nest Box. This box type is designed for starling but can also provide overnight shelter for species such as greater spotted woodpecker *Dendrocopos major*, middle spotted woodpecker *Dendrocopos medius* and lesser spotted woodpecker *Dryobates minor* as well as nesting opportunities for pied flycatcher and nuthatch.

Reptiles

~~4.52~~4.54 The creation of species-rich grassland and increased hedgerow planting will provide suitable basking, sheltering and foraging opportunities reptiles.

~~4.53~~4.55 In addition, it is recommended that wood from felled trees is retained on site and used to create log piles within sheltered areas of the Site, such as field boundaries and any areas of long grassland which are unlikely to be subject to high levels of disturbance. Areas which receive sun exposure for at least part of the day would be most suitable. These log piles would provide a valuable sheltering and foraging resource for reptiles, as well as other species such as small mammals and invertebrates.

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Chapter 5
Management, Enhancement and Monitoring

5.1 This Chapter sets out how each habitat will be managed to maximise its ecological and landscape value, including the management of existing retained habitats to ensure their value is enhanced. Monitoring measures are specified along with measures to control invasive species. The management and monitoring of mitigation for glint and glare effects is also included. The following management strategies are subject to change with the development of design detail, and should be used as an indication only.

Changes to Site Conditions Over Time

5.2 At the start of the operational phase, all the habitats and enhancements detailed below will have been created. The value of these features is expected to increase over time as the habitats mature.

5.3 During the operational phase, management and monitoring measures will be implemented for retained, created and enhanced habitats. The management measures will ensure all habitats and enhancements achieve their targeted landscape and ecological value. The monitoring measures will determine the need for remedial management actions.

Habitat Management and Enhancement

Landscape

Grassland

Grassland Establishment

5.4 Due to the existing arable land use, additional measures may be required to ensure an appropriate soil nutrient composition for the proposed grassland establishment. There are several approaches that can be used to reduce the fertility of a soil and increase the likelihood of successful grassland establishment.

5.5 The most likely approach to achieve this could be preparation of the soil prior to planting through harrowing. This takes a few years for establishment[23] due to nutrient levels decreasing over time as the cuttings are removed each year. To aid in establishment the meadow can then be re-seeded after three years, with cuttings removed each time. This has the added benefit of retaining soil on Site, reducing costs for transport and new soil material, as well as retaining the invertebrate and fungi composition.

5.6 For the seed mix, EM2 Standard General Purpose Meadow Mix (supplied by Emorsgate Seeds[24]) or similar will be used. A recommended minimum density for the EM2 mix is 4g / m^2. This could be supplemented with additional yellow rattle *Rhinanthus minor* seed at a density of 0.5g / m^2 to further aid establishment of a species-rich sward by reducing the dominance of grasses and allowing a higher abundance of wildflowers to establish.

Species-rich Grassland (Moderate Condition) Establishment

5.7 Existing grassland will be overseeded with EM2 Standard General Purpose Meadow Mix or similar. Species-rich grassland should be sown in Autumn or Spring. If first sown in autumn, the meadow should be cut to 70mm in March, May and in September after flowering. Clippings should be removed at all times. If first sown in spring, the meadow should be cut six weeks after sowing, in May and in September/October after flowering.

Species-rich Grassland (Moderate Condition) Management

5.8 The species-rich grassland outside of the arrays will be managed as a traditional hay meadow:

- The grassland will not be cut from February through to late July. This gives plant species the chance to flower and set seed.
- A mechanical cut of grassland habitat will be completed on an annual basis in late September/October after flowering, mown to a height of 50mm.
- All arisings will be collected as hay or silage. This will minimise the accumulation of nutrients; this along with the mechanical control provided by cutting will control colonisation of coarser

[23] This is accounted for in the temporal multiplier within the BNG assessment.
[24] https://wildseed.co.uk/product/mixtures/wild-flower-only-mixtures/standard-general-purpose-wild-flowers/

grasses and ruderal herb communities. Before removal, the arisings will be left for seeds to fall back onto the ground to help the spread of the wildflowers.

- Aftermath grazing or harrowing will be undertaken a few weeks after the hay cut. This will prevent thatch accumulation and helps seeds to germinate.
- Fertiliser should not be used on moderate species-rich grassland areas. Herbicide should only be used on spot weeding of pernicious weeds.
- Areas of moderate species-rich grassland will be outside of proposed fencing to prevent sheep grazing on these areas year round.

Species-Rich Grassland (Poor Condition) Establishment

5.9 Species-rich grassland will be seeded with EM2 Standard General Purpose Meadow Mix or similar in Spring. The grassland areas will not be grazed or cut from April through to late July / August. This gives flowering species an opportunity to flower and set seed.

Species-Rich Grassland (Poor Condition) Management

5.10 In subsequent years the retained and created species-rich grasslands beneath the arrays will be managed as a traditional meadow pasture through conservation grazing, by mechanical cutting, or a combination of the two. This will be determined by the land management team and informed by site conditions at the time but either method must deliver the required gains for biodiversity, as detailed in **ES Volume 3 Appendix 6.12: Biodiversity Net Gain Report**. For mechanical cutting, methods will follow broadly those detailed above for a traditional hay meadow, with a hay cut after flowering rather than on rotation.

5.11 The methods for grazing will include the following:

- The grassland will be grazed by sheep at a low density (approximately 2-3 sheep/ha) to manage the growth of annuals. Exact grazing densities and regimes will be determined, as appropriate, by a grazier with future adjustments as required, if monitoring results indicate a change would be beneficial..
- A rotational grazing regime will be implemented across the solar panel compartments will take place year round. This avoids overgrazing and excessive poaching within individual solar

panel compartments and allows flowering plants to be present throughout the plant growth season, whilst ensuring that shading of solar panels from plant growth is avoided.

- The species-rich grassland will not be grazed for between 8-10 weeks between April and August to accommodate the key flowering period for most grasses and wildflowers.
- Fertiliser should not be used on species-rich grassland areas. Herbicide should only be used on spot weeding of pernicious weeds.

Hedgerows

5.12 New hedgerows and infill plantings are to be planted when soil and weather conditions are suitable between late October to mid-March. In dry conditions additional watering will be conducted as required to aid establishment.

5.13 All hedges will be maintained to have a uniform finish with a flat top and slightly sloping, tapered faces to maximise light exposure to lower sections of hedge. Clipping of existing established hedges will be undertaken once per year using appropriate tools in order to maintain a dense and well-formed hedge. Existing hedgerows along public roads and within the Site, will be allowed to grow taller (up to 3m in height), particularly along the southeast boundary of the Site, along Catton Lane..

5.14 Newly planted hedges will be clipped in late Summer and possibly again in early Winter for the first few years, ideally to below the final intended height to encourage leafing down to the base; once the required height is achieved the hedges will be clipped once per year.

Existing Woodland

5.15 Routine maintenance of mature trees will include the removal of epicormic growth, pruned back to the main stem of trees up to a height of two metres. Where necessary damaged branches will be removed from both the tree and the ground promptly to minimise damage to the tree and danger and obstruction to woodland users. In areas where these would not cause an obstruction, fallen or cut branches can be cut into lengths and stacked neatly into log piles, providing valuable habitats for wildlife.

5.16 Work on all trees will be carried out promptly and to accepted professional standards (the British Standard BS 3998 for example). Arisings will be retained on Site where appropriate to

provide habitat. Anything from smaller diameter brushwood to larger branches can be trimmed or cut into lengths and stacked neatly into log piles. Branches with a diameter greater than around 100mm can be partially sunk into the ground to provide vertical loggeries as habitats for invertebrates (these are particularly valuable to stag beetles).

5.17 Where it is safe to do so, dead and dying trees can be left or trimmed to produce monoliths to provide habitat for a variety of invertebrates, smaller mammals, bats and birds.

5.18 The mature trees of a significant age and size and will be given attention at the annual safety inspections. As these trees age the works identified will need to be assessed to balance the safety considerations against the need to preserve such specimens for as long as is safe to do so.

Created Woodland

5.19 New trees will be planted when soil and weather conditions are suitable between late October to mid-March.

5.20 All trees will be visually inspected on routine maintenance visits for storm damage and general safety and security issues. Damaged branches will be removed from both tree and ground promptly. Where possible, dead wood will be retained on site as log piles. Any dead, diseased, or failed specimens will be replaced.

5.21 A more comprehensive tree inspection will be carried out each year by an arboriculturist to assess any works required to maintain the health, safety and form of the trees and to conserve their landscape and ecological value. Consideration will be given at these inspections to personal safety issues and the need to maintain a degree of natural surveillance. Sensitive minor crown lifting works may be carried out periodically to maintain an open aspect and to maintain appropriate clearance over parking spaces and around lamp columns. The resulting works will be carried out by a qualified arboricultural contractor to the accepted professional standard (BS 3998).

5.22 Any mature trees of a significant age and size will be given attention at the annual safety inspections. As these trees age, the works identified will need to be assessed to balance the safety considerations against the need to preserve such specimens for as long as is safe to do so.

5.23 Young trees will be inspected each month, staking monitored and adjusted twice per annum to allow for the growth of the trees. Epicormic growth will be removed, and formative pruning and irrigation carried out as required, promoting healthy growth.

Ditch Enhancement

5.24 Much of the existing ditch network on Site is in poor condition, with low water quality and limited marginal or emergent vegetation and close proximity to previously improved arable land. The removal of agricultural inputs and creation of species rich grassland across the Site will likely provide some benefit to existing ditches initially, with reduced run off and nutrient input. Additionally, ditches D7 and D17 located along fields O17 and O22 respectively, will be subject to targeted enhancement as part of proposals (**Figures 1a-f** within **Appendix A** of this document).

5.25 For ditch D7 (field O17), enhancements will comprise the planting of native marginal aquatic species, as well as selective thinning of bankside woody vegetation to reduce shading of the ditch. These interventions will enhance the ditch from a baseline 'Poor' condition to 'Moderate' condition through passing criteria 2 and 7.

5.26 Ditch D17 (field O22) enhancements will be broadly similar to those above, with marginal aquatic planting and selective bankside vegetation thinning proposed. Additionally, a greater buffer strip of undisturbed vegetation will be allowed to develop on both sides of the ditch to improve water quality and also pass criteria 1, enhancing to 'Moderate' condition.

5.27 The marginal planting will include aquatic species , such as rushes *Juncus* sp, greater pond sedge *Carex riparia*, *Typha* species, *Glyceria* species, watercress, and *Rorippa* species. Establishment will be through the use of plug planting within the ditch channel, and could include the use of a marginal aquatic seed mix along the ditch faces and banks (e.g. EP1 Pond Edge Mixture or similar).

River Enhancement

5.28 Tributaries of the River Trent cross through the Site from field O22, northwards to field F3. These are functionally connected to ditch networks on and offsite, in particular the section running along field O22 south west to ditch D7. Sections of the river within fields O22, O23 and O24, in particular sub-reaches A, B and Y, have scope for enhancement with a baseline condition of

'Moderate' (**Figures 1a-f** within **Appendix A** of this document**)**. Enhancement of these sub-reaches will comprise additional planting of native trees and scrub along the bank tops, as well as native marginal planting along the bank faces of species composition similar to those listed above for ditches.

Invasive Species Management

5.29 Within the National Grid Drakelow Substation, an area of Himalayan balsam was identified, adjacent to woodland parcel W6. Further to this, cherry laurel, buddleia and rhododendron were recorded at National Grid Drakelow Substation and cherry laurel was recorded on land between Park Farm and Oaklands Farm. Given the potential for these species to spread into the Site, an annual check for the presence of Himalayan balsam, cherry laurel, buddleia and rhododendron should be undertaken.

5.30 These species will be monitored and managed in order to minimise the distribution and spread of this species, following good practice guidance[25][26].

5.31 If identified during pre-construction surveys, best practice working methods with regard to invasive species will be specified in the CEMP (including, but not limited to, Himalayan balsam, rhododendron, cherry laurel, buddleia, Japanese knotweed). Pre-construction inspections for invasive non-native species and, if required, the provision of appropriate buffer zones and an eradication programme. Any invasive species within or adjacent to the Site will be demarcated prior to works and will be subject to chemical/manual treatment prior to and during works in accordance with a CEMP, with long-term eradication prescriptions to be detailed and implemented through a LEMP (if required).

[25] RAPID (2018) Good Practice Management Guide for Himalayan Balsam Impatiens glandulifera, RAPID: Reducing and Preventing Invasive Alien Species Dispersal.

[26] Kent Wildlife Trust (no date) Woodland management – control of rhododendron and cherry laurel. Available at: KWT Land Mgt Advice_Sheet 9 - Woodland management - control of rhododendron.pdf (kentwildlifetrust.org.uk) [Accessed 15/08/24]

Protected Species

Species Specific Measures

5.32 Bat boxes can only be inspected by a bat licenced individual who will advise on appropriate actions. Bird boxes will be managed in years 1, 2 and 5) as follows:

- The box will be monitored to ensure the nest is no longer active.
- Old nests will be removed in Autumn, once the birds have stopped using the box.
- Unhatched eggs in the box can only be removed legally between September and January.
- The box will be cleaned with boiled water and allowed to dry thoroughly before replacing the lid.

5.33 If log piles are created to enhance the site for reptiles, they will be left in situ undisturbed. The areas will be topped up in the Autumn with arisings from the Site management. The loggeries will be expanded each year by the burying of additional logs within the vicinity of the existing features.

Permissive Path Management

5.34 To ensure the permissive path is passable it will be mowed once a month in Spring and twice a month in Summer annually. Gates will be regularly maintained.

Table 5.1: Creation, Maintenance and Management Schedule

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
H&S Tree safety inspection	November – February	1	Arboriculturist
General Tree Inspection	Year round	As required	Contractor
Species Rich Grassland (Moderate Condition)			
Prepare ground and sow grassland	September – November and March – April	N/A	Contractor
Late Summer / Autumn cut and remove arisings	September – October	1	Contractor
Aftermath grazing or harrowing after hay cut and bailing	October – November	1	Contractor / Estate Team
Regrowth can be mowed to 50mm	September – January	As required	Contractor
Species Rich Grassland (Poor Condition)			
Prepare ground and sow grassland	September – November and March – April	N/A	Contractor
No grazing on grassland for 8 – 10 weeks	April – August	Annual	Estate Team

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
Late Summer / Autumn grazing beneath arrays	End of August Year 1	Throughout year on a rotational basis	Contractor / Estate Team
Low density grazing beneath arrays	Year round	Rotational basis	Contractor / Estate Team
Hedgerow and Infill Planting			
Undertake new hedgerow and infill planting	Late October to mid March.	N/A	Contractor
Trim hedge	September or January	Up to twice per year for establishing hedges/hedgerows then once per year for established hedges/hedgerows	Contractor
Spreading mulch to 75mm depth at the base of newly planted hedgerows	March	1	Contractor
Application of fertiliser	May or June	1	Contractor
Carry out replacement planting of dead plants especially where gaps in hedges don't obscure reflections from solar panels.	September – February	As required	Contractor / Estate Team

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
New Woodland Planting			
Woodland creation planting	Late October to mid March.	N/A	Contractor
Vegetation / Weed control around saplings	Year round	4 times per year for the years 1-3, as required for years 4-5	Contractor
Maintain free of litter	Year round	As required	Contractor
Formative pruning / pruning damaged branches	As required	1/3	Contractor
Checking of shelters and stakes	Year round	As required	Contractor
Water planting to ensure establishment	May – September	7 times per year for year 1, as required for years 2 – 5	Contractor
Carry out replacement planting of dead plants	September – February	As required	Contractor / Estate Team
Tree and Scrub Planting			
Undertake new tree and scrub planting	Late October to mid-March	N/A	Contractor

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
Inspection of tree stakes	November – February and June – August	2	Contractor
Spread mulch 75mm diameter around young trees	March	Once per year until established	Contractor
Water trees	May – September	Minimum 15 times per year for year 1, as required for years 2 – 5	Contractor
Formative pruning / pruning damaged branches	As required	1/3	Contractor
Coppicing scrub planting, retain at least 10% of arising as brash piles within areas of semi-natural habitat	February – March	Once every 5 years coppice compartment	Contractor
Carry out replacement planting of failed specimens	Late October to mid-March	As required	Contractor
New and Enhanced Ditch Management			
Aquatic marginal planting of new and enhanced ditches	May / June or September / October	N/A	Contractor

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
Should a single plant species begin to dominate, it should be thinned to allow others to flourish	November – February	Approximately once in every 5 years	Contractor
Selective thinning of bankside vegetation, rotational cutting of glades and scrub vegetation, coppicing	November – February	As required	Contractor
Yearly monitoring of structure and hydrological function, with remedial measures implemented where required.	Year round	As required	Contractor
River Enhancements			
Undertake new tree and scrub planting	Late October to mid-March	N/A	Contractor
Undertake enhancement works to the watercourse	November – February	Every 5 years or as required	Contractor
Aquatic marginal planting of sub-reaches	May / June or September / October	N/A	Contractor
Should a single plant species begin to dominate, it should be thinned to allow others to flourish	November – February	Approximately once in every 5 years	Contractor
Yearly monitoring of structure and hydrological function, with	Year round	As required	Contractor

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
remedial measures implemented where required.			
Invasive Species Management			
Himalayan balsam, cherry laurel, buddleia and rhododendron removal in accordance with best practice[2526]	Before flowering	As required	Specialist Contractor
Known stands of Himalayan balsam, cherry laurel, buddleia and rhododendron mapped and inspected	After treatment	As required	Contractor / Estate Team
Check for Himalayan balsam, cherry laurel, buddleia and rhododendron on site	As required	1	Estate Team
Permissive Path Management			
Annual mowing	Once a month in Spring and twice a month in Summer	3	Estate Team
Species Specific Measures			
Bat Boxes			
Installation of bat boxes	Year round	N/A	Contractor / Ecologist

Maintenance Component and Operation	Period of year	Frequency per annum	Responsibility
Monitoring / cleaning of bat boxes	May – August	1	Ecologist
Replacement of boxes	Year round	As required	Ecologist
Bird Boxes			
Installation of bird boxes	Year round	N/A	Contractor / Ecologist
Cleaning of bird boxes	November – February	1	Ecologist
Replacement of boxes	Year round	As required	Ecologist
Loggeries and Log Piles			
Add to existing piles and create new piles using deadwood retained from management activities	September – October	1	Contractor
Glint and Glare Screening			
Check opaque netting on site fences for rips/tears/breaks. Replace broken sections.	Year round	Monthly	Contractor

Ecological Trends and Constraints Which May Influence Management

Water Resources and Hot Weather

5.35 There is a requirement for close liaison between the developer and their appointed contractor for the landscaping works. This will be imperative to ensure that new landscaping

establishes. Effective use of water resources in the spring and summer months when new planting is at its most vulnerable will be crucial in achieving satisfactory outcomes. In times of drought or water shortages a balance will need to be sought between sustainable use of water resources and the need for vegetation establishment.

Pests and Disease

5.36 There is the potential for plant pests and disease to affect new habitat creation and landscaping works. In particular, diseases such as ash dieback *Hymenoscyphus fraxineus* and Dutch elm disease *Ophiostoma novo-ulmi* pose significant threat to UK native tree species. Biosecurity measures (accordance with best practices construction measures) to reduce the risk of introducing pests and diseases will include:

- Planting of a range of tree and shrub species;
- Planting species with known provenance and documentation of origin; and
- Planting of UK only plant stock.

Invasive Non-native Species (INNS)

5.37 Areas of Himalayan balsam *Impatiens glandulifera,* have been recorded within the land at Drakelow. This species is listed as a species of special concern under retained European Union (EU) law. This means it is an offence to plant or cause these plants to grow in the wild, or intentionally release them into the environment. Schedule 4 of the Invasive Alien Species (Enforcement and Permitting) Order 2019 removes plants listed under the EU IAS Regulation from Schedule 9 of The Wildlife and Countryside Act 1981, although the same offence applies. Himalayan balsam plant material (including soil contaminated with seeds) is also a ‘controlled waste’ under the Environmental Protection Act 1990 which means it can only be transported by a registered waste carrier to suitably permitted or exempt sites. Transfer notes shall be kept for each load for a minimum of 2 years.

5.38 Cherry laurel, buddleia and rhododendron have been recorded within the land at Drakelow and cherry laurel has been recorded on land between Park Farm and Oaklands Farm. These species are invasive non-native species and as such will be controlled in line with best practice

guidance through appropriate management to prevent this species colonising and to eradicate these species from the Site.

5.39 During works at Drakelow, the works area and immediate surroundings will be monitored and any sign of these invasive non-native species will be recorded and managed to ensure its removal and/or to prevent its spread. Due to restricted access to this land post-construction, and limited use within the operational phase, the responsibility for monitoring of invasive non-native species within the Drakelow land area lies with the landholder. However, the remainder of the operational land within the Site, particularly within the vicinity of Drakelow, will be monitored for any sign of invasive non-native species and appropriate action taken as above.

Timing of Landscape Works and Management

5.40 There is a requirement for landscape and management works to take into account seasonal constraints with regard to protected species. For example, works to suitable bird nesting habitat, including hedgerows and trees for non-ground nesting birds, and arable and grassland for ground nesting bird species, will take place outside of the bird nesting season and bat breeding season (March – August incl.). Where this is not feasible, the removal of these habitats will be completed under a watching brief by an Ecological Clerk of Works (ECoW).

5.41 To maximise food availability for species such as birds and small mammals, hedgerow trimming will ideally take place in January / February.

Screening for Glint and Glare Effects

5.42 To eliminate significant effects to road users from glint and glare, mitigation in the form of new planting, hedgerow enhancement and hedgerow infilling has been included within this LEMP to obscure the reflecting solar panels from view. This is to be located particularly at Note 13 on **Figures 1b-f** (along Coton Road) to mitigate glint and glare effects, but will also be carried out across the Site for visual screening.

5.43 The appointed contractor will be responsible for filling gaps in hedgerows and maintaining existing hedgerows to at least 3m in height and to a density such that it provides adequate screening to the surrounding road users and dwellings (see **Table 5.1**).

5.44 Temporary screening will be utilised prior to the new planting reaching maturity. This will be in the form of opaque netting attached to Site fencing up to a height of 3m, at Notes 14 on **Figures 1b-f** (along Coton Road). The appointed contractor will be responsible for checking and maintaining/replacing this netting to ensure reflections are adequately screened (see **Table 5.1**). The screening will be monitored throughout the lifetime of the Proposed Development (see section below).

Monitoring

5.45 To monitor the effectiveness of the biodiversity enhancements and management proposed within the LEMP, regular monitoring by a suitably qualified ecologist/site contractor will be required in the short, mid and long-term, over the operational period of 40 years, to confirm habitat establishment, maintenance, and condition, and to ensure that the proposed management measures remain effective. There is also a requirement to deliver a Biodiversity Net Gain (BNG) at the Site as a result of the development, and to achieve the habitat conditions stated within **ES Volume 3 Appendix 6.12: Biodiversity Net Gain Report**. The survey findings will be reviewed and will inform whether the proposed habitat creation and enhancement as detailed by the LEMP and BNG, are being achieved, and whether any changes to management or remedial measures are required, as recommended by the appointed ecologist.

5.46 Monitoring visits will be undertaken throughout the project lifetime and results reported in a feedback loop. Visits will be undertaken during years 1, 3, 5, and thereafter every 5 years until the 40 year period is complete, to ensure the successful establishment and maintenance of retained and created habitats. More frequent visits to monitor the effectiveness of temporary glint and glare screening will be required.

5.47 At the end of the 40-year period, a final habitat condition assessment will be required to confirm that the management measures proposed have remained effective throughout the lifetime of the development.

5.48 Monitoring will be undertaken of each habitat within the Site and any feedback will update the management prescriptions. **Table 5.2** sets out each management prescription and will be used to assist in the monitoring review of the effectiveness of the management regimes.

Remedial Actions

5.49 A feedback loop will be instigated through the reporting of monitoring results of each visit, and the recommendations used to inform any modifications to the objectives and prescriptions.

5.50 Any required remedial measures of the Site (for example, replacement of failed planting) will be identified and detailed for implementation by Oaklands Farm Solar Limited (or their appointed contractor) by the management company operatives or landowners.

5.51 Should adjustments to the management regimes be required to aid vegetation establishment, address issues, or further enhance habitat value for wildlife, these will be incorporated into the next review of the LEMP at year 5.

Management Plan Review

5.52 The Management Plan will be reviewed throughout the lifetime of the Proposed Development, as necessary in line with remedial actions and management prescriptions outlined above. The final review at the end of the project will be to ensure delivery of the LEMP and Biodiversity Net Gain objectives, and confirm that the management measures proposed have remained effective throughout the lifetime of the development. This review, and any resulting adjustments to the Management Plan, will be informed by observations from the appointed contractor. The local authority will be informed of any significant changes that might affect the objectives within this Outline LEMP.

5.53 The Management Plan Review will seek to ensure the development still delivers the fully functioning biodiversity objectives of the originally approved scheme.

Table 5.2: Monitoring Schedule

Maintenance Component and Operation	Monitoring Visit (Year)									
	1	3	5	10	15	20	25	30	35	40
Species Rich Grassland (Moderate Condition)										
Is the late Summer / Autumn cut being undertaken?										
Are there any management interventions required?										
Species-Rich Grassland (Poor Condition)										
Is the late Summer / Autumn cut being undertaken?										
Are there any management interventions required?										
Existing Woodland										
Is the existing woodland being managed appropriately?										
Are there any management interventions required?										
New Woodland Understorey Planting										
Is the new native scrub planting being appropriately managed?										

Maintenance Component and Operation	Monitoring Visit (Year)									
	1	3	5	10	15	20	25	30	35	40
Is the replacement planting of dead plants being undertaken?										
Hedgerow Planting										
Are the hedgerows being managed appropriately given their setting?										
Is the replacement planting of dead plants being undertaken?										
Is the height and density of the hedgerow planting sufficient to obscure reflections from the solar panels? Annual up to removal of temporary opaque netting. Then quarterly checks at locations at risk of solar panel reflections on a quarterly basis.					Quarterly checks throughout the lifetime of the Proposed Development once opaque netting has been removed.					
Invasive Species Management										
Has the Himalayan balsam been treated?										
Are the monitoring checks being undertaken?										
Has cherry laurel been treated?										
Are the monitoring checks being undertaken?										
Has buddleia been treated?										

Maintenance Component and Operation	Monitoring Visit (Year)									
	1	3	5	10	15	20	25	30	35	40
Are the monitoring checks being undertaken?										
Has rhododendron been treated?										
Are the monitoring checks being undertaken?										
New and Existing Ditch Management										
Are invasive / unwanted species dominating and therefore requiring removal?										
Is a single species or plant beginning to dominate and therefore requiring thinning/removal?										
Is selective thinning, rotation cutting of glades and scrub vegetation and coppicing being undertaken?										
Is the ditch structure and hydrological function being maintained?										
River Enhancement										
Is the new scrub and tree planting being appropriately managed?										
Are invasive / unwanted species dominating and therefore requiring removal?										

Maintenance Component and Operation	Monitoring Visit (Year)									
	1	3	5	10	15	20	25	30	35	40
Is a single species or plant beginning to dominate and therefore requiring thinning/removal?										
Is the river structure and hydrological function being maintained?										
Permissive Path Management										
Is the path navigable?										
Species Specific Measures										
Bat Boxes										
Is monitoring and cleaning of bat boxes being undertaken?										
Do any boxes require replacement or repair?										
Bird Boxes										
Is monitoring and cleaning of bird boxes being undertaken?										
Do any boxes require replacement or repair?										
Loggeries and Log Piles										
Are existing hibernacula, loggeries and log piles being retained and new deadwood										

Maintenance Component and Operation	Monitoring Visit (Year)									
	1	3	5	10	15	20	25	30	35	40
added from tree and scrub management activities?										
Glint and Glare Screening										
Check opaque netting on site fences for rips/tears/breaks. Replace broken sections.	Monthly up to approx. Year 10/ when hedgerows matured.									

Appendix A

Outline LEMP Figures

Appendix B
Legislation and Planning Policy

Planning Policy Legislation

B.1 Statutory nature conservation sites and protected species are a 'material consideration' in the UK planning process (DCLG 2019). Where planning permission is not required, for example on proposals for external repair to structures, consideration of protected species remains necessary given their protection under UK and EU law.

B.2 Natural England Standing Advice aims to support Local Planning Authorities decision making in respect of protected species (Natural England 2019). Standing advice is a material consideration in determining the outcome of applications, in the same way as any individual response received from Natural England following consultation.

B.3 The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) transpose the requirements of the European Habitats Directive (Council Directive 92/43/EEC) and Birds Directive (Council Directive 2009/147/EC) into UK law, enabling the designation of protected sites and species at a European level.

B.4 The Wildlife and Countryside Act 1981 (as amended) forms the key piece of UK legislation relating to the protection of habitats and species.

B.5 The Countryside Rights of Way Act 2000 provides additional support to the Wildlife and Countryside Act 1981; for example, increasing the level of protection for certain species of reptiles.

B.6 The Wild Mammals (Protection) Act 1996 sets out the welfare framework in respect to wild mammals, prohibiting a range of activities that may cause unnecessary suffering.

B.7 Species and Habitats of Principal Importance for Conservation in England and Wales and priority habitats and species listed on the Surrey Biodiversity Action Plans (BAP) are species which are targeted for conservation. The government has a duty to ensure that

involved parties take reasonable practice steps to further the conservation of such species under Section 41 of the Natural Environment and Rural Communities Bill 2006. In addition, the Act places a biodiversity duty on public authorities who 'must, in exercising their functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' (Section 40 [1]). Criteria for selection of national priority habitats and species in the UK include international threat and marked national decline.

B.8 The National Planning Policy Framework (December 2023) states (Section 11), that the planning system should minimise impacts on biodiversity, providing net gains in biodiversity where possible. It also states that local planning authorities and planning policies should:

- Plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.
- Take account of the need to plan for biodiversity at a landscape-scale across local authority boundaries.
- Identify and map components of the local ecological networks, including: international, national and local sites of importance for biodiversity, and areas identified by local partnerships for habitat restoration or creation.
- Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the recovery of priority species populations, linked to national and local targets and identify suitable indicators for monitoring biodiversity in the plan.

Protected Species Legislation

Bats

B.9 All British species of bat are listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is an offence to deliberately kill, damage, take (Section 9(1)) a bat; to intentionally or recklessly disturb a bat whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a bat roost (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of bats.

B.10 All British bats are listed on the Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). Regulation 43 strengthens the protection of bats under the 1981 Act against deliberate capture or killing (Regulation 43(1) (a)), deliberate disturbance (Regulation 43(1) (b))18F[1] and damage or destruction of a resting place (Regulation 43(1) (d)).

B.11 A bat roost is defined as any structure or place which is used for shelter or protection, irrespective of whether or not bats are resident. Buildings and trees may be used by bats for a number of different purposes throughout the year including resting, sleeping, breeding, raising young and hibernating. Use depends on bat age, sex, condition and species as well as the external factors of season and weather conditions. A roost used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to bats, and loss, obstruction of or damage to a roost are licensable.

Application for a Natural England EPS Licence

B.12 Development works that may cause killing or injury of bats or that would result in the damage, loss or disturbance of a bat roost would require a Natural England (NE) Bat Mitigation Licence.

B.13 For a Mitigation licence to be granted three tests must be met. Evidence is needed to determine these three tests: whether there is a need for the development which justifies the impact on the European Protected Species (EPS); whether there is an alternative which would avoid the impact and need for an EPS licence; and whether mitigation proposed is sufficient to maintain the conservation status of the EPS in question.

B.14 A Mitigation Licence application will generally only be considered by NE on receipt of planning consent, and once any pre-commencement conditions of relevance to ecology have been discharged.

B.15 There are two licensing routes now available for bats, which comprise:

[1] Relates specifically to deliberate disturbance in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young or ii) the local distribution of that species.

Full NE England EPS mitigation Licence:

- NE aim to determine the application within six weeks (although this can take longer).
- The application comprises three components including an application form (broad details of the applicant, site and proposals); a detailed Method Statement providing the survey methods and findings, impact assessment and mitigation measures (including detailed maps and schedule of works); and a Reasoned Statement outlining the 'need' for the development and consideration of alternatives.

NE Low Impact Class Licence

B.16 This new route provides an alternative, quicker route (with a much-reduced application form, and a target of 10 days to determine an application).

B.17 This Low Impact Class Licence is only available to Registered Consultants identified by NE.

B.18 This is available for sites which support up to three low status roosts (day roosts, night roosts, feeding roosts and transitional roosts) of a maximum of three common species. The common species which can be covered by this licence include common pipistrelle, soprano pipistrelle, brown long-eared, whiskered, Brandt's, Daubenton's and Natterer's bat.

B.19 All licensed works require evidence that there is a need for the development and that appropriate mitigation, including seasonal constraints and provision of alternative habitat and/or roosting structures is considered.

B.20 Before Natural England can confirm the site is registered and licensable works can commence, an assessment of the three tests must be undertaken by the Registered Consultant. Although this does not need to be submitted to NE, NE may subsequently undertake a review of the project and request to see all evidence as collected by the Consultant. This can only be undertaken following a survey and impact assessment which must be carried out in accordance with licence conditions and BCT survey guidelines.

B.21 This licence cannot be used in relation to trees.

B.22 Several species of bat, including brown long-eared and soprano pipistrelle are listed as species of principal importance under the NERC Act (2006). Section 41 of the Act is used to

guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Badger

B.23 The Protection of Badgers Act 1992 provides specific protection for this species. Under this act it is an offence to take, kill or injure badgers or cause cruelty to badgers. It is also an offence to interfere with a badger sett (including digging for badgers, permitting dogs to enter a badger sett, obstructing the entrance to, or destroying a badger sett or disturbing a badger when it is occupying a sett); or to buy or offer for sale or otherwise possess a live badger. Works which may result in damage to a badger sett, or potential disturbance to badger using setts, must be undertaken under a Natural England licence.

Breeding Birds

B.24 Birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to all species of bird with regard to killing and injury, and to their nests and eggs with regard to taking, damaging and destruction. Certain species listed on Schedule 1 of the Act, are afforded additional protection.

Otter

B.25 Otter is listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is an offence to deliberately kill, damage, take (Section 9(1)) an otter; to intentionally or recklessly disturb an otter whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a n otter shelter (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of otter.

B.26 Otter is listed on the Conservation of Habitats and Species Regulations 2017 (as amended), Schedule 2. Regulation 41 strengthens the protection of otter under the 1981 Act against deliberate capture or killing (Regulation 41(1) (a)), deliberate disturbance (Regulation 41(1) (b))[1] and damage or destruction of a resting place (Regulation 41(1) (d)).

B.27 An otter shelter is defined as any structure or place which is used for shelter or protection, irrespective of whether or not otters are resident. The classification of otters shelters is described in Chapter 3 above. A shelter used during one season is protected throughout the year and any proposed works that may result in disturbance to otters, and loss, obstruction of or damage to a shelter are licensable.

Application for a Natural England EPS Licence

B.28 Development works that may cause killing or injury of otter or that would result in the damage, loss or disturbance of an otter shelter would require a Natural England (NE) Mitigation Licence.

B.29 For a Mitigation licence to be granted three tests must be met. Evidence is needed to determine these three tests: whether there is a need for the development which justifies the impact on the European Protected Species (EPS); whether there is an alternative which would avoid the impact and need for an EPS licence; and whether mitigation proposed is sufficient to maintain the conservation status of the EPS in question.

B.30 A Mitigation Licence application will generally only be considered by NE on receipt of planning consent, and once any pre-commencement conditions of relevance to ecology have been discharged.

B.31 Otter are also listed as species of principal importance under the NERC Act (2006). Section 41 of the Act is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Plants

B.32 Certain plants are protected against uprooting and sale by the Wildlife and Countryside Act 1981 (as amended). In addition, it is illegal to cause certain plants listed on schedule 9 of the Wildlife and Countryside Act to grow in the wild, or to plant them in the wild.

Reptiles

B.33 The Wildlife and Countryside Act 1981 makes it an offence to intentionally kill or injure any of our native snakes and lizards. The sand lizard and smooth snake receive additional protection' for these species is it unlawful to capture or possess them, or to damage / obstruct access to places they use for shelter or protection, or to disturbed them whilst in such a place for these species, therefore, a license is required for surveys which will involve, for example, using refuges. Observation without handling or disturbance is not licensable.

Appendix C
ES Figures for Reference

C.1 Including the following figures:

- **Figure 1.1**: Site Location Plan
- **Figure 1.3**: Areas of the Site
- **Figures 1.4a** and **1.4b**: Field Numbers
- **Figure 6.5.1a**: Phase 1 Habitat Plan North
- **Figure 6.5.1b**: Phase 1 Habitat Plan South
- **Figure 6.12.1a**: Biodiversity Net Gain (BNG) Plan North
- **Figure 6.12.1b**: Biodiversity Net Gain (BNG) Plan South

Appendix D

Mitigation Identified in the ES

D.1 The mitigation identified within **Chapter 5: Landscape and Visual, Chapter 6: Ecology, and Chapter 14: Glint and Glare** is set out below, with a cross reference to where that mitigation is within this Outline LEMP.

Table D1: Landscape and Visual Mitigation in the LEMP

Mitigation identified in the App 106	Mitigation Secured in the LEMP
Landscape Effects – The Site	
The land under the panels is to be restored to grass through seeding	Para 4.28 and Figures 1a-f (this has been made clearer on the figures with the addition of a note *'(with species rich grassland below)'* next to the solar array key label.
New hedgerow along Coton Road (including to replace that lost)	Paras 4.31 - 4.33 and note 13 on Figures 1b, e and f.
Planting areas of woodland and scattered trees	Paras 4.34 - 4.39 and Figures 1b-f
Strengthening existing hedgerows by infilling gaps and enhancing them with trees	Paras 4.34 - 4.39. LEMP Figures 1b-f (also notes 2, 3, 5, 6, 11)
Allowing existing hedgerows along roads and within the site to grow taller (up to 3m in height)	Para 5.13. On Figures 1b-f, Note 4.
Landscape Effects - Outside the Site	
No mitigation required and/or feasible	
Visual Effects during operation	
Rosliston	
No mitigation required and/or feasible	
Coton in the Elms	
Enhancement of existing field boundaries within the Site	Paras 4.34 to 4.39. LEMP Figures 1b-f (also notes 2, 3, 4, 5, 6, 11)

Mitigation identified in the App 106	Mitigation Secured in the LEMP
Allowing hedgerows along the south-eastern boundary (Catton Lane) to grow taller (up to 3m)	Para 5.13. On Figures 1b-f, Note 4.
Local communities (2.5-5km from the Site) – Swadlincote	
No mitigation required and/or feasible	
Road Users (within 1.5km of the Site)	
Planting along Coton Road, including hedgerows	Paras 4.31 - 4.33. Figures 1b-f (Note 13)
Restoring sections of hedgerow previously defunct including along the southern edge of Field 04 and 05	Paras 4.31 - 4.33. Figures 1b-f (Notes 2 and 3)
Replacement hedgerow along the edge of field 02 and part of 05	Paras 4.31 - 4.33. Figures 1b-f (Notes 2 and 3)
Field margins planted with scattered trees in field 03	Paras 4.31 - 4.33. Figures1b-f
Rosliston Road (Between Walton-On-Trent and Rosliston)	
Proposed planting to mitigate views from Fairfield Farm	Paras 4.31 - 4.33. Figures 1b-f Paras 4.34 - 4.39. LEMP Figures 1b-f
The enhancement of field boundaries, woodland planting and scattered trees to the south of Corner Farm	Paras 4.34 - 4.39. LEMP Figures 1b-f
Catton Lane (between Rosliston and Church Street)	
Planting along Catton including restored sections of hedgerows where previously defunct along the southern edge of field 03 as well as allowing hedgerows to grow taller along Catton Lane	Paras 4.31 - 4.33. Figures1b-f (Notes 3, 4). Paras 4.34 - 4.39. LEMP Figures 1b-f.
Planting scattered trees in the south of field 03	Paras 4.34 - 4.39. LEMP Figures 1b-f.
Unnamed road (between Walton-On-Trent and Church Street)	
Planting along the road including restoring a section of defunct hedgerow along the south	Paras 4.31 - 4.33. LEMP Figures 1b and f (Note 3 and 4)

Mitigation identified in the App 106	Mitigation Secured in the LEMP
eastern edge of field 01 as well as allowing hedgerows to grow taller along the road	
Cross Britain Way / National Forest Way long distance footpath	
New hedgerow and woodland planting along the northern edge of the route where it cross through the site.	Paras 4.31 - 4.33. Figures 1b-f (and Note 7).
Enhancement of existing field boundaries within the site	Paras 4.31 - 4.33. LEMP Figures 1b-f.
PRoWs within 2.5km of the Site (located north of the Cross Britain Way/ National Forest Way route)	
No mitigation required and/or feasible	
PRoWs within 2.5km of the Site (located south of the Cross Britain Way/ National Forest Way route)	
Enhancement of existing field boundaries within the Site	Paras 4.3 -4.33. Figures1a-f
Allowing hedgerows along the south-eastern boundary (Catton Lane) to grow taller (up to 3m in height)	Para 5.13. On Figures 1b-f, Note 4.
PRoWs to the north of the Cross Britain Way/National Forest Way and within 2.5-5km of the Site	
No mitigation required and/or feasible	
Further Survey Requirements and monitoring	
The proposed mitigation measures will be monitored to ensure that they deliver the desired level of mitigation. This will include ensuring that vegetation is planted and managed appropriately, and that vegetation establishes properly and is replaced if required.	Monitoring paras 5.43-5.46. Remedial actions 5.47-5.49. Management Plan Review 5.50-5.51 and Table 5.2 Requirement 6 of the dDCO.

Table D2: Ecology Mitigation in the LEMP

Mitigation identified in the App 135	Mitigation Secured in the LEMP
Retention of ancient and veteran trees and ancient woodland habitat.	Para 4.3
Key considerations included: Locating the Proposed Development in areas with habitats of local value or below, such as improved grassland and arable fields, where impacts can be successfully mitigated.	Para 1.7
Retention of species-rich hedgerows where possible. A 5m buffer will be implemented between the Proposed Development infrastructure and the retained hedgerows.	Para 4.9
Retention of trees with high and moderate bat roost suitability and application of appropriate buffer distances during works.	Para 4.3 and 4.5
Enhancing the quality and connectivity of habitats through the Site by restoring and creating hedgerows, woodland understory planting with trees and species-rich grassland.	Paras 4.24 - 4.42
Increased provision of attenuation measures and coarser vegetation within and around the solar arrays will reduce surface run-off and nutrient enrichment associated with current cattle/sheep farming and as such providing water quality benefits to minor watercourses and ditches in the locality.	Para 4.27
Proposed fencing around the solar arrays will include mammal gaps (20-30cm in size) at the base of the fence to allow dispersal of mammals, including badger and hedgehog.	Para 4.48
Suitable bird nesting habitat, including hedgerows and trees for non-ground nesting birds and arable and grassland for ground nesting bird species, that will be removed as part of the Proposed Development will be undertaken outside of the bird nesting season between March and August (inclusive). Where this is not feasible, the removal of	Para 5.38

Mitigation identified in the App 135	Mitigation Secured in the LEMP
these habitats will be completed under a watching brief by an ECoW.	
Implementation of appropriate biosecurity measures in accordance with best practices construction measures.	Para 5.35
This will include the provision of the following measures: Measures to mitigate the impact of habitat loss, damage, disturbance and contamination during construction will be dealt with via a LEMP.	Para 2.6
Replacement roost features, such as bat boxes will be installed prior to the loss of trees identified as having low bat roost suitability.	Para 4.45
Proposals will include the provision of tree, scrub and hedgerow planting, which will mitigate the loss of the small number of trees and localised sections of hedgerow and scrub that will be lost during construction. Proposals will include for the replacement of grassland habitat, including species-rich grassland along the edges of the fields and in more open areas of the Site.	Paras 4.31, 4.39 and 4.40
Provision of bird boxes, including for barn owl.	Para 4.21 and 4.50
Additional planting will be provided, including hedgerow and tree planting will mitigate the loss of nesting bird habitats.	Para 4.31 - 4.33, 4.39 and 4.49
Habitat creation and management as outlined by the LEMP. This includes the provision of planting of hedgerows, scrub and woodland within and in the wider area of the Site.	Para 4.31 - 4.38 and 4.40 - 4.41
The creation of species-rich grassland, particularly along the boundaries of the field and in open areas where solar arrays are not proposed.	Para 4.25

Mitigation identified in the App 135	Mitigation Secured in the LEMP
Enhancement of existing ditches and watercourse.	Paras 5.24 - 5.28
Specifically, creation of species-rich grassland will be focused on providing additional benefit for species, such as skylark, by providing suitable habitat for foraging and nesting.	Para 4.49
Mitigate for impacts to badger arising from habitat fragmentation by providing alternative, more suitable habitat for these species to forage, disperse and to build new setts	Para 4.40
Ecological monitoring requirements are associated with the level of potential impacts and the success of mitigation delivery. Monitoring will be undertaken in accordance with best practice guidance and techniques for specific ecological receptors. The aim of monitoring will be to evaluate the effectiveness of habitat creation proposals, in terms of the extent, distribution, and quality of habitats. Further survey and monitoring will include: Assessing habitat creation and management including areas of species-rich grassland, woodlands, scrub and hedgerow (years 1, 2 and 5 and if required thereafter at 5 year intervals during the 40 year lifespan of the Proposed Development).	Para 5.43-5.46
Use of bat roost features including boxes (years 1, 2 and 5)	Para 5.31
Proposed Development is located 30m from ancient woodland that the LWS is designated for.	Para 4.2 - 4.5
Proposed access tracks across the unnamed watercourse will be culverted to ensure impacts from habitat loss are avoided and mitigated for.	Para 4.11

Table D3: Glint and Glare Mitigation in the LEMP

Mitigation identified in the App 167	Mitigation Secured in the LEMP
Glint and Glare Effects	
A mitigation requirement has been identified for two sections of the unnamed regional road and a section of Coton Road, totalling approximately 600m. To eliminate the significant effects to road users, mitigation in the form of new planting, hedgerow enhancement and hedgerow infilling has been included within the Outline Landscape and Ecological Management Plan (Appendix 5.6: Outline Landscape and Ecological Management Plan) and will be implemented by the Applicant to obscure the reflecting solar panels from view. It is good practice to ensure the surrounding existing vegetation is maintained at a height and density such that it provides adequate screening to the surrounding road users and dwellings. Temporary screening will be utilised where new planting is proposed to obscure the reflecting solar panels from view prior to the new planting reaching maturity.	Paras 5.40 – 5.42 of LEMP. Table 5.1 (Maintenance Schedule) and Table 5.2 (Monitoring schedule). Figures 1b-f (Note 14).