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Environmental Statement

Proposed 55MW Solar PV Development at Main Road, Brailsford, Ashbourne, DE6 3DA

BSR Energy

SHF.3087.016

'Experience and expertise working in union'

enzygo.com

Contact Details:

Enzygo Ltd. (Sheffield Office)
Samuel House
5 Fox Valley Way
Stocksbridge
Sheffield
S36 2AA

tel: 0114 3215151
email: kenny.dhillon@enzygo.com
www: enzygo.com

Environmental Statement: Brailsford Solar Park

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Author:	Millie Croft **Planning Consultant**
Reviewer:	Kenny Dhillon **Director of Planning**
Approver:	Kenny Dhillon **Director of Planning**

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GLOSSARY

Term / Abbreviation	Description
ASA	Alternative Site Assessment
ES	Environmental Statement
CCC	Climate Change Committee
CCTV	Closed Circuit Television
CNP	Critical National Priority
CO_2	Carbon Dioxide
DNO	Distribution Network Operator
EcIA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
GW	Gigawatt
HRA	Habitat Regulations Assessment
Km	Kilometre
LPA	Local Planning Authority
LVIA	Landscape and Visual Impact Assessment
m	Metre
MW	Megawatt
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NTS	Non-Technical Summary
POC	Point of Connection
PRoW	Public Right(s) of Way
PV	Photovoltaic
SSSI	Site of Special Scientific Interest
UK	United Kingdom
ZTV	Zone of Theoretical Visibility

1.0 INTRODUCTION TO ENVIRONMENTAL STATEMENT

1.1 Introduction

1.1.1 This Environmental Statement (ES) has been prepared by Enzygo Ltd (the 'Agent') on behalf of BSR Energy (the 'Applicant') in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for a proposed 55MW ground-mounted solar photovoltaic (PV) park (the 'development') on land at Main Road, Brailsford, Ashbourne, DE6 3DA (the 'site'). See Chapter 3 for a description of the site and surroundings and Chapter 4 for a description of the development.

1.1.2 A Site Location plan is appended at Appendix 1.1.

1.1.3 The Applicant sought a formal EIA Scoping Opinion from Derbyshire Dales District Council ('DDDC') is its capacity as the local planning authority ('LPA') under Regulation 15 of the EIA Regulations.

1.1.4 The Council published its Scoping Opinion (Appendix 1.2) on the 9th December 2025 confirming that the development requires the submission of an ES.

1.1.5 This ES is based on the Council's Scoping Opinion. It presents the results and conclusions of the EIA and provides the supporting information to conclude that there is unlikely to be any significant environmental effects resulting from the proposed development. The scope of the ES is set out in Chapter 2, in accordance with the requirements of the EIA Regulations.

1.2 The Applicant

1.2.1 The Applicant is a British company that develops, builds, and manages utility-scale solar and storage projects across the UK and internationally.

1.2.2 The purpose of their projects is to deliver power to the grid or to feed the demand of large energy users, working meaningfully to contribute to the UK's renewable energy ambitions, while delivering value to communities. Having developed and built in excess of 918MWp, the Applicant is a major contributor to the UK Renewable Energy Sector.

1.2.3 The Applicant is committed to continually engaging with stakeholders, particularly communities, parish councils and local authorities throughout the design development stages, and will continue to cooperate with stakeholders into the operational stage.

1.2.4 At the operational stage, the Applicant maintains and monitors the solar parks to ensure they are operating effectively and safely. The Applicant has a 'leave no trace' policy at decommissioning and will return the site to its former use with enhanced biodiversity value.

1.3 The Assessment Team

1.3.1 The assessment of environmental effects and the preparation of this ES has been undertaken by a team of competent experts, as required by Regulation 5 (2) of the EIA Regulations.

1.3.2 Relevant expertise and qualifications of the assessment team are provided in Table 1.1 (Statement of Competency) below:

Author and Qualifications	Chapter
Kenny Dhillon (BSc Hons, Pg.Cert TP MRTPI) **Director of Planning** Kenny has over 25 years of experience in Town and Country planning, his planning experience includes 9 years of experience as a Development Control office in Local Government and over 16 years in Planning Consultancy. Kenny has worked on all types of renewable energy schemes since January 2014 across the UK.	Volume 1 Part A: Non-Technical Summary Volume 1 Part B: Chapters 1, 2, 3, 4, 5, 6, 7, 10
Millie Croft (BSc Hons, MSc) **Planning Consultant** Millie joined Enzygo in January 2022, following the completion of a First-Class BSc (Hons) Geography degree.	Volume 1 Part A: Non-Technical Summary Volume 1 Part B: Chapters 1, 2, 3, 4, 5, 6, 7, 10

Millie is a Planning Consultant contributing to a diverse range of projects in the renewable sector and recently completed her MSc in Urban Planning.	
Chris Schofield MSc BSc (Hons) ACIEEM **Principal Ecologist** Chris has over 10 years' experience in ecological consultancy working with a range of clients on a diversity project types. Chris has project managed a variety of large scale projects, undertaking a range of ecological survey and assessment, including Ecological Impact Assessment, Biodiversity Net Gain Assessment, Habitat Regulations Assessment and ES Chapters.	Volume 1 Part B: Chapter 9
Daniel Haigh B.Sc.(Hons) GradDip PGDip CMLI **Associate Landscape Architect** Chartered Landscape Architect with over seventeen years' experience. Specialising in landscape and visual assessment (LVIA). Has a background in forestry, and an excellent knowledge of trees, native planting and the interactions between landscape, arboriculture and forestry. Has experience of LVIA, TVIA, landscape and spatial planning, landscape design, Green Belt review, landscape sensitivity assessment, and biodiversity restoration / enhancement. Working as part of multi-disciplinary teams across a wide variety and scales of projects including renewable energy, residential, commercial, energy and transport infrastructure, flood alleviation, river restoration, memorial and public realm design. This has	Volume 1 Part B: Chapter 8

included the production of landscape ES chapters for EIA development, and acting as an expert landscape witness at planning appeal.	
Simon Britt B.Sc.(Hons) Pg. Dip URP, IHBC, MRTPI **Associate Bulit Heritage Consultant** Simon has over 22 years of experience in Built Heritage, his experience spans with over 14 years in Local Government and the rest within Planning Consultancy. Simon has worked on a whole range of renewable energy projects throughout the UK for a variety of clients. Simon is a chartered Town Planner and a member of the Institute of Historic Building Conservation.	
Josh Burkin BSc (Hons), MCIHT, MTPS, CMILT **Associate Director** Josh has eleven years' professional experience in development-led Transport Assessment and Environmental Statement chapters, including extensive experience leading transport inputs for renewable energy projects across England and Wales.	

1.4 The Project Team

1.4.1 The project team consists of the following:

- **BSR Energy** - is a British company that develops, builds, and manages utility-scale solar and storage projects across the UK and internationally.
- **Enzygo Ltd** – is a multidisciplinary environmental planning and permitting consultancy specialising in renewable energy. Enzygo have provided expert planning, ecology, noise, hydrology, arboricultural and transport services for this development project.

- **Land Research Associates** – specialises in all aspects of soil science, land quality and rural land use.
- **Armour Heritage Ltd** – is an independent heritage and archaeology consultancy practice.
- **HCUK Group** – is an environmental consultancy specialising in the management of change within the historic environment.
- **Tyler Grange Group Limited** – is an environmental planning consultancy with experts in ecology, arboriculture and landscape planning.
- **Pegasus Group** - Pegasus Group was established in 2003 and has grown to become a leading independent development consultancy with offices throughout the UK.
- **Alpaca Communications** - Founded in 2016, Alpaca Communications is a leading UK agency specialising in communications for Net Zero infrastructure. The company supports developers in clean energy, water, and waste sectors to gain approvals, build public trust, and accelerate project progress.

1.5 Statutory Context for EIA

1.5.1 EIA is the process of evaluating the likely significant environmental effects of a proposed project or development, both beneficial and adverse, prior to decision-making. For projects and proposals of a certain type, the process of EIA is governed by the EIA Regulations which provide the legislative framework for undertaking EIA. These regulations apply the requirements of the EU directive 'on the assessment of the effects of certain public and private projects on the environment' (usually referred to as the EIA Directive (2014/52/EU)).

1.5.2 The EIA Regulations require an EIA to be carried out to support a specific range of major development proposals. The aim of an EIA, as stipulated within the NPPG (Paragraph 002 Reference ID: 4-002-20140306) is as follows:

'The aim of Environmental Impact Assessment is to protect the environment by ensuring that a local planning authority when deciding whether to grant planning permission for a project, which is likely to have significant effects on the environment, does so in the full knowledge of the likely significant effects, and takes this into account in the decision-making process. The regulations set out a procedure for identifying those projects which should be subject to an Environmental Impact Assessment, and for assessing, consulting

and coming to a decision on those projects which are likely to have significant environmental effects. The aim of Environmental Impact Assessment is also to ensure that the public are given early and effective opportunities to participate in the decision-making procedures.'

1.5.3 The EIA Regulations specify certain types of development for which an EIA is mandatory (Schedule 1 Developments) and categories of development where an EIA may be required (Schedule 2 Developments) 'if it is likely to have significant effects on the environment by virtue of factors such as its size, nature or location'.

1.5.4 The project falls within Schedule 2 of the EIA Regulations, and the development constitutes EIA development due to its scale. The development exceeds the Schedule 2 Category 3 (a) criteria, with regards to exceeding 0.5ha of land area, however. The development will be generating up to 55MW of electricity generation into the local DNO Grid Infrastructure, however, it will not produce thermal output as it will not generate steam or hot water.

1.5.5 The development has also been confirmed as 'EIA development' by the LPA through the issuing of a screening opinion. However, the screening opinion was based on an earlier iteration of the proposed development and the current proposed development has not been the subject of a further EIA screening opinion. Nevertheless, the Applicant is of the view that it remains 'EIA development' and it has carried out an EIA on that basis.

1.6 Content of the ES

1.6.1 This ES has been prepared in accordance with the EIA Regulations, although there is no statutory provision as to the scope of an ES although it must contain the information specified in Regulation 18 and Schedule 4 of the EIA Regulations.

1.6.2 All Cumulative Effects that could occur as a result of the proposed development have been assessed in each of the chapters in this ES for each of the individual disciplines which have been scoped. An appropriate summary in each of the ES discipline chapters has been provided to assess and demonstrate an assessment of Cumulative Effects which are related to that discipline.

2.0 SCOPE OF ENVIRONMENTAL STATEMENT

2.1 Introduction

2.1.1 This chapter outlines the regulatory requirements and general approach followed for the EIA assessment and preparation of this ES. The specific requirements and details of the methods for each of the technical assessments are provided in the respective chapters.

2.2 Compliance with the Requirements of the EIA Regulations

2.2.1 The EIA has been conducted in accordance with the EIA Regulations. The EIA Regulations (Schedule 4) sets out the information to be included within an ES. Table 2.1 details the requirements of Schedule 4 and identifies the location within this EIA where the requirement is addressed.

Table 2.1: Content of the ES with respect to Schedule 4 of The EIA Regulations

Schedule 4 requirement (abridged)	Location within ES
1. A description of the development.	Chapter 4: Proposed Development
2. A description of the reasonable alternatives and the main reasons for selecting the chosen option.	Chapter 4: Proposed Development Chapter 7: Needs and Alternatives
3. A description of the relevant aspects of the current state of the environment (the "baseline scenario") and an outline of the likely evolution thereof without implementation of the development.	Chapter 2: Scope of ES Chapter 3: Site and Setting Technical Chapters: 8, 9, 10, and 11
4. A description of the factors specified in the baseline scenario likely to be significantly affected by the development.	Chapter 2: Scope of ES Chapter 3: Site and Setting Chapter 4: Proposed Development Technical Chapters: 8, 9, 10 and 11
5. A description of the likely significant effects of the development on the environment including direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-	Chapter 2: Scope of ES Chapter 3: Site and Setting Chapter 4: Proposed Development

term, permanent and temporary, positive and negative effects of the development.	Technical Chapters: 8, 9, 10 and 11 Chapter 12: Summary and Conclusions
6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment.	Chapter 2: Scope of ES Chapter 3: Site and Setting Chapter 4: Proposed Development Technical Chapters: 8, 9, 10, and 11
7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis).	Chapter 2: Scope of ES Chapter 3: Site and Setting Chapter 4: Proposed Development Technical Chapters: 8, 9, 10 and 11 Chapter 12 Summary and Conclusions
8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned.	Technical Chapters: 8, 9, 10 and 11 Chapter 12 Summary & Conclusions
9. A non-technical summary of the information.	Non-Technical Summary accompanies this ES
10. A reference list detailing the sources used for the descriptions and assessments included.	Located at the end of each chapter

**please note that section references are indicators only and that the ES in its entirety should be considered against the EIA Regulations*.

2.2.2 As identified in Table 2.1, this ES includes all information required under the EIA Regulations. The interaction between identified impacts and indirect effects of the proposed development is discussed as part of each chapter within this ES.

2.2.3 The information supplied within the ES is considered to provide a clear understanding of the significant effects of the development upon its environment and the mitigation measures proposed to avoid or ameliorate those effects.

2.2.4 The information and knowledge required to undertake the EIA has been acquired from a number of sources to ensure that all impacts, whether explicit from the outset or coming to light during the project's development, were assessed. These sources include:

- Pre-application advice received from Derbyshire Dales District Council;
- Formal EIA Scoping Opinion from Derbyshire Dales District Council;
- Discussions with Statutory Consultees
- Historical and recent site investigations;
- Specialist studies;
- Public consultation;
- Expert knowledge from the consultant consortium.

2.2.5 The scope and organisation of the ES is discussed below.

2.3 Pre-Application Consultation

2.3.1 In order to inform the development proposals and scope of assessment work, various pre-application discussions were held with the LPA at an early stage in the proposed developments evolution to assist in gaining an understanding of key issues.

2.3.2 A pre-application advice request was submitted to the Council and advice issued on the 3rd October 2025 (ref. 25/00952/PREAPP).

2.3.3 In summary, the pre-application response confirms that proposed development is supported in principle at both Local and National planning policy levels, and that the proposed development could be acceptable on this site. However, this support is conditional on the scheme demonstrating that environmental and amenity impacts are appropriately avoided, minimised, and mitigated.

2.3.4 Following receipt of the pre-application response, the Applicant has reviewed the proposed development and undertaken a significant redesign. As part of this process, the overall site area has been reduced from 247 hectares to 119.8 hectares, representing a reduction of over 50%. This reduction in site area is reflected in a corresponding decrease in the generating capacity of the scheme, from 80MW to 55MW.

2.3.5 The amendments have been made to ensure that the proposed development which is the subject of this ES and Planning Application still achieves the same significant public

benefits but with reduced harm through these design amendments and further landscaping.

2.4 EIA Scoping Exercise

2.4.1 The EIA Regulations and associated guidance need to be capable of being applied to all forms of development. Each development proposal, by virtue of its particular setting, design etc is unique: the potential impacts associated with one facility may not be the same as the next.

2.4.2 This is recognised by the EIA Regulations by virtue of Regulation 15, under which the planning authority has a duty, if requested, to give their opinion in writing to the applicant on the information to be provided within the ES in the form of a formal 'Scoping Opinion'.

2.4.3 The purpose of a scoping exercise is:

- To focus the EIA on the environmental issues and potential impacts which need the most thorough attention;
- To identify those issues which are unlikely to need detailed study; and
- To provide a means to discuss methods of impact assessment and reach agreement on those most appropriate for a particular scheme.

2.4.4 In order to produce an adequate and focused EIA, and in the interests of transparency, a formal request for an EIA Scoping Opinion was submitted to Derbyshire Dales District Council in addition to topic specific consultation with the relevant bodies.

2.4.5 The content of this ES is drawn from the Authority's response to the scoping exercise, together with other informal consultations and the consultant consortium's considerable experience in preparing planning applications and environmental statements for renewable energy facilities.

2.4.6 The key environmental issues which are considered in this ES include:

- Landscape and Visual Effects;
- Ecology and Nature Conservation;
- Built Heritage; and
- Transport and Construction.

2.4.7 Other issues addressed within this ES include:

- Scope of the ES;
- Site and Setting;
- Proposed Development;
- Planning Policy Context; and
- Needs and Alternatives

2.5 Assessment Methodology

2.5.1 The ES follows established EIA procedures, in accordance with NPPG on EIA published in May 2020.

2.5.2 The assessment criteria are outlined below:

Baseline Assessment

2.5.3 A fundamental aspect of any EIA is to determine the baseline environmental conditions prevailing at the application site. These form the benchmark against which predicted changes resultant from the development can be assessed to determine the magnitude of any impact.

2.5.4 The EIA associated with the proposed development will include an assessment of the existing conditions as prevailing at the site (as outline in Chapter 3 of this ES) and with the development.

2.5.5 Each technical assessment has identified the existing and future conditions that may be altered by the proposed development. The process, which varies according to each of the technical assessments, involves:

- A desktop review of available information, including identification of statutory and other designations
- Consultation with stakeholders to gather unpublished information.
- Field surveys and monitoring, where necessary.

Timeframes

2.5.6 The EIA has identified a range of potential environmental considerations, many of which vary in terms of the length of the time they may be significant. The key time frames examined within the assessment can be identified as being:

- **Short term**: Comprising the construction phase of the proposed development and comprising initial site development works and construction of the facilities.
- **Long Term**: Comprising the operational phase for the lifetime of the proposed development.

2.5.7 Identified affects can be temporary; direct or indirect; and positive or negative.

Combined Effects

2.5.8 Whilst individual environmental impacts have been considered in individual sections of this ES, there is the potential for one environmental subject area to impact upon another. Such combined effects have been addressed in each of the respective sections within this ES.

2.5.9 There is also the potential for unrelated impacts, which themselves are not significant, to collectively generate an overall impact that is unacceptable. The various impacts assessed within this ES.

Cumulative Effects

2.5.10 Cumulative effects are the "cumulation of effects with other existing and/or approved projects, taking into account any existing environmental importance likely to be affected by the use of natural resources" (Paragraph 5(e) in Schedule 4 of the EIA Regulations). All Cumulative Effects which are related to each of the disciplines which have been scoped for this ES have been assessed in each discipline chapter.

The Assessment of Significance

2.5.11 The individual topic impact assessments have taken account of mitigation and enhancement measures that have been incorporated into the design of the proposed development.

2.5.12 Methodologies for predicting the nature and magnitude of any potential environmental impact vary according to the subject area. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. It is not always possible, though, to ascribe values to environmental assessments, and thus qualitative assessments are used: such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic areas are described within the individual assessment chapters.

2.5.13 The potential and residual impacts have been identified in accordance with terminology appropriate to the topic specific guidance/regulations. Where these are not available, the following levels of significance have been used:

Table 2.3: Definition of significance

Neutral	No significant effects
Minor	Not noteworthy or material – impacts are of low magnitude and frequency and will not exceed relevant quality standards, residual effects will be negligible
Moderate	Noteworthy, material – impacts are of moderate magnitude and frequency. Relevant quality standards may be exceeded to limited extent. Possible secondary impacts and residual effects will be minimal.
Major	Impacts are likely to be of a high magnitude and frequency with quality standards being exceeded, at times considerably. There may be secondary impacts of some magnitude, residual effects will be of some significance.
Substantial	Impacts will be of a consistently high magnitude and frequency

2.5.14 Where an effect is described as 'neutral' this means that there is no effect or that the significance of any effect is considered to be negligible. All other levels of significance apply to both adverse and beneficial effects. These impacts can be at the local, regional, national or even international scale.

2.5.15 Finally, if significant environmental impacts are predicted in the EIA process, then the ES provides mitigation measures over and above those already incorporated into the proposed development that can be employed to eliminate or ameliorate the impact to acceptable levels. Mitigation measures can be in the form of changes to operational practice, or changes/additions to the design of the facility. Accordingly, the EIA process forms part of an iterative design process.

2.6 Definition of Key Terms

2.6.1 The terms 'impacts' and 'effects' are used throughout this ES. They are defined as follows:

- **Impacts**: These are any changes to the environment that are attributable to the development proposal.
- **Effects**: These are the results of the changes on specific receptors or resources.

2.6.2 On occasions, impacts and effects will be one and the same e.g. land take from a sensitive landscape area is both an impact and effect. At other times they can be clearly distinguished e.g. an increase in noise levels may be an impact that has effects on nearby residents and wildlife.

2.6.3 Receptors and resources are defined as:

- **Receptors:** These are the people and the flora and fauna, directly affected by impacts or may be indirectly affected through impacts on their surroundings.
- **Resources:** These are the 'capital assets' of the environment such as habitats, cultural heritage and landscape, which constitute the environment that people and the flora and fauna inhabit.

2.7 Technical Issues

2.7.1 Technical difficulties encountered and limitations of assessments are detailed within individual chapters and summarised below:

- **Chapter 8 Landscape**: The assessment of visual effects is based on views from publicly accessible locations. Where views are described relating to residential and other receptors on private land then these are a best judgement of baseline and effects noted from nearby accessible locations together with desk based materials such as on line street view and aerial photography.

  The viewpoints illustrated are representative of typical views experienced by a range of receptors in the area but cannot represent visibility from all locations and receptors.

  ZTV mapping has limitations in that it is computer generated and follows certain specified parameters. The ZTV maps included in this assessment present a 'visible' or 'not visible' result and do not include any differentiation of the amount of development that would be visible. For example, the same 'visible' result is recorded where a substantial amount of the development is theoretically visible as for a smaller amount.

- **Chapter 9 Ecology and Nature Conservation**: Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur. Natural England do not hold information of Ancient Woodland less than 2ha in size.

  Records over 10 years old for transient species (as these are likely to have moved during the interim) and species protected from sale only under the W&C Act 1981 and amendments, are excluded (as these are not relevant to a planning

application). Additionally, given the large number of priority species, these have only been included if identified from the desk study and/or habitats recorded on site have been assessed as providing suitable conditions.

Geological & landscape sites have only been included within this chapter where they have biodiversity or nature conservation components to their designation.

At certain times of year flora species may be in a state of senescence and are not readily identifiable. However, August represents a favourable time to identify the majority of flora species, and it was possible to easily classify the commonly occurring habitat types. The timing of the habitat surveys is not perceived as a survey limitation.

This chapter does not contain a comprehensive list of botanical species on site. Only plant species characteristic of each habitat and incidental observations of notable plant species were recorded. Derbyshire Dales District Council do not supply information on Important Hedgerows.

- **Chapter 10 Built Heritage**: Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.

  On-site assessment has been undertaken from publicly accessible land, and land in the applicant's control. As such access to private land and buildings has not been undertaken, and assumptions have thereby been made with regard to some visual effects.

- **Chapter 11 Transport**: Traffic Survey Validity: Surveys gathered in January 2026 are considered to represent typical network flows for the purpose of this assessment.

  Collision Data: Up-to-date Personal Injury Collision (PIC) data has been obtained directly from Derbyshire Constabulary, covering October 2020 to September 2025, addressing DCC's concerns about earlier CrashMap data.

  Construction Programme: A detailed construction programme is not yet finalised. The assessment is based on worst case conservative assumptions for peak and average construction. Actual impacts are forecast to be lower.

2.7.2 These limitations have been recognised and accounted for where possible within each of the technical assessments.

2.8 Organisation of the ES

2.8.1 This ES has been prepared in accordance with The EIA Regulations and comprises 3 volumes:

- Volume 1: Part A: Non-Technical Summary;
- Volume 1: Part B: The main ES text (subdivided into chapters);
- Volume 2: Supporting Technical Appendices; and
- Volume 3: Drawings and Plans

2.8.2 The individual chapters are summarised below:

- **Chapter 1: Introduction** comprises an introduction to the scheme, the Applicant and the statement of competency for the EIA;
- **Chapter 2:** Scope of the ES comprises the general assessment procedure and content of the ES;
- **Chapter 3:** Site and Setting describes the physical and environmental characteristics of the site and its surrounding environment;
- **Chapter 4:** Proposed Development describes the development proposal for which planning permission is sought and for which the assessments have been carried out;
- **Chapter 5:** Planning Policy Context describes the national, regional and local planning policy context of the proposal;
- **Chapter 6:** Topic Scoped out of the ES sets out the topics that have been scoped out of the ES;
- **Chapter 7:** Needs and Alternatives assesses the need for the facility and alternative design and layouts considered;
- **Chapter 8:** Landscape and Visual Effects
- **Chapter 9:** Ecology and Nature Conservation
- **Chapter 10**: Built Heritage

- **Chapter 11**: Transport
- **Chapter 12**: Summary and Conclusions summarises the above sections and draws conclusions regarding the overall effects (including combined and cumulative) of the proposed development.

3.0 THE SITE & SETTING

3.1 Introduction

3.1.1 This chapter provides a description of the site and surrounding context, including details of the site location, adjacent land uses and relevant designations and receptors in accordance with Schedule 2 Part 1a and part 3 of the EIA Regulations.

3.1.2 The baseline environment is further considered within topic-specific ES Chapters.

3.2 The Site

3.2.1 The site comprises multiple field parcels of arable farmland located on land at Main Road, Brailsford, Ashbourne, DE6 3DA, centred on Easting/Northing X: 426163 Y: 341663. The land is relatively flat with a site incline towards the north-eastern aspect.

3.2.2 The site occupies predominantly arable fields on north-east facing slopes to the east of the settlement of Brailsford. The field sizes are generally medium in scale and bound by strong hedgerows and mature hedgerow trees. There is little woodland cover, but the vegetation which lines Wood Lane on the western boundary is strong and includes coniferous species. Many of the fields within the site are fallow, with some scrub encroaching.

3.2.3 The site is located approximately 370m northeast of the village of Brailsford, approximately 1.3km west of Western Underwood and approximately 2.09km northwest of Kirk Langley.

3.2.4 The site is located within the boundary of Derbyshire County Council ('DDC') and DDDC.

3.2.5 The site redline boundary is identified overleaf in Figure 3.1.

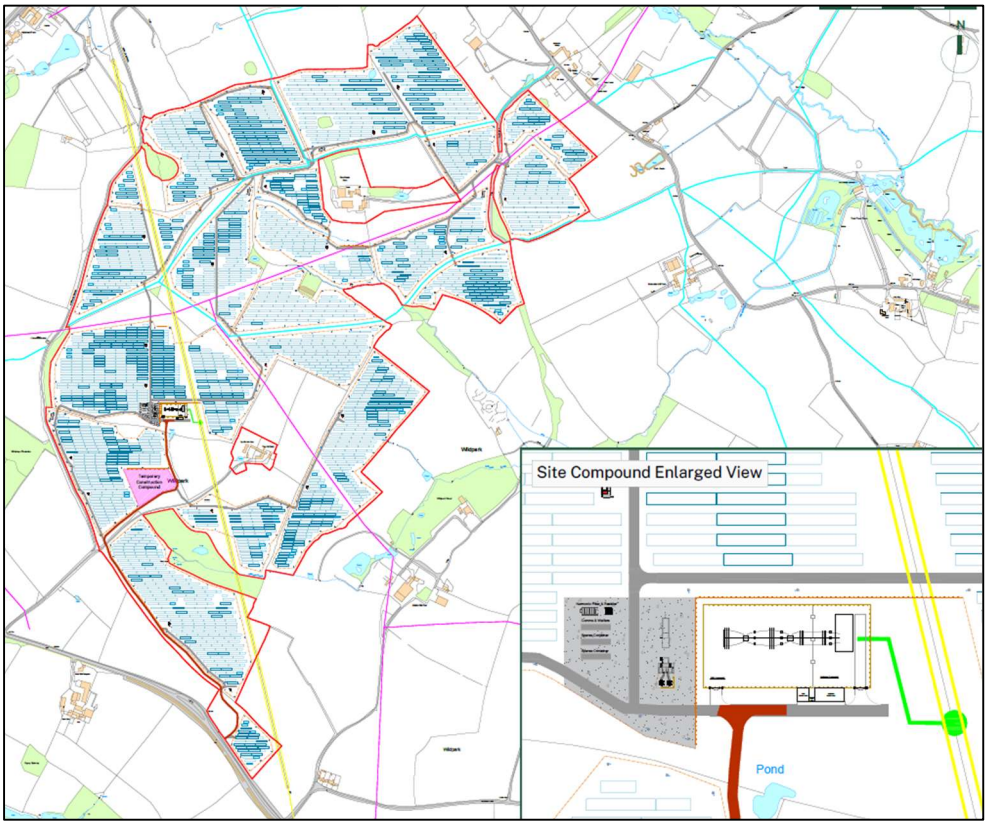


Figure 3.1: Site Location (site denoted by red line)

3.2.6 The total area of the site is approximately 119.8 hectares.

3.3 Access

3.3.1 The site has excellent vehicular access onto main roads, with the local transport network consisting of Wood Lane which is runs along the south of the site and Alder Lane which runs along the north.

3.3.2 The A52 is located approximately 10m south of the site and runs east towards Derby and then onto the A38 which provides access to the M1, M6 and M42 motorways which would enable the easy delivery of equipment required to construct the proposed development.

3.3.3 Vehicular access to the site is currently via an access junction along the A52. This access track extends northwards through the site.

3.3.4 An access track to the site from Ashbourne Road (A52) is proposed in the south of the site. It is confirmed no land outside of the redline boundary will be used as a construction compound etc. during the construction phase.

3.3.5 A Public Right of Way (FP8 – WD18/8/1) extends from the boundary of Brailsford village eastwards towards Wood Lane. An additional footpath (FP9 – WD18/9/1) extends north

from the A52 and joins FP8. To the east of Wood Lane, the route continues (FP7 - WD/71/7/2) and concludes at Top House Farm. A further footpath extends south from this route towards Mercaston Hall Farm (FP15, route code WD71/15/2).

3.4 Designations and Constraints

Development Plan Designations

3.4.1 The site is not subject to any specific designations within the Derbyshire Dales Local Plan (2017) ('DDLP').

3.4.2 A Local Wildlife Site lies adjacent to the eastern site boundary of the northern field parcels and adjacent to the western boundary of the central northern field parcels, located outside of the application redline boundary.

Ecological Constraints

3.4.3 There are no environmental or ecological designations located within the site boundaries.

3.4.4 The site lies within the SSSI Impact Risk Zone for Mercaston Marsh and Mugginton Bottoms SSSI, which is located 1.3km north of the site, and the Kedleston Park SSSI located 4.1km east of the site. The Peak District National Park is located approximately 13.0km northwest of the site.

Landscape Designations

3.4.5 The site is not covered by any statutory landscape designations. The nearest is The Peak District National Park which is located approximately 10km northwest of the site.

Hydrological Constraints

3.4.6 The site is located within Flood Zone 1 – the area at least risk of flooding.

Designated Heritage Assets

3.4.7 There are no designated heritage assets within the site boundary, however the site surrounds the grounds of the Grade II listed Top Wildpark Farmhouse.

3.4.8 Several Grade II Listed Buildings are located to the south of the site, along the A52. Approximately 275m to the east of the site is the Grade II Listed Hall Farm and attached Barn and Cowhouse.

3.4.9 The Brailsford Conservation Area is located within the Brailsford village boundary. At its closest point, the Conservation Area boundary lies approximately 250m from the site.

Sensitive Human Receptors

3.4.10 The closest visual receptors to the site include the public rights of way footpath network located within and around the site, alongside the residential properties in proximity to the site which are located on the eastern settlement edge of Brailsford. Users of the local public highway network are also considered visual receptors.

3.4.11 A Landscape and Visual Impact Assessment has informed the final layout and positioning of the development and the comprehensive landscaping scheme that will mitigate any views into the site from the identified surrounding receptors.

3.4.12 A full Noise Impact Assessment has also been undertaken to demonstrate that the proposed development will not give rise to excessive noise which is significantly audible above the existing background noise levels, therefore, the proposed development will not give rise to excessive noise emissions during operation.

3.4.13 The planning application is also accompanied by a Glint and Glare assessment to assess the potential for any glint or glare effects on residential receptors and users of the public highway network including the users of the PRoW network.

3.4.14 A number of footpaths are located within the site boundary including the Centenary Way, a long distance footpath which connects Ilkeston with Ashbourne.

3.5 Planning History of the Site

3.5.1 A review of Derbyshire Dales District Council's online planning portal identifies there have been no applications for non-householder development within the last 5 years on the site.

3.5.2 A change of use application to enable the development of a 1.21MW solar farm and associated infrastructure was submitted to the Council in 2015 (ref. 15/0026/FUL). This was granted permission on 2nd December 2015. No pre-commencement conditions attached to the permission have been discharged, and the permission expiry date was the 2nd December 2018. A recent site visit confirms the development had not been implemented, and has therefore lapsed.

3.5.3 To the immediate west of the site, an outline planning application (ref. 24/00546/OUT) was submitted to the Council for the erection of up to 70no. dwellinghouses. The application was refused in February 2024 due to the lack of certainty over the drainage details submitted in support of the application. This development was subsequently

approved at Planning Appeal on the 17th February 2026. It is important to note that this planning consent is only in outline.

4.0 PROPOSED DEVELOPMENT

4.1 Introduction

4.1.1 Planning Permission is sought for:

> 'The construction, operation and maintenance of a 55MW Solar PV Park with supporting electrical infrastructure, including vehicular site access, internal access tracks, DNO Sub-Station, internal fencing, cable route to on-site point of grid connection, landscaping and biodiversity enhancements'.

4.1.2 Section 18 (3a) of Part 5 of the EIA Regulations requires 'a description of the proposed development comprising information on the site, design, size and other relevant features of the development;' to be set out within the ES. This chapter provides a description of the proposed development, including the design, size, relevant features and details of the on-site processes'.

4.1.3 Furthermore, Schedule 4 of the EIA Regulations states:

> *"(b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;*
>
> *(c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and*
>
> *(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases)."*

4.1.4 This Chapter provides a detailed response to the above requirements.

4.1.5 The development has been formulated following a thorough investigation and assessment of its potential environmental impacts.

4.1.6 The layout of the development is described within this chapter together with a description of the processes to be carried out on site.

4.1.7 In preparing the development proposals, consideration has been given to the following potential constraints:

- Proximity of receptors and the likely environmental impacts in terms of noise and air quality;
- Visual and Landscape Impact;
- Cultural heritage impact;
- Transport and Access;
- Ecological considerations;
- Hydrogeology and Ground Conditions;
- Arboriculture; and
- Climate change.

4.2 The Proposed Development

4.2.1 In summary, the proposed development will deliver a renewable energy facility that will further enhance the UK's renewable energy capacity, thereby reducing the nation's dependency on fossil fuels, enhancing energy security and contributing to the national carbon emission reduction targets.

4.2.2 The proposed development will generate sufficient renewable energy to meet the electricity demands of around 16060 homes per year and will save 22489 tonnes of CO2 per annum.

4.2.3 The principal elements of the proposed development are as follows:

- The solar park comprising of ground mounted panels, inverters and transformers;
- Inverter/transformer units and substations;
- Earthworks and installation of concrete bases to support the associated electrical equipment;
- Private Switchgear;
- Comms Container;
- Point of Connection Cable Route;
- CCTV poles;
- Security fencing surrounding the site;

- Internal access tracks; and
- Access track for construction and operational access.

Point of Connection

4.2.4 The point of connection to the National Grid is proposed to be provided at the centre of the site, approximately 200m west of Top Wildpark Farmhouse.

4.2.5 The point of connection will be served by a cabling route, pylons and supporting infrastructure.

Grid Connection

4.2.6 The energy generated from the proposed development will be supplied directly to the local electricity network via utilising a connection to the local grid network from an existing pylon on the site.

Layout

4.2.7 The photovoltaic arrays will be ground mounted and run from east to west. The panels will be angled to maximise exposure to sunlight and will be clustered together to minimise ground footprint

4.2.8 The arrays require supporting infrastructure in the form of substations, inverters and transformer units which will be located in close proximity to minimise any visual impacts.

4.2.9 The existing hedgerows and field boundaries will be retained and enhanced, with appropriate buffer areas implemented.

Height

4.2.10 The solar photovoltaic panels will be ground mounted, the height of which will not exceed 3m.

Security and Fencing

4.2.11 For public safety and site security reasons, the site will be fenced so that it is not accessible to the public. CCTV cameras will also be installed across the site for security purposes and they will be aligned towards the Solar PV array tables.

Lighting

4.2.12 The use of flood lighting is not required during the operational stages of the development. Any lighting during construction will be in accordance with the latest guidance from the Institution of Lighting Professionals, their present guidance note for artificial lighting and bats is Guidance Note GB08 Bats and Artificial Lighting.

Access and Construction

4.2.13 Construction access to the site for HGV's is proposed to be gained from the A52. The existing access junction is proposed to be widened to accommodate HGV's turning into the road.

4.2.14 Access to the site will be taken via a new access located in the southernmost site area, fronting the A52. The junction will be designed with a minimum 12.0m compound corner radius to accommodate the turning requirements of both HGVs and abnormal load vehicles. The bell mouth of the proposed access will be locally widened to allow safe and simultaneous entry and exit movements and to prevent queuing on the A52.

4.2.15 The first 20m of the access will be hard-surfaced and built to adoptable standards to prevent material being tracked onto the local highway network. Internally, the access track will be 3.5m wide, increasing to 7.0m at passing bays and bends. This access track would serve as the primary access route during both the construction and operation, with full reinstatement of the land upon decommissioning.

4.2.16 Internal access routes will be established with the solar array and compound area, designed to accommodate both vehicular and pedestrian movements.

4.2.17 The access point will remain gated to ensure that only authorised personnel are able to enter and exit the site. The gates will be set back far enough from the local highway network to allow vehicles to wait without obstructing the carriageway when the gates are closed.

4.2.18 Vehicle deliveries will be scheduled to prevent the need for any vehicles to wait on the highway network while accessing the site.

Installation Period

4.2.19 The installation period will be 12 months. Materials will be delivered directly to the site with modular construction utilised for most infrastructure thereby minimising the construction phase.

Operational Period and Maintenance

4.2.20 It is anticipated that the proposed development will be in operation for a temporary period of 40 years from the date of the first exportation of electricity from the site. The proposed development will remain in operation throughout this period.

4.2.21 Once installed, the proposed development would require periodic visits (monthly) for the purposes of maintenance and cleaning of the solar arrays. The facility would be unstaffed, being remotely operated and monitored.

4.2.22 The landscape mitigation plan proposed will be subject to a management plan to ensure that it is successfully maintained throughout the lifetime of the proposed development.

Decommissioning

4.2.23 The proposed development has an operational life of 40 years with regular servicing. At the end of the facility's operational lifespan the site shall be decommissioned and can revert once again to an agricultural use with no lasting harm or structures that would compromise the agricultural productivity of the site. In fact, it is considered the site being less intensively farmed for a period of years will increase the productivity of the land when it is brought back into full-time agricultural use.

4.2.24 Many elements of the proposed development can be recycled or reused. Other elements can be salvaged and sold on as scrap metal or as building aggregate. Any remainder will be disposed of at an approved landfill.

5.0 PLANNING POLICY CONTEXT

5.1 Introduction

5.1.1 This chapter considers the proposed development against relevant National and Local planning policy. A full summary of relevant planning policy is provided in the Planning, Design and Access Statement submitted in support of the application.

5.2 National Policy Context

National Planning Policy Framework (December 2024) (as amended in February 2025)

5.2.1 Paragraph 161 states that the planning system should support the transition to a low carbon future in a changing climate and support renewable and low carbon energy and associated infrastructure.

5.2.2 Paragraph 168 states that when determining planning applications for all forms of renewable and low carbon energy developments and their associated infrastructure, local planning authorities should:

*a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and give **significant weight** to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future.*

Other Relevant National Policy Context

- **National Planning Practice Guidance: Renewable and Low Carbon Energy** – reiterates the Government's commitment towards increasing the scale of renewable energy and low carbon technologies within the UK.

- **Climate Change (15th March 2019)** - The Government's Practice Guidance on Climate Change identifies how addressing climate change is one of the core land use planning principles which the National Planning Policy Framework expects to underpin in both plan-making and decision taking.

5.3 National Policy Context

UK Legislative Context

5.3.1 International co-operation to reduce greenhouse gas emissions was first recognised through the Kyoto Protocol (2005). Under the Protocol, the United Kingdom, together with 37 other industrialised countries (known as 'Annex I countries'), committed

themselves to reducing greenhouse gas emissions by 5.2% from 1990 levels by the year 2012.

5.3.2 UK renewable energy policies are broadly in overall accordance with European policy objectives. These directives are focused on the following key climate change challenges.

- The reduction of CO_2 emissions to tackle climate change.
- Security of decentralised energy supplies; and
- The promotion of competitive energy markets in the UK.

5.3.3 In terms of energy security, the House of Commons Briefing Paper: Brexit Energy and Climate Change the best interest of the UK would be to increase the flexibility and resilience of the grid. The proposed development would contribute to the objectives of the briefing note.

EN-1: Overarching National Policy Statement for Energy (December2025)

5.3.4 The overarching National Policy Statement for Energy (EN-1) is part of a suite of NPSs issued by the Secretary of State of Department for Energy Security and Net Zero. It sets out the Governments policy for delivery of major energy infrastructure. The primary purpose of the policy is to be applied to Nationally Significant Infrastructure Projects. It is confirmed, however that this document can be a material consideration in the determination of applications.

5.3.5 Paragraph 2.2.3 states that “In June 2019, the UK became the first major economy to legislate for a 2050 net zero Greenhouse Gases (‘GHG’) emissions target through the Climate Change Act 2008 (2050 Target Amendment) Order in 2019”. Paragraph 2.2.4 states that “In December 2020, the UK communicated its Nationally Determined Contributions to reduce GHG emissions by at least 68 per cent from 1990 levels by 2030. In April 2021, the government legislated for the sixth carbon budget (CB6), which required the UK to reduce GHG emissions by 78 per cent by 2035 compared to 1990 levels.” It is considered that this proposed development would make a meaningful and an important contribution to reducing GHG emissions.

5.3.6 In respect of solar, paragraph 3.3.23 states “Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar”.

5.3.7 Section 4.2 of EN-1 states that nationally significant low carbon infrastructure, now including all onshore and offshore electricity generation that does not involve fossils fuels, and grid infrastructure, are identified as a "critical national priority" (CNP). CNP infrastructure benefits from a policy presumption that its urgent need should generally outweigh any identified residual adverse impacts.

5.3.8 Paragraph 4.2.17 defines which projects qualify as CNP Infrastructure, it is confirmed that Solar is indeed considered to be CNP Infrastructure.

5.3.9 The National Policy Statement depicts how the energy sector can help deliver the Government's climate change objectives by clearly emphasising the need for new low carbon energy infrastructure to contribute to climate change mitigation. It is important to note that EN-1 acknowledges the progress already made since the first EN-1 was published that power sector greenhouse gas emissions have fallen by more than two-thirds between 2011 and 2023, driven largely by the rapid expansion of renewable generation and the closure of the UK's last coal-fired power station in 2024.

EN-3: National Policy Statement for Renewable Energy Infrastructure (2025)

5.3.10 EN-3 sets out government policy used to guide decision-makers when determining nationally significant energy infrastructure. EN-3 should be read in conjunction with EN-1.

5.3.11 The critical role solar plays in reaching net zero by 2050 is set out in paragraph 2.10.2 which states ". Solar energy is at the heart of our Clean Power 2030 Mission. The government is committed to working with industry to radically increase our existing solar capacity by 2030 to boost growth across the country, create thousands of high-skill, future-proofed jobs and tackle the climate crisis".

5.3.12 It is therefore considered that the development of this Solar Park at Brailsford would strongly adhere and respond to the requirements set out in EN-3.

Other Relevant Legislative Context

- **British Energy Security Strategy (Updated 7th April 2022) -** The strategy reaffirms the government's commitment towards 'net zero' energy production to 95% of energy being low carbon by 2030, and 100% by 2035. For solar specifically the strategy states that the government expects 'a five-fold increase in deployment by 2035 ' and a continued support for ground-mounted solar on 'lower value land' where possible

and co-located with other functions such as agricultural or other uses in order to maximise the efficiency of land use.

- **The 6th Carbon Budget (December 2020) -** The Sixth Carbon Budget, required under the Climate Change Act, provides ministers with advice on the volume of greenhouse gases the UK can emit during the period 2033-2037.
- **The Energy Act (2013)** - was given Royal Assent on the 18th December 2013 and updated energy legislation

5.4 Local Policy Context

Derbyshire Dales Local Plan (2017)

5.4.1 Derbyshire Dales District Council is the Local Planning authority responsible for determining the planning application.

5.4.2 The adopted Development Plan for Derbyshire Dales District Council consists of the DDLP, Neighbourhood Development Plans and Supplementary Planning Documents (SPDs). The DDLP is the main document produced by the Council which sets out the policies and proposals for the use and development of land for the period of up to 2033.

5.4.3 Policy PD7 of the DDLP is concerned with renewable energy. In addressing the move to a low carbon future for the Derbyshire Dales, the District Council will promote a development strategy that seeks to mitigate global warming. An extract of the policy is set out below:

"This will be achieved by:

- Requiring new development to be designed to contribute to achieving national targets to reduce greenhouse gas emissions by using land-form, layout, building orientation, tree planting, massing and landscaping to reduce likely energy consumption and resilience to increased temperatures.
- Supporting the generation of energy from renewable or low-carbon sources provided that the installation would not have significant adverse impact (either alone or cumulatively).
- Ensuring that renewable energy installations minimise any adverse impact on the landscape and landscape setting of the Peak District National Park and that any wind turbine developments demonstrate that they will not have any adverse effect on the

integrity of any European sites (including project-level HRA where appropriate), wildlife sites, protected species or habitats.

- Promoting the use of sustainable design and construction techniques (including flood resistance/resilient measures).
- Ensuring that renewable/low carbon energy generation developments and associated infrastructure are supported by requiring Design Statements to include an assessment of how any impacts on the environment and heritage assets, including cumulative landscape, noise and visual impacts, can be avoided and/ or mitigated through careful consideration of location, scale, design and other measures.
- Securing energy efficiency through building design.
- Unless it can be demonstrated that it would not be technically feasible or financially viable, requiring commercial developments over 1000m2 to be designed to achieve Building Research Establishment Environmental Assessment Method (BREEAM) very good standard as a minimum. Pre-assessment (design stage) certificates will be required to be submitted accordingly.
- Supporting a pattern of development that facilitates the use of sustainable modes of transport.
- Promoting energy and water efficiency and the use of renewable / low carbon energy in new development and through retro-fitting or refurbishment of existing buildings
- Supporting sustainable waste management by provision of space for recycling and composting.
- Supporting the re-use of buildings wherever possible and desirable to do so.
- Supporting the use of sustainable design and construction techniques including the re-use of buildings, use of recycled materials in construction, including where appropriate the local or on-site sourcing of these building materials.
- Encouraging the use of green infrastructure to help mitigate the effects of climate change and ensure climate change adaptation and resilience.
- Supporting development that promotes water efficiency measures and incorporates water conservation techniques, including rainwater harvesting and grey water

recycling. Where renewable/low carbon energy development accords with any of the principles listed above, proposals should demonstrate:

a) the impact of the scheme, together with any cumulative impact (including associated transmission lines, buildings and access roads), on landscape character, visual amenity, water quality and flood risk, the historic environment and heritage assets as well as their setting and biodiversity;

b) evidence that the scheme has been designed and sited to minimise any adverse impact on the surrounding area for its effective operation;

c) the nature and extent of any adverse impact on users and residents of the local area, including shadow flicker, air quality and noise;

d) the direct benefits to the area and local community. Where appropriate, provision should be made for the removal of the facilities and reinstatement of the site should it cease to be operational.

In all cases development will need to demonstrate how any significant adverse impacts on acknowledged biodiversity interests (and the habitats that support them) will be adequately mitigated.

The Council will encourage the provision of small scale renewable energy developments utilising technology such as hydro installations, solar panels, biomass and wood fuel heating, small scale wind turbines and photovoltaic cells.

Community renewable energy schemes will be particularly welcomed where they comply with this policy."

5.4.4 Further pertinent DDLP policies for the development are set out below:

- **Policy S1**: Sustainable Development Principles;
- **Policy PD1**: Design and Place Making;
- **Policy PD3**: Biodiversity and the Natural Environment; and
- **Policy PD5**: Landscape Character

Current Derbyshire Dales Local Plan Review

5.4.5 A review of the DDLP is ongoing to ensure that it is up-to-date with the NPPF, and the NPPG. The review will also seek to ensure that the DDLP reflects local circumstances, updated evidence and the Council's aspirations.

Derbyshire Dales District Council Climate Emergency

5.4.6 The Council declared a climate emergency in 2019, furthering the commitment to delivering these actions and to tackle climate change. Derbyshire Dales District Council have committed to making all Council operations 'net zero' carbon by 2030.

6.0 TOPICS SCOPED OUT OF THE ENVIRONMENTAL STATEMENT

6.1 Introduction

6.1.1 It has been confirmed that a number of topics will not have likely significant environmental impacts. Accordingly, these have been scoped out of this ES.

6.1.2 The following provides a summary of those issues, which are not considered likely to lead to significant environmental effects.

6.2 Noise and Vibration

6.2.1 A Noise Impact Assessment has been undertaken to assess the potential impacts, in accordance with the relevant standards and guidance, at the nearest noise-sensitive properties to the site and to provide outline mitigation advice if considered necessary.

6.2.2 The Noise Impact Assessment has been undertaken in accordance with the guidance contained in British Standard 4142:2014+A1:2019 *Method for rating and assessing industrial and commercial sound* (BS4142) with reference made to the internal noise criteria outlined in British Standard 8233:2014 *Guidance on sound insulation and noise reduction for buildings* (BS8233).

6.2.3 The Noise Impact Assessment which has been undertaken is based upon the results of baseline noise surveys undertaken at locations representative of the nearest residential receptors to the site over representative daytime and night-time periods.

6.2.4 The conclusion of the Noise Impact Assessment confirms that the daytime predicted sound rating levels are below the measured background noise levels. This would indicate that the rating sound level would have a **low impact** depending on the context and fall into the NOEL effect level when assessed in accordance with the Planning Policy Guidance for noise.

6.2.5 It further confirms that at night the BS8233 assessment, made in accordance with the guidance outlined in BS4142, has shown that, with the windows left partially open for ventilation, internal noise levels would achieve the guidance value of 30dB $L_{Aeq,8hr}$ for sleeping in bedrooms and therefore fall into the NOEL effect level when assessed in accordance with the Planning Policy Guidance for noise. Therefore, there will be no likely significant effects regarding noise impacts.

6.3 Air Quality and Odour

6.3.1 The proposed development will not give rise to these impacts given the fact that the proposed development will generate electricity by converting solar energy from the sun into electricity in a silent emission free manner with no generation of air emissions or odour from this process.

6.3.2 The air quality and odour impacts which may arise **temporarily** from the construction activities will be assessed in a Construction Environment Management Plan (CEMP) which will further confirm the dust control measures and also that all vehicles will be at least Euro 6 with regards to exhaust emission standards for all construction delivery vehicles and on-site construction vehicles.

6.3.3 Therefore with regards to Air Quality and Odour, the proposed development will not give rise to any likely permanent significant effects, especially when considering that the present site is used for agricultural purposes, which also involves the use of machinery such as tractors and other mechanised machinery which is required for agricultural purposes.

6.3.4 It is further considered that the Air Quality and Odour impacts arising from the construction phase of this development will be temporary and therefore will not give rise to any likely significant effects.

6.4 Geo-Environmental

6.4.1 It is considered that the proposed development by virtue of it being a Solar PV development that it will not give rise to any likely significant effects with regards to potential risks to human health and the environment due to the site area solely composed of agricultural land and that there are no significant earth works proposed as part of this development.

6.4.2 It is also considered that the proposed development will not give rise to any significant solid waste either during construction or operation, it is also important to state that many of the materials which are used in the construction of the proposed Solar PV development are fully recyclable.

6.4.3 The proposed development will also not give rise to any pollution or effluent during its operation phase.

6.4.4 It is therefore considered that the proposed development will not give rise to any geo-environmental effects, therefore there are no likely significant effects caused by the development with regards to geo-environmental matters.

6.5 Water Environment

6.5.1 A site specific Flood Risk Assessment (FRA) which includes a passive surface water strategy has been undertaken for this site.

6.5.2 The FRA confirms that the whole site is within Flood Zone 1, therefore at the lowest risk of fluvial flooding and it is not affected by tidal flooding or by groundwater flooding.

6.5.3 It is also confirmed in the FRA that the site has a negligible risk of surface water flooding, and it is important to note that the proposed development will be proposing a passive surface water management strategy based on using the existing field drains and maintaining them for the entire life of the development.

6.5.4 The passive surface water management strategy also proposes the implementation and use of filter drains which will be located at appropriate places to ensure that there is a controlled water run off rate from the proposed development which will be similar or better than the existing use of the field parcels for agricultural purposes.

6.5.5 The proposed drainage strategy will also take into account the topography of the site and slope gradients to ensure that the proposed development will not lead to off-site flooding or surface water runoff.

6.5.6 The FRA confirms that the proposed development will have a positive effect with regards to managing the existing regime of surface water drainage. It is therefore considered that the proposed development will not give rise to any likely significant effects with regards to the Water Environment.

6.6 Socio-Economic Impacts

6.6.1 The planning application includes an Economic Impact Assessment which will demonstrate and assess the economic before of developing the proposed development on this site.

6.6.2 The Economic Impact Assessment includes the following assessment of impacts:

- Direct and indirect construction-related employment;

- Contribution of construction phase to economic output; and once operational, the report will review the following long term economic impacts:
- Supporting permanent employment and contributing to economic output;
- Business rates contribution from having the Solar PV development; and discussing the
- Community benefit fund.

6.6.3 It is considered that the proposed development will have positive economic impacts over and beyond what the existing use of the site is currently contributing financially to local and regional economic benefits.

6.6.4 Therefore with regards to the above, it is considered that the proposed development will not give risk to any economically harmful likely significant effects with regards to socio-economic impacts.

6.7 Climate Change

6.7.1 The proposed development is for a Solar PV scheme, and will generate up to 55MW of renewable electricity to be exported into the regional electricity distribution grid infrastructure.

6.7.2 The scheme will also contribute to saving 22,489 tonnes of carbon dioxide per year which would assist in tackling the Environmental and Climate Change Emergency which was declared by the Government in 2019.

6.7.3 The proposed development will also assist in addressing the rapid deployment of Solar PV schemes as advocated by the Clean Power Action Plan 2030 published in December 2024.

6.7.4 The proposed development will help positively to address climate change; the British Energy Security Strategy (April 2022) indicates that renewable energy also has a key role to play in providing greater energy security for the country and reducing our need to import energy. The proposed development would make a valuable contribution to achieving these local and national targets.

6.7.5 Therefore with regards to the above, the proposed development will have a positive impact on tackling climate change and it will not have a negative likely significant effect in exacerbating climate change.

7.0 NEEDS AND ALTERNATIVES

7.1 Introduction

7.1.1 This chapter of the ES provides a summary of the need for the project and the main alternatives considered by the Applicant during the EIA process.

7.1.2 Part 5, Section 18 (3d) of the EIA Regulations requires a description of the reasonable alternatives studied by the developers, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment to be included within the ES. There is no specific requirement to consider 'need', however, this provides useful context, and ties in closely with potential alternatives.

7.1.3 Schedule 4 of the EIA Regulations provides further detail on what should be provided within the ES and this includes 'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.

7.1.4 The alternatives section includes a summary of the reasons for the selection of the site together with a description of the alternative design and layout options that have been considered. Further information is provided in the Planning, Design and Access Statement that accompanies the planning application.

7.2 The Need for Solar Energy

7.2.1 The purpose of a solar park is to generate electricity from daylight using ground mounted photovoltaic (PV) panels, which generates renewable energy which will be exported directly into the local electricity grid network.

7.2.2 Global warming is causing an ongoing long-term shift in temperature and weather patterns caused by anthropogenic influence primarily driven by the combustion of fossil fuels. According to the UN the Earth is now about 1.1°C warmer than it was in the late 1800s. The last decade (2011-2020) was the warmest on record.

7.2.3 The need for ever greater quantities of renewable energy (including large scale Solar PV Farms such as the proposed development) is demonstrated by a raft of UK Government

energy policies, driven by its declaration of a legally binding Climate Emergency, intended to achieve a 100% reduction in greenhouse gas emissions by 2050 (Net Zero).

7.2.4 In a 2018 UN report, thousands of scientists and government reviewers agreed that limiting global temperature rise to no more than 1.5°C would help us avoid the worst climate impacts and maintain a liveable climate. Yet based on current national climate plans, global warming will reach 2.7°C by the end of the century.

7.2.5 UK solar capacity is set to more than double by 2030, but this would still be behind the required capacity rate recommended by the Climate Change Committee (CCC).

7.2.6 The UK currently has over 14GW of solar generation capacity consented and installed, a significant contribution to its clean energy transition, however analysis from the Climate Change Committee and other independent bodies shows that the UK will need to deploy at least 40GW of solar by 2030 and 70GW by 2035 if it is to achieve a net zero economy by 2050. To reach the Government's target of 70GW of solar by 2035 solar deployment will need to increase fivefold.

7.2.7 Solar farms are time-limited developments (circa 40 years), fully reversible, and represent a sustainable diversification of a rural land-based business as supported through National guidance and so securing local economic benefits.

7.2.8 Solar panel efficiency is a solar panel's ability to convert sunlight into electricity. The Applicant proposes to utilise the best available technology on the market to increase efficiency and so optimise the land take and the productivity of the land for the generation of renewable energy.

7.3 Site Location

7.3.1 The detailed methodology and location specific issues relevant to identifying the location of the site are set out in detail in the Site Selection Technical Note within the planning application.

7.3.2 The key to selecting a site for a renewable energy scheme and the biggest constraint to overcome is securing a viable point of connection to the local electricity distribution network.

7.3.3 As more renewable energy projects are constructed and commissioned, gaining a suitable grid connection is becoming increasingly problematic and challenging. The available Point of Connection to the National Grid is proposed to be provided in south-western aspect of

the site, approximately 200m west of Top Wildpark Farmhouse. The Point of Connection will be served by a cabling route, pylons and supporting infrastructure all of which will be within the site.

7.3.4 If the site is further than 2.5km from the point of connection the increased distance of the cabling would incur significant extra costs as well as suffer increasing voltage drop, impacting significantly on the efficiency of the energy transfer. This would result in a larger site area having to be used to generate the same amount of renewable energy and significantly impact project viability.

7.3.5 Another key issue when undertaking the site selection process is identifying a willing landowner who will lease a parcel of land of sufficient size for a period of 40 years. If a landowner expresses interest, the developer will seek a period of exclusivity during which they will apply formally for a grid connection offer.

7.3.6 This will involve paying a significant sum of money to the Distribution Network Operator ('DNO'). The DNO takes three months to issue a formal offer to the developer which will include allocating the developer with a Point of Connection plan, which ties the connection to a particular location on the grid. Assuming the commercial pricing for connection is viable, the connection offer is accepted; payment is made and the developer signs into a contractual agreement to take the project forward.

7.3.7 Because the availability of grid is limited by this process to a specific point of connection, there are likely to be relatively few land parcels that are large enough and meet the developer's siting criteria for a solar park. It also requires a willing landowner to be identified. Once a specific circuit (line) has been identified as being suitable to the DNO and capable of import capacity from the proposed solar park, a site must be identified within circa 2.5km of the point of connection as beyond this distance cost and efficiency issues significantly impact project viability.

7.3.8 For Brailsford Solar Park, a search for a willing landowner was identified in the wider area to the Point of Connection and the land parcel subject to this application was made available for the proposed development and the necessary land option agreements were completed.

7.4 Site Layout and Design

Site Specific Characteristics

7.4.1 Part 5, Section 18(3d) requires a description of the reasonable alternatives studied by the developer which are relevant to the proposed development and its specific characteristics. This section provides a brief summary of the sites characteristics which were used to inform and guide the proposals.

Design Objectives

7.4.2 Set out below, are the key considerations for design:

- Developable area of at least c. 125 hectares;
- Consideration of environmental and planning constraints including local and national designations, such as Green Belt, ecological designations and heritage assets;
- Proximity to identified Point of Connection (2.5km);
- Provide a buffer to sensitive receptors;
- Maintain a buffer to the existing hedgerow / trees on the site boundary.

Layout

7.4.3 An evaluation of site constraints and opportunities was undertaken to inform the development's layout and design. The final design has been influenced through the identification of these constraints and opportunities.

7.4.4 There have been 4no. of design iterations and refinements to the layout of the development, which involved:

- Reduction of site area from 247ha to 119.8ha
- Reduction of output from 88MW to 55MW
- Additional landscaping in the vicinity of Top Wild Park Farm
- Removal of Solar PV panel area from the western site boundary

7.4.5 The solar photovoltaic arrays will be ground mounted and run from east to west. The panels will be angled to maximise exposure to sunlight and will be clustered together to minimise the ground footprint.

7.4.6 The arrays require supporting infrastructure in the form of substations, inverters and transformer units which will be located in close proximity to minimise visual impact.

7.4.7 The existing hedgerows and field boundaries will be retained and enhanced and appropriate buffer areas.

Scale

7.4.8 The scale of the development is determined by the equipment necessary to generate the required renewable energy.

Appearance

7.4.9 The site and subsequent layout have been carefully considered so that impacts are minimised, and mitigation provided where necessary. A solar park, as energy generating infrastructure is functional by nature and is not publicly accessible with no public realm within the fenced area of the site.

7.4.10 The colour of onsite infrastructure can be agreed with the Council through the application process. The hedgerows that enclose and screen the site will be left to grow higher and a comprehensive landscape management plan is also proposed to ensure the development in well contained and assimilated into the wider landscape.

8.0 LANDSCAPE AND VISUAL EFFECTS

8.1 Introduction

8.1.1 This chapter assesses the likely significant effects of the proposals on the landscape and views. The assessment will identify the existing landscape character and visual amenity resource and the likely effects of the proposed development on this baseline situation. This will determine the residual effects of the proposals on landscape character and visual amenity and the significance.

8.1.2 This chapter is supported by the following plans and appendices:

- Appendix 8.1: Plans
  - Figure 8.1: The Landscape Character of Derbyshire
  - Figure 8.2: Designations
  - Figure 8.3: Topography
  - Figure 8.4: Context
  - Figure 8.5: Zone of Theoretical Visibility (ZTV)
  - Figure 8.6: Illustrative landscape mitigation and enhancement plan
  - Figure 8.7: Cumulative projects
  - Photosheets
- Appendix 8.2: LVIA Methodology
- Appendix 8.3: Landscape and Visual Related Planning Policy
- Appendix 8.4: Value and Sensitivity of Receptors
- Appendix 8.5: Assessment of Landscape Effects
- Appendix 8.6: Assessment of Visual Effects
- Appendix 8.7: Residential Visual Amenity Assessment (RVAA)
- Appendix 8.8: Visualisations

8.2 The Proposed Development

8.2.1 Full details of the proposed development can be found in Chapter 4 of the ES.

8.3 Legislation, Policy and Guidance

Relevant Legislation

8.3.1 There is no legislation relevant to Landscape and Visual Impact Assessment.

National Planning Policy

8.3.2 The NPPF was updated in December 2024 and sets out the Government's planning policies for England and how these should be applied. At the heart of the NPPF is a presumption in favour of sustainable development. A full extract of the national planning policies of relevance to the LVIA are contained within Appendix 8.3: Landscape and Visual Related Planning Policy.

8.3.3 The Planning Practice Guidance (PPG) supports the NPPF. The sub-sections; Landscape, Green Infrastructure, Design: process and tools, and Renewable and low carbon energy all provide guidance. A full extract of the PPG relevant to the LVIA are contained within Appendix 8.3: Landscape and Visual Related Planning Policy.

Local Planning Policy

8.3.4 Local Authorities are responsible for the protection of the landscape within the planning system through the formulation of policies to support this obligation. Treatment of the landscape within the planning process relevant to the current Proposed Development is covered by policies contained within the Adopted Derbyshire Dales Local Plan 2017.. A full extract of the relevant local plan policies relevant to the LVIA are contained within Appendix 8.3: Landscape and Visual Related Planning Policy. This contains policies relevant to development on the Site as listed below.

- **Policy S4: Development in the Countryside**
- **Policy PD1: Design and Place Making**
- **Policy PD4: Green Infrastructure**
- **Policy PD5: Landscape Character**
- **Policy PD6: Trees, Hedgerows and Woodlands**
- **Policy PD7: Climate change**

Guidance

8.3.5 The following guidance has informed the assessment of effects within this Chapter:

- An Approach to Landscape Character Assessment, Natural England, Second Version, October 2011;
- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, Landscape Institute and Institute of Environmental Management and Assessment (IEMA), 2012;

- Technical Guidance Note 02/21, Assessing landscape value outside national designations, Landscape Institute, 2023;
- Technical Guidance Note 06/19 (TGN 19), Visual Representation of development proposals, Landscape Institute, 2014; and
- Technical Guidance Note 01/24 (TGN 24) Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3), 2025.

8.4 Methodology, Aim and Objectives

Aims and Objectives

8.4.1 This ES chapter is a Landscape and Visual Impact Assessment (LVIA). The aim of which is to consider the potential landscape and visual effects of the Proposed Development during the construction, operational phases followed by an examination of the likely residual effects during both phases.

Study Area.

8.4.2 A Zone of Theoretical Visibility (ZTV) mapping exercise has been undertaken to correspond with the British Solar Renewables 'Planning Layout' rev.7 drawing with a maximum panel height of 2.6m. This ZTV is included as Figure 8.5. The ZTV also illustrates a second ZTV of the taller elements of the proposed development such as the CCTV poles.

8.4.3 Following the creation of an initial ZTV map (based on LiDAR 1m Digital Surface Model (DSM) data), a study area has been identified on Figure 8.5 extending out 5km from the Site boundary. This is proposed as a suitable extent given the scale of development. The landscape and visual study area reflects this 5km radius from the site boundary, as this will enable effects on views in the surrounding area and indirect landscape effects to be adequately assessed.

Assumptions and Limitations

8.4.4 The LVIA is informed by a proportional and robust visual assessment, and the selection of representative viewpoints is not intended to be exhaustive. GLVIA3 promotes a appropriate and proportionate approach, focusing on receptors likely to experience significant effects. As such all of the PRoWs and roads within the study area where not visited. However, an assessment was made based on views using Google Earth and reverse visibility from the Site. All visual receptors most likely to be affected by the proposed development were assessed in the field.

8.4.5 As no permanent lighting proposed as part of the proposed development, a night-time assessment has not been undertaken.

8.4.6 The LVIA takes into account the seasonal and daily changes in colour and reflective qualities of the proposed solar panels as part of the landscape and visual appraisal.

8.4.7 The scope of the LVIA did not include a technical glint and glare assessment and it should not be referenced as such.

8.4.8 Groups of residential receptors (such as farm steads and settlements) have been included as part of the LVIA. A small number of properties close to the site have also been the subject of a detailed Residential Visual Amenity Assessment (RVAA, which is separate from LVIA) as found within Appendix 8.7: Residential Visual Amenity Assessment (RVAA). It was not possible to enter the curtilage of private dwellings within the study area to assess levels of visibility as part of the LVIA or RVAA. In such cases, a reasonable worst-case assumption has been made in relation to potential views from a publicly accessible area. Assumptions have also been made about the principal rooms in the buildings. That they are on the ground floor and looking out of the front of each property.

Methodology

8.4.9 The LVIA provides a systematic analysis of the existing landscape context and the potential effects arising from the proposed development. The baseline assessment sets out the existing condition of the landscape in terms of its regional context, its physical fabric, landscape character, any cultural heritage value and recreational value. The existing visual amenity of the Site and locality is assessed in a further separate section of the baseline work.

8.4.10 In order to establish the degree of change arising from the proposed development, the extent to which that change will affect local receptors, the existing situation and site context has been ascertained in terms of amenity, availability of views and the landscape character context for the site and local area. The baseline appraisal process included:

- An overview of statutory plans and other data regarding relevant designations and landscape and visual related planning polices for the area;
- An assessment of the landscape character of the Site with reference to published works and checked and verified through fieldwork;
- The extent of the baseline study area is established through GIS topographical analysis and ZTV mapping, which was verified and assessed in the field. The field

verified visual envelope is defined based on site work to determine the extent of visibility, taking into account surrounding built form and vegetation;

- Utilising the ZTV model, representative photo viewpoints and associated visual receptors have been identified. In accordance with best practice, the photo viewpoint locations have been agreed with the LPA prior to running the assessment; and
- A visual and landscape character assessment of the site and its surroundings.

8.4.11 The methodology used for the preparation of the LVIA is included within Appendix 8.2. The impact assessment process has classified the identified landscape character resources and visual receptors in terms of their sensitivity to change, with a judgement to evaluate the magnitude of change for each identified receptor. The significance of any landscape and visual effect is a function of the sensitivity of the affected landscape resources and visual receptors against the magnitude of change that they would experience.

8.5 Reporting of the Environmental Effect and Significance Criteria

8.5.1 The assessment of likely significant environmental effects as a result of the proposed development has taken into account the construction and operational stage (Year 1 being immediately after completion of all development, and Year 15 being 15 years after completion, when operational secondary mitigation measures such as planting and its maintenance would have ensured establishment). Decommissioning effects are not covered in great details has part of this chapter (see decommissioning section below)

8.5.2 The following sections define the approach adopted within the assessment for the determination of sensitivity (or value/importance), magnitude of change (or impact), the level of effect and significance. Criteria in the tables within Appendix 8.2 have been used as a basis for identification of receptor sensitivity and anticipated magnitude of change, with professional judgement used to establish a level of effect and whether the effect is significant or not. Significant effects identified through the LVIA process are presented within this ES Chapter.

8.6 Determining Sensitivity of Receptor

8.6.1 The sensitivity of affected receptors has been considered on a scale of high, medium, low or negligible, as defined within Tables 1 and 2 of Appendix 8.2.

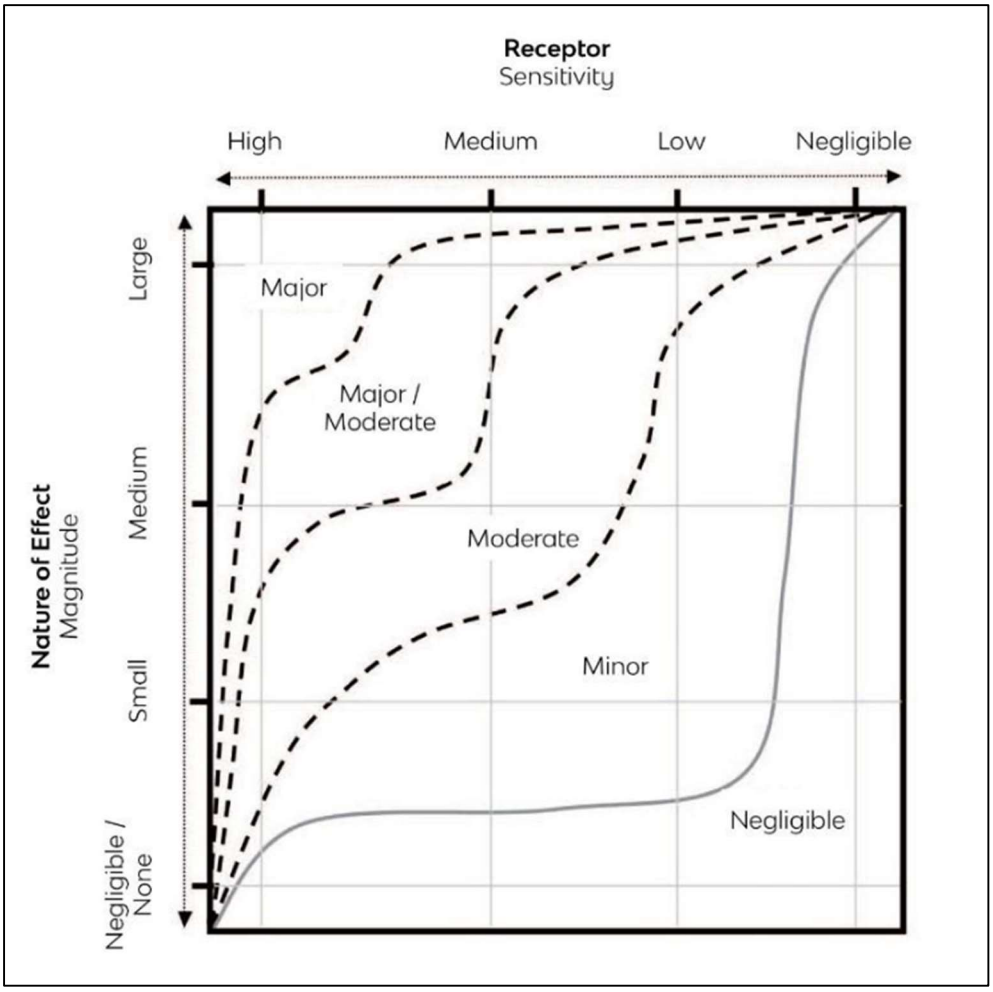
8.7 Determining the Magnitude of Change

8.7.1 The magnitude of change has been considered as the change experienced from the current baseline conditions at the sensitive receptor and has been considered on a scale of large, medium, small or negligible as defined within Tables 3 and Table 4 of Appendix 8.2.

8.8 Determining the Level of Effect

8.8.1 The level of effect has been informed by the magnitude of change due to the proposed development and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and Table 8.1 below (also contained as Table 5 within Appendix 8.2) has been a tool which has assisted with this process.

Table 8.1: Landscape and Visual Effect Matric (derived from IEMA 2011)



8.8.2 The following terms have been used to define the level of the effects identified and these can be 'beneficial' or 'adverse':

- Adverse: the proposed development may result in direct loss of physical landscape resource, weaken key characteristics or negatively affect the integrity of a landscape designation; or the proposed development reduces visual amenity; and
- Beneficial: the proposed development may replace poor quality elements of the existing landscape or strengthen existing landscape characteristics; or the visual amenity is improved by the proposed development.
- Neutral: the proposed development may replace elements of the existing landscape or existing landscape characteristics; or the visual amenity is changes by the proposed development. The change is neither completely adverse nor beneficial.

8.8.3 The duration of the effect has been assessed as either 'short-term', 'medium-term' or 'long-term'. Short-term is considered to be up to 1 year, medium-term is considered to be between 1 and 10 years and long-term is considered to be greater than 10 years.

8.9 Determining Significance

8.9.1 For each effect, a statement has been made as to whether the level of effect is 'Significant' or 'Not Significant'.

8.9.2 TGN 24 point 3(5) states that "As indicated at GLVIA paragraph 3.33, it is not necessary to establish thresholds for levels of significance, provided that it is made clear whether effects are, or are not, significant."

8.9.3 TGN 24 point 3(5) also states that "However, typically, effects falling below the middle of the range of overall effect are assessed as not significant. For example, if using a scale of minor/ moderate/ major, then major effects will be significant and minor effects will not be significant. In this example, moderate effects may or may not be significant and justification would be needed in the methodology or receptor assessment as to whether a moderate effect is significant or not."

8.9.4 As such, for purposes of this chapter, all effects below moderate are considered 'not significant' and effects above moderate are 'significant'. Were an effect is considered moderate, professional judgment will be used to determine if it is 'Significant' or 'Not Significant'.

8.10 Visualisations

8.10.1 The type of photographs and photomontages used as part the chapter are proportionate to the level of assessment and have been guided by Visual Representation of Development Proposals (TGN 19).

8.10.2 All the viewpoint photographs are presented as Annotated Viewpoint Photographs (TYPE 1 visualisations). Reproduced at a size which aids clear understanding of the view and context, these simply show the extent of the site within the view and annotate any notable features within the view. These can be found in Appendix 8.1.

8.10.3 Seven of the viewpoints have also been represented as TYPE 3 visualisations: Photomontage. They provide a reasonable level of locational and photographic accuracy. TYPE 3 visualisations are not accompanied by verification data, nor is a precise survey of features and camera locations required. It is considered that this type of visualisation is proportionate to this assessment. These can be found in Appendix 8.8 and are produced by the HCUK group.

8.10.4 The photomontages produced aim to demonstrate the range of visual effects as a result of the proposed development. These include:

- VP2 illustrating views within the site and around the Top Wild Park Farm complex;
- VP4 illustrating views from around views from around Wildpark Lane,
- VP5 illustrating views from the PRoW within the site;
- VP6 illustrating views from the PRoW within the site close to New House Farm;
- VP7 illustrating views from the PRoW within the site;
- VP9 illustrating views from visual receptors such as the local farmsteads and PRoW to the south of the site; and
- VP11 illustrating views from visual receptors such as residents and users of the PRoW around the settlements of Mugginton, Weston Underwood and the Ravensdale Park Conservation Area on the higher ground to the east of the site.

8.11 Assumptions of the Growth of Mitigation Planting

8.11.1 For the purposes of this assessment the proposed hedgerows planting shrubs at 0.5 m tall at year one. At year 15 (residual effect) the shrubs would be 4.7 m (0.3 m growth per year for 14 years).

8.11.2 The proposed standard trees are 4 m tall at year one and 8.2 m (0.3 m growth per year for 14 years) at year 15 (residual effect).

8.12 Cumulative Landscape and Visual Impact Assessment (CLVIA)

8.12.1 The aim of CLVIA is to describe and assess the ways in which the proposed development would have additional effects when considered together with other existing, consented or proposed developments, especially those of a similar type. The assessment follows guidance provided in GLVIA3.

8.12.2 The CLVIA is based on a site visit undertaken as part of the LVIA and review of the LVIA produced for the proposed development. Cumulative photomontages have not been produced as part of the CLVIA.

8.12.3 The cumulative appraisal may be undertaken in two ways:

- Considering the additional effects of the proposed development, assessed as the effect arising from the proposed development considered against a baseline containing the other projects.
- Considering the combined effects of all the past, present and future other projects proposals together with the proposed development.

Landscape

8.12.4 The cumulative landscape effects will be considered particularly in terms of consequences for key characteristics of the landscape. Judgements will be made about the compatibility of the proposals considered with the existing characteristic of the landscape, for example its scale and pattern, and whether or not the character of the landscape is changed to such an extent that it becomes a new landscape type or sub-type.

Visual

8.12.5 Cumulative visual effects are the impacts on views and visual amenity enjoyed by people, which may result either from adding the effects of the project being assessed to the effects of the other projects on the baseline conditions or from their combined effect. This may result from changes in the content and character of the views experienced in particular places due to introduction of new elements or removal of or damage to existing ones.

8.12.6 The baseline for the cumulative visual effects may be different for the visual effects appraisal of the main project being considered.

8.12.7 As a number of separate developments must be considered, there is interest in the way in which they may be experienced. At one viewpoint someone looking at the view in one direction may see all the projects at the same time, or someone turning through 360° may see different developments in different directions and sectors of the view in succession. Users of linear routes, especially footpaths or other rights of way, or transport routes, may potentially see the different developments revealed in succession as a series of sequential views. The types of cumulative visual effects are described in the table below.

Table 8.2 – Types of Cumulative Visual Effects.

Generic	Specific	Characteristics
Combined Occurs where the observer is able to see two or more developments from one viewpoint	In combination	Where two or more developments are or would be within the observer's arc of vision at the same time without moving her/his head
	In succession	Where the observer has to turn her/his head to see the various developments
Sequential Occurs when the observer has to move to another viewpoint to see the same or different developments. Sequential effects may be assessed for travel along regularly used routes such as major roads or popular paths	Occasionally sequential	Where longer time lapses between appearances would occur because the observer is moving very slowly between the viewpoints
	Frequently sequential	Where the features appear regularly and with short time lapses between instances depending on speed of travel and distance between the viewpoints

Field Survey

8.12.8 Table 8.2 summarises all surveys and analysis undertaken to inform the assessment presented within this chapter and those awaiting completion.

Table 8.2 – Survey Dates

Survey	Overview	Date
Landscape Site Visit and Viewpoint Survey	Site walkover. Collection of viewpoint photography for Viewpoints	05 March 2025

Survey	Overview	Date
Landscape Site Visit and Viewpoint Survey	Collection of viewpoint photography for Viewpoints	06 March 2025
Landscape Site Visit	Site walkover.	19 August 2025
Landscape Site Visit	Site walkover.	20 August 2025
RVAA visit and Viewpoint Survey	RVAA site visit and surveys. Collection of viewpoint photography for Viewpoints.	02 March 2026
Viewpoint Survey	Collection of viewpoint photography for Viewpoints.	03 March 2026

8.13 Consultation and Previous Applications

Current Application

8.13.1 An EIA Scoping Request associated with the current proposals was submitted to the Derbyshire Dales District Council (DDDC) in November 2025. A Scoping Opinion (Derbyshire Dales District Council, 2025) was received from the Development Manager dated 9th December 2025, which included concerns that the ES Chapter should consider the contributions the development could make to local environmental initiatives and identify how the development effects the natural environment to adapt to climate change.

8.13.2 A pre-application response produced by Landpro on behalf of DDDC made a number of recommendations as listed below:

- Refine methodology clarity;
- Confirm receptor-based visual evaluation;
- Rationalise and justify viewpoints;
- Strengthen policy analysis;
- Document the mitigation hierarchy;
- Provide full design evolution narrative;

- Confirm offset parameters;
- Undertake a proportional RVAA;
- Address cumulative effects.

8.14 Baseline Conditions

Landscape

Published Landscape Character and Guidance

8.14.1 Landscape Character Areas covering the Site and Study area are illustrated on Figure 8.1. The following landscape character assessments and sensitivity documents are of relevance to this Chapter:

- National Character Assessments, Natural England; and
- The Landscape Character of Derbyshire, Derbyshire County Council.

8.14.2 As detailed within Technical Guidance Note 01/24: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3), "*it is not necessary to assess effects on every landscape character type or area identified by assessments at different levels for any development – the best scale of assessment for the project should be selected*".

National Landscape Character

8.14.3 For the purposes of assessing effects of developments, National Character Areas (NCAs) are relevant; however, they are broad-brush and set out the characteristics of large geographical areas. Whilst NCAs do not provide an appreciation of the Site-specific issues which need to be taken into account in the determination process, it should be noted that some of the characteristics are discernible in relation to the wider landscape surrounding the Site and Study Area.

8.14.4 The Site is situated within NCA 68. Needwood & South Derbyshire Claylands (NE390) as shown on Figure 8.1. The NCA is described as: "Though divided by the River Dove's wide flood plain, is predominately a rolling plateau that slopes from the southern edge of the Peak District to the valley of the River Trent in the south-west. Also in the south are frequent plantations and ancient woodlands of the former Forest of Needwood. Elsewhere, the extensively hedged and pastoral landscape is dominated by mixed farming and features a dispersed pattern of villages and other settlements. Hedgerow trees also contribute to the wooded character of this NCA."

8.14.5 Whilst the NCA descriptions are broadly representative of the Site's landscape context, they are often too generic to enable a reliable assessment in regard to the appropriateness of proposals in the landscape. The site covers a small part of the NCA. It is often the case that more localised, county, district or borough landscape character assessments provide more accurate descriptions of the local landscape with a finer grain of detail. Those of relevance are described within the subheadings below.

County Landscape Character

The Landscape Character of Derbyshire

8.14.6 Within The Landscape Character of Derbyshire, the Site is situated wholly within 6. Needwood and South Derbyshire Claylands Landscape Character Area (LCA) as illustrated in Figure 8.1. This is described: "*Located in the south-west of the county, the Needwood and South Derbyshire Claylands comprise two distinct areas separated by the River Dove, which also forms the administrative boundary between Derbyshire and Staffordshire. The distinctive wooded landscape of Needwood lies exclusively within Staffordshire. The remainder of this Character Area within Derbyshire is rolling lowland over glacial till and Mercia Mudstones that were amenable to early settlement and farming. In contrast to the Needwood area, there is less woodland and more settlement with small villages and scattered farmsteads and cottages. Ridge and furrow and the earthworks of deserted villages suggest the area was once more densely settled*."

8.14.7 The majority of the Site lies within the Estate Farmlands Landscape Character Type (LCT), the published characteristics described as:

- "*Gently rolling lowland dissected by minor river valleys*
- *Seasonally waterlogged fine loamy soils over Permo-Triassic Mudstones, Siltstones and Sandstones*
- *Mixed farming with intensive arable cropping and improved permanent pasture*
- *Prominent estate woodlands with broadleaf and coniferous species*
- *Scattered oak and ash trees along hedgerows*
- *Dense lines of trees along streams*
- *Small to medium size semi-regular and regular fields enclosed by hedgerows*
- *Small villages constructed of red brick with Staffordshire blue clay tiled roofs*
- *Scattered red brick estate farmsteads and the occasional country house*"

8.14.8 A small proportion of western part of the site sits within the Settled Plateau Farmlands LCT, the published characteristics described as:

- *"A gently rolling upland plateau extending onto ridge tops*
- *Slowly permeable, seasonally waterlogged soils over glacial till*
- *Pastoral farming with some cropping*
- *Marl pits forming small ponds*
- *Densely scattered boundary trees and occasional small woodland blocks*
- *Small to medium fields surrounded by hedgerows*
- *Parkland estates*
- *Areas of former common land with clusters of red brick and Staffordshire blue clay tile roofed cottages*
- *Scattered red brick and Staffordshire blue clay tile roofed farmsteads and estate farms*
- *Extensive views over lower ground*"

Site and Site Context

8.14.9 The Site's location and nearby context is illustrated on Figure 8.1 and 8.4 and is expanded upon below.

Land Use and Settlements

8.14.10 The site is comprised of 21 arable and pasture fields that lie to the east of Wood Lane, that runs in a north-south direction along the western boundary of the site. It is located at the to the east of the settlement of Brailsford. The site surrounds the two small farmsteads of New House Farm and Top Wild Park Farm. The eastern boundary of the site is adjacent to the small hamlet of buildings around Top house Farm.

8.14.11 The land use of the study area is predominantly arable with some areas of pasture and blocks of woodland. It also includes areas of parkland. The study area is predominantly rural in nature with Brailsford being one of the larger settlements. The are a number of smaller hamlets and farmsteads around the site including Mugginton, Western Underwood, Mercaston, and Brailsford Common. Some of the smaller farmsteads around the site include Mercaston Hall, Middle Wild Park, Lower Wild Park Farm, Home Farm and Brailsford Hall.

Topography and Hydrology

8.14.12 The centre of the western boundary is the high point of the site at approximately 161m AOD. The landform then falls away in all directions from this point. There is a relatively steep fall to the southern boundary towards the A52 reaching a low point of 139m AOD. It then falls more gently to the north to a low point on the northern boundary of 116m AOD. To the east there is a more undulating fall to a low point on the 128m AOD on the eastern boundary. According to OS mapping the site contains three small unnamed watercourses and several ponds and ditches. Two of the small water courses are located to the south of New House Farm. One is located to the south of Top Wild Farm which runs from the woodland block along the site boundary. They both feed into the Wildpark Brook to the east of the site.

8.14.13 Within the wider study area, the landform generally falls from a high point of approximately 220m to the north to a low point of 60m AOD to the south. The landform is gently rolling made of shallow river valleys. The valleys that make up this topography typically contain small brooks, such as the Mercaston Brook close to the eastern boundary of the site.

Field Pattern and Vegetation

8.14.14 The site is made up of 21 fields (or portions thereof). There is a mix of small to medium size irregular and regular field shapes. The majority of which are enclosed by hedgerows. The boundaries of some are made up of the edges of blocks of woodland that site outside of the Site. A number of the fields contain standalone mature trees (predominantly oak).

8.14.15 The wider study area reflects that of the site with a mixture of small to medium size irregular and regular field shapes. The majority of which are enclosed by hedgerows. The wider study area also contains blocks of woodland largely in the central and northern parts with less woodland in the southern part.

Perceptual and Sensory

8.14.16 The site sits away from large settlements and busy roads. Parts of the site are influenced by man made structures, such as over head utility lines, communications towers and small groups of residential dwellings. There are areas within the site where the elevated position allows views of the wider landscape to the north, east and south.

8.14.17 Brailsford is the largest settlement in the study area, with most other settlements smaller in nature. There are no large trunk roads running through the study area. The largest road is the A52 which runs north-west to south-east through the centre of the study area. Many

roads and single track and less busy. The rolling topography of the study area restricts views of the wider landscape to areas of higher ground. Views of the wider landscape are contained by the landform and vegetation within the river valleys.

Access and Rights of Way

8.14.18 As illustrated on Figure 8.4, there are several Public Right of Way (PRoW) running through the site. Wood Lane is a track (also cycleway) running on a north-south axis running along the western boundary of the site. The southern end of the lane joins and Unmanned Road which then goes on to join the A52. This junction also forms the access road to Top Wild Park Farm. The northern end of this lane eventually joins an unnamed road in Mercaston to the north of the site. On the western boundary of the site there is one PRoW that joins Wood Lane, heading east into the eastern part.

8.14.19 The PRoW (WD71/7/1, WD71/7/2 and WD71/7/3) leading into the site travels in an east-west direction and leads into to Hamlet around Top House Farm as it leaves the eastern boundary. This also forms part of the access road to New House. This western part of this PRoW is also part of the Centenary Way long distance route. Close to New House one PRoW (WD71/6/1) splits off in a northerly direction and joins Wood Lane to the north of the site. Another PRoW (WD71/7/3) splits off the western part of this PRoW. This PRoW runs in an east-west direction across the site and leaves the eastern boundary close to Mercaston Hall. This PRoW also forms part of the Centenary Way long distance route.

8.14.20 Immediately to the south of the site there is no public access. Immediately to the west there is an area of land adjacent to Brailsford which has a network of PRoW through it towards the settlement. To the north of the site has a number of PRoW around Brailsford Common. There are a larger number of PRoW to the east of the site towards Mugginton on the higher ground.

8.14.21 The majority of the wider study area has a good coverage of PRoW with the exception being to the north-west and south-east of the site where it is more limited.

8.14.22 The Centenary Way long distance route generally runs in an east west direction through the study area running though the centre of the site.

Designations

8.14.23 The site is not located within any national or local landscape designations.

8.14.24 There are a number of heritage designations within the study area. The Top Wild farm Park complex contains a number of Listed Buildings. Another one close to the site include Mercaston Hall. There are also several within Brailsford and Mugginton. There are numerous other Listed Buildings identified within the study area. The majority of these are located within the settlements, with others scattered within the surrounding rural areas.

8.14.25 There are three Conservation Areas close to the site Brailsford, Mugginton and Ravensdale Park. None of the Conservation areas have published views towards the site. The is visible from the Mugginton and Ravensdale Park Conservation Areas. There are others within the study area, but they have limited intervisibility with the site.

8.14.26 There are three Scheduled Monuments close to the eastern boundary of the site which include Fishponds 260m north west of Mercaston Hall Farm, Mugginton medieval settlement and part of an open field system and Ravensdale deer park, lodge, mill and fishpond.

8.14.27 Heritage assets such as Scheduled Monuments, Listed Buildings, Conservation Areas and Registered Parks and Gardens all contribute to the overall landscape character, context and setting of the area. This LVIA does not cover effects on the heritage assets or their setting.

Landscape Receptors

8.14.28 Direct effects within this Chapter have been assessed on the following landscape receptors:

- The landscape character of the site and its immediate context; and
- 6. Needwood and South Derbyshire Claylands LCA.

Visual

Zone of Theoretical Visibility

8.14.29 The ZTV was verified on-Site by Tyler Grange (TG), the landscape consultants for the project and are considered to represent a range of receptors.

Published views

8.14.30 There are no published Conservation Appraisal or Character Statements for the Brailsford, Mugginton and Ravensdale Park Conservation Areas. As such, there are no important views published for these Conservation Areas.

8.14.31 The Brailsford Neighbourhood Plan 2020-2033 (2021) does not identify the locations of any important views in or out of the settlement.

Identification of Visual Receptors

8.14.32 During the visits to the Site, and based on the scoping exercise detailed above, representative photography was collected to illustrate views experienced from visual receptors within the study area.

8.14.33 A total of 21 representative viewpoints have been chosen from locations surrounding the site to enable the effects of the development to be assessed from all directions. The locations of these representative viewpoints are illustrated on Figure 8.5, with the Photosheets for Viewpoints 1-21 contained within Appendix 8.1.

8.14.34 It is important to note that assessment is based upon the visual experience of visual receptor groups, rather than effects on fixed viewpoint locations, except where specific views (e.g. Published Views) are identified.

8.14.35 Whilst the views are chosen to be representative of the area, they cannot provide continuous coverage of all potential locations within the visual envelope identified by the ZTV and site visit. Often, views will occur as a sequence within the surrounding environment and are assessed further within this report. Likewise, where transient or fleeting views are possible, these will also be assessed as part of the report. Viewpoint photography is not intended to replicate the experience of visiting the area in person.

Views of the site

8.14.36 Views from the PRoW in the site are represented by viewpoints 5, 6 and 7, where the site is visible in the foreground.

8.14.37 Views representing the visual receptors west of the site on the edge of Brailsford are represented by viewpoint 1, where views of the site are limited to glimpses through the boundary vegetation in the middle distance. Views from the wider rural landscape and isolated farmsteads in the western part of the study area are represented by viewpoints

20 and 21. Views are limited to glimpses of the eastern part of the site visible in the distance through the intervening vegetation.

8.14.38 Views representing users of the PRoW within the Ravensdale Park Conservation Area are represented by viewpoint 12. Views representing the visual receptors in and around Mugginton are represented by viewpoint 11. Views from these areas are of the fields on the eastern edge of the site. Views from the wider rural landscape and settlements in the northern part of the study area are represented by viewpoints 13, 14, 15, 16 and 17. Views are limited to glimpses of the fields which make up the northern edge of the eastern part of the site, seen in the distance through the intervening vegetation.

8.14.39 Views representing the visual receptors in and around Mercaston Hall are represented by viewpoint 8. Views representing the visual receptors in and around Weston Underwood are represented by viewpoint 9. Views representing the visual receptors immediately east of the site on the higher ground are represented by viewpoints 10 and 11. Views from these areas are of the fields on the eastern and southern edge of the site.

8.14.40 Views from the wider rural landscape and isolated farmsteads in the eastern part of the study area are represented by viewpoints 18 and 19. Views are limited to glimpses of the fields which make up the southern edge of the eastern part of the site, visible in the distance through the intervening vegetation.

8.14.41 Views representing the visual receptors immediately south of the site are represented by viewpoints 3 and 4. These views are of the fields in the southern and central areas of the site. There is limited visibility of the site from the wider landscape to the south and there are no viewpoints in this area.

Visual receptors

8.14.42 On account of the above, effects on views experienced by the following receptors have been taken forward in this assessment, with representative Viewpoints illustrated in Appendix 8.6 and their locations illustrated on Figure 8.5.

- Users of Wood Lane.
- Users of the PRoW to the west of the site (WD18/8/1, WD18/8/2 and WD18/9/1)
- Users of PRoW in the eastern part of the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3)

- Users of PRoW to the west of the site on the edge of Brailsford (WD18/6/1, WD18/6/2 and WD18/6/3).
- Users of the PRoW and road network in the wider study area to the west.
- Users of the PRoW network immediately north of the site around Brailsford Common.
- Users of the PRoW within the Ravensdale Park Conservation Area.
- Users of PRoW in and around Mugginton.
- Users of the PRoW and road network in the wider study area to the north.
- Users of PRoW in and around Weston Underwood.
- Users of PRoW around Mercaston Hall and immediately east of the site.
- Users of the PRoW and road network in the wider study area to the east.
- Users of PRoW around Mercaston Hall and immediately south of the site.
- Users of the A52.
- Users of Mercaston Lane.
- Users of the unnamed road immediately east of the site.
- Users of Allen Lane.
- Users of Slade Lane.
- Users of Wildpark Lane.
- Residents of Top Wild Park Farm.
- Residents of New House Farm.
- Residents of Mercaston Hall.
- Residents of hamlet around Top House Farm.
- Residents of Middle Wild Park.
- Residents of Lower Wild Park Farm.
- Residents of Overfields Lodge
- Residents of 1-4 Wildpark Lane.
- Residents of Hill Top Farm and Shuckton Manor Farm.
- Residents of Brailsford (including those in the recently allowed at the Land Off Throstle Nest Way appeal site).
- Residents of Mugginton.
- Residents of Weston Underwood.

Future Baseline

8.14.43 In landscape and visual terms without the proposed development the site would remain agricultural.

8.14.44 The predicted effects of climate change in this country include increased annual temperatures, hotter and drier summers, changing rainfall patterns, wetter and warmer winters and the increased frequency of extreme weather events, all of which may influence agricultural practices that are undertaken in the landscape of the Study Area. The changing weather patterns and the spread of diseases and pests, yet not established in this country, may alter the species mix of the native flora.

8.14.45 These changes would not lead to a change of the sensitivity of the receptors considered in the LVIA chapter.

8.15 Assessment of Effects

Construction Effects

Landscape

8.15.1 Effects identified upon all landscape receptors as a result of the construction stage of the proposed development have been assessed within Table 8.5.1 of Appendix 8.5.10.6. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- The landscape character of the site and its immediate context (Major / Moderate Adverse); and
- 6. Needwood and South Derbyshire Claylands LCA (Moderate Adverse).

Visual

8.15.2 Effects identified upon all landscape receptors as a result of the construction stage of the proposed development have been assessed within Table 8.6.1 of Appendix 8.6. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- Users of Wood Lane (Major / Moderate Adverse);
- Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3) (Major Adverse);
- Users of the PRoW within the Ravensdale Park Conservation Area (Major / Moderate Adverse);
- Users of PRoW in and around Mugginton (Major / Moderate Adverse);
- Users of PRoW immediately south of the site (WD71/14/1) (Major / Moderate Adverse);
- Residents of Top Wild Park Farm (Major / Moderate Adverse);

- Residents of New House Farm (Major / Moderate Adverse); and
- Residents of Mugginton (Major / Moderate Adverse).

Operational Effects

Landscape

8.15.3 Effects identified upon all landscape receptors as a result of the operational stage of the proposed development have been assessed within Table 8.5.1 of Appendix 8.5. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- The landscape character of the site and its immediate context (Major / Moderate Adverse); and
- 6. Needwood and South Derbyshire Claylands LCA (Moderate Adverse).

Visual

8.15.4 Effects identified upon all landscape receptors as a result of the construction stage of the proposed development have been assessed within Table 8.6.1 of Appendix 8.6. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- Users of Wood Lane (Major / Moderate Adverse);
- Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3) (Major Adverse);
- Users of the PRoW within the Ravensdale Park Conservation Area (Major / Moderate Adverse);
- Users of PRoW in and around Mugginton (Major / Moderate Adverse);
- Users of PRoW immediately south of the site (WD71/14/1) (Major / Moderate Adverse);
- Residents of Top Wild Park Farm (Major / Moderate Adverse);
- Residents of New House Farm (Major / Moderate Adverse); and
- Residents of Mugginton (Major / Moderate Adverse).

8.16 Mitigation

8.16.1 A Landscape Design Evolution Report has been produced as part of the wider application documents. This report provides further detail on the:

- Design evolution narrative.
- Design parameters.

The Mitigation Hierarchy

8.16.2 The mitigation hierarchy is a framework designed to manage environmental impacts, by prioritizing actions in a specific order:

- Avoid - To evade or reduce impacts through site selection and layout.
- Minimise - To take measures to reduce the duration, intensity and/or extent of impacts.
- Mitigate - The condition of on-site or an affected area is improved and/or protected. Including enhance, restore, or regenerate on-site.
- Offset or Compensate - Compensating for any residual, adverse, unavoidable impacts after full implementation: onsite or offsite.

8.16.3 The Landscape Design Evolution Report goes into detail on how the landscape design of the site has developed in response to the specific opportunities and constraints. In general terms this is how the landscape design of the site has developed along the hierarchy.

Avoidance

- Exclusion of solar panels from the area of land adjacent to Brailsford and the most visible areas on the approach along the A52.
- Utilising the existing vegetation and landform to limit visibility of the proposed solar panels.

Reduction

- Offsetting of panels away from sensitive visual receptors within the site including Top Wild Park Farm, New House Farm and PRoW's.

Remedy

- Planting new hedgerows, trees and small areas of woodland to screen and filter views and enhance landscape character.
- Strengthening the existing green infrastructure network by filling gaps in areas and linear belts of vegetation.

Compensation

- If required to be agreed with the DDDC post determination.

During Construction

8.16.4 The following primary and tertiary mitigation which has been evaluated as part of the construction stage assessment is outlined below.

Primary Mitigation

- Location of construction compounds, storage areas, and temporary site offices in visually contained areas (e.g. behind vegetation or topographic screening);
- Retention and protection of landscape features, including vegetation and watercourses. Existing mature trees and hedgerows will be retained and protected during construction (in line with BS5837:2012); and
- Commitment to providing a Construction Environmental Management Plan (CEMP) will include LVIA-sensitive controls on visual impacts, and vegetation protection.

Tertiary Mitigation

- Construction and Environmental Management Plan (CEMP) including mitigation to avoid significant ecological effects (including effects on landscape features). To be secured by condition;
- Construction Method Statement (CMS) setting out indicative construction methodologies and the best practices that will be adopted. To be secured by condition; and
- Protective fencing/hoarding will be installed around tree features, in accordance with BS5837:2012.

During Operation

8.16.5 The proposed landscape, biodiversity mitigation has been developed and can be found on the Figure 8.6 Illustrative landscape mitigation and enhancement plan.

8.16.6 The landscape mitigation proposals that have responded to the findings of the LVIA and the strategies and recommendations in relevant landscape character studies, are as follows:

Primary Mitigation

- Fields around Top Wild Park Farm and approach left free from solar panels.
- Fields around New House Farm and approach left free from solar panels.
- Gaps in existing hedgerow filled and strengthened with additional planting.

- Minimum 10m wide hedgerow corridors established along PRoW to screen views of the proposed solar panels.
- Along hedgerow lined lengths of PRoW, some pockets of open area created to prevent long length and a sense of tunnelling of the PRoW.
- All existing trees retained and protected.
- Majority of existing hedgerows retained and allowed to grow to 2 - 3m in height to screen views of the proposed solar panels.

Secondary Mitigation

- Landscape and Ecological Management Plan (LEMP) to ensure that planting measures are implemented properly at completion. To be secured by condition.

Tertiary Mitigation

- A Landscape and Ecological Management Plan (LEMP) to ensure that public open space is protected and enhanced in perpetuity. To be secured by condition.

8.16.7 The palette of indicative species takes into consideration the native species present in the vicinity of the site and other species adapted to predicted climate change. Planting stock used in the landscape proposals should be native and, wherever feasible, locally sourced. Proposed trees would be sized appropriate to their location. Tree, shrub and hedgerow species to be used in the strategic tree and shrub planting areas in the landscape design should include species, reflecting locally distinctive vegetation in the landscape.

8.17 Residual Effects

During Construction

Landscape

8.17.1 Residual effects identified upon all landscape receptors as a result of the construction stage of the proposed development have been assessed within Table 8.5.1 of Appendix 8.5. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- The landscape character of the site and its immediate context (Major / Moderate Adverse); and
- 6. Needwood and South Derbyshire Claylands LCA (Moderate Adverse).

Visual

8.17.2 Residual effects identified upon all landscape receptors as a result of the construction stage of the proposed development have been assessed within Table 8.6.1 of Appendix 8.6. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- Users of Wood Lane (Major / Moderate Adverse);
- Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3) (Major Adverse);
- Users of the PRoW within the Ravensdale Park Conservation Area (Major / Moderate Adverse);
- Users of PRoW in and around Mugginton (Major / Moderate Adverse);
- Users of PRoW immediately south of the site (WD71/14/1) (Major / Moderate Adverse);
- Residents of Top Wild Park Farm (Major / Moderate Adverse);
- Residents of New House Farm (Major / Moderate Adverse); and
- Residents of Mugginton (Major / Moderate Adverse).

During Operation

Landscape

8.17.3 Residual effects identified upon all landscape receptors as a result of the operational stage of the proposed development have been assessed within Table 8.5.1 of Appendix 8.5. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- The landscape character of the site and its immediate context (Moderate Adverse); and
- 6. Needwood and South Derbyshire Claylands LCA (Moderate Adverse).

Visual

8.17.4 Residual effects identified upon all landscape receptors as a result of the construction stage of the proposed development have been assessed within Table 8.6.1 of Appendix 8.6. Those landscape receptors where effects are deemed to be **Significant** are summarised below.

- Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3) (Major Neutral);

- Users of the PRoW within the Ravensdale Park Conservation Area (Major / Moderate Adverse);
- Users of PRoW in and around Mugginton (Major / Moderate Adverse);
- Users of PRoW immediately south of the site (WD71/14/1) (Major / Moderate Adverse); and
- Residents of Mugginton (Major / Moderate Adverse).

8.18 Enhancements

8.18.1 The proposed landscape, biodiversity enhancements have been developed and can be found on the Figure 8.6 Illustrative landscape mitigation and enhancement plan.

8.18.2 The landscape enhancement proposals that have responded to the findings of the LVIA and the strategies and recommendations in relevant landscape character studies, are as follows:

- Species rich grassland established underneath solar panels.
- Wildflower established within open areas of the site.
- Filling in gaps in existing hedgerows.

8.19 Decommissioning Effects

8.19.1 Decommissioning is the process by which the proposed development will be removed at the end of its operational life. This will be completed in the opposite sequence to construction. As all material will be removed from site, the vehicle movements would be similar to that of the construction traffic.

8.19.2 A Decommissioning Plan will be required via a planning condition, to include protection of the landscape features on the site.

8.19.3 The landscape and visual effects of decommissioning are similar to, or often of a lesser magnitude than construction effects and not considered in detail as part of this ES chapter.

8.20 Cumulative Effects

8.20.1 Cumulative landscape and visual effects are defined by GLVIA3 (Ref.1) as:

"result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it),

or actions that occurred in the past, present or are likely to occur in the foreseeable future."

8.20.2 The CLVIA assesses the potential cumulative impact of the proposed development in addition to the other renewable energy projects within the same 5km study area as used for the LVIA, the locations of which are shown on Figure 8.7. The cumulative projects which are listed in the following table, in order to understand the cumulative effects from a wider number of projects.

8.20.3 The CLVIA is based on a site visit undertaken as part of the LVIA. Cumulative photomontages have not been produced as part of the CLVA.

8.20.4 For the purposes of the CLVIA a worst-case scenario has been adopted. As such it is assumed that the proposed development and cumulative projects will be constructed and operational at the same time.

Projects Considered

8.20.5 The pre-application advice for the proposed development suggested the following cumulative schemes should be considered.

- Other renewable energy projects;
- Grid infrastructure, substations, and overhead/underground transmission lines (where relevant);
- Any developments with overlapping ZTVs.

8.20.6 A planning search for cumulative projects was undertaken within the area of DDDC that covers the study area as well as the adjacent Amber Valley Borough Council (AVBC) within the study area, using the criteria above. The planning search was undertaken within the existing 5km study area for the proposed development.

8.20.7 Two renewable energy projects were scoped in 'Land West Of Wood Lane' (15/00526/FUL) and 'Smith Hall Farm' (14/00415/FUL). No grid infrastructure projects were found. There were several small householder or agricultural complex applications overlapping with the ZTV. However, these were relatively small in nature and have been scoped out of the CLVIA.

8.20.8 One larger application was considered of a scale relevant to the CLVIA and that is 'Land Off Throstle Nest Way' (24/00546/OUT) which was recently allowed at appeal.

8.20.9 A list of the cumulative projects considered is shown in the table below and their locations are shown on Figure 8.7: Cumulative projects.

Table 8.4 – Cumulative projects considered in the assessment.

Project number	Planning Status	Planning refence number
1	Granted (not built)	15/00526/FUL
2	Granted (built)	14/00415/FUL
3	Granted (not built)	24/00546/OUT

8.20.10 All the projects listed above will be considered in the CLVIA. They are described as the 'cumulative projects'. The CLVIA considers the additional effects of the proposed development, assessed as the effect arising from the proposed development considered against a baseline containing the other cumulative projects.

Assessment

Landscape

8.20.11 The proposed development and all three of the cumulative projects sit within the 6.Needwood and South Derbyshire Claylands LCA. There will be small, localised change to a number of the published characteristics of the LCA including changing from agricultural land to a solar park and loss of some views over the lower ground from with the site and around the cumulative projects. The majority of the LCA's other published characteristics including the topography, soils (in the context of landscape character), woodlands and trees, field pattern, settlement pattern (with the exception of cumulative project 3) will remain unchanged by the proposed development.

8.20.12 The changes brought about by the addition of the proposed development and cumulative projects to the landscape character would result in a medium magnitude of effect in the character area with an importance of effect assessed to be Medium / Moderate Adverse (significant) at construction, completion and year 15. This does not increase importance of effect beyond that already assessed against the existing environment baseline as a result of the proposed development earlier in this chapter.

Visual

8.20.13 The proposed development in addition to the cumulative projects will be visible from a number of different directions. The cumulative views are described in the table below. Effects are either combined (occurs where the observer is able to see two or more

developments from one viewpoint) or sequential (occurs when the observer has to move to another viewpoint to see the same or different developments).

Table 8.5 – Cumulative visual effects.

Visual receptors	Effects of the Proposed Development and cumulative projects
User of Wood Lane.	The majority of this lane is surrounded on both sides by dense vegetation and the only views of the of the site are through gaps in this vegetation. There will be frequently sequential views of the proposed development (to the east) and cumulative project 1 and 3 (to the east) seen through the field entrances and gaps in the vegetation off into the proposed development at construction, year 1 and year 15. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of the PRoW to the west of the site (WD18/8/1, WD18/8/2 and WD18/9/1).	There are glimpsed views of the site from these PRoW seen through the layers of intervening vegetation. There will be combined in succession views of the proposed development and cumulative projects 1 and 3 seen through the field entrances and gaps in and over the vegetation at construction, year 1 and year 15. The proposed development will be seen behind the vegetation along Wood Lane, with the cumulative projects seen in the foreground of the views. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3)	There are views of the site from the majority of these PRoW, with occasional sections that run adjacent to field boundaries reducing views to one side of the PRoW. There will be combined in succession views of the proposed development and cumulative projects 1 and 3 seen through the field entrances, gaps in and over the vegetation off the proposed development at construction, year 1 and year 15. The proposed development will be seen in the foreground of any views, with cumulative projects being seen glimpsed through the dense vegetation along Wood Lane. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of PRoW to the west of the site on the edge of Brailsford (WD18/6/1, WD18/6/2 and WD18/6/3).	The majority of these PRoW are surrounded on both sides by dense vegetation and the only views of the site are through gaps in this vegetation such as field entrances, otherwise views are glimpsed through the vegetation. A section of WD18/6/3 sits within open agricultural land and has views towards the site but these are screened by the vegetation on the edge of the site.

Visual receptors	Effects of the Proposed Development and cumulative projects
	There will be combined in succession views of the proposed development and cumulative projects 1 and 3, through the field entrances and gaps in and over the vegetation of the proposed development at construction, year 1 and year 15. The proposed development will be observed behind the vegetation along Wood Lane, with the cumulative projects seen in the foreground of the views. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of the PRoW and road network in the wider study area to the west.	There are a number of PRoW running through the agricultural land to the west of the site. Glimpses of the southern part of the site are seen in the distance through gaps the intervening vegetation and landform. There will be in combination views of the proposed development and cumulative projects 1 and 3 visible through the gaps in the vegetation and landform at construction, year 1 and year 15. The proposed development will be visible behind the vegetation along Wood Lane, with the cumulative projects seen in in front of that vegetation. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of the PRoW network immediately north of the site around Brailsford Common.	There are a number of PRoW running through the agricultural land to the north of the site on the lower ground. The rising landform and intervening vegetation screen most views of the site, to glimpses of the northern most fields, visible through the intervening vegetation. There will be in combination views of the proposed development and cumulative project 1through the gaps in the vegetation and landform at construction, year 1 and year 15. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of the PRoW and road network in the wider study area to the north.	There are a number of PRoW running through the agricultural land to the north of the site. Glimpses of the northern part of the site are visible in the distance, through the intervening vegetation. There will be in combination views of the proposed development and cumulative project 1 seen through the gaps in the vegetation and landform at construction, year 1 and year 15. There will also be occasional sequential views of the cumulative project 2 and the proposed development for users of the routes when travelling north to south and vice versa. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of the A52.	This road runs to the south of the site, from Kirk Langley to Brailsford the west of the site. The majority of this road is surrounded on both sides by

Visual receptors	Effects of the Proposed Development and cumulative projects
	hedgerows and the only views of the of the site are through gaps in this vegetation such as field entrances or where the undulating landform allows for views of the wider landscape. There will be frequently sequential views of the proposed development and cumulative project 3 seen to the east of the road through the gaps in the vegetation at construction, year 1 and year 15. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Users of Mercaston Lane.	This road runs between Brailsford and Mercaston to the north of the site. The rising landform towards the site and intervening vegetation screen most views of the site to glimpses seen through the intervening vegetation. There will be in combination views of the proposed development and cumulative project 1 seen through the gaps in the vegetation and landform at construction, year 1 and year 15. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.
Residents of Brailsford.	From the easterly and north-easterly facing windows and curtilages of a number of properties within and around the settlement. There are glimpsed views of the western edge of the site seen in the middle ground through the intervening vegetation. There will be combined in succession views of the proposed development and cumulative projects 1 and 3 seen through the gaps in and over the vegetation at construction, year 1 and year 15. The proposed development will be seen behind the vegetation along Wood Lane, with the cumulative projects seen in the foreground of the views. The proposed development in addition to the cumulative projects will not increase the importance of effect beyond that already assessed.

8.21 Conclusion

8.21.1 The Landscape and Visual chapter is based on guidance contained within Guidelines for Landscape and Visual Impact Assessment (3rd edition) - Landscape Institute/ Institute of Environmental Management and Assessment (2013) – 'GLVIA 3' and Technical Guidance Note 01/24 (TGN 24) Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3), 2025 . The results are based on both desk study using a Zone of Theoretical Visibility (ZTV) plan and field survey.

8.21.2 The site comprises 21 several arable and pasture fields that lie to the east of Wood Lane, that runs in a north-south direction along the western boundary of the site. The site is

located to the east of the settlement of Brailsford and surrounds the two small farmsteads of New House Farm and Top Wild Park Farm. The eastern boundary of the site is adjacent to the small hamlet of buildings around Top House Farm.

8.21.3 The landscape of the site is not valued in terms of the NPPF, paragraph 187, as it is not covered by any statutory designations or identified as having high quality in any of the development plan documents or published landscape character study documents. Also, this assessment has not identified the Site as having sufficient landscape qualities to elevate it above other more everyday landscapes.

8.21.4 At construction and year 1 there will be significant effect on the landscape character of the site and its immediate context (Major / Moderate Adverse) and the 6. Needwood and South Derbyshire Claylands LCA (Moderate Adverse).

8.21.5 At construction and year 1 there will be significant visual effects for Users of Wood Lane (Major / Moderate Adverse), Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3) (Major Adverse), Users of the PRoW within the Ravensdale Park Conservation Area (Major / Moderate Adverse), Users of PRoW in and around Mugginton (Major / Moderate Adverse), Users of PRoW immediately south of the site (WD71/14/1) (Major / Moderate Adverse), Residents of Top Wild Park Farm (Major / Moderate Adverse), Residents of New House Farm (Major / Moderate Adverse); and Residents of Mugginton (Major / Moderate Adverse).

8.21.6 The mitigation strategy has the broad aims of assimilating the built elements into the surrounding landscape, to minimise adverse effects on visual amenity and to enhance and reinforce the existing landscape framework and to improve the quality and character of the local landscape.

8.21.7 Following on from the development of the mitigation strategy the significant landscape effects would remain.

8.21.8 The significant visual effects would be reduced to Users of PRoW in the site (WD71/7/1, WD71/7/2, WD71/7/3, WD71/6/1 and WD71/7/3) (Major Neutral), Users of the PRoW within the Ravensdale Park Conservation Area (Major / Moderate Adverse), Users of PRoW in and around Mugginton (Major / Moderate Adverse), Users of PRoW immediately south of the site (WD71/14/1) (Major / Moderate Adverse); and Residents of Mugginton (Major / Moderate Adverse).

8.21.9 Although there would be cumulative landscape and visual effects with other cumulative projects, they would not increase the significance of effect beyond that already assessed.

8.21.10 Mitigation and enhancement measures as outlined in the ES chapter and Landscape Design Evolution report have sought to minimise landscape and visual effects as directed by planning polices PD5: Landscape Character, PD7: Climate Change and enhance green infrastructure on the site as directed by PD4: Green Infrastructure. The landscape design of the scheme has been based on an understanding on the landscape character as provided within them.

9.0 ECOLOGY AND NATURE CONSERVATION

9.1 Introduction

9.1.1 This chapter provides an assessment of the potentially significant ecological effects of the proposed development, including details of the required mitigation measures which are to be implemented to ensure compliance with nature conservation legislation and planning policy, an assessment of the significant of any residual effects, and details of proposed enhancements in accordance with national and local policy requirements.

9.2 The Proposed Development

9.2.1 The site is located at Land at Brailsford, Ashbourne, DE6 3DA. This planning application seeks planning consent to develop the site to construct, operate, maintain and decommission an up to 55MW solar park with supporting electrical infrastructure to connect the solar parkto the local electricity network. The proposed development will deliver a renewable energy facility that will further enhance the UK's renewable energy capacity, thereby reducing the nation's dependency on fossil fuels, enhancing energy security and contributing to the national carbon emission reduction targets.

9.2.2 An access track to the site from Ashbourne Road (A52) is proposed in the south of the site. It is confirmed no land outside of the redline boundary will be used as a construction compound etc. during the construction phase. A corresponding zone of influence has been considered (this includes any transboundary effects regardless of administrative areas).

9.3 Legislation, Policy and Guidance

Relevant Legislation

9.3.1 Wildlife legislation and policy relevant to the EIA (based on the findings of the desk study and field survey) are set out below. This is a summary only, and the original legal documents should be consulted for definitive information.

Table 9.1: Legislation Protection Afforded to Sites/Habitats that could Potentially be Affected by the Proposed Works

Designated Site/Habitat	Legal Status
Hedgerows	Hedgerows that meet certain criteria are protected by The Hedgerows Regulations 1997, under which it is an offence to remove or destroy such hedgerows without permission from the Local Planning Authority.

Table 9.2: Legislation Protection Afforded to Species that could Potentially be Affected by the Proposed Works

Species	Legal Status
European Protected	
Bats & Great Crested Newt	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.
Nationally Protected	
Bats & Great Crested Newt	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and

	• Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Badger	The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger, or attempt to do so and also make it illegal to intentionally or recklessly interfere with a Badger sett. This includes damaging or destroying a sett, obstructing access to a sett and disturbing a Badger while it is occupying a sett. Licences can be granted to permit sett closure and/or disturbance between July and November inclusive.
Nesting Birds (general)	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird; and • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Common Reptiles (e.g. Viviparous Lizard, Grass Snake and Slow-worm)	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.
Wild Mammals	The Wild Mammals (Protection) Act 1996 makes it illegal to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.
Invasive Species	
Invasive Flora (e.g. Japanese Knotweed)	The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act.

9.3.2 Section 40 of the Natural Environment and Rural Communities Act 2006 (the NERC Act) places a legal duty on public bodies, including planning authorities, to 'have regard' to the conservation of biodiversity when carrying out their normal functions, which includes consideration of planning applications.

9.3.3 In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI), of which there are 56 habitats and 943 species. The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

National Planning Policy

9.3.4 The NPPF set out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development.

The NPPF states that:

'To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping-stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'

'When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;

- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate

'The following should be given the same protection as European sites:

- potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC);
- listed of proposed Ramsar Sites; and,
- site identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on European sites (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.'

Local Planning Policy

9.3.5 The following policies from the DDLP are applicable to biodiversity and nature conservation (provided in summary only and the full DDLP should be viewed for full details):

- **Policy PD3 Biodiversity and Natural Environment** – The District Council will seek to protect, manage, and where possible enhance the biodiversity and geological resources by ensuring development proposals will not lead to harm of these features. Protected sites including internationally, nationally and locally important sites, ecological networks and the protection and recovery of priority species must be considered. This will be achieved by conserving and enhancing protected sites and not permitting any proposal which would directly or indirectly result in significant harm to geological or biodiversity conservation features, unless it can be demonstrated that there is no appropriate alternative site available, all statutory and regulatory requirements have been satisfied, and appropriate conservation and mitigation measures have been provided.

- **Policy PD4 Green Infrastructure** – The District Council will develop, protect, enhance and secure the long-term management of green infrastructure networks. This will be achieved by ensuring the development does not have a detrimental effect on existing green infrastructure, includes provision for the creation of new or enhancement of existing green infrastructure, and that any green infrastructure development project that could result in adverse effects to a European site is subject to a project-level HRA and appropriate mitigation. Long distance trails should be protected and extended, improving access linkages to the Peak District National Park. Opportunities for the creation of habitats that allow for the mitigation of the effects of climate change, including species migration, establishing links between habitats, and preventing habitat losses in line with Biodiversity Action Plans.

- **Policy PD6 Trees, Hedgerows and Woodlands** – Developments should seek to enhance and expand the district's tree and woodland resource, where appropriate. Planning permission will be refused for proposals that result in the loss or deterioration of ancient woodland and the loss of aged or veteran trees, unless the need for, and benefits of, the development in that location clearly outweigh the loss. Trees, hedgerows, orchards and woodland of value should be retained and integrated within development wherever possible. Where the loss is justified, replacement provision will be required utilising indigenous tree species and hedgerows that are sympathetic to the locality of the site and, as a minimum, of equivalent value to the trees and hedgerows to be lost.

9.3.6 No further Supplementary Planning Documents (SPDs) or guidance has been identified which is applicable to this EIA.

9.3.7 The DDLP Policy Map for Brailsford indicates that whilst no DDLP policy applies to the proposed development, Wood Lane Local Wildlife Site (LWS) runs adjacent to the site boundary.

9.3.8 The Lowland Derbyshire Biodiversity Action Plan (Claylands Area) applies to this development (Lowland Derbyshire Biodiversity Partnership, 2011).

9.3.9 In Autumn 2025, the Local Nature Recovery Strategy (LNRS) for Derbyshire (Derbyshire County Council, 2025a) was published following a consultation period. This includes the vision for restoring and enhancing nature and biodiversity across the county and includes a

Local Habitat Map. This Map shows the locations in which key measures and actions, particularly for habitat creation, management and enhancement, should be focused to have the greatest benefits for nature. The mapping also shows areas that are currently of particular importance for nature and biodiversity, and the areas that could become important in the future. This Strategy has been reviewed and contents used to inform the site layout and landscape plan discussions and details presented within this report.

9.4 Methodology, Aim and Objectives

Aims and Objectives

9.4.1 The aims and objectives of this chapter are as follows:

- To identify and describe all potentially significant ecological effects associated with the proposed development;
- To set out mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects;
- To identify how mitigation measures will be secured;
- To provide an assessment of the significance of any residual effects;
- To identify appropriate enhancement measures; and
- To detail any requirements for post-construction monitoring.

Zone of Influence

9.4.2 The zone of influence has been determined and informed through consideration of likely impacts and key ecological effects and based on the professional judgement of the ecologist leading the project with reference to current guidance (CIEEM, 2016). This includes: the construction phase and operational phase, and any identified in-combination/cumulative effects. Specific radii for each ecological feature are explained in the following sections.

Ecological Features Considered

9.4.3 The following ecological features have been considered throughout this chapter:

- Statutory sites designated or classified under international conventions or European legislation;
- Statutory sites designated under national legislation (excluding geological);
- Locally designated wildlife sites;
- Ancient Woodland Inventory sites, Important Hedgerows (as defined by The Hedgerow Regulations 1997), Veteran Trees, trees listed under Tree Preservation Orders (TPOs), and trees within a Conservation Area;
- England Habitats of Principal Importance (HPI) identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and Local BAP Habitats;
- Legally protected species;
- England Species of Principal Importance (SPI) identified as requiring action in the UK BAP and Local BAP Species;
- Notable species (which includes: Species of conservation concern and Red Data Book (RDB) species, Birds of Conservation Concern (BOCC), and nationally rare and nationally scarce species);
- Invasive species (listed under section 14 of Schedule 9); and
- The wider green infrastructure resource.

Methodology

Desk Study

9.4.4 Desk study details were obtained from the following sources on the associated dates to provide background on ecological features in the vicinity of the site. In each case the search included the site and the specified area beyond the site boundary based on the expected zone of influence. Candidate and potential designations are considered too as these are also legally protected. Records obtained included:

- Statutory sites designated or classified under international conventions or European legislation within a 15km radius, statutory sites designated under

national legislation (including Marine) within 5km, non-statutory designations, existing EPS Licence applications and Great Crested Newt Pond Survey records within a 2km radius, and Priority Habitat & Ancient Woodland Inventory within a 0.5km radius [Magic Map, 13th November 2025] (DEFRA, 2025);

- Tree Preservation Orders (TPOs) and Biodiversity Conservation Areas within the immediate zone of influence [Derbyshire Dales District Council, 13th November 2025] (Derbyshire Dales District Council, 2025a)
- Waterbodies within a 0.5km radius (Online mapping sources including: Google Maps; Magic Map; and Ordnance Survey Street View, 13th November 2025); and
- Locally designated wildlife sites & any notified Local Biodiversity Action Plan (BAP) Habitats, Legally protected species, any Priority species (which includes: National Biodiversity Species, Local BAP Species, Species of conservation concern and Red Data Book (RDB) species, Birds of Conservation Concern (BOCC), nationally rare and nationally scarce species, and OSPAR Commission list of threatened/declining species) and Invasive species (listed under section 14 of Schedule 9 only) within a 2km radius, and any important hedgerows/veteran trees within the immediate zone of influence [Derbyshire Biodiversity Records Centre (DBRC) (26th August 2025)].

9.4.5 Data has been edited where relevant to prevent sensitive or confidential records being made public in accordance with *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK* (CIEEM, 2023).

Field Survey

9.4.6 Field Surveys were undertaken on the following dates by the identified staff, all of whom satisfy necessary field survey competencies as stipulated by the Chartered Institute for Ecology and Environmental Management (CIEEM). Weather conditions on the day of survey have been included and where relevant survey/class licence numbers referred to.

Table 9.3 – Survey Dates and Conditions

Survey	Date	Staff/Licence	Environmental Conditions
Preliminary Ecological Appraisal (Visit 1 of 2)	5th August 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd.	Moderate rain and overcast conditions (80% cloud cover), and 21°C with moderate breeze.

Survey	Date	Staff/Licence	Environmental Conditions
Preliminary Ecological Appraisal (Visit 2 of 2)	13th August 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd.	Dry and sunny conditions (0% cloud cover), and 30°C with light air.
Bat Activity Surveys	22/05/2025 Spring Transect	KT Smith MSc BSc (Hons) – Consultant Ecologist and Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist	Dry and partly cloudy (20% cloud cover), with a light wind and temperature of 10°C. Sunset: 21:09 Survey time: 21:09 to 23:09
	21/07/2025 Summer Transect	KT Smith MSc BSc (Hons) – Consultant Ecologist and Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist	Dry and overcast (90% cloud cover), with a light wind and temperature of 16°C. Sunset: 21:18 Survey time: 21:18 to 23:18
	25/09/2025 Autumn Transect	KT Smith MSc BSc (Hons) – Consultant Ecologist and Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist	Dry and partly cloudy (25% cloud cover), with a moderate wind and temperature of 12°C. Sunset: 19:00 Survey time: 19:00 to 21:00
Ground-level Bat Tree Assessment	10th March 2026	KT Smith BSc (Hons), MSc – Consultant Ecologist at Enzygo Ltd, and Ethan Westmerland BSc (Hons), MSc – Assistant Ecologist at Enzygo Ltd. Both under the guidance of Derek Allan MCIEEM MSc BSc [Hons] (Director of Ecology at Enzygo and a licensed bat surveyor (Natural England licence Level 2, 2015-14659-CLS-CLS))	Dry and cloudy (70% cloud cover), moderate wind, and temperature 12 °C.
Badger Surveys	23rd October 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd	Dry and partly cloudy (50% cloud cover), with a gentle breeze and temperature of 10°C
	6th November 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist at Enzygo Ltd.	Dry and cloudy (75% cloud cover), with a light wind and temperature of 15°C
Otter and Water Vole Survey	12th September 2025	Chris Schofield MSc BSc (Hons) – Principal Ecologist at Enzygo plus H&S assistant	Dry and partly cloudy (25% cloud cover), with a moderate breeze and temperature of 16°C
Breeding Bird Survey	28th April 2025 Survey 1	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and clear (10% cloud cover), with no wind and temperature of 14°C Sunrise: 5:41 Survey time: 06:00 to 11:00
	6th May 2025 Survey 2	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 7°C Sunrise: 5:25 Survey time: 05:30 to 10:30

Survey	Date	Staff/Licence	Environmental Conditions
	26th May 2025 Survey 3	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (50% cloud cover), with a moderate breeze and temperature of 12°C Sunrise: 4:55 Survey time: 05:00 to 10:00
	9th June 2025 Survey 4 (Dusk)	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 13°C Sunset: 21:30 Survey time: 18:00 to 22:30
	30th June 2025 Survey 5	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 19°C Sunrise: 4:46 Survey time: 05:00 to 10:00
	11th July 2025 Survey 6	Jordan Prendergast BSc (Hons) – Experienced Ornithologist	Dry and clear (0% cloud cover), with no wind and temperature of 18°C Sunrise: 4:56 Survey time: 05:00 to 10:00
Barn Owl Survey	6th November 2025	Chris Schofield MSc BSc (Hons) – Principal Ecologist - CL29 Barn Owl Class Licence reference number CL29/00487	Dry and mostly cloudy (75% cloud cover), with a light wind and temperature of 15°C
Wintering Bird Surveys	14th October – 18th March 2024	RPS Group – refer to appended Wintering Bird Survey report for details	
Invertebrate Surveys	20th June – 8th August 2025	Philip Playford BSc (Hons), MSc, MCIEEM, MRSB – refer to appended Invertebrate Survey report for details	
GCN Habitat Suitability Index (HSI) assessment and eDNA survey	23rd June 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist plus H&S assistant	Dry and cloudy (75% cloud cover), with a moderate breeze and temperature of 16°C
	30th June 2025	Ethan Westmerland MSc, BSc (Hons) – Assistant Ecologist plus H&S assistant	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 27°C
Reptile Surveys	26th May 2025 Refugia deployed	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor plus assistant	N/A
	13th June 2025 Survey 1	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 18°C Survey time: 05:00 to 09:00
	15th June 2025 Survey 2	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and partly cloudy (25% cloud cover), with a light wind and temperature of 14°C Survey time: 05:00 to 09:00
	16th June 2025 Survey 3	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and clear (10% cloud cover), no wind and temperature of 15°C Survey time: 05:00 to 09:00

Survey	Date	Staff/Licence	Environmental Conditions
	18th June 2025 Survey 4	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and clear (0% cloud cover), a light wind and temperature of 16°C Survey time: 05:00 to 09:00
	24th June 2025 Survey 5	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and cloudy (75% cloud cover), moderate wind and temperature of 16°C Survey time: 05:00 to 09:00
	25th June 2025 Survey 6	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and partly cloudy (50% cloud cover), a light wind and temperature of 18°C Survey time: 05:00 to 09:00
	29th June 2025 Survey 7	Jordan Prendergast BSc (Hons) – Experienced Field Surveyor	Dry and cloudy (75% cloud cover), a light wind and temperature of 19°C Survey time: 05:00 to 09:00

Preliminary Ecological Appraisal

9.4.7 In accordance with Guidelines for Preliminary Ecological Appraisal 2nd Edition (CIEEM, 2017) the Preliminary Ecological Appraisal (PEA) survey included the following.

Mapping of Habitat Types

9.4.8 This assessment has utilised the UK Habitat Classification (UKHab) methodology (UKHab, 2023) as the recommended published method of habitat classification. It has been used to categorise and map the primary habitat types present within the survey area using a standard set of habitat categories, with associated secondary codes/features identified where applicable. Details of current management and habitat condition have also been recorded where appropriate.

9.4.9 Each of the main habitats has been described; including details of component plant species abundances (recorded using the DAFOR scale: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare). Additionally, any stands of non-native invasive plant species were recorded. Habitat extents have been visually mapped onto a topographic plan, with approximate location/areas recorded only (a GPS unit has not been utilised to accurately recorded these).

Assessment of possible presence/likely importance for Protected & Priority Species

9.4.10 An assessment of the possible presence of protected or priority species, and the likely importance of habitat features present for such species has also been undertaken, particularly where uncommon or specialised habitats are present in accordance with current PEA guidelines (CIEEM, 2017). However, no specific protected species survey has been undertaken unless listed under additional surveys as below. Any incidental sightings

of protected or priority species, or field signs of such species has also been recorded. Species assessed include: Plants; Terrestrial/aquatic invertebrates; Fish; Amphibians; Reptiles; Breeding, wintering and migratory birds; Bats (including potential roost sites, foraging and commuting habitats/features), Badger, and Other mammal species.

Preliminary Bat Roost Assessment of Trees

9.4.11 With reference to current survey guidelines ((Collins, 2023)and (BSI, 2015))), a scoping (non-specialist) survey for roosts of individual trees and groups of trees within and immediately adjacent to the site, was undertaken. Each tree was visually inspected from the ground (with the aid of binoculars and a high-powered torch) to identify Potential Roosting Features (PRFs), including checks for the presence of the following features that bats might be able to use:

- Natural holes (e.g. knot holes) arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes (e.g. caviries that have developed from flush cuts) or cavities created by branches tearing our from parent stems;
- Woodpecker holes;
- Cracks/splits in stems or branches (both vertical and horizontal);
- Partially detached or loose, platy bark;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt rots;
- Compression forks with included bark, forming potential cavities
- Crossing stems or branches with suitable space between for roosting;
- Ivy stems with diameters in excess of 50mm with suitable roosting spaces behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk);

- Bird and Bat boxes on trees; or
- Other features that offer a place of shelter.

9.4.12 Following the preliminary assessment of trees, based on the signs present, each tree was classified as one of the following categories in accordance with current guidance (Collins, Bat surveys for Professional Ecologists: Good Practice Guidelines (4th edn), 2023).

- None – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree
- PRF – A tree with at least one PRF present

9.4.13 Where PRFs are identified, they are categorised in relation to the suitability for roosting bats based on the following, and to be applied using professional judgement in accordance with current guidance (Collins, Bat surveys for Professional Ecologists: Good Practice Guidelines (4th edn), 2023).

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to the size or lack of suitable surrounding habitats
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

9.4.14 The decision-making process for any required further tree surveys shall be undertaken in accordance with the flow-chart and different survey approaches presented in Chapter 6 of the Bat Surveys for Professional Ecologist guidance (Collins, 2023).

Bat Activity Surveys

9.4.15 Three bat activity surveys of the site were undertaken in accordance with current guidelines (Collins, 2023) i.e. as Moderate suitability habitat, one survey per month through the bat activity season). The dusk surveys commenced at sunset and lasted until approximately 2 hours after sunset. In this instance, assessing the levels of activity recorded it wasn't perceived necessary to increase the number of planned surveys during the survey season.

9.4.16 In this instance, two transect routes (east and west) were deemed sufficient to cover the site. This was determined during the Preliminary Ecological Appraisal taking account of landscape constraints, topography, location of nearest habitats more likely to be utilised by bats, and the distance a surveyor can walk in a single evening (maximum of 3-5km). The transect sampled the full range of habitats present on site.

9.4.17 Each transect route was supplemented by 10 spot counts (labelled 1-10), each of a 3-to-5-minute duration, with the transect route in-between divided into sectors (labelled 1-10). Each survey commenced from a different transect point, and the transect direction varied, in order to gather information on bat usage at different points of the site relative to different times after sunset.

9.4.18 During the surveys, the surveyors recorded the time, location, species, and behaviour (i.e. foraging, commuting or swarming) of each bat pass (a single bat pass or a 10sec period of activity recorded as 1). Additional factors, such as, the number of bats, flight height, bat appearance and relative speed, were recorded where observed. The surveyors were equipped with Echo Meter Touch 2 Pro Full spectrum detectors combined with an iPad Pro 9.7. Bat echolocation calls were saved onto the iPad.

9.4.19 In accordance with current guidance (Collins, 2023), two static Song Meter SM4BAT FS (Wildlife Acoustics Inc., Concord, MA) automated bat detector units were deployed during each month April to October. The units were placed at ground level, whilst the microphones were connected approximately 2m from ground height, away from solid objects which may obstruct sound and any source of extraneous noise. The same locations were used each month to allow an assessment of any spatial and temporal variation in bat activity across the site. In each instance, the static detectors recorded for at least 5 consecutive nights, with the detectors automatically switching on 30 minutes prior to sunset and switching off 30 minutes after sunrise (pre-programmed sunset/sunrise times based on location of detector).

9.4.20 The audio recordings from the Echo Meters and SM4s were later analysed using Kaleidoscope Pro 4.0.4 UK Analysis Software for Ultrasonic Data. This programme uses UK bat classifiers and auto-ID to determine species of bats recorded. However, in every instance this data was fully reviewed by a bat licensed ecologist (Derek Allan MSc, BSc (Hons) MCIEEM, NE Class 2 Licence Number: 2015-14659-CLS-CLS) to confirm its accuracy, specifically where rarer bat species are recorded, where unidentified files are present, where multiple species are present on a single file, or where the auto-ID match ratio is

statistically <0.5 confidence (files of Pipistrelle spp. were not assessed further). Any significant sonograms were saved, as an example of each species identified.

9.4.21 Bat Activity Index (BAI – bat passes per hour) were calculated for each bat species recorded within each spot count/sector/static location and for the site overall. For each spot count/sector/static location, the BAI was calculated by dividing the number of individual species passes recorded at these locations by the total duration data was collected at each location, to give the mean number of passes per hour. For the site overall, the BAI was calculated by dividing the number of individual species passes recorded during the manual and automated surveys by the total duration of each survey, to give the mean number of passes per hour.

9.4.22 The highest BAI (either from the Manual or Static survey) is then combined with values for: national rarity, site/nearby roost potential, and habitat characteristics (calculated as shown below, to give a total score in accordance with current guidance (Wray et al., 2010). The total score is then given a value which is assigned a geographic frame of reference as shown below. Vagrant bats (those species which are not resident and only recorded as occasional visitors) are simply assessed as vagrants.

Table 9.4 - Calculation of Foraging/Commuting Habitat Score (shown in brackets)

BAI*	National Rarity	Site/Nearby Roost Potential	Habitat Characteristics
Low BAI >0 but <6 **(5)**	Common **(2)**	None **(1)**	Industrial or other site without established vegetation. Absence of linear features **(1)**
-	-	Small number **(3)**	Suburban areas or intensive arable land. Un-vegetated fences and large field sizes **(2)**
Moderate BAI >=6 but <60 **(10)**	Rarer **(5)**	Moderate number/not known **(4)**	Isolated woodland patches, less intensive arable (moderate field sizes) and/or small towns and villages **(3)**
-	-	Large number of roosts, or close to a SSSI for the species **(5)**	Large or connected woodland blocks, mixed agriculture (small field sizes with well grown, well connected hedgerows) and small villages/hamlets **(4)**
High BAI >=60 **(20)**	Rarest **(20)**	Close to or within a SAC for the species **(20)**	Mosaic of pasture (small fields), woodlands and wetland areas with complex network of mature well-established hedgerows **(5)**

*BAI categories are based on professional judgement in the absence of published guidance.

Table 9.5 - Categorisation of Bats by National Rarity (England only shown)

Rarity within Range	England
Common (population over 100,000)	Common Pipistrelle Bat (*Pipistrellus pipistrellus*), Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*), Brown Long-eared Bat (*Plecotus auritus*).
Rarer (population 10,000-100,000)	Lesser Horseshoe Bat (*Rhinolophus hipposideros*), Whiskered Bat (*Myotis mystacinus*), Brandt's Bat (*Myotis brandtii*), Daubenton's Bat (*Myotis daubentonii*), Natterer's Bat (*Myotis nattereri*), Leisler's Bat (*Nyctalus leisleri*), Noctule Bat (*Nyctalus noctula*), Nathusius' Pipistrelle Bat (*Pipistrellus nathusii*), Serotine Bat (*Eptesicus serotinus*).
Rarest (population under 10,000)	Greater Horseshoe Bat (*Rhinolophus ferrumequinum*), Bechstein's Bat (*Myotis bechsteinii*), Alcathoe Bat (*Myotis alcathoe*), Barbastelle Bat (*Barbastelle barbastellus*), Grey Long-eared Bat (*Plecotus austriacus*).
*Vagrant species and occasional visitors	Greater Mouse-eared Bat (*Myotis myotis*), Parti-coloured Bat (*Vespertilio murinus*), Kuhl's Pipistrelle Bat (*Pipistrellus kuhlii*), Savi's Pipistrelle Bat (*Hypsugo savii*), Pond Bat (*Myotis dasycneme*), Notch-eared Bat (*Myotis emarginatus*), Northern Bat (*Eptesicus nilssonii*).

Table 9.6 – Bat Sites/species Valuation System

Geographic Frame of Reference	BAI Score	Roost Types
Within zone of influence	1-10	N/A
Local	11-20	Feeding Perches (common species), individual bats (common species), small numbers of non-breeding bats (common species), mating sites (common species)
County	21-30	Maternity sites (common species), small numbers of hibernating bats (common and rarer species), feeding perches (rarer/rarest species), individual bats (rarer/rarest species), small numbers of non-breeding bats (rarer/rarest species)
Regional	31-40	Mating sites (rarer/rarest species) including well-used swarming sites, maternity sites (rarer species), hibernation sites (rarest species), significant hibernation sites
National	41-50	Maternity sites (rarest species), Sites of Special Scientific Interest (SSSI)
International	>50	Special Areas of Conservation (SAC)

[redacted]

9.4.24 [redacted]

9.4.25 [redacted]

9.4.26 [redacted]

9.4.27 [redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

9.4.28 [redacted]

Otter and Water Vole Survey

Otter

9.4.29 A detailed search for signs of Otter activity was undertaken in accordance with current guidance (Chanin, 2003). This involved a search for: spraints (droppings) on upstanding rocks in the channel and under bridges; feeding signs (i.e. part-eaten remains of fish, amphibians and crayfish); slides on the river bank; paw prints in mud; and breeding sites (holts), resting places (lay-ups in tree cavities, riverbanks or under overhangs), or couches (i.e. flattened earth or areas concealed by surrounding vegetation).

9.4.30 An assessment of Otter activity has been made based on the number of Otter signs found using the methods described in current guidance (Chanin, 2003).

Water Vole

9.4.31 A detailed search for signs of Water Vole activity was undertaken in accordance with current guidance (Strachan & Moorhouse, 2016). This involved a search for: feeding remains (stacks of neatly cut vegetation), latrines (sites regularly used for depositing droppings which act as territory markers); droppings (non-latrine sites); burrows; prints; runs; and sightings of Water Vole.

9.4.32 An assessment of the level of Water Vole activity has been made according to those results obtained from the field survey. The number of adult females on site was estimated by dividing the number of latrines by six (Strachan & Moorhouse, 2016). The predictive

equation developed by Morris et al. (1998) was also used to give an estimate of the total number of Water Voles that were present on site during the surveys. The predictive equation is y = 1.48 + 0.683x (where y is Water Voles and x is latrines).

Breeding Bird Survey

9.4.33 The survey methodology employed was the Bird Survey Guidelines for assessing ecological impacts (Bird Survey & Assessment Steering Group, 2025), with modifications made based on the territory mapping system used for the British Trust for Ornithology (BTO) Common Bird Census (Marchant et al. 1983 & 1990), to ensure all habitats within the site were surveyed.

9.4.34 A total of six survey repetitions were undertaken during the bird nesting season. During each of the survey visits, a transect was walked through the application site in combination with vantage points/survey stations. Any notable birds observed or heard during the survey were recorded and the location mapped, in addition to a record of behaviour, age and/or sex as appropriate, using the standard BTO species codes and symbols for bird activity. Care was taken at all times to ensure no birds were double counted.

9.4.35 Surveys were undertaken between half an hour before sunrise and mid-morning when bird activity is at its highest, with one survey undertaken in the evening to beyond sunset to record species which may be more active at this time of day.

9.4.36 For the purposes of this assessment the breeding status of observed birds was determined where possible using the BTO breeding evidence criteria as confirmed breeding, probable breeding, possible breeding, or non-breeding.

Table 9.7 - BTO Breeding Evidence Criteria

Breeding Status	Evidence	Code
Confirmed Breeding	Distraction-Display or injury feigning	DD
	Used Nest or eggshells found (occupied or laid within period of survey)	UN
	Recently fledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g., feeding) is helpful. Be cautious, even if the record comes from suitable habitat	FL
	Adults entering or leaving nest-site in circumstances indicating Occupied Nest (including high nests or nest holes, the contents of which cannot be seen) or adults seen incubating	ON
	Adult carrying faecal sac or food for young	FF
	Nest containing eggs	NE
	Nest with young seen or heard	NY

Breeding Status	Evidence	Code
Probable Breeding	Pair observed in suitable nesting habitat in breeding season	P
	Permanent territory presumed through observing territorial behaviour (song etc.) on at least two different days a week or more apart at the same place or many individuals on one day	T
	Courtship and display (judged to be in or near potential breeding habitat)	D
	Visiting Probable Nest Site	N
	Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby	A
	Brood patch on adult observed examined in the hand, suggesting incubation	I
	Nest building or excavating nest-hole	B
Possible Breeding	Species observed in breeding season in suitable nesting habitat	H
	Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat	S
Non-breeding	Flying-over	F
	Species observed, but suspected to still be on Migration	M
	Species observed, but suspected to be summering non-breeder	U

9.4.37 To provide an assessment of the value of the site for breeding birds, the level of geographic importance has been determined using the widely used adaptation of the criteria defined by Fuller (1980), which provides an assessment of the value of the site based in the number of breeding bird species detected.

Table 9.8 - Site Importance Assessment Criteria

Level of Importance	Number of Breeding Bird Species
Local	<25 species
District	25-49 species
County	50-69 species
Regional	70-84 species
National	85+ species

9.4.38 An estimate of the number of potential Lapwing (Vanellus vanellus) and Skylark (Alauda arvensis) territories at the site and immediately adjacent was determined through assessment of the number of individuals detected, territorial behaviours, any confirmed nests (e.g. adults observed entering a nest site, or nest with young heard/seen), and noting where activity was consistently observed across more than one survey (i.e. the presence of a single Skylark on one survey does not necessarily equate to an established breeding territory).

9.4.39 Habitats in the study zone were assessed for their suitability for use by notable species on their habitat requirements described in Bird Monitoring Methods: A Manual of Techniques for Key UK Species (Gilbert, 1998).

Barn Owl Survey

9.4.40 With reference to current survey guidelines (Shawyer, C R, 2011) a single tree in the north of the site identified during the Preliminary Ecological Appraisal (ARUP, 2024) was visually inspected, using ladders to access necessary features, to search for signs indicating the presence or potential presence of Barn Owl nests, such as:

- Potential access points that are 70-80 millimetre diameter as a minimum, or vertical slots of this width;
- Large dark chamber with a floor area greater than 250 x 250 millimetres;
- Evidence of white excreta (whitewash);
- Direct evidence of Barn Owls (sightings, droppings, pellets and feathers); and
- Evidence of nesting Barn Owls (e.g. droppings, regurgitated pellets, moulted feathers).

9.4.41 The type, location and extent of evidence found will be used in combination with professional opinion to determine whether Barn Owls are considered to be roosting and/or breeding on site. Any additional observations made in the evening and early morning (e.g. during the bat surveys) were also recorded.

9.4.42 Based on the field survey results, any structures or trees are first assessed to determine which of the following categories they fall into (Shawyer, C R, 2011):

- Negligible Suitability - no features suitable for Barn Owl;
- Potential Nest Site (PNS) – possess features of a suitable size and structure to provide a suitable Barn Owl nest site but no evidence of their presence has been recorded;
- Occupied Breeding Sites (OBS) - Presence of adults, young, eggs, egg shells, cushion of pellets, food remains, or juvenile down;
- Active Roost Site (ARS) – breeding does not occur but Barn Owl is seen or heard regularly, or there is whitewash, regurgitated pellets or moulted feathers. Should be recorded as occasionally used or regularly used, and recorded as a Winter, Spring, Autumn, or Summer roost; or,

- Temporary Rest Site (TRS) - As ARS but evidence much less and only temporarily used.

9.4.43 Where applicable, any Potential Feeding and Dispersal Habitat (PFH), or Traffic Accident Black spots (TAB) are also identified.

9.4.44 Where evidence is identified, the site is then defined in the following way (Shawyer, C R, 2011):

- Confirmed Breeding – Pair of Barn Owls recorded occupying an OBS during the breeding season or when eggs, egg shells, chicks and/or juvenile down are identified at or near to a OBS;
- Probable Breeding – A Barn Owl is observed carrying prey into the site, a pair is seen or heard calling during the breeding season or when a collection of ARS, food cache and/or female moulted wing feathers are identified at or near the site; or
- Possible Breeding - An occasionally used Spring or Summer ARS has been identified containing one or more PNS, but where there is no other evidence of breeding.

Great Crested Newt Survey

9.4.45 Pertinent waterbodies identified by the desk study and through field survey which lie within the site or within an unobstructed 250m radius of the site boundary (i.e. not beyond dispersal barriers such as major roads or development) were subject to Habitat Suitability Index (HSI) Assessments to determine their suitability and potential to support breeding GCN. Note: it is recognised that current guidance states ponds within a 500m radius of a development should be considered, however for the purposes of this Preliminary Ecological Appraisal it was determined ponds outside of 250m were not currently applicable for the scope of assessment undertaken due to the poor quality of the existing terrestrial habitats to be impacted by the proposed development

9.4.46 The HSI is a measure of the suitability of a pond for breeding GCN using a numerical index between 0 and 1. The index is derived from an assessment of ten scoring criteria variables known to influence the probability of GCN presence (ARG, 2010).

9.4.47 Environmental DNA (eDNA) survey was undertaken at ponds within an identified potential zone of influence. The survey was carried out in accordance with sampling methods and protocol described within the current standard guidance Appendix 5: Technical Advice

Note for field and laboratory sampling of Great Crested Newt (Triturus cristatus) environmental DNA (Biggs, 2014).

9.4.48 An assessment of potential impacts to GCN, in the absence of mitigation, has been undertaken in accordance with CIEEM guidelines (CIEEM, 2018). Where potential impacts to GCN are identified, avoidance, mitigation, compensation measures that are proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works are described. In addition, in accordance with the NPPF, opportunities to enhance or create benefits for GCN (and common amphibians) are explored alongside the hierarchy of aforementioned measures.

9.4.49 Features and habitats within and surrounding the site were assessed to determine if they represent dispersal/fragmentation barriers to GCN. In accordance with current guidance, "barriers to regulate migration and dispersal include roads with high traffic volume, built-up areas, large or fast-flowing rivers, and large expanses of intensively farmed land" (Langton, 2001).

9.4.50 The HSI assessment scores were used to rate the suitability of each waterbody for GCN, following the system shown below.

Table 9.9 – Pond Habitat Suitability Index (HSI) Categories

HSI Score	Pond Suitability for GCN
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

Reptile Survey

Artificial Refugia and Direct Observation Survey

9.4.51 Artificial refugia material was set out throughout suitable reptile habitats within the site. In this instance, this focussed on field boundary habitats, and particularly those in wide rough field margins and arable set-aside adjacent to favourable shelter such as woodland.

9.4.52 Current survey guidelines recommend a refuge density of between five and ten refuges per hectare of suitable reptile habitat (Froglife, 1999), however the more traps used the greater the chance of detection. In this instance, considering the vast majority of the site represents unsuitable arable cropland, a total of 200 refugia was considered to provide a suitable trap density. This included 150x torch-on roofing felts 50x50cm in size, and 50x

corrugated tin 50x50cm in size. The refugia were numbered and their locations were mapped using GPS to enable recording of reptile distribution and population density. Refugia were laid out across all suitable habitats at the site including field margins and woodland edge.

9.4.53 The refugia were left to bed down for a minimum of 2 weeks prior to the first check. During this time, favourable conditions develop at the traps (e.g. suitable humidity and temperature gradient), vegetation beneath dies back, and reptiles have time to discover and become more familiar with them.

9.4.54 In accordance with current guidance (Froglife, 1999) the refugia were then checked on seven separate survey repetitions, in order to obtain sufficient data to confirm presence or likely absence and gain an estimation of population size. Surveys were only completed during suitable weather conditions as described by current survey guidelines (Froglife, 1999) (i.e. avoiding particularly windy, rainy or overly hot days/periods).

9.4.55 In addition to checking the refugia for reptiles, direct observation of any reptiles within the site not using the utilising traps was also undertaken. This complementary method was undertaken by the surveyor slowly walking, treading as quietly as possible, between traps and observing areas suitable for reptiles. Particular attention was paid to potential basking spots (e.g. open, sunny habitats close to cover) and to listen for rustling of vegetation. Where a suspected reptile was heard but not seen (or only a fleeting glimpse gained) the area was returned to around 10 minutes later to search for any reptile moving back out into a basking spot.

9.4.56 The surveyor recorded the location, number, species, and sex of each reptile species encountered. Any other notable wildlife encountered were also recorded. Where reptiles were detected through direct observation (i.e. not at a numbered refugia) these were allocated to the nearest refugia number.

9.4.57 The artificial refugia were removed from site upon completion of the survey.

9.4.58 No advanced survey techniques such as capture-mark-recapture surveys, or specific survey methodology for Smooth Snake (Coronella austriaca) or Sand Lizard (Lacerta agilis), was undertaken.

9.4.59 Each survey visit may reveal only a small sample of the reptile population occurring on site, because the proportion of individuals recorded varies according to weather, migration patterns etc. A mechanism known as the Key Reptile Site Register can be used

to obtain a basic evaluation of the population size and importance of the site. It has been designed to identify and promote the safeguarding of important reptile sites, with outstanding assemblages being the guiding principle in judging sites. To qualify for the Key Reptile Site Register, the site must meet at least 1 of the following criteria (Froglife, 1999):

- Supports 3 or more reptile species;
- Supports 2 snakes species;
- Supports an exceptional population of 1 species (refer to Table 9.10);
- Supports an assemblage of species scoring at least 4 (refer to Table 9.10); and,
- Does not satisfy any of the above but which is of particular regional importance due to local rarity.

Table 9.10 - Key Reptile Site Register Population Scores

Species	Low Population (Score 1)	Good Population (Score 2)	Exceptional Population (Score 3)
Adder (*Vipera berus*)	<5	5-10	>10
Grass Snake (*Natrix helvetica*)	<5	5-10	>10
Viviparous Lizard (*Zootoca vivipara*)	<5	5-20	>20
Slow-Worm (*Anguis fragilis*)	<5	5-20	>20

**Figures in the table refer to maximum number of adults seen by observation and/or under refugia (placed at a density of up to 10 per hectare, by one person in one day).*

9.4.60 Potential ecological constraints to development in relation to common reptiles have been identified from desk study and field survey data using current development proposals.

9.4.61 Additionally, where necessary the carrying capacity of the chosen receptor has been estimated. This is based on the professional opinion of an ecologist and is not based upon any specific quantitative approach. It takes into consideration the suitability of habitats throughout the receptor, and the likely population size that this could hold, then determines whether the population of reptiles from the donor site could be added to the existing population within the receptor whilst maintaining the conservation status of the species concerned (with or without additional habitat enhancements being undertaken).

Significance Criteria

9.4.62 The importance of ecological features has been determined through consideration of a range of characteristics, as detailed in the CIEEM EcIA guidelines (CIEEM, 2016b), including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally district sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

9.4.63 Each ecological feature has also been considered within a defined geographical context, in accordance with current guidance (CIEEM, 2016b). The following value categories have been used:

- International;
- National;
- Regional;
- County;
- Local;
- Within zone of influence; and
- Negligible.

9.4.64 Additionally, an assessment of likely effects/impacts to ecological features has been made in accordance with current guidelines (CIEEM, 2016b). This takes into consideration effects that would impact upon aspects of ecological structure and function, such as: available resources; environmental processes; ecological processes; human influences; historical context; ecological relationships; ecological role or function; ecosystem properties; and other environmental influences. The scale of each effect/impact has then been characterised as follows (CIEEM, 2016):

- Positive or Negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

9.4.65 Where effects to ecological features are identified, avoidance, mitigation, and compensation measures that are proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works are described in accordance with current guidelines BS42020:2013: Biodiversity – Code of Practice for

Planning and Development (BSI, 2013). In addition, in accordance with the NPPF, opportunities to enhance or create benefits to wildlife are explored alongside the hierarchy of aforementioned measures.

Assumptions and Limitations

9.4.66 Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.

9.4.67 Natural England do not hold information of Ancient Woodland less than 2ha in size.

9.4.68 Records over 10 years old for transient species (as these are likely to have moved during the interim) and species protected from sale only under the W&C Act 1981 and amendments, are excluded (as these are not relevant to a planning application). Additionally, given the large number of priority species, these have only been included if identified from the desk study and/or habitats recorded on site have been assessed as providing suitable conditions.

9.4.69 Geological & landscape sites have only been included within this report where they have biodiversity or nature conservation components to their designation.

9.4.70 At certain times of year flora species may be in a state of senescence and are not readily identifiable. However, August represents a favourable time to identify the majority of flora species, and it was possible to easily classify the commonly occurring habitat types. The timing of the habitat surveys is not perceived as a survey limitation.

9.4.71 This document does not contain a comprehensive list of botanical species on site. Only plant species characteristic of each habitat and incidental observations of notable plant species were recorded.

9.4.72 Derbyshire Dales District Council do not supply information on Important Hedgerows.

9.4.73 All areas within the site boundary were fully accessible during all surveys.

9.4.74 However, during the Great Crested Newt Surveys, no access to several off-site ponds was able to be agreed and therefore no further Habitat Suitability Index (HSI) assessment or eDNA survey was possible at these ponds. This access limitation has been recognised in this assessment and the proposed precautionary approach to mitigation and licensing.

9.4.75 It should be noted that Long-eared Bats echolocate more quietly, and Horseshoe Bat species in particular echolocate more directionally, compared to other bat species and so can sometimes be more difficult to detect and often go unrecorded. Species from the *Myotis* and *Nyctalus* genera are notoriously difficult to distinguish in the field and from recorded sonograms, as there is considerable overlap in their range of echolocation frequencies. Where the species cannot be determined only the genus is stated.

9.4.76 Auto ID is intended for use in analysing recordings of single bats in free flight, low clutter environments. On average, more than half of such recordings will result in classifications with 80% accuracy. Recordings of roost emergence, multiple bats, captive bats, bats in high-clutter environments or bat social calls are not suitable for Auto ID and results may not be accurate. Kaleidoscope classification software is not intended to replace expert human analysis, and as such results will contain false positives and false negatives.

9.4.77 It is recognised that the static bat detector deployed in the eastern part of the site (SM4 M) registered bat calls in September only, with no recordings throughout the other months. This was thoroughly investigated on several occasions and the detector tested elsewhere and confirmed to be fully operational. The specific location of deployment was also checked and confirmed the microphone was not blocked. The hundreds of monthly Noise files recorded on this detector were also checked and confirmed to not represent bat records which had just not been identified properly. Therefore it is confirmed that the results presented here do represent a fair representation of the bat activity in this area, and the lack of recordings is not due to any equipment malfunction.

9.4.78 [redacted]

9.4.79 During the Reptile Surveys, individual numbers of traps were occasionally found to have been removed by members of the public, blown away by the wind, or otherwise lost. Where this occurred, they were replaced by a spare trap of the same type. No significant loss of traps occurred, and this is not considered to represent a significant survey or assessment limitation. It is recognised that one repetition (dated 24th June) was

conducted with moderate wind which is sub-optimal for Reptile Surveys. However overall, it is assessed that the suite of reptile surveys was conducted across a range of favourable conditions and time of year sufficient to determine their presence or absence. These sub-optimal conditions on a single occasion only are not considered a significant limitation to the overall impact assessment.

9.4.80 No particularly inclement weather conditions were experienced on any other of the surveys to which may have significantly impacted the results gathered.

9.4.81 Although no invasive flora has been identified, due to the expansive size of the site and nature of the habitats present, it is possible that stands of invasive flora may have been missed and a precautionary approach is recommended (see Mitigation section).

9.5 Consultation and Previous Applications

Current Application

9.5.1 An EIA Scoping Request associated with the current proposals was submitted to the LPA in November 2025. A Scoping Opinion (Derbyshire Dales District Council, 2025b) was received from the Development Manager dated 9th December 2025, which included concerns that the ES Chapter should consider the contributions the development could make to local environmental initiatives and identify how the development affects the natural environment to adapt to climate change.

9.5.2 A response was received from Natural England (dated 12th November 2025) which provides a summary of advice stating "A robust assessment of environmental impacts and opportunities based on relevant and up to date environmental information should be undertaken prior to a decision on whether to grant planning permission". Within the Annex of the response, it is specifically identified that the project presents a risk to Mercaston Marsh and Muggington Bottoms Site of Special Scientific Interest (SSSI) and that the submission should include "*a full assessment of the direct and indirect effects of the development on the features of special interest within the SSSI and identify appropriate mitigation measures to avoid, minimise or reduce any adverse significant effects*."

9.5.3 A pre-application response from Derbyshire Wildlife Trust received on 14th January 2026 notes the site is within the Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) for Mercaston Marsh and Muggington Bottoms and the site is adjacent to Wood Lane Local Wildlife Site (LWS), Lowland Mixed Deciduous Woodland Habitat of Principal

Importance (HPI) and Traditional Orchard HPI. Green infrastructure including hedgerows and trees are within the site, with some hedgerows potentially considered important under the Hedgerow Regulations Act 1997. It noted that mature trees should be fully assessed to determine if they possess features consistent with veteran tree status. [redacted]

9.5.4 A pre-application response from the LPA received on 4th February 2026 notes the same as the above.

9.5.5 These consultation responses have been reviewed and information used to inform the assessment presented here.

Surrounding Applications

9.5.6 A search of the LPA's planning portal identified several applications both within and close to the site.

9.5.7 In February 2015 an application for "*Change of use of land to 1.21mw solar farm and associated infrastructure*" (application reference 15/00526/FUL) was submitted for land outside of the development site area to the north of the site. The application included an Extended Phase 1 and Protected Species Assessment (GLM Ecology, 2015). This report concluded the site had very limited potential to support any protected species and species of conservation concern. This application was approved with conditions in December 2015.

9.5.8 In August 2009 an application for "*Alterations to listed building – conversion of disused outbuildings to office and playroom*" (application reference 09/00516/LBALT was submitted for a road located in the northeast of the site, though the listed building itself was excluded from the proposed site boundary. No ecological reports were submitted as part of this application. The application was approved with conditions in December 2009.

9.5.9 Where available, ecological survey and assessment documents associated with previous applications have been reviewed and details included at the applicable part of this assessment.

9.6 Baseline Conditions

Ecological Features

9.6.1 Ecological features identified by the desk study/field surveys are presented below, along with their details and associated ecological value.

Table 9.11: Ecological Features identified by the Desk Study and Field Surveys

Ecological Feature	Details	Ecological Importance
Statutory sites designated or classified under international conventions or European legislation		
Bees Nest & Green Clay Special Area of Conservation (SAC) 12.2km north	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites) Annex II species that are a primary reason for selection of this site: • Great Crested Newt (*Triturus cristatus*)	European
Gang Mine SAC 13km north	Annex I habitats that are a primary reason for selection of this site: • Calminarian grasslands of the *Violetalia calaminariae*	European
Peak District Dales SAC 13.75km north west	Annex I habitats that are a primary reason for selection of this site: • Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia)* (*important orchid sites) • *Tilio-Acerion* forests of slopes, screes and ravines Annex I habitats present as a qualifying features, but not a primary reason for selection of this site: • European dry heaths • Calminarian grasslands of the *Violetalia calaminariae* • Alkaline fens • Calcareous and calshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*) Annex II species that are a primary reason for selection of this site: • White-clawed Crayfish (*Austropotamobius pallipes*) Annex II species present as a qualifying features, but not a primary reason for site selection: • Brook Lamprey (*Lampetra planeri*) • Bullhead (*Cottus gobio*)	European
Statutory sites designated under national legislation (& Impact Risk Zones)		
Mercaston Marsh and Muggington Bottoms Site of Special Scientific Interest (SSSI) 310m north	Features marshland on the sides of two shallow valleys which run parallel to each other before joining Mercaston Brook. The variable nutrient-rich and nutrient-poor conditions have led to a mosaic of lowland wetland habitats, comprising tall fen and swamp, marshy grassland and valley mire. This forms the largest and most species-rich marsh in Derbyshire. The site consists of Mercaston Marsh in the west and is predominantly nutrient-rich. Mugginton Bottoms in the east has a flora assemblage more representative of acidic conditions. The site is also known for breeding and wintering Snipe (*Gallinago Gallinago*).	National
Kedleston Park SSSI 3km east	Kedleston Park is situated 2 km north-west of the edge of the city of Derby in the valley of Cutler Brook, a small tributary of the River Derwent. The site includes three areas of the Park in which ancient frees are concentrated and is coincident in part with a former Mediaeval deer	National

Ecological Feature	Details	Ecological Importance
	park although the land within the site is now managed in a variety of ways including wood-pasture, high-forest woodland and as a golf course. The main interest of Kedleston Park is the rich and diverse deadwood invertebrate fauna which is primarily dependent upon the large number of mature and overmature beech *Fagus sylvatica* and pedunculate oak *Quercus robur* trees which have survived here providing a link through time with the formerly extensive areas of open structured wood-pasture of this part of lowland England. To be capable of supporting highly specialised deadwood invertebrates such as those found at Kedleston trees need to be several hundred years old and furnished with a wide range of small-scale habitats including living and dying wood together with dead wood in every type and stage of decay. Together with the wood-rotting fungi this community of organisms represents a complex system of nutrient recycling rarely found in woodlands today	
Hulland Moss SSSI 3.9km north	The site is located to the east of Ashbourne in the south of the county, on the junction between Millstone Grit and Bunter Sandstone. It is an example of lowland bog and heath with areas of dry oak *Quercus* sp. wood and wet alder *Alnus glutinosa* wood. The flora includes a number of species which are local or rare in lowland Derbyshire. Most other examples of these habitats in the county have been reclaimed for agriculture.	National
Impact Risk Zone (IRZ)	The Impact Risk Zone (IRZ) in which the site lies states the LPA should consult Natural England on the likely impacts of the following development categories: - **Infrastructure:** Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network). Any transport proposal including new or extended footways, cycleways, roads/car parks, railways and waterways (excluding routine maintenance). Airports, helipads and other aviation proposals. - **Minerals, Oil and Gas:** Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. - **Rural Non-Residential:** Large non-residential developments outside of existing settlements/urban areas where the net additional gross internal floorspace is > 1,000m² or the footprint exceeds 0.2ha. - **Residential:** Residential development of 100 units or more. - **Rural Residential:** Any residential development of 50 or more units outside existing settlements/urban areas. - **Air Pollution:** Any development that could cause AIR POLLUTION (including: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores). - **Combustion:** All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.	Proposals assessed to meet the criteria for which LPA are advised to consult Natural England (i.e. Rural Non-Residential here footprint exceeds 0.2ha).

Ecological Feature	Details	Ecological Importance
	- **Waste:** Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. - **Compost:** Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. - **Discharge:** Any discharge of water or liquid waste that is discharged to ground (i.e. to seep away) or to surface water, such as a beck or stream. - **Water Supply:** Any development needing its own water supply e.g. remote rural housing that is not connected to a mains water supply, OR large infrastructure such as warehousing/industry where the total net additional gross internal floorspace following development is > 1,000m².	
Local Nature Reserves		
No Local Nature Reserves within a 5km radius of the site	-	-
Other locally designated wildlife sites		
Wood Lane Local Wildlife Site (LWS) Immediately Adjacent	A Green Lane including neutral grassland, bramble scrub, species-rich hedgerow and trees. The noted ecological feature is Hedgerows.	County
Mercaston Hall Farm Field LWS 0.18km east	Features grassland noted for its relatively large population of Wild Daffodil (*Narcissus pseudonarcissus*). The noted ecological feature is semi-improved neutral grassland.	County
Carr Wood Potential LWS 0.27km south	Area of Lowland Mixed Deciduous Woodland Priority Habitat identified as a Potential LWS.	County
Mercaston Brook Margins LWS 0.35km east	Site encompasses the wetter ground near the brook. Recent management has created a number of ponds amidst the wet grassland and rush-pasture vegetation.	County
Mercaston Hall Farm Meadow LWS 0.4km east	Small wet meadow with ponds supporting a wide variety of species rich to species poor vegetation types including unimproved neutral grassland and mire as well as more improved neutral grassland.	County
Mercaston Mire LWS 0.45kn north	Adjacent to Mercaston Marsh and Muggington Bottoms SSSI, this site includes a mosaic of neutral grassland, rush pasture, wet woodland, fen and swamp. The noted ecological features are habitat mosaic, invertebrate assemblage, unimproved neutral grassland, lowland mire and secondary broad-leaved woodland.	County
Trent Trout Farm Stream LWS 0.45km east	Site includes a small stream with marginal and aquatic vegetation. The noted ecological feature is flowing water, rivers and streams.	County

Ecological Feature	Details	Ecological Importance
Old Rectory Farm Wet Meadows LWS 0.55km east	Site includes wet meadow and areas of tall herb fen alongside Mercaston Brook. Noted ecological features include lowland mire and lowland swamp.	County
Trent Trout Farm West LWS 0.55km east	The site, situated in the Mercaston Brook valley, supports species rich grassland and a series of fish ponds. The noted ecological features include unimproved neutral grassland and standing open water.	County
Trent Trout Farm East LWS 0.7km east	Site includes a series of ponds used for commercial trout fishery. The noted ecological feature is standing open water.	County
All Saints Churchyard, Muggington LWS 0.8km north east	Includes an area of unimproved acid grassland as the noted ecological feature.	County
Burma Road Lake LWS 0.95km south	Site consists of a small reservoir and surrounding woodland.	County
Black Brook Sand Pit LWS 1.1km north	Supports a range of habitats including standing water, wet woodland, and grassland. The noted ecological features are habitat mosaic, secondary broad-leaved wet woodland and standing open water.	County
Upper Burrows Farm Grassland LWS 1.2km south	Site consists of four fields that support semi-improved neutral grassland, which is the noted ecological feature.	County
Brailsford Gorse LWS 1.25km north west	Site includes conifer plantation with areas dominated with Common Gorse (*Ulex europaeus*) and Bracken (*Pteridium aquilinum*).	County
Brailsford Church LWS 1.4km west	A range of habitats are present including flower-rich grassland, hedgerows, mature trees and a veteran tree. The noted ecological features are unimproved neutral grassland, hedgerow and veteran trees.	County
Brailsford Brook Below the Bridge LWS 1.5km west	Site included a wooded stretch of Brailsford Brook with marginal wet woodland. The noted ecological feature is flowing water, rivers and streams.	County
Brailsford Brook, Ednaston LWS 1.5km west	A section of the brook featuring emergent and aquatic vegetation and wet woodland. The noted ecological features are freshwater crayfish, secondary broad-leaved wet woodland, and flowing water, rivers and streams.	County
Mill Farm Wet Meadows LWS 1.5km west	Includes low-lying land siding Brailsford Brook. The ecological feature is lowland swamp.	County
Brailsford Brook Marsh LWS 1.55km west	Site is adjacent to Brailsford Brook and includes a variety of wetland habitats including wet woodland and lowland swamp. The noted ecological features include lowland swamp, flowing water, rivers and streams, and secondary broad-leaved wet woodland.	County
Muggington Quarry Sandpits LWS 1.6km north-east	Site is noted for its habitat mosaic	County
The Burrows Meadows LWS 1.9km south	Site includes semi-improved neutral grassland as a noted ecological feature.	County

Ecological Feature	Details	Ecological Importance
Monk's Pond LWS 1.90km north west	Includes an artificial pond with mixed woodland planation. The noted ecological feature is standing open water.	County
Buck Hazel's Farm Pond Potential LWS 1.9km east	Pond habitat associated with farm complex identified as potential Local Wildlife Site.	County
England HPI, Local BAP Habitats, Ancient Woodland, Important Hedgerows, Veteran Trees, TPOs and Conservation Areas		
Lowland Mixed Deciduous Woodland Habitat of Principal Importance (HPI) Adjacent to site boundary	A total of approximately 12.9ha of Lowland Mixed Deciduous Woodland HPI indicated within a 500m radius, with the closest parcels of 1.4ha and 1.1ha immediately adjacent to the south-west boundary (DEFRA, 2025).	Local
Traditional Orchards HPI Adjacent to site boundary	A total of approximately 0.5ha of Traditional Orchards HPI indicated within a 500m radius, with the closest parcel immediately abutting the site boundary in the north-east of the site.	Local
Lowland Fen HPI 350m north	A total of approximately 8ha within a 500m radius all located beyond 350m to the north	Local
Woodland and Parkland HPI 380m south	An approximately 3ha area within a 500m radius located 380m to the south	Local
Ancient Woodland	Magic Map (DEFRA, 2025) showed no areas of Ancient Woodland within 500m radius of the site.	Negligible
Tree Preservation Orders Onsite	The Tree Preservation Order map (Derbyshire Dales District Council, 2025a) indicates there are several trees covered by TPOs onsite. These include DDDCTPO//173/T7, DDDCTPO//173/T8 and DDDCTPO//173/T9 and DDDCTPO//173/T11, all Pedunculate Oak trees within the western-most cereal crop field in the west of the site. Abutting the same cereal crop field on the western aspect is a parcel of woodland also covered by TPO DDDCTPO//173/W1. Other trees covered by TPOs are also found near the site, including DDDCTPO/055/T1 (Horse Chestnut (*Aesculus hippocastanum*)), DDDCTPO/055/T2 (Scot's Pine (*Pinus sylvestris*)), DDDCTPO/055/T3 (Pedunculate Oak), DDDCTPO/055/T4 (Scot's Pine) and DDDCTPO/055/T5 (Lime (*Tilia cordata*)), all approximately 30-40m south of the site.	Local
Green/Blue & Aquatic Infrastructure, Dark Zones, and Local Policy		
Green Infrastructure	Whilst the site is largely comprised of areas of arable fields which do not provide any notable green infrastructure function, the lengths of hedgerow, trees and occasional parcels of woodland provide a limited extent of connectivity and wildlife corridor function across the landscape.	Local
Blue Infrastructure	Three dry ditches are present in the eastern part of the site and adjoining the eastern boundary, and all ponds indicated within the redline boundary on Magic Map and OS maps were found to be entirely dry throughout the survey period. It is assessed the dry ditches contribute significantly limited blue/aquatic infrastructure and wildlife corridor function.	Local

Ecological Feature	Details	Ecological Importance
Dark Zones	There are no known dark zones across the site. In accordance with the standard guidance specified in the *Guidance Notes for Reduction of Obtrusive Lighting* (Institution of Lighting Professionals, 2021), the application site likely falls under Environmental Zone E2 Rural – Low district brightness).	N/A
Habitat Types		
Cereal Crops (c1c)	The majority site comprises fields of Wheat and Barley cropland. Many fields were found to be recently harvested at the time of survey. Cereal Crops does not represent any UK or Local BAP Priority Habitat. The fields do not represent any strips or blocks that appear to be managed to provide benefits for wildlife and which could represent Arable Field Margin Priority Habitat (Maddock, 2008).	Negligible
Non-cereal Crops (c1d)	Individual fields of non-cereal crops, predominantly Potato (*Solanum tuberosum*), were identified. Non-cereal Crops does not represent any UK or Local BAP Priority Habitat. As above, the fields represent any strips or blocks that appear to be managed to provide benefits for wildlife and which could represent Arable Field Margin Priority Habitat (Maddock, 2008).	Negligible
Arable Field Margins (c1c)	Areas and margins of set-aside and arable field margins were scattered throughout the north-east of the site. Species recorded include Bramble, Cocksfoot, Common Hogweed, Common Sorrel, Creeping Buttercup, False Oat Grass, Flax, Hard Rush, Linseed, Meadow Buttercup, Mayweed, Mouse-ear Chickweed, *Myosotis* sp., *Phacelia* sp., Reed Canary Grass, Scarlet Pimpernel, Scented Mayweed, Timothy, Tufted Hair-grass, Common Vetch, Hairy Tare, Wild Mustard and Yorkshire fog. Areas at the north of the site which appear to be managed specifically for biodiversity value are assessed to meet the criteria of Arable Field Margin Priority Habitat (Maddock, 2008).	Local
Other Neutral Grassland (g3c)	Areas of Other Neutral Grassland are found predominantly in the northern half of the site amongst the extensive network of arable fields. At the time of survey, these areas were typically found to have a low uniformed sward height, limited bare ground cover between 1-5%, cover of bracken <20% and scrub <5% and with no signs of physical damage or invasive non-native plant species identified. Grass species recorded include Yorkshire fog, Common Bent, Perennial Ryegrass, Sweet Vernal Grass, Cocksfoot, Crested Dogstail, Timothy, Soft Brome, Meadow Foxtail, meadow grasses *Poa* sp., and False Oat Grass. Herbaceous species recorded include Bracken, Broadleaved Dock, Common and Meadow Buttercup, Common Hogweed, Common Spotted Orchid, Common Knapweed, Common Mouse-ear, Common Ragwort, Common Sorrel, Common Vetch, Compact Rush, Creeping Thistle, Common Dandelion, Great Willowherb, Hairy Tare, Lesser	Negligible

Ecological Feature	Details	Ecological Importance
	Trefoil, Common Nettle, Red Clover, Rosebay Willowherb, Self-heal, Tufted Vetch, White Clover, Wood Avens and Yellow Rattle. Some localised areas show indication of poor drainage and/or seasonal inundation with scattered rushes including Hard Rush and Compact Rush, and scattered Willow saplings. These areas meet Other Neutral Grassland definition criteria, featuring >20% cover of broadleaved herbs and sedges, with cover of Rye-grasses and White Clover (*Trifolium repens*) <30% and with at least one grass species not sown for intensive agricultural production found abundant on site (Cock's-foot). Other Neutral Grassland does not represent any UK or Local BAP Priority Habitat.	
Modified Grassland (g4)	Areas of species-poor grazed pasture Modified Grassland are found predominantly in the southern half of the site, amongst the extensive network of arable fields. These areas were typically found to have scrub cover <20% and bracken cover <5%, with no notable signs of physical damage, and no invasive non-native plant species identified. Most areas were short and featured bare ground cover between 1-10%, and with a species diversity of <6 species per m^2 on average. Species include dominant Perennial Rye-grass, frequent Bramble and Cock's-foot, occasional Spear Thistle, Common Nettle and Oxeye Daisy, and rare Common Daisy and White Clover. Modified Grassland does not represent any UK or Local BAP Priority Habitat.	Negligible
Other Broadleaved Woodland (w1g)	Several small parcels of Other Broadleaved Woodland are found onsite. Species varied somewhat by parcel of woodland but included: Canopy species included Pedunculate Oak, Ash, Sycamore Bird Cherry. Understorey species included Grey Willow, Elder, Hawthorn, Hazel, Holly, Blackthorn and Rowan. Ground flora present included Bramble, Common Nettle, Cleavers, Bracken and Common Ivy (with no specific Ancient Woodland indicators). Other Broadleaved Woodland does not represent any UK or Local BAP Priority Habitat. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017).	Negligible
Other Native Hedgerow (h2a6)	Lines of Other Native Hedgerow are found along site and field boundaries throughout the site. Species varied somewhat by length of hedgerow but included: Standard trees included Ash (*Fraxinus excelsior*), Sycamore (*Acer pseudoplatanus*) and Pedunculate Oak (*Quercus robur*). Woody species included Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Blackthorn (*Prunus spinosa*) and Elder (*Sambucus nigra*).	Local

Ecological Feature	Details	Ecological Importance
	Ground cover present included Bramble, Field Bindweed (*Convolvulus arvensis*) and Common Nettle. Other Native Hedgerow represents a UK BAP Priority Habitat, though with less than four native woody species identified within a 30m section does not qualify as 'species-rich'. These hedgerows may qualify as 'important' in accordance with The Hedgerow Regulations 1997. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017). Hedgerows are also considered a Primary Priority Habitat in the Lowland Derbyshire Biodiversity Action Plan (Lowland Derbyshire Biodiversity Partnership, 2011).	
Other Native Hedgerow with Trees (h2a6 11)	Lines of Other Native Hedgerow with Trees are found along site and field boundaries throughout the site. Species varied somewhat by length of hedgerow but included: Standard trees included Pedunculate Oak, Ash and Sycamore. Woody species included Hawthorn, Hazel (*Corylus avellana*), Blackthorn, Holly, Grey Willow (*Salix cinerea*), White Willow (*Salix alba*), Silver Birch (*Betula pendula*) and Elder Ground cover present included Bramble, Black Bindweed (*Fallopia convolvulus*), Common Ivy, Other Native Hedgerow represents a UK BAP Priority Habitat, though with less than four native woody species identified within a 30m section does not qualify as 'species-rich'. These hedgerows may qualify as 'important' in accordance with The Hedgerow Regulations 1997. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017). Hedgerows are also considered a Primary Priority Habitat in the Lowland Derbyshire Biodiversity Action Plan (Lowland Derbyshire Biodiversity Partnership, 2011).	Local
Line of Trees (w1g 33)	Lines of Trees are present onsite, siding the site and grassland field boundaries. The species assemblage included dominant Pedunculate Oak and occasional Ash. Line of Trees represents UK BAP Priority Habitat. Whilst this feature represents a Line of Trees, it meets the definition of Hedgerow Priority Habitat which includes 'a hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide'. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the Derbyshire Dales Adopted Local Plan (Derbyshire Dales District Council, 2017).	Local

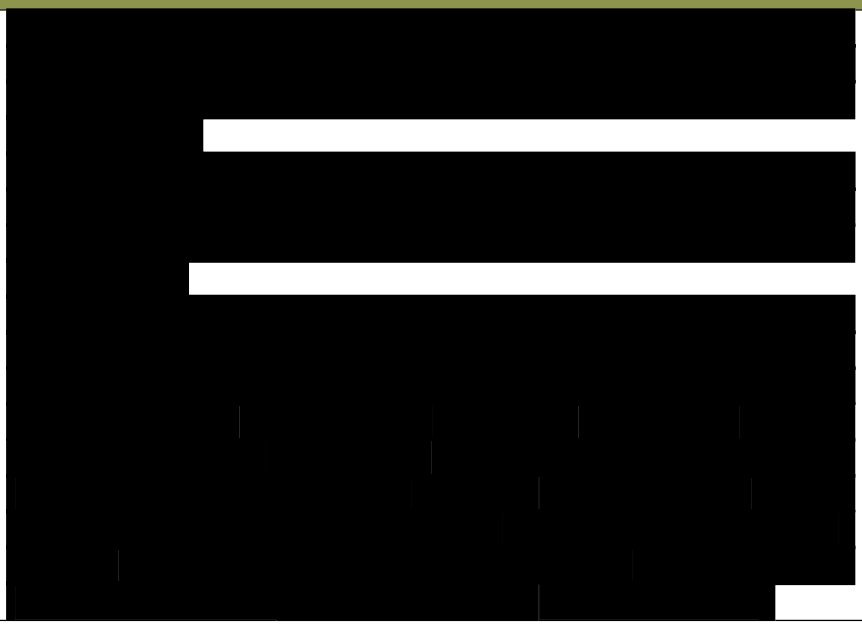
Ecological Feature	Details	Ecological Importance
Dry Ditches (50)	Three ditches are present, which are indicated on Magic Map and OS Maps. These were found to be entirely dry throughout the 2025 summer season with no indication that any significant water levels are held at other times of year. These are assessed to represent Dry Ditches in accordance with UK Habitat Classification (UKHab, 2023). These ditches do not represent any UK or Local BAP Priority Habitat.	Negligible
Legally Protected & Priority Species (& Functionally Linked Land [FLL], Core Sustenance/Consultation Zones [CSZ/CZ] where applicable)		
Bats	No buildings or structures present within the site providing any opportunities for roosting bats. Mature trees identified onsite may be suitable for roosting bats as they are of a size and age which may feature roosting features such as hollows, cavities or woodpecker holes. Whilst the site is predominantly comprised of arable fields, the areas of grassland, native hedgerow, woodland, trees onsite provide suitable bat foraging and commuting habitat and connectivity across the arable landscape. The GLTA survey has identified 1 x feature (W182 as labelled in the Arb reports (Enzygo, 2025a) and (Enzygo, 2025b)) as PRF-I (i.e. features suitable for individual bats) in accordance with current guidance (Collins, 2023). All other features surveyed were assessed as having no suitable roosting features for bats. Refer to appended maps, photos and further details from the survey. The Bat Activity surveys have recorded notably low levels of bat activity of a typical and common assemblage of bat species, with a total of seven species recorded. The species recorded comprise Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctula*), Leisler's Bat (Nyctalus leisleri), Daubenton's Bat (*Myotis daubentonii*), Brandt's Bat (*Myotis brandtii*), and Brown Long-eared Bat (*Plecotus auritus*). Although the activity was notably low for all species, there was spatial variation, with the static detector in the east of the site recording only Common Pipistrelle and only in September and a complete absence of bat recordings in all other months (see Limitations section and confirmation this was not due to any equipment malfunction or poor placement of the detector). No notable high concentrations of recordings or observations of behaviour were made, informing an assessment that there are no notable commute routes or specifically valuable foraging habitats present. The surveys found the following in accordance with assessment criteria (with an appropriate Habitat characteristic score of 3), assessed Local value overall (all species with Local scores and typical species assemblage given habitat types present). It is also considered that the boundary habitats including hedgerow, scrub and woodland edge are those which are of Local value to bats, and central field areas would be assessed as of Negligible to Site level value alone. • Common Pipistrelle Score 14 Local value (BAI 2.67 (low) common species, moderate/unknown number of roosts nearby) and Soprano Pipistrelle Score 14 Local value (BAI 0.25 (low) common species, moderate/unknown number of roosts	Local

Ecological Feature	Details	Ecological Importance
	nearby). Intermittent passes across all habitats, and both species recorded early after sunset indicating likely possible roosts off-site (direction from site unknown). Highest activity level for Common Pipistrelle recorded in May/June indicating potential maternity roosts nearby with those bats foraging at the site. Notably low levels of Soprano Pipistrelle throughout. These Pipistrelle species are typically regarded as edge-feeding species and therefore likely favour the hedgerow and woodland edge although will also forage over low rough grassland habitats. • Noctule Score 17 Local value (BAI 0.25 (low) rarer species, moderate/unknown number of roosts nearby) and Leisler's Bat Score 17 Local value (BAI 0.17 (low) rarer species, moderate/unknown number of roosts nearby). Consistently low levels of activity recorded across all months with no specific peaks in activity. No specific activity recorded indicating any nearby roosts. Both Noctule and Leisler's Bat typically forage high above woodland canopies and therefore are likely associated with woodland parcels rather than being associated with the arable and grassland habitats. • Daubenton's Bat Score 14 Local value (BAI 1.00 (low) rarer species, no evidence of nearby roosts) and Brandt's Bat Score 14 Local value (BAI 0.029 (low) rarer species, moderate/unknown number of roosts nearby). Individual passes only for both species. Slight peak in June for both, which may indicate a nearby maternity roost and specific foraging source available in that month (e.g. an abundance of particular invertebrate prey). No specific early records so no indication of nearby roosts. No other Myotis species recorded. Daubenton's is typically associated with riparian habitats, and Brandt's associated with both woodland and aquatic habitats, and therefore potentially using woodland parcels in small numbers. • Brown Long-eared Bat Score 14 Local value (BAI 0.008 (low) common species no evidence of nearby roosts). Individual passes from August to October only with no particular peak in activity. This is a later emerging species therefore latest of the records doesn't necessarily mean no roosts nearby. Again, species is typically associated with woodland habitats and therefore likely forages in low number at woodland parcels. Refer to appended survey data including charts showing temporal variation, and for maps of the results including locations of static detectors and transect routes. The local records centre identified numerous records of bat species and roosts within 2km of the site in the last 10 years. Sixteen roost records for Whiskered Bat (*Myotis mystacinus*), Brown Long-eared Bat (*Plecotus auritus*), Myotis Bat (*Myotis* spp.), Brandt's Bat (*Myotis brandtii*), Natterer's Bat (*Myotis nattereri*), Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and	

Ecological Feature	Details	Ecological Importance
	unidentified Pipistrelle species (*Pipistrellus* spp.). Sightings records for Natterer's Bat, Brown Long-eared Bat, Common Pipistrelle, Soprano Pipistrelle and unidentified Pipistrelle species were identified within 2km of the site in the last 10 years. Magic Map (DEFRA, 2025) identified several European Protected Species (EPS) Licences for Bats within 2km of the site, comprising: • Licence reference EPSM2012-5081 located approximately 500m north of the site for destruction of a resting area for Common Pipistrelle and Natterer's Bat. • Licence reference 2020-47000-EPS-MIT located approximately 500m west of the site for destruction of a resting place for Brown Long-eared Bat, Common Pipistrelle, Soprano Pipistrelle and Whiskered Bat. • Licence reference 2014-5941-EPS-MIT located approximately 700m north of the site for affecting and destruction of a breeding site and destruction of a resting site for Brown Long-eared Bat, Common Pipistrelle and Natterer's Bat • Licence references 2015-11050-EPS-MIT and 2015-11050-EPS-MIT-1, both located approximately 900m east of the site for destruction of a resting place for Brown Long-eared Bat, Common Pipistrelle, Natterer's Bat and Whiskered Bat. • 2018-38316-EPS-MIT located approximately 1.3km south of the site for affecting, damaging and destruction of a breeding place and damaging a resting place for Brown Long-eared Bat, Common Pipistrelle, and Whiskered Bat. • Licence reference 2015-16757-EPS-MIT located approximately 1.9km northwest of the site for affecting, damaging and destruction of a breeding place and destruction of a resting place for Brown Long-eared Bat, Common Pipistrelle and Natterer's Bat • Licence reference 2018-36336-EPS-MIT located approximately 2km southeast of the site for destruction of a resting place for Common Pipistrelle.	
Badger	[redacted]	Local

Ecological Feature	Details	Ecological Importance
	[redacted]	
Dormouse	Onsite and boundary woodland and hedgerow provides suitable habitat for Dormouse (*Muscardinus avellanarius*), though the site is in an area of the County where this species is significantly rare, if not extinct. Whilst a reintroduction programme for Dormouse within the National Forest began in 2023 (Lowland Derbyshire Biodiversity Partnership, 2011) the reintroduction site at Calke Abbey is located approximately 19.74km south east of the site. No records of Dormouse within a 2km radius.	Negligible
Otter and Water Vole	There are no habitats within or immediately adjacent to the site providing any notable opportunities for Otter or Water Vole. The specific Otter and Water Vole Survey undertaken in September 2025 found the drainage ditches to be entirely dry and no evidence of these species present (e.g. no Otter spraints, Water Vole burrows or droppings etc.). These ditches were noted to be almost entirely dry throughout the summer months, and it is assessed will not provide favourable conditions any time of year. No records of Water Vole and three records of Otter within a 2km radius of the site in the last 10 years.	Negligible
Other Protected Mammals	No evidence of, or specific opportunities for, any other species of protected mammal. No records of any other protected mammal species within a 2km radius.	Negligible
Specially Protected Birds	[redacted]	Negligible

Ecological Feature	Details	Ecological Importance
		
Breeding Birds		District

Ecological Feature	Details	Ecological Importance
		
Wintering and Migratory Birds	Refer to separate Wintering Bird Survey reports (split between eastern and western parts of the site). In summary, a total of 51 species were recorded within the site boundary during the winter bird survey visits between October 2024 and March 2025. These were all common and widespread species, in line with expectations and typical of the habitats present. All the species of conservation interest were considered to be present in numbers that would be significant at a local level or lower Given the site location and habitats present, it is not considered the site provides any potential for significant numbers of notable overwintering and/or migratory species such as waders, waterfowl, geese and swans. As evidenced by the Wintering Bird Surveys, the habitats attract a typical assemblage of birds largely restricted to the field boundary hedgerow, trees and woodland habitats.	Negligible
Common Reptiles	Most of the site is open, disturbed arable cropland and therefore does not provide significant opportunities for Common Reptiles. Additionally, it is noted the site is not directly connected to any optimal reptile habitat such as wetlands or heathland and provides potential for individual numbers of Common Reptiles only. However, the hedgerow, grassland and woodland onsite and adjacent offers limited habitat, whereby Common Reptiles could disperse to the site. Further detailed reptile surveys did not record any reptiles. This provides confirmation that either reptiles are entirely absent from the site or present in such small numbers as not to be detectable through standard survey methods. No records of common reptiles within 2km of the site in the last 10 years.	Local
Great Crested Newt	Field surveys have confirmed there is no potential Great Crested Newt (GCN) habitat on site. Magic Map and OS maps indicate three ponds within the redline boundary, however, all three were found to be entirely dry during the GCN Survey visit in June 2025 with no indication	Local

Ecological Feature	Details	Ecological Importance
	any hold significant water at other times of year. In addition, none of these 'ponds' were found to hold water during the PEA surveys. As indicated on the appended GCN Pond Survey drawing, a total of 20 ponds were identified within a 250m radius during the desk-study based on the Magic Map and OS maps (including the three dry ponds within the site boundary). Note in this instance a 250m radius was deemed appropriate considering the baseline habitat conditions (i.e. largely poor suitability arable land) and the nature of the proposed development works (i.e. typically lower impact Solar development). A summary of the 20 ponds and surveys is outlined below (refer appended drawing for locations): - P1 - Dry - P2 – Dry - P3 – No Survey. Surveyor was denied access by the Landowner. - P4 – Dry - P5 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P6 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P7 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P8 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P9 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P10 – No Survey. Instructed pre-survey not to attend as access refused by Landowner - P11 – Dry - P12 - No Survey. Surveyor was denied access by the Landowner - P13 – Dry - P14 – Dry - P15- No Survey. No access arranged and could not attempt on the day. - P16 – Dry - P17- No Survey. No access arranged and could not attempt on the day. - P18- No Survey. No access arranged and could not attempt on the day. - P19- No Survey. No access arranged and could not attempt on the day. - P20 – Dry In summary, ponds were either found to be entirely dry and therefore and no valid Habitat Suitability Index Assessment or eDNA survey possible or could not have access arranged by the relevant off-site landowners. It is assessed that ponds being entirely dry in June 2025 and within the GCN breeding season, is sufficient evidence to confirm that these cannot support successfully breeding GCN which require water retained through the summer months for larvae to develop.	

Ecological Feature	Details	Ecological Importance
	Whilst the site is predominantly arable fields providing no notable terrestrial opportunities for GCN, the areas of grassland, woodland and hedgerow offer a limited extent of suitable terrestrial habitat including foraging, refuge and shelter. Natural England GCN Risk Zones indicate the site is split between Amber and Green Risk Zones, (Natural England, 2025). Amber Zones contain main population centres for GCN and comprise important connecting habitat that aids natural dispersal. Green Zones contain sparsely distributed GCN and are less likely to contain important pathways of connecting habitat for this species. It is confirmed the proposed site is within a Natural England-led District Level Licencing (DLL) Scheme. The local data records centre featured 44 records of GCN within 2km of the site, with closest and majority of these records between 350m and 750m to the west associated with the village of Brailsford. The closest records from 2023 at a pond 350m to the north-west. Magic Map (DEFRA, 2025) found several EPS Licences within a 2km radius of the site: • Licence references 2014-2821-EPS-MIT and 2014-2821-EPS-MIT-1 located approximately 365m west of the site for damage and destruction of a resting place for GCN. • Licence reference 2017-27694-EPS-MIT located approximately 550m west of the site for damage and destruction of a resting place for GCN • Licence references 2018-37492-EPS-MIT located approximately 695m west for damage and destruction of a resting place for GCN. Class Survey Licence Returns and Pond Surveys for GCN were also identified within a 2km radius of the site, with all Pond Surveys negative for GCN presence, and all GCN Class Survey Returns again to the west associated with Brailsford with the closest 400m from the site boundary with extensive built development between the site and record location.	
Other Protected Herpetofauna	No suitable habitats within or immediately adjacent to the site specifically suitable for other species of protected herpetofauna. No records of other protected amphibian or reptile species within a 2km radius.	Negligible
Protected Fish/Marine	There are no watercourses within the site providing any potential for protected fish species. No records of protected fish/marine species within a 2km radius in the last 10 years.	Negligible
White-clawed Crayfish	No watercourses within the site to serve as potential habitat for White-clawed Crayfish. It is confirmed the ditches indicated on OS Maps and Magic Map were dry for the Summer 2025 season and provided no opportunities to support this species. No records of White-clawed Crayfish within a 2km radius in the last 10 years.	Negligible

Ecological Feature	Details	Ecological Importance
Protected Invertebrates	Further Invertebrate Survey have not recorded any protected species present within the site, and no notable opportunities or conditions for any specific protected species (Refer to separate report for further details). No records of Protected Invertebrates within a 2km radius in the last 10 years.	Negligible
Protected Flora	No protected flora species detected during the survey and the site is unlikely to support any species of protected flora. No records of Protected Flora within a 2km radius in the last 10 years.	Negligible
Invasive Flora	No invasive flora species detected during the survey, however, the scale of the site and nature of the habitats present may mean stands of invasive flora have been missed (see Limitations section). Records of invasive flora within a 2km radius in the last 10 years include (but not limited to); Himalayan Balsam (*Impatiens glandulifera*), Rhododendron (*Rhododendron ponticum*), Himalayan Cotoneaster (*Cotoneaster simonsii*), Japanese Knotweed (*Reynoutria japonica*), Montbretia (*Crocosmia aurea x pottsii = C. x crocosmiiflora*) and Variegated Yellow Archangel (*Lamiastrum galeobdolon subsp. argentatum*).	Negligible
Invasive Fauna	No specific opportunities for any invasive species identified and no notable risk the proposals may lead to the spread of invasive fauna in the wild. Records of invasive fauna within a 2km radius in the last 10 years include (but not limited to); American Mink (*Neogale vision*), Canada Goose (*Branta canadensis*), Mandarin Duck (*Aix galericulata*) and Signal Crayfish (*Pacifastacus leniusculus*).	Negligible
Priority Species	The limited hedgerow, woodland and grassland provide foraging and sheltering opportunities for Priority Species including Common Toad (*Bufo bufo*) and Hedgehog (*Erinaceus europaeus*). Open arable and pasture fields provide suitable habitat for Brown Hare (*Lepus europaeus*). The Invertebrate Survey (refer to separate report) found 219 species. Amongst them were eleven Small Heath butterflies (*Coenonympha pamphilus*) which is a UKBAP species, white spotted pug (*Eupithecia tripunctaria*) which is nationally threatened, the weevil (*Polydrusus formosus*), which is a notable species although under-recorded and the bird dropping weevil (*Platystomos albinus*), which is a notable species. The main importance of the site to invertebrates is reported as the nectar resources, bare ground and the wooded boundaries. Records in the wider area include Hedgehog identified within 2km of the site within the last 10 years.	Local overall (assessed as of Regional value for Invertebrates)

Future Baseline

9.6.2 In the absence of the proposed development, it is considered the existing baseline conditions as detailed above will not significantly change. It is assessed that none of the following factors which may lead to potential changes in the baseline conditions (CIEEM, 2016) are applicable at the site:

- Trends in species population and distribution;
- Rates of potential colonisation by new species and habitats;
- Ecological processes, such as succession;
- Likely changes in agricultural practice, including agri-environment schemes;
- Expected outcomes from current and predicted management practices;
- Trends in habitat quality e.g. resulting from pollution or pollution control;
- Environmental trends e.g. climate change;
- Management plans and conservation objectives for designated sites; and
- The effects of any other development projects.

9.7 Assessment of Effects

Construction Effects

9.7.1 An assessment of effects upon identified ecological features during the construction phase is provided, along with the associated scale of each identified effect/impact. This includes both direct and indirect effects in the absence of mitigation. Only ecological features identified on site and within the zone of influence are assessed. To clarify, ecological features have been screened out where these are of negligible importance, no likely significant impacts have been identified or where impact is unlikely to occur. Other than the features listed in Table 8.5 below, there are no further perceived potential impacts on any of the identified designated sites or habitats in the wider area.

9.7.2 Specifically, in relation to Mercaston Marsh and Muggington Bottoms SSSI, the only identified potential pathway for impact is via drainage considerations, with it highlighted in the separate NPPF: Flood Risk Assessment & Drainage Strategy (Enzygo, 2025b) that the "designated site is hydrologically connected to the Site from a flood risk or drainage perspective". It is confirmed there are no habitats within the application site which significantly complement or contribute to the described interest features of the SSSI (i.e. a mosaic of lowland wetland habitats, comprising tall fen and swamp, marshy grassland and valley mire). It is also noted that breeding and wintering Snipe (Gallinago gallinago) are identified as an interest feature within the SSSI citation. However, both the Breeding Bird Surveys and Wintering Bird Surveys did not identify any Snipe on site. It is therefore reasonably concluded that the site of this proposed development does not represent functionally-linked land (FLL) to the SSSI (i.e. does not provide important habitat for species of interest associated with the SSSI).

Table 9.12: Assessment of Effects During the Construction Phase

Ecological Feature	Potential Impacts	Assessment of Potential Effects
Mercaston Marsh and Mugginton Bottoms SSSI	- Damage and/or degradation impacts	Yes – The NPPF: Flood Risk Assessment & Drainage Strategy (Enzygo, 2025b) confirms that the designated site is hydrologically connected to the Site from a flood risk or drainage perspective. As a result, in the absence of mitigation, the construction phase presents the risk of damage and/or degradation of the designated site through construction-related pollution and drainage matters. Significant, temporary, irreversible impact
Wood Land Local Wildlife Site (LWS)	- Direct damage - Degradation through drainage and lighting	Yes – In the absence of mitigation the construction phase presents the risk of direct damage and/or degradation through drainage and lighting impacts on habitats within the LWS including native hedgerow and trees which provide notable Green Infrastructure and wildlife corridor function adjacent to the site. Significant adverse, temporary, reversible impact.
Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	- Loss, damage and/or degradation impacts	Yes – In the absence of mitigation the construction phase presents the risk of damage and/or degradation of boundary woodland and native hedgerow, which are Priority Habitat and provide notable Green Infrastructure and wildlife corridor function. Significant adverse, temporary, reversible impact.
Blue Infrastructure and associated Riparian Fauna	- Loss, damage and/or degradation impacts	Yes – in the absence of mitigation the construction phase presents the risk of damage and/or degradation of dry ditches onsite, which provide notable Blue Infrastructure. Significant, temporary, reversible impact.
Bats	- Loss and damage of habitat. - Artificial lighting impacts	Yes – In the absence of mitigation the construction phase presents the risk of damage and/or degradation of onsite woodland and native hedgerow, which provides suitable bat foraging and commuting habitat, leading to changes in behaviour and reduced foraging success. Potential for minor, adverse, temporary, reversible impact. In the absence of mitigation the proposed vegetation clearance presents the risk of killing/injury and destruction of roosts Potential for significant, adverse, temporary, irreversible impact Any unsuitable artificial lighting utilised during the construction phase may lead to degradation of the suitable bat foraging and commuting habitat provided by the onsite woodland and hedgerow, leading to changes in behaviour and reduced foraging success.

Ecological Feature	Potential Impacts	Assessment of Potential Effects
		Potential for minor, adverse, temporary, reversible impact.
[redacted]	- [redacted]	[redacted]
[redacted]	- [redacted]	
Great Crested Newt	- Site/habitat clearance	Yes - construction works present a low risk of killing/injury of individual numbers of Great Crested Newt in the unlikely event they are attracted to terrestrial habitats within the site from the wider area. Low risk of minor, adverse, temporary, irreversible impact.
Common Reptiles	- Site/habitat clearance -	Yes – construction works present a low risk of killing/injury of individual numbers of Common Reptiles (suitable habitat present and records in the surrounding area however surveys did not detect any presence). Potential minor, adverse, temporary, irreversible impact
Other Priority Species	- Site/habitat clearance	Yes – construction works present a low risk of killing/injury of other notable species such as Brown Hare and Hedgehog. Potential minor, adverse, temporary, irreversible impact
Invasive Flora	- Site clearance and preparation	Yes – although no invasive flora were detected during field surveys, considering the nature of the site as a waste facility and the frequency in which invasive flora is found at such sites, the construction phase presents the low risk of causing the spread of invasive species in the wild. Potential minor, adverse, temporary, reversible impact

Operational Effects

9.7.3 An assessment of effects upon identified ecological features during the operational phase is provided, along with the associated scale of each identified effect/impact. This includes both direct and indirect effects in the absence of mitigation, as well as any identified in-combination/ cumulative effects where applicable. Where no effects have been identified, a clear explanation as to why this is the case has been provided. Only ecological features identified on site and within the zone of influence are assessed. Ecological features of negligible and no ecological value have not been considered further.

9.7.4 As above, in relation to Mercaston Marsh and Muggington Bottoms SSSI, only potential drainage and hydrology-related impacts have been identified. With other potential pathways for impacts on the interest features of the SSSI discounted (e.g. as no habitats on site complementing of contributing to the value of the SSSI, and surveys confirmed no Snipe presence and therefore the site assessed to not represent functionally-linked land to the SSSI.

9.7.5 Again, to clarify, other than the features listed in Table 8.6 below, there are no further perceived potential impacts on any of the identified designated sites or habitats in the wider area.

Table 9.13: Assessment of Effects During the Operational Phase

Ecological Feature	Potential Impacts	Assessment of Potential Effects
Mercaston Marsh and Muggington Bottoms SSSI	- Damage and/or degradation impacts	Yes – The NPPF: Flood Risk Assessment & Drainage Strategy (Enzygo, 2025b) confirms that the designated site is hydrologically connected to the Site from a flood risk or drainage perspective. As a result, in the absence of mitigation, the operational phase presents the risk of damage and/or degradation of the designated site through construction-related pollution and drainage matters. Potential for significant, adverse, permanent, irreversible impact.
Wood Land LWS	- Artificial Lighting	Yes – an appropriate lighting scheme during the operation of the site may lead to degradation of the wildlife corridor and green infrastructure function of habitats in the adjacent LWS. Potential for minor, adverse, permanent, reversible impact
Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	- Artificial Lighting - Pollution - Inappropriate habitat management	Yes – an inappropriate lighting scheme/pollution during operation of the site may lead to degradation of the wildlife corridor and green infrastructure function of habitats. Potential for minor, adverse, permanent, reversible impact Inappropriate habitat management may lead to long-term degradation of habitats including woodland and hedgerow. Potential for minor, adverse, permanent, reversible impact
Bats	- Artificial Lighting - Inappropriate habitat management	Yes – an inappropriate lighting scheme during operation of the site may lead to degradation of the suitable bat foraging and commuting habitat provided by woodland, hedgerow and new habitat creation,

Ecological Feature	Potential Impacts	Assessment of Potential Effects
		leading to changes in behaviour and reduced foraging success. Potential for minor, adverse, permanent, reversible impact Inappropriate habitat management may lead to degradation of the suitability of habitats including woodland and hedgerow for foraging and commuting bats. Potential for minor, adverse, permanent, reversible impact
[redacted]	- Artificial Lighting	[redacted]

9.8 Mitigation

During Construction

9.8.1 Mitigation measures to avoid, mitigate, or compensate for the identified effects/impacts to ecological features, during the construction phase, are presented below, in addition to the associated scale of any residual effect/impact. Ecological features with no identified potential construction impacts (and ecological features with negligible ecological value), are not considered further. It should be noted that effects will be further mitigated through the agreement of a CEMP for the construction phase.

Table 9.14: Mitigation Measures in relation to Construction Impacts

Ecological Feature	Mitigation Measures
Mercaston Marsh and Muggington Bottoms SSSI	To minimise the risk of any pollution event causing degradation of the habitat, all construction works will be undertaken in accordance with best practice and the through adoption of the appropriate Environment Agency guidance (refer to updated 2024 Environment Agency guidance "Pollution prevention for business" Pollution prevention for businesses - GOV.UK (www.gov.uk)). This includes appropriate storage of chemicals, controlled refuelling of vehicles, spill kits etc. **No Residual Effect.**
Wood Land Local Wildlife Site (LWS)	The final site layout has incorporated the full retention and protection of this Local Wildlife Site and identified the opportunity to significantly enhance and contribute to the wildlife corridor function this site provides. During the construction phase potential direct damage of the adjacent LWS habitat will be avoided through erecting and maintaining protection fencing in accordance with BS5837:2012 *Trees in relation to design, demolition and construction. Recommendations.* Signage stating "*Wildlife Area – Keep Out*" (or similar) will be fixed to the fencing. All contractors are to me made aware of the purpose of the fencing, and no works are to occur beyond this established boundary, including no storage of materials or machinery. To minimise the risk of any pollution event causing degradation of the habitat, all construction works will be undertaken in accordance with best practice and the through adoption of the appropriate Environment Agency guidance (refer to updated 2024 Environment Agency guidance *"Pollution prevention for business"* Pollution prevention for businesses - GOV.UK (www.gov.uk)). This includes appropriate storage of chemicals, controlled refuelling of vehicles, spill kits etc. In addition, to avoid potential degradation of this LWS through excessive artificial lighting overspill, a sensitive lighting scheme shall be implemented making use of suitable products such as directional, low-level, capped, screened and/or low-lux lighting. **No Residual Effect.**

Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	The final site layout has been sensitively designed to incorporate the retention of existing hedgerow and boundary mature trees and woodland, which contribute to notable green infrastructure and wildlife corridor function, as well as all TPO trees. Throughout the construction phase these habitats shall be protected in accordance with BS5837:2012 Trees in relation to design, demolition and construction. Recommendations, including installing and maintaining appropriate protection fencing. All contractors are to me made aware of the purpose of the fencing, with signage used where necessary, and no works are to occur beyond this established boundary other than proposed landscape planting, including no storage of materials or machinery. As above, standard best practice pollution prevention guidance and a sensitive lighting scheme are to be implemented to minimise the low risk of degradation of these habitats to a negligible level. **No Residual Effect.**
Blue Infrastructure and associated Riparian Fauna	The final site layout has been designed to incorporate the minor ditches. As above, the construction phase is to implement standard best practice measures including pollution prevention measures to ensure no damage no damage or degradation of the wider water environment. **No Residual Effect.**
Bats	A notably sensitive final layout has been designed to fully retain and protect all mature trees which may provide potential for roosting bats, in addition to a retaining and protecting field boundary hedgerow and tree corridors suitable for foraging and commuting bats. Following the GLTA Survey it is confirmed no further surveys or Natural England EPS licence is required to inform the arboricultural works of the proposed trees and hedgerows, or progress of the associated wider development. However, in accordance with Table 6.3 of The Bat Survey Guidelines (Collins, 2023), appropriate compensation will be provided for all PRFs in advance of impacts, and a Preliminary Working Method Statement must be followed. In this instance, considering the associated number of PRFs, and the number of mature trees which are to be retained and protected and are suitable for locating bat roost boxes, it is recommended that a total of 2 compensatory bat boxes are provided in advance of tree works to be situated at the retained trees. The bat boxes should be fixed high up on trees in locations where a clear flight path is provided, and away from major sources of human disturbance and artificial lighting. Locations which face onto suitable foraging and commuting habitat are preferred, maximising the chance that these boxes will be discovered and taken up by bats. We recommend installing the Schwegler 2F Universal Bat Box or similar.

	Where surveys have been assessed trees as of low or negligible risk of supporting roosting bats it should be noted that due to the transient nature of bat roosts it is possible that crevice-dwelling bats (e.g. Pipistrelle), could utilise unidentified roosts beyond the date of the surveys. The contractor(s) should therefore be advised to carry out all tree works with care and vigilance for bats and follow this precautionary working method statement. For features assessed as providing PRF-Is, best practice guidelines do not require further survey work, but each of these trees must be felled using soft-felling techniques under the supervision of an Ecological Clerk of Works (ECoW) which includes, but is not restricted to: - A pre-works inspection will be undertaken by a suitably qualified ecologist of any mature trees to be felled, conducted immediately prior to the commencement of works. This will comprise a ground-level inspection and close inspection at height where tree conditions allow; - Again, prior to the commencement of works, compensatory bat boxes will be installed at suitable locations on retained trees to provide alternative roost opportunities to replace those associated with trees to be lost. An ecologist can advise on suitable trees and locations as required; - When removing trees with PRF-Is, and where bats have been confirmed absent through the pre-works investigation, a section-felling approach will be undertaken including cutting around any hollows/cavities; - This involves removing parts of the tree in sequence, rather than being felled in one, with each limb lowered to the ground and inspected by a licensed ecologist with an endoscope; - Tree limbs are to be left on the ground for a period of 24 hours to allow any bats present the chance to escape; - Then removed/chipped immediately. In the unlikely event any bats are discovered or suspected: - If the roost is still on/in the tree and bats are not injured, seek advice from Natural England or a suitably experienced ecologist. If help is not available, allow bats to fly out of harm's way; - If the timber is felled, the roost is not exposed, and the bats are not injured, seek advice from Natural England or a suitably experienced ecologist. If advice is not readily available, position the roost off the ground, and allow bats to relocate of their own accord; - If the roost has been exposed, contact Natural England or a suitably experienced ecologist; and - Note the date, locality, type of tree, situation in tree and bat species if known No further specific mitigation/compensation measures or surveys are necessary in respect of roosting bats and the proposed tree felling.

	No Residual Effect.
[redacted]	[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
Great Crested Newt	Due to the access limitations experienced at off-site ponds (and as they are likely to remain in future years), it is proposed that the scheme will pursue the District Level Licensing (DLL) approach with appropriate compensation fee paid through the Natural England scheme. No further survey or assessment is required to inform this approach. As best practice, the construction phase is to implement precautionary measures including Ecological Clerk of Works supervision of the clearance of any suitable habitats. **No Residual Effect.**
Common Reptiles	The construction phase will implement a series of best practice precautionary measures to further minimise the risk of killing/injury of common reptiles during the construction phase. Furthermore, any removal of suitable habitat, such as rough field boundaries (i.e. not applicable to open arable cropland areas), will be performed in an ecologically sensitive manner, undertaken by an ECoW. In each instance, an ecologist will check any potential habitats/refugia immediately prior to clearance. Vegetation will be cut/felled to a height of 0.15m to encourage any wildlife present to move outside of the working area. The cut habitats and any remaining refugia habitats will be checked again be an ECoW prior to stripping any stumps or topsoil. **No Residual Effect.**
Other Priority Species	As above, implement best practice precautionary measures to minimise the risk of accidental injury/killing of any priority wildlife such as Hedgehog found during the construction phase. As with Common Reptiles, removal of vegetation which provides notable cover and refuge will be performed in an ecologically sensitive manner, undertaken by an ECoW. In each instance, an ecologist will check any potential habitats/refugia immediately prior to clearance. Vegetation will be

	cut/felled to a height of 0.15m to encourage any wildlife present to move outside of the working area. The cut habitats and any remaining refugia habitats will be checked again be an ECoW prior to stripping any stumps or topsoil. **No Residual Effect.**
Invasive Flora	In the event any invasive flora (i.e. those species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), is discovered during site works, an invasive species contractor will be contacted for advice on appropriate treatment and eradication to ensure it is not spread in the wild. **No Residual Effect.**

During Operation

9.8.2 Mitigation measures to avoid, mitigate, or compensate for the identified effects/impacts to ecological features, during the operational phase, are presented below, in addition to the associated scale of any residual effect/impact. Ecological features with no identified potential operational impacts (and ecological features with negligible ecological value), are not considered further.

Table 9.15: Mitigation Measures in relation to Operational Impacts

Ecological Feature	Mitigation Measures
Mercaston Marsh and Muggington Bottoms SSSI	The operational drainage scheme has been designed to ensure no risk of harm to the wider water environment including the hydrologically connected Mercaston Marsh and Mugginton Bottoms SSSI. **No Residual Effect**
Wood Land LWS	A sensitive lighting design to be implemented upon operation of the site to minimise artificial lighting overspill onto the adjacent LWS and minimise the risk of habitat degradation to a negligible level. **No Residual Effect**
Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	A sensitive lighting design to be implemented upon operation of the site to minimise artificial lighting overspill on to adjacent woodland, hedgerows and new habitat creation which provides green infrastructure function, including utilising suitable products such as directional, low-level, capped and/or screened lighting. In addition, to avoid inappropriate management and associated long-term degradation of habitats, a Landscape and Ecological Management Plan (LEMP) is to be produced detailing measures to maximise biodiversity value of these features. **No Residual Effect**
Bats	A sensitive lighting design to be implemented upon operation of the site to minimise artificial lighting overspill on to suitable adjacent bat foraging and

	commuting habitat. The lighting scheme will be designed in accordance with the recent guidance *Bats and artificial lighting at Night* (ILP, 2023). As above, implementing a LEMP in the long-term will ensure habitats are managed to maintain bat foraging and commuting opportunities at the site. **No Residual Effect**
[redacted]	[redacted]

9.9 Residual Effects

During Construction

9.9.1 Following the avoidance and mitigation measures outlined above, it is confirmed there will be no residual effects associated with the construction phase of the proposed development.

During Operation

9.9.2 Following the avoidance and mitigation measures outlined above, it is confirmed there will be no residual effects associated with the operational phase of the proposed development.

9.10 Enhancements

9.10.1 Opportunities for biodiversity enhancement (above and beyond those required to mitigate for any identified impacts) have been determined through consideration of: ecological features identified on site and within the zone of influence; historical records of protected species/habitats present within the locality; national and local planning policy including national and local biodiversity habitats/species; Local Development Plans including consideration of green/blue infrastructure resource; consultation with third parties/stakeholders where applicable; and other influencing factors such as underlying geology/hydrology, intended operational activities, and existing disturbance activities within the locality. This makes specific reference to biodiversity net gain, good practice principles for development (CIEEM, IEMA, CIRA, 2019).

9.10.2 The nature of the proposals, predominantly comprising of arable fields of low distinctiveness and of negligible value, and recognising the site layout incorporating the retention of more valuable habitats such as broadleaved woodland and hedgerow,

provides notable opportunities for notable ecological enhancements. In accordance with Schedule 14 of the Environmental Act 2021, a DEFRA Metric is to be provided demonstrating at least +10% net gain in habitat and hedgerow units, and satisfying the Metric trading rules.

9.10.3 In addition to habitat creation, the scheme presents the opportunity to incorporate further biodiversity enhancements measures which cannot be accounted for within the DEFRA Metric. This can include a variety of bird and bat boxes at suitable retained trees to provide enhanced nesting/roosting opportunities for a range of species present in the local area and likely to use the site post-development. In addition, the proposals are to include informal deadwood hibernacula to provide enhanced refuge, shelter and hibernation opportunities for a range of wildlife including small mammals, amphibians, common reptiles and invertebrates.

9.10.4 As per the LPA's Scoping Opinion (Derbyshire Dales District Council, 2025b), the proposed development also contributes to the following local environmental initiatives:

- Full retention and protection of Wood Lane LWS, which is also mapped as an 'Area of Particular Importance to Biodiversity' on the Local Habitat Map for the Derbyshire Local Nature Recovery Strategy (Derbyshire County Council, 2025b). Opportunities to significantly enhance and contribute to the wildlife corridor function this site provides is noted within the Ecological Impact Assessment (Enzygo , 2025).

- Retention and protection of existing Native Hedgerow and Native Hedgerow with Trees onsite, with protection of these features noted in the Landscape Character and Design Supplementary Planning Document (Derbyshire Dales District Council , 2018). These features provide green infrastructure and wildlife corridor function and represents a UK BAP Priority Habitat and is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the DDLP. Hedgerows are also considered a Primary Priority Habitat in the Lowland Derbyshire Biodiversity Action Plan (Lowland Derbyshire Biodiversity Partnership, 2011).

- Retention and protection of existing Other Broadleaved Woodland onsite, with protection of these features noted in the Landscape Character and Design Supplementary Planning Document (Derbyshire Dales District Council , 2018). These parcels offer green infrastructure and wildlife corridor function. This

feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the DDLP (Derbyshire Dales District Council, 2017).

- Retention and protection of other green infrastructure onsite including mature trees, with protection of these features noted in the Landscape Character and Design Supplementary Planning Document (Derbyshire Dales District Council , 2018). These features provide green infrastructure and wildlife corridor function. This feature is covered in Policy PD4 Green Infrastructure and PD6 Trees, Hedgerows and Woodland of the DDLP.

9.11 Cumulative Effects

Projects Considered

9.11.1 Consideration has been given to the potential for cumulative effects to arise in relation to the proposed development and other similar proposed developments in the local area. Through the Ecological Impact Assessment, a search of the LPA's Planning Portal was undertaken to identify any projects/proposals in the surrounding area, with the following projects identified:

- **15/00526/FUL** – Development of a Solar farm and associated infrastructure, including access track, drainage system and buried cables.
- **09/00516/LBALT** – Conversion of disused outbuildings to an office and playroom.

9.11.2 The cumulative effects of these projects alongside the introduction of an additional solar park working in tandem have been considered.

Assessment

9.11.3 It is assessed that there are no pathways through which cumulative effects may occur on ecological features within an identified zone of influence. Each of the above considered planning applications has identified no significant impacts on any ecological features following implementation of standard and best practice mitigation measures. In addition, no cumulative effects of the new facility working alongside the existing waste management facility have been identified, including through no anticipated Air Quality emission impacts (see Air Quality Chapter), and as the two facilities working in tandem will serve to reduce the amount of landfill-destined HGV trips.

9.12 Conclusion

9.12.1 A total of 16 ecological features (excluding those of negligible or no value) were identified on-site or within the identified zone of influence of the proposed development. Of these ecological features, in the absence of appropriate avoidance and mitigation measures, all 16 are likely to be subject to potential impacts during the construction phase, and nine are likely subject to potential impacts during the operation of the site. A summary of the identified receptors, potential impacts, mitigation proposed, and any residual impacts is presented below. It is confirmed that no residual effects of the proposals are predicted.

Table 8.9: Summary of Assessment

Ecological Feature	Potential Effects Summary	Mitigation Summary	Residual Effects
During Construction			
Mercaston Marsh and Muggington Bottoms SSSI	- Damage/degradation through drainage	Implement best practice measures including pollution prevention measures.	No
Wood Land Local Wildlife Site (LWS)	- Direct damage - Degradation through drainage and lighting	Final layout designed to retain and protect the LWS. Construction to be undertaken in accordance with best practice and adoption of Environment Agency guidance. Physical protection and sensitive lighting scheme will also be implemented.	No
Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	- Loss, damage and/or degradation impacts	Final layout designed to retain and protect existing woodland and hedgerow and associated green infrastructure function. Physical protection and sensitive lighting during the construction phase.	No
Blue Infrastructure and associated Riparian Fauna	- Loss, damage and/or degradation impacts	Implement best practice measures including pollution prevention measures.	No
Bats	- Loss and damage of suitable foraging and commuting habitat. - Low risk of killing/injury and destruction of roosts during construction	Suitable habitats retained and protected and sensitive lighting implemented. Precautions during proposed tree works to minimise risk to roosting	No

Ecological Feature	Potential Effects Summary	Mitigation Summary	Residual Effects
	- Degradation of habitat through artificial lighting	bats, including providing compensatory boxes.	
[redacted]	- [redacted] -	[redacted]	[redacted]
[redacted]	- [redacted]	[redacted]	[redacted]
Great Crested Newt	- Killing/injury during site clearance	Will progress under District Level Licence. Sensitive habitat clearance under supervision of Ecological Clerk of Works (ECoW).	No
Common Reptiles	- Killing/injury during site clearance	Non-licensed reasonable avoidance measures (RAMs) including sensitive habitat clearance under supervision of ECoW.	No
Other Priority Species	- Site/habitat clearance	Sensitive habitat clearance under supervision of ECoW and best practice RAMs.	No
Invasive Flora	- Site clearance and preparation	If any invasive flora detected during construction phase, an invasive species contractor to be contacted to ensure appropriate treatment/eradication,	No
During Operation			
Mercaston Marsh and Muggington Bottoms SSSI	- Damage/degradation through operational drainage considerations	Operational drainage scheme has been designed to minimise	No

Ecological Feature	Potential Effects Summary	Mitigation Summary	Residual Effects
		risk to wider water environment including the SSSI	
Wood Land LWS	- Artificial Lighting	Sensitive lighting scheme to be implemented to minimise artificial lighting overspill.	No
Hedgerow HPI, Lowland Mixed Deciduous Woodland HPI, Traditional Orchards HPI, TPOs and Green Infrastructure	- Artificial Lighting - Pollution - Inappropriate habitat management	A LEMP to ensure favourable management of habitats, and a sensitive lighting scheme to be implemented to maintain bat foraging and commuting opportunities.	No
Bats	- Artificial Lighting - Inappropriate habitat management	A sensitive lighting scheme to be implemented to avoid potential long-term degradation of Badger habitats. A LEMP to ensure foraging and commuting habitats are protected.	No
[redacted]	- [redacted]	[redacted]	No

9.12.2 The proposal present opportunity for ecological enhancement measures which are appropriate to the site location and nature of development and can demonstrate compliance with current national and local policy requirements in relation to enhancement and biodiversity net gain.

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10.0 BUILT HERITAGE

10.1 Introduction

10.1.1 This chapter assesses the effect of the proposed development on the built historic environment and is supported by Appendix 10.1: Built Heritage Technical Baseline (Heritage Statement) which should be read in conjunction with this chapter.

10.1.2 The assessment presented within this chapter and the Built Heritage Technical Baseline have been prepared by an experienced Heritage Consultant within the Pegasus Group Heritage Team who is a Full Member of the Institute of Historic Building Conservation (IHBC) and a chartered member of the Royal Town Planning Institute (RTPI).

10.2 Legislation, Policy and Guidance

Relevant Legislation

10.2.1 This chapter has been prepared in accordance with the current legislation, national and local policy and guidance comprising:

Table 10.1: Legislation Afforded to Heritage that could Potentially be Affected by the Proposed Works

Heritage Asset	Legal Status
Listed Buildings	Planning (Listed Buildings and Conservation Areas) Act 1990. Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 states that: *"In considering whether to grant planning permission [or permission in principle] for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses."*
Conservation Areas	Planning (Listed Buildings and Conservation Areas) Act 1990. Section 72(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 which pertains to the consideration of a Conservation Area is not applicable in this case as concerns development within a Conservation Area only, and unlike Section 66(1) does not include consideration of the 'setting' of the asset.
Scheduled Monuments	Ancient Monuments and Archaeological Areas Act 1979 Scheduled Monuments are protected by the provisions of the Ancient Monuments and Archaeological Areas Act 1979 which relates to nationally

	important archaeological sites. Whilst works to Scheduled Monuments are subject to a high level of protection, it is important to note that there is no duty within the 1979 Act to have regard to the desirability of preservation of the setting of a Scheduled Monument.

National Planning Policy (NPPF)

10.2.2 Within the NPPF, the most relevant policies to this assessment are contained in paragraphs 212-216 of Chapter 16.

Table 10.2: Most Relevant NPPF Policies

NPPF Paragraph
212. "When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance."
213. *"Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:* *a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;* b) *assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional."*
214. *"Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:* *a) the nature of the heritage asset prevents all reasonable uses of the site; and* *b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and* *c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and* d) *d) the harm or loss is outweighed by the benefit of bringing the site back into use."*
215. *"Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use."*
216. "*The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."*

Local Planning Policy

10.2.3 Applications for planning permission in Derbyshire Dales are currently considered against the policy and guidance set out within the DDLP.

10.2.4 Relevant heritage policies of the DDLP include:

Table 10.3: Relevant DDLP Heritage Policies

Guidance	Summary
National Planning Practice Guidance (Ministry of Housing, Communities and Local Government (MHCLG), 2024)	The Planning Practice Guidance is an online resource and has a section on the Historic Environment that describes how policies in the NPPF are to be applied.
Historic England, 2015. Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning: 2	The purpose of this Historic England Good Practice Advice note is to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the National Planning Policy Framework (NPPF) and the related guidance given in the Planning Practice Guidance (PPG). These include assessing the significance of heritage assets, using appropriate expertise, historic environment records, recording and furthering understanding, neglect and unauthorised works, marketing and design and distinctiveness.
Historic England, 2017, Historic Environment Good Practice Advice in Planning Note 3 (Second Edition): The Setting of Heritage Assets.	This document sets out guidance, against the background of the National Planning Policy Framework (NPPF) and the related guidance given in the Planning Practice Guide (PPG), on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas, and landscapes.
Historic England 2019. Statement of Heritage Significance: Analysing Significance in Heritage Assets Historic England Advice Note 12.	This Historic England advice note covers the National Planning Policy Framework requirement for applicants for heritage and other consents to describe heritage significance to help local planning authorities to make decisions on the impact of proposals for change to heritage assets. Understanding the significance of heritage assets, in advance of developing proposals for their buildings and sites, enables owners and applicants to receive effective, consistent and timely decisions. This advice note explores the assessment of significance of heritage assets as part of a staged approach to decision-making in which assessing significance precedes designing the proposal(s). It also describes the relationship

	with archaeological desk-based assessments and field evaluations, as well as with Design and Access Statements. Analysis of heritage significance may also be useful in development plan preparation, including site allocations and Minerals and Waste Local Plans.
English Heritage 2008: Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment.	Conservation Principles, Policies and Guidance' is intended mainly to guide Historic England staff on best practice, but like all of Historic England guidance, the principles will also be read and used by local authorities, property owners, developers and professional advisers. It sets out six high level principles: •The historic environment is a shared resource •Everyone should be able to participate in sustaining the historic environment. •Understanding the significance of places is vital •Significant places should be managed to sustain their values. Decisions about change must be reasonable, transparent and consistent. •Documenting and learning from decisions is essential. The principles respond to the need for a clear, over-arching philosophical framework of what conservation means at the beginning of the 21st century.

10.2.5 Additional guidance is contained in the following:

Table 10.4: Table of Additional Guidance

Guidance	Summary
National Planning Practice Guidance (Ministry of Housing, Communities and Local Government (MHCLG), 2024)	The Planning Practice Guidance is an online resource and has a section on the Historic Environment that describes how policies in the NPPF are to be applied.
Historic England, 2015. Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning: 2	The purpose of this Historic England Good Practice Advice note is to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the National Planning Policy Framework (NPPF) and the related guidance given in the Planning Practice Guidance (PPG). These include assessing the significance of heritage assets, using appropriate expertise, historic environment records, recording and furthering understanding, neglect and

	unauthorised works, marketing and design and distinctiveness.
Historic England, 2017, Historic Environment Good Practice Advice in Planning Note 3 (Second Edition): The Setting of Heritage Assets.	This document sets out guidance, against the background of the National Planning Policy Framework (NPPF) and the related guidance given in the Planning Practice Guide (PPG), on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas, and landscapes.
Historic England 2019. Statement of Heritage Significance: Analysing Significance in Heritage Assets Historic England Advice Note 12.	This Historic England advice note covers the National Planning Policy Framework requirement for applicants for heritage and other consents to describe heritage significance to help local planning authorities to make decisions on the impact of proposals for change to heritage assets. Understanding the significance of heritage assets, in advance of developing proposals for their buildings and sites, enables owners and applicants to receive effective, consistent and timely decisions. This advice note explores the assessment of significance of heritage assets as part of a staged approach to decision-making in which assessing significance precedes designing the proposal(s). It also describes the relationship with archaeological desk-based assessments and field evaluations, as well as with Design and Access Statements. Analysis of heritage significance may also be useful in development plan preparation, including site allocations and Minerals and Waste Local Plans.
English Heritage 2008: Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment.	Conservation Principles, Policies and Guidance' is intended mainly to guide Historic England staff on best practice, but like all of Historic England guidance, the principles will also be read and used by local authorities, property owners, developers and professional advisers. It sets out six high level principles: •The historic environment is a shared resource •Everyone should be able to participate in sustaining the historic environment. •Understanding the significance of places is vital •Significant places should be managed to sustain their values. Decisions about change must be reasonable, transparent and consistent. •Documenting and learning from decisions is essential. The principles respond to the need for a clear, over-arching philosophical framework of what conservation means at the beginning of the 21st century.

Aim and Objectives, Methodology

10.2.6 The aims and objectives of this chapter are as follows:

- To identify heritage assets within the study area that may be affected by the proposed development.
- To establish the significance of those assets, including the contribution made by their setting.
- To assess the nature and magnitude of likely impacts arising from the construction and operation of the proposed development.
- To evaluate the significance of effects in EIA terms, identifying whether they are significant adverse or beneficial effects.
- To consider direct, indirect, temporary, permanent and cumulative effects on heritage assets.
- To identify embedded mitigation and any additional mitigation measures to avoid, reduce or minimise harm.
- To assess residual effects following mitigation.

Methodology

10.2.7 This assessment has been carried out using the results of onsite analysis, desk-based sources, guidance documentation and professional judgement and considers the built historic environment.

10.2.8 The basis of assessment has been undertaken using elements of the Historic England Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017 2nd Ed), Historic England Good Practice Advice in Planning 2: Managing Significance in Decision-taking in the Historic Environment (2015) and the Historic England Advice Note 12: Statements of Heritage Significance: Analysing Significance in Heritage Assets (2019).

10.2.9 The ES chapter and the Built Heritage Technical Baseline establish the built heritage baseline, identify any effects on this baseline as a result of the proposed development and where necessary proposes mitigation measures. Specifically, the heritage baseline, as fully described in Appendix 10.1 (Heritage Statement) sets out the significance of the heritage resource within the site and sets out any contribution that the site makes to the heritage significance of the identified built heritage assets, where applicable. In doing this, the

assessment of the proposed development against this identified significance can be carried out, with the resultant effects recorded and quantified.

10.2.10 The following key sources have been consulted:

- The Derbyshire Historic Environment Record (HER) for information on the recorded heritage resource in the vicinity of the Site;
- The National Heritage List for England for information on designated heritage assets;
- Historic maps available online;
- Information held at Derbyshire Dales District Council and Amber Valley Borough Councils on heritage assets;
- The Derbyshire Record Office online catalogue; and
- Google Earth satellite imagery.

Scope of Assessment

10.2.11 This chapter assesses built heritage assets located within the site and in the surrounding area and considers the potential impacts and residual effects upon the significance of the assets arising from the proposed development.

10.2.12 Heritage assets can be designated or non-designated. Designated heritage assets consist of World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wrecks, Registered Park and Gardens, Registered Battlefields and Conservation Areas. These assets are all designated under their relevant legislation and are all of a particular heritage value, being formally recognised as such in law and policy so as to sustain those heritage values.

10.2.13 Non-designated assets consist of locally listed buildings, other buildings and other structures and locally listed parks, gardens and designed landscapes identified as holding some heritage value and identified through the local Historic Environment Record, 'Local Lists' or by other formal mechanisms which set out the methodology and criteria for selection and set out the heritage value of the asset.

Heritage Value/Sensitivity

10.2.14 The value/sensitivity of a heritage asset for the purposes of EIAs is determined by professional judgement guided by statutory and non-statutory designations, national and local policies.

10.2.15 Paragraph 213 of the NPPF recognises that heritage assets with the highest level of significance comprise scheduled monuments, registered battlefields, grade I and II* listed buildings and grade I and II* registered parks and gardens and World Heritage Sites.

10.2.16 The criteria utilised in this assessment for establishing the value of a heritage asset is provided at Table 10.5.

Table 10.5: Criteria for establishing value

Value	Criteria
High	• Remains of inscribed international importance, such as World Heritage Sites • Grade I and II* Listed Buildings • Grade I and II* Registered Parks and Gardens • Scheduled Monuments • Registered Battlefield • Non-designated archaeological assets of schedulable quality • Non-designated buildings, monuments, Sites or landscape that can be shown to have a particularly important quality in their fabric or historical association
Moderate	• Grade II Listed Buildings • Conservation Areas • Grade II Registered Parks and Gardens • Assets of high archaeological resource value identified through consultation
Low	• Non-designated buildings, monuments or Sites or landscapes of local importance and of modest quality • Locally important historic or archaeological assets, assets with a local value for education or cultural appreciation and of medium archaeological value • Locally Listed buildings identified on a local list • Non-designated buildings, monuments, Sites or landscape that can be shown to have important qualities in their fabric or historical association • Historic townscapes with historic integrity • Parks and gardens of local interest
Not Significant	• Assets identified as being of no historic, artistic, archaeological or architectural value • Assets that are so badly damaged that too little remains to justify inclusion into a higher grade

	• Assets whose values are compromised by poor preservation or survival to justify inclusion in a higher category

Magnitude of Impact

10.2.17 Once a level of value/sensitivity has been assigned, the magnitude of impact as a result of the proposed development is assessed. Potential impacts are defined as a change resulting from the proposed development which affects the significance of a heritage asset. These impacts are considered in terms of being either direct, indirect or cumulative, from construction or operation and temporary, long-term or permanent. The assessment will include consideration of an asset's 'setting'.

10.2.18 The magnitude of an impact can be judged in a five-point scale. The impact score is arrived at without reference to the value/sensitivity of the asset and the impact is assessed without taking into account any subsequent mitigation proposals but does take into account embedded mitigation derived throughout the design process.

10.2.19 The criteria utilised in this assessment for establishing the level of impact which is deemed to arise is provided at Table 10.6of this chapter.

Table 10.6: Magnitude of Impact

Level of Impact	Description of Impact
High	Change such that the significance of the asset is totally altered or destroyed. Comprehensive change to setting affecting significance, resulting in substantial changes in our ability to understand and appreciate the resource and its historical setting.
Medium	Change such that the significance of the asset is affected. Changes such that the setting is noticeable different, affecting significance resulting in moderate changes to significance and in our ability to understand and appreciate the resource.
Low	Change such that the significance of the asset is slightly affected. Changes to the setting that have a slight impact on significance resulting in changes in our ability to understand and appreciate the resource.
Minimal	Changes to the asset that hardly affect significance. Changes to the setting of an asset that have little effect on significance and no real change in our ability to understand and appreciate the resource.
No change	The development results in no change or such a negligible level of change that it does not affect the significance of the asset. Changes to the setting do not affect the significance of the asset or our appreciation of it.

Residual Effect

10.2.20 The assessment of effects will be undertaken in two stages. The magnitude of impact is cross-referenced with the value of the asset to categorise the effect that is likely to result from the proposed development prior to additional mitigation measures.

10.2.21 Following this stage, further consideration of additional mitigation is carried out, and the mitigation is assessed as to whether this would reduce the significance of the effect. Once additional mitigation is applied, the asset is re-assessed, allowing the residual significance of effect to be determined, as seen in Table 10.7. Impacts may be beneficial or adverse.

Table 10.7: Levels of Effect

Value of asset	Magnitude of Impact				
	No Change	Minimal	Low	Medium	High
High	Neutral	Minor	Moderate	Major	Major
Moderate	Neutral	Minor	Minor/ Moderate*	Moderate	Major
Low	Neutral	Neutral	Minor	Minor/ Moderate*	Moderate
Not significant	Neutral	Neutral	Neutral	Neutral	Neutral
* *professional judgement to be applied when assigning a level*					

10.2.22 The NPPF does not provide a definition of what constitutes substantial or less than substantial harm. The ES is required to conform to EIA Regulations and report on the significance of an effect. This does not make a judgement on whether substantial or less than substantial harm will be caused.

10.2.23 A major adverse effect does not necessarily equate to substantial harm, conversely a minor effect on an asset may cause a higher level of harm, given the relative sensitivity to change of each asset. Professional judgement has been used to equate the results of the ES process with the requirements of the NPPF and a narrative conclusion provided to equate the ES outcome with a level of harm in accordance with the NPPF.

10.2.24 A significant effect in EIA terms is considered to be major adverse. Moderate adverse effects can be considered significant or not significant in terms of EIA. The distinction is

made by applying professional judgement to the matrix-led process, allowing a true reflection of the effect to be considered, rather than a level of effect which has been artificially inflated due to the constraints of the EIA process.

10.3 Assumptions and Limitations

10.3.1 Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.

10.3.2 On-site assessment has been undertaken from publicly accessible land, and land in the applicant's control. As such access to private land and buildings has not been undertaken, and assumptions have thereby been made with regard to some visual effects.

10.4 Consultation and Previous Applications

Current Application

10.4.1 An EIA Scoping Request associated with the current proposals was submitted to the LPA in November 2025. A Scoping Opinion was received from the Development Manager dated 9th December 2025.

10.4.2 The Scoping Opinion stated that "cultural heritage is one of the named factors in Regulation 4 of the EIA Regulations. Impacts on heritage and archaeology necessarily falls within the cumulative impacts of the proposal and therefore needs to be integrated into the ES." The Scoping Opinion made reference to the proximity to a range of Listed Buildings and Scheduled Monuments as well as the Brailsford Conservation Area. Most notable is Top Wild Park Farmhouse - a Grade II Listed Building.

10.4.3 A pre-application response was received from the LPA's Development Manager dated 4th February 2026. The response has confirmed that the proposed development has the potential to affect a number of designated and non-designated heritage assets. These include:

- Brailsford Conservation Area.
- Several Grade II listed buildings, including those within Brailsford Conservation Area, listed buildings along the A52 corridor, Hall Farmhouse and associated barn to the northeast, and notably Top Wildpark Farmhouse (Grade II).

- Several Scheduled Monuments in the wider vicinity, including fishponds near Mercaston Hall Farm, Ravensdale deer park, the Anglo-Scandinavian cross at Mugginton, and the Mugginton medieval settlement.
- Ednaston Manor Registered Park and Garden (Grade II), situated to the west of the Site, which is considered less sensitive to direct impact due to physical separation and the nature of its significance.

10.4.4 Particular concern is raised regarding the potential harm to the agricultural setting of Brailsford Conservation Area and to Top Wildpark Farmhouse. The response noted that while the public benefits of renewable energy generation attract significant weight in the planning balance, further mitigation was encouraged to reduce harm to heritage assets, particularly where equivalent public benefit could be achieved through alternative layout configurations.

10.4.5 These consultation responses have been reviewed and information used to inform the assessment presented here and in the Built Heritage Technical Baseline at Appendix 10.1. Since the pre-application response was received the Site area and extent of solar arrays have been reduced to reduce adverse effects.

Baseline Conditions

Baseline Survey Information

10.4.6 A discussion of the historic development of the site can be found within Appendix 10.1.

10.4.7 There are no built heritage assets within the site.

10.4.8 Within 1.5km of the site boundary there are 35 designated heritage assets.

10.4.9 No non-designated built heritage assets are identified via any Local Heritage List, within the pre-application response from the LPA, or with the Site walkover.

10.4.10 The following heritage assets have been identified following on-site assessment after receipt of the pre-application response from the LPA as having the potential to be affected by the proposals are:

- Top Wild Park Farmhouse – a Grade II Listed Building, c.35m west of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.

- Hall Farmhouse and Barn and attached Cowhouse at Hall Farm - Grade II Listed Buildings, c.290m southeast of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Fishponds 260m northwest of Mercaston Hall Farm – a Scheduled Monument, c.75m southeast at its closest point. A designated heritage asset of **high** value/sensitivity.
- Church of All Saints, Mugginton - a Grade I Listed Building, c.865m northwest of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Ravensdale Park Conservation Area, c.340m north of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Ravensdale Deer Park, Lodge, Mill and Fishpond – a Scheduled Monument, c.340m north of the Site at its closest point. A designated heritage asset of **high** value/sensitivity.
- Mugginton Conservation Area, c.775m northwest of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Mugginton Medieval Settlement and part of an Open Field System – a Scheduled Monument, c.915 northwest of the Site at its closest point. A designated heritage asset of **high** value/sensitivity.
- Brailsford House- a Grade II Listed Building, c.700m southwest of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Coach House at Brailsford House – a Grade II Listed Building, c.700m southwest of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Oaklands- a Grade II Listed Building, c.630m southwest of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.
- Coach House at The Oaklands – a Grade II Listed Building, c.625m southwest of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.

- Brailsford Conservation Area, c.780m southeast of the Site at its closest point. A designated heritage asset of **moderate** value/sensitivity.

10.4.11 In order for this ES Chapter to be succinct and focussed on those assets that have the potential to be affected by the proposals a detailed assessment can be found in Section 5 of Appendix 10.1. This section assessed the built heritage assets within the Site and the study area, describing their significance, the Site's contribution to their significance, and the effects of the proposals on the assets. Appendix 10.1 should be read as the first phase of the EIA process, which is completed within this ES Chapter. The table below provides a summary of the heritage value/sensitivity and contribution that the Site makes to that value/sensitivity for each asset identified.

Table 10.8: Summary of Value/Sensitivity of Heritage Assets and the Contribution of the Site

Heritage Asset	Summary of Value/Sensitivity	Contribution of the Site to Value/Sensitivity
Top Wild Park Farmhouse – Grade II Listed Building.	A late 18th/early-19th-century vernacular farmhouse historically associated with the Radbourne Hall Estate. Significance derives principally from historic fabric, architectural detailing, and its relationship with its barn group and surviving enclosure-era fields. It is an asset of **moderate** value / sensitivity.	The Site includes land historically forming part of the farm's 19th-century holding. Only those fields that remain intervisible or co-visible with the farmhouse, reinforce understanding of the farmhouse as an enclosure-era agricultural unit. The remainder of the Site forms only a general rural backdrop. Contribution: **Moderate Positive** (but partial and geographically confined).
Hall Farmhouse-Grade II Listed Building.	A multi-period farmstead with surviving 16th-century timber framing and an early-19th-century range, holding architectural interest for its vernacular evolution and historic interest as evidence of long-established agricultural occupation. It is an asset of **moderate** value/sensitivity.	The Site lies on higher ground with no historic, functional or strong visual association. There is no meaningful intervisibility, and the Site was not part of the farmstead's holding. Contribution: **Neutral.**
Barn and attached Cowhouse at Hall Farm-Grade II Listed Building.	The barn and cowhouse are traditional early-19th-century agricultural buildings of brick construction with characteristic vernacular detailing, contributing to the historic functional grouping of Hall Farm. It is an asset of **moderate** value/sensitivity.	The Site does not form part of the working yard, historic landholding, or visual setting that contributes to understanding the group. Contribution: **Neutral.**
Fishponds 260m northwest of	A Scheduled Monument, the fishpond are a well-preserved	A limited portion of the Site is visible from and with the ponds,

Mercaston Hall Farm. Scheduled Monument.	medieval fishpond complex with clear earthworks and archaeological interest, reflecting manorial water-management practices and probable association with a medieval manorial centre or former deer-park landscape. It is an asset of **high** value/sensitivity.	forming part of the undeveloped rural backdrop broadly consistent with a medieval agrarian landscape, although it does not assist in understanding the function or chronology of the ponds. Contribution: **Minor Positive.**
Church of All Saints, Mugginton. Grade I Listed Building.	All Saints Church is a Grade I Listed Building, being a multi-period parish church (11th–18th century) of architectural, archaeological and historic interest, forming the spiritual and visual focus of Mugginton and occupying a prominent hillside position. It is an asset of **high** value/sensitivity.	In limited reciprocal views the Site forms a small component of the wider agricultural panorama reinforcing rural character of the Church and that it serves a rural community, although it has no ecclesiastical or historic association with the Site. Contribution: **Minor Positive** (wider rural context only).
Ravensdale Park Conservation Area	Ravensdale Park as a Conservation Area is large-scale medieval deer-park landscape containing surviving pale earthworks, medieval trackways, lodge site, mill and fishponds, with archaeological and historic interest relating to high-status medieval estate management and later agricultural reorganisation. It is an asset of **moderate** value/sensitivity.	The Site lies outside the historic pale and has no functional or designed relationship. In very limited long-range views, it forms part of a distant agricultural horizon, reaffirming that wider historic context of the medieval deer park, being within an undeveloped landscape. Contribution: **Minor Positive** (wider rural context only).
Ravensdale Deer Park, Lodge, Mill and Fishpond	Scheduled elements of a medieval deer-park complex with surviving pale, lodge platform, mill remains, fishponds and trackways, evidencing medieval hunting, estate management and a high-status designed landscape. It is an asset of **high** value/sensitivity.	The Site lies outside the historic pale and has no functional or designed relationship. In very limited long-range views, it forms part of a distant agricultural horizon, reaffirming that wider historic context of the medieval deer park, being within an undeveloped landscape. Contribution: **Minor Positive** (wider rural context only).
Mugginton Conservation Area	A rural historic village centred on All Saints Church, characterised by medieval street pattern, traditional vernacular buildings and irregular plots. Significance derives principally from architectural character, historic interest and the relationship between built form and its immediate rural setting. It is	The Site lies outside the historic settlement envelope and beyond the areas of agricultural land that define the village edge. It has no historic or functional association with the village core. In limited and distant filtered views, it forms part of a broad rural panorama, but this does not assist in understanding the Conservation

	an asset of **moderate** value/sensitivity.	Area's character, appearance or historic development. The Site therefore does not form part of any setting element that contributes to its significance. Contribution: **Neutral.**
Mugginton Medieval Settlement and part of an Open Field System. Scheduled Monument.	Scheduled medieval settlement complex recorded in Domesday, comprising well-preserved earthworks including building platforms, hollow ways, tofts, furlongs and ridge-and-furrow, illustrating the form, evolution and partial abandonment of a medieval rural community and its agricultural system. Significance derives from its archaeological and historical interest.	The Site lies physically separate from the Scheduled earthworks and contains no associated remains. It is not part of the medieval open-field system and has no historic or functional association with the Monument. In limited long-range and filtered views, the Site forms part of a broader agricultural horizon; however, this does not assist in understanding the settlement's form, layout or agricultural organisation. The Site therefore does not constitute a setting element that contributes to the Monument's significance. Contribution: **Neutral**
Brailsford House and Coach House	Early-19th-century principal dwelling and associated service building forming part of the historic linear frontage of Brailsford along the A52. Significance derives from architectural fabric, detailing and curtilage areas. It is an asset of **moderate** value/sensitivity.	There is no intervisibility, historic association or designed relationship between the Site and the Listed Buildings. Their significance is derived from architectural quality, group value and village streetscape context rather than from wider agricultural land. The Site does not form part of any setting element that contributes to their special interest. Contribution: **Neutral.**
Oaklands and The Coach House at Oaklands	Late 18th-century principal dwelling and associated service building form part of the historic linear frontage of Brailsford along the A52. Significance derives from architectural fabric, detailing and curtilage areas. It is an asset of **moderate** value/sensitivity.	There is no intervisibility, historic association or designed relationship between the Site and the Listed Buildings. Their significance is derived from architectural quality, group value and village streetscape context rather than from wider agricultural land. The Site does not form part of any setting element that contributes to their special interest. Contribution: **Neutral.**

Brailsford Conservation Area	A small historic village core of 17th–19th-century vernacular buildings and irregular plots designated as a Conservation Area, reflecting medieval agricultural origins and incremental post-medieval development. It is an asset of **moderate** value/sensitivity.	The Site makes no contribution to significance due to lack of intervisibility, physical separation by topography and modern development, and absence of any perceptible historic association. Contribution: **Neutral.**

10.5 Assessment Of Likely Significant Effects

Construction Effects

10.5.1 The construction phase is a temporary effect, lasting for the duration of the build period only. The main A52 road will be the principal route for site access for construction vehicles.

10.5.2 Top Wild Park Farmhouse (Grade II Listed Building): Plant and activity associated with construction of the proposals will be experienced predominantly in the fields closest to the building, which also include the temporary construction compound. The construction activity will be visible and will introduce some audible change and motion into these areas, which are predominantly tranquil.

10.5.3 It is concluded that during construction the proposals will have a Minimal Impact on the heritage value of the building, an asset of Moderate Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.4 Hall Farmhouse (Grade II Listed Building): Plant and activity associated with construction of the proposed development is unlikely to be experienced from or towards the building visually, but the construction activity might introduce some audible change into areas that are predominantly tranquil.

10.5.5 It is concluded that during construction the proposed development will result in a Minimal Impact to the heritage value of the building, an asset of Moderate Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.6 Barn and attached Cowhouse at Hall Farm (Grade II Listed Building): Plant and activity associated with construction of the proposed development is unlikely to be experienced from or towards the building visually, but the construction activity might introduce some audible change into areas that are predominantly tranquil.

10.5.7 It is concluded that during construction the proposed development will result in a Minimal Impact to the heritage value of the building, an asset of Moderate Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.8 Fishponds 260m northwest of Mercaston Hall Farm (Scheduled Monument): Plant and activity associated with construction of the proposed development will be experienced predominantly in the fields closest to the fishponds. The construction activity will be visible and will introduce some audible change and motion into these areas, into areas that are predominantly tranquil.

10.5.9 It is concluded that during construction the proposed development will have a Minimal Impact on the heritage value of the monument, an asset of High Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.10 Church of All Saints, Mugginton (Grade I Listed Building): Plant and activity associated with construction of the proposed development would not be experienced from within the building visually but would be visible in distant views from its immediate setting, but only within limited parts of the Site. Any audible change is likely to be minimal when considering the separation distance.

10.5.11 It is concluded that during construction the proposed development will have a Minimal Impact on the heritage value of the church, an asset of High Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.12 Ravensdale Park Conservation Area: Plant and activity associated with construction of the proposed development in limited parts of the Site would only be experienced in limited distant views from within the Conservation Area. Any audible change is likely to be minimal when considering the separation distance.

10.5.13 It is concluded that during construction the proposed development will have a Minimal Impact on the heritage value of the Conservation Area, an asset of Moderate Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.14 Ravensdale deer park, lodge, mill and fishpond (Scheduled Monument): Plant and activity associated with construction of the proposed development in limited parts of the Site would only be experienced in limited distant views from the elevated vantage points of the monument. Any audible change is likely to be minimal when considering the separation distance.

10.5.15 It is concluded that during construction the proposed development will have a Minimal Impact on the heritage value of the monument, an asset of High Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.16 Mugginton Conservation Area: Plant and activity associated with construction of the proposed development would only be perceptible in limited, distant views from selected areas within the Conservation Area. Given the separation distance, audible effects are unlikely, and the limited visibility of construction activity would not affect the ability to experience the special character and appearance of the Conservation Area.

10.5.17 It is concluded that during construction the proposed development will result in No Change to the heritage value of the Conservation Area, an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.18 Mugginton Medieval Settlement and part of an Open Field System Scheduled Monument: Plant and activity associated with construction of the proposed development would only be perceptible in limited, distant views from the monument. Given the separation distance, audible effects are unlikely, and the limited visibility of construction activity would not affect the ability to experience the architectural or historic interest of the monument.

10.5.19 It is concluded that during construction the proposed development will result in No Change to the heritage value of the monument, an asset of High Value, via a change in setting. This would constitute a Neutral Effect.

10.5.20 Brailsford House (Grade II Listed Building): Plant and activity associated with construction of the proposed development is unlikely to be experienced from the building, or in views from or towards it. Construction traffic will use the A52, the road on which the building is located and accessed from. However, as this route already experiences a consistently high volume of traffic, the additional construction vehicles are not anticipated to result in any change that would materially affect the special interest of the building.

10.5.21 It is concluded that during construction the proposed developments will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.22 Coach House at Brailsford House (Grade II Listed Building): Plant and activity associated with construction of the proposed development is unlikely to be experienced from the building, or in views from or towards it. Construction traffic will use the A52, the road on

which the building is located and accessed from. However, as this route already experiences a consistently high volume of traffic, the additional construction vehicles are not anticipated to result in any change that would materially affect the special interest of the building.

10.5.23 It is concluded that during construction the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.24 Oaklands (Grade II Listed Building): Plant and activity associated with construction of the proposed development is unlikely to be experienced from the building, or in views from or towards it. Construction traffic will use the A52, the road on which the building is located and accessed from. However, as this route already experiences a consistently high volume of traffic, the additional construction vehicles are not anticipated to result in any change that would materially affect the special interest of the building.

10.5.25 It is concluded that during construction the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.26 Coach House at Oaklands (Grade II Listed Building): Plant and activity associated with construction of the proposed development is unlikely to be experienced from the building, or in views from or towards it. Construction traffic will use the A52, the road on which the building is located and accessed from. However, as this route already experiences a consistently high volume of traffic, the additional construction vehicles are not anticipated to result in any change that would materially affect the special interest of the building.

10.5.27 It is concluded that during construction the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.28 Brailsford Conservation Area: Plant and activity associated with construction of the proposed development will not be experienced from within the Conservation Area or in views towards it. Construction traffic will use the A52, within the Conservation Area. However, as this route already experiences a consistently high volume of traffic, the additional construction vehicles are not anticipated to result in any change that would materially affect the character and appearance of the Conservation Area.

10.5.29 It is concluded that during construction the proposed development will result in No Change to the heritage value of the Conservation Area an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

Operational Effects

10.5.30 The proposed development will have a lifespan of about 40 years and at the end of its useful life it will be decommissioned and all associated equipment removed. The proposed development and the effects arising are thereby limited to the operational life of the proposed development.

10.5.31 Top Wild Park Farmhouse (Grade II Listed Building): Following completion the proposed development will occupy fields that comprise part of the historic landholding of the farm and will be visible in views of the farmhouse and from it. Views would largely remain filtered, particularly to the west where the existing tree belts around the farmhouse in its curtilage are likely to be retained. The fields that offer the clearest views, such as those along the access drive, and immediately to the east and south are excluded from development. Any views that would be interrupted are not associated with designed or planned views connected to the farmhouse. Its immediate setting, comprising the barns, yard, and the closest field enclosure, would remain unchanged.

10.5.32 Although the change in character of the site from farmland to solar arrays will change the long-established appearance of the farmhouse's wider surroundings, agricultural land will remain between the Listed Building and the proposed development, and the understanding of its wider agricultural setting would not be entirely lost due to the retention of field boundaries, ditches and woodland, and the ground beneath the panels will ensure that it is apparent that the panels are located on former agricultural fields.

10.5.33 It is concluded that the proposed development will have a Medium Impact on the heritage value of the building, an asset of Moderate Value, via a change in setting. This would constitute a Major Adverse Effect.

10.5.34 Whilst the magnitude of change is assessed as medium in EIA terms, the absence of direct physical impact and the retention of key elements of the farmhouse's immediate setting mean that the resulting harm remains within the category of less than substantial harm in NPPF terms, at the middle of the spectrum.

10.5.35 Hall Farmhouse (Grade II Listed Building): No historic association of the site and the asset has been identified and following completion, the proposed development is unlikely to be

visible from the farmhouse due to the notable change in land levels between it and the site and the extent of retained high boundary planting at the site.

10.5.36 It is concluded that the proposed development will result in No Change to the heritage value of the building, an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.37 Barn and attached Cowhouse at Hall Farm (Grade II Listed Building): No historic association of the site and the asset has been identified and following completion the proposed development is unlikely to be visible from the farmhouse due to the notable change in land levels between it and the Site and the extent of retained high boundary planting at the Site.

10.5.38 It is concluded that the proposed development will result in No Change to the heritage value of the buildings, an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.39 Fishponds 260m northwest of Mercaston Scheduled Monument): Hall Farm (No historic association of the site and the asset has been identified and following completion the proposed development would be seen as part of the rural backdrop to the ponds. Although no designed views have been identified, the wider rural surroundings contribute to understanding the Monument's location within a landscape consistent to some degree with its medieval landscape.

10.5.40 The introduction of solar arrays and associated infrastructure into parts of this rural backdrop would erode aspects of the agricultural landscape character that currently supports an appreciation of the Monument's medieval context. While there would be no direct physical impact on the Monument the proposals would change the character of a portion of the setting that illustrates its historic context and would be clearly visible from the Monument. Due to the upward slope of the Site, the scope for effective screening or mitigation is limited, and it is unlikely that planting or boundary treatments would substantially reduce perceptual change during the operational period of the solar arrays.

10.5.41 It is concluded that the proposed development will have a Low Impact on the heritage value of the monument, an asset of High Value, via a change in setting. This would constitute a Moderate Adverse Effect.

10.5.42 Whilst the magnitude of change is assessed as low in EIA terms, the absence of direct physical impact and the limited change to its setting mean that the resulting harm remains

within the category of less than substantial harm in NPPF terms, at the low end of the of the spectrum.

10.5.43 Church of All Saints, Mugginton (Grade I Listed Building): No historic association of the site and the asset has been identified and following completion the proposals would be perceived as a peripheral component of the wider rural surroundings, visible only in long-distance and partially filtered views from the churchyard. In these views the solar arrays would appear as very distant features within a broader landscape that already contains existing infrastructure such as pylons. Their presence would therefore result in only a marginal erosion of the rural character of this part of the wider setting. Furthermore, the enhancement of existing hedgerows and the establishment of new planting would serve to further limit visibility. Overall, the proposed development would lead to a very small reduction in the ability to appreciate the church within its predominantly rural landscape.

10.5.44 The proposed development will also alter long distance views of the church from within the site, albeit only from limited areas in the northern portions and along nearby Public Rights of Way, the arrays would not interrupt any principal and more significant views of the tower, the church and churchyard, or the historic core of the village. These key views are obtained from closer vantage points where the relationship between the church, churchyard and village is most strongly appreciated.

10.5.45 It is concluded that the proposed development will have a Minimal Impact on the heritage value of the Church, an asset of High Value, via a change in setting. This would constitute a Minor Adverse Effect.

10.5.46 Whilst the magnitude of change is assessed as medium in EIA terms, the absence of direct physical impact and the retention of key elements of the church's immediate setting mean that the resulting harm remains within the category of less than substantial harm in NPPF terms, at the low end of the spectrum.

10.5.47 Ravensdale Park Conservation Area: No historic association of the site and the asset has been identified and following completion the proposed development would be perceived in long-distance, partially filtered views experienced from elevated points within the Conservation Area. In these views the surrounding farmland contributes to an appreciation of the medieval and post-medieval landscape, forming part of the broader rural context in which the asset, principally as the extent of a former medieval deer park, is understood and experienced.

10.5.48 Whilst features such as the former hunting lodge (now demolished) would have likely been orientated northwards across the deer chase, the wider rural surroundings remain broadly reflective of an undeveloped agricultural landscape, consistent with the historic character of the former park and its long established countryside setting.

10.5.49 The introduction of solar arrays and associated infrastructure within this part of the wider setting would result in a degree of change to the long established rural character that currently contributes to appreciating the rural landscape that the medieval deer park was set in. Although the arrays would be low lying, and modern vertical elements such as pylons already introduce some visual detractors on the horizon, the proposed development will nonetheless alter limited parts of the wider rural setting as experienced in long distance views. However, the change and erosion in the ability to appreciate this rural context would be very minor.

10.5.50 It is concluded that the proposed development will have a Minimal Impact on the heritage value of the Conservation Area an asset of Moderate Value, via a change in setting. This would constitute a Minimal Adverse Effect.

10.5.51 Whilst the magnitude of change is assessed as minimal in EIA terms, the absence of direct physical impact and the limited change to its setting mean that the resulting harm remains within the category of less than substantial harm in NPPF terms, at the low end of the spectrum.

10.5.52 Ravensdale deer park, lodge, mill and fishpond (Scheduled Monument): No historic association of the site and the asset has been identified and following completion the proposed development would be perceived as being outside the historic park pale, visible in long distance and partially filtered views that are experienced from elevated parts of the Scheduled Monument, including the site of the former lodge. In these wider views, the surrounding farmland contributes to an appreciation of the medieval and post medieval landscape, forming part of the broader rural context in which the asset, principally as elements of a former medieval deer park, is understood and experienced. Whilst features such as the former hunting lodge (now demolished) would have likely been orientated northwards across the deer chase, the wider rural surroundings remain broadly reflective of an undeveloped agricultural landscape, consistent with the historic character of the former park and its long established countryside setting.

10.5.53 The introduction of solar arrays and associated infrastructure within this part of the wider setting would result in a degree of change to the long established rural character that

currently contributes to appreciating the rural landscape that the medieval deer park was set in. Although the arrays would be low lying, and modern vertical elements such as pylons already introduce some visual detractors on the horizon, the proposed development will nonetheless alter limited parts of the wider rural setting as experienced in long distance views. However, the change and erosion in the ability to appreciate this rural context would be very minor.

10.5.54 It is concluded that the proposed development will have a Minimal Impact on the heritage value of the Scheduled Monument an asset of High Value, via a change in setting. This would constitute a Minimal Adverse Effect.

10.5.55 Whilst the magnitude of change is assessed as minimal in EIA terms, the absence of direct physical impact and the limited change to its setting mean that the resulting harm remains within the category of less than substantial harm in NPPF terms, at the low end of the spectrum.

10.5.56 Mugginton Conservation Area: No historic association of the site and the asset has been identified and following completion the proposed development would be perceived as being outside the bounds of the Conservation Area and only in long distance, partially filtered views from limited parts of the Conservation Area, most notably from the churchyard, and in similarly distant glimpses from higher ground within the Scheduled Monument where within the Conservation Area. In these views, the surrounding farmland forms part of a broad agricultural landscape that reflects historic medieval land use and later enclosure but also includes modern form too.

10.5.57 The introduction of solar arrays and associated infrastructure into part of this wider rural landscape would introduce a very limited change within the broader agricultural surroundings, but the views affected are distant and partially screened. However, such views do not form a notable feature, or aid in the experience or appreciation of the Conservation Area's heritage significance are not principal to understanding the significance of the Conservation Area. Reinforcement of existing hedgerows will increase screening over time, and the continued legibility of the underlying field pattern, will further limit the extent of change.

10.5.58 It is concluded that the proposed development will result in No Change to the heritage value of the Conservation Area an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.59 Mugginton Medieval Settlement and part of an Open Field System Scheduled Monument: No historic association of the site and the asset has been identified and following completion the proposed development would be perceived as being outside the bounds of the monument's area of archaeological and historic interest and only in long distance, partially filtered views from it. In these views, the surrounding farmland forms part of a broad agricultural landscape that reflects historic medieval land use and later enclosure but also includes modern form too.

10.5.60 The introduction of solar arrays and associated infrastructure into part of this wider rural landscape would erode aspects of the broader agricultural surroundings, but the views affected are distant and partially screened. However, such views do not form a notable feature, or aid in the experience or appreciation of the Monument's heritage significance are not principal to understanding the significance of the monument. Reinforcement of existing hedgerows will increase screening over time, and the continued legibility of the underlying field pattern, will further limit the extent of change.

10.5.61 It is concluded that the proposed development will result in No Change to the heritage value of the Scheduled Monument an asset of High Value, via a change in setting. This would constitute a Neutral Effect.

10.5.62 Brailsford House (Grade II Listed Building): No historic association of the site and the asset has been identified and following completion the proposed development are not anticipated to be perceptible in views either towards or from the building, owing to the separation distance, intervening topography, the presence of woodland and mature tree cover, and the variation in ground levels between the building and the Site.

10.5.63 It is concluded that the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.64 Coach House at Brailsford House (Grade II Listed Building): No historic association of the site and the asset has been identified and following completion the proposed development are not anticipated to be perceptible in views either towards or from the building, owing to the separation distance, intervening topography, the presence of woodland and mature tree cover, and the variation in ground levels between the building and the site.

10.5.65 It is concluded that the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.66 Oaklands (Grade II Listed Building): No historic association of the site and the asset has been identified and following completion the proposed development is not anticipated to be perceptible in views either towards or from the building, owing to the separation distance, intervening topography, the presence of woodland and mature tree cover, and the variation in ground levels between the building and the Site.

10.5.67 It is concluded that the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.68 Coach House at Oaklands (Grade II Listed Building): No historic association of the site and the asset has been identified and following completion the proposed development is not anticipated to be perceptible in views either towards or from the building, owing to the separation distance, intervening topography, the presence of woodland and mature tree cover, and the variation in ground levels between the building and the site.

10.5.69 It is concluded that the proposed development will result in No Change to the heritage value of the Listed Building an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.5.70 Brailsford Conservation Area: No historic association of the site and the asset has been identified and following completion the proposed development is not anticipated to be perceptible in views either towards or from the Conservation Area, owing to the separation distance, intervening topography, the presence of woodland and mature tree cover, and the variation in ground levels between the building and the site.

10.5.71 It is concluded that the proposals will result in No Change to the heritage value of the Conservation Area an asset of Moderate Value, via a change in setting. This would constitute a Neutral Effect.

10.6 Mitigation, Enhancement and Residual Effects

Mitigation by Design

10.6.1 The proposed development largely retains existing treed hedges along the field boundaries, with gaps plugged and existing hedgerows enhanced.

10.6.2 Solar arrays have been excluded from the fields that immediately surrounded the Grade II Listed Building - Top Wild Park Farmhouse.

10.6.3 The proposed landscape mitigation embedded within the scheme has been designed to reduce the visibility of the proposals in views.

10.6.4 No additional mitigation beyond that embedded within the design is considered necessary in relation to the built historic environment.

Residual Effects

10.6.5 As stated above, this EIA discusses impacts and effects in EIA terms, which do not necessarily reflect or directly translate to the consideration of harm in the context of the NPPF.

10.6.6 A Major Adverse Effect is identified for Top Wild Park Farmhouse as a result of changes within its setting. In EIA terms, this constitutes a 'significant effect'. No other effects identified for designated heritage assets are considered to be 'significant effects' in EIA terms.

10.6.7 A significant effect in EIA terms does not necessarily equate to '**substantial harm**' as defined by the NPPF. This reflects the distinction between EIA significance, which is derived from a matrix-based assessment, and heritage harm under the NPPF, which is a policy judgement having regard to the nature of the asset and the degree to which its significance is affected.

10.6.8 It is considered that all adverse effects on the heritage significance of the identified assets, arising from changes within their settings, would amount to **less than substantial harm**, at the lowest end of the scale for all assets except Top Wild Park Farmhouse, where the level of harm would fall at the mid-range of less than substantial harm.

10.7 Cumulative And In-Combination Effects

10.7.1 Given the separation distances, the lack of intervisibility, and the nature of the proposed development as a low-lying and partially screened form of development, it is not considered that any cumulative effects would arise that would materially alter the conclusions of this assessment.

10.8 Conclusion

10.8.1 This chapter has identified and evaluated the likely effects of the proposed development on the built historic environment in accordance with relevant legislation, national policy and Historic England guidance. The assessment has considered both construction and operational phases, drawing on the heritage baseline presented in Appendix 10.1 and the professional judgements set out within this chapter.

10.8.2 The assessment concludes that only one heritage asset, Top Wild Park Farmhouse (Grade II Listed Building), would experience a significant effect in EIA terms, arising from a medium magnitude of change to aspects of its agricultural setting that contribute to its heritage significance. This results in a Major Adverse Effect during operation. Embedded mitigation has been incorporated into the design of the proposed development, including the omission of solar arrays from the most sensitive surrounding fields, but the level of change remains significant.

10.8.3 For all other designated heritage assets, including Scheduled Monuments, Conservation Areas and several Grade II Listed Buildings, the proposal would result in either Moderate Adverse, Minor Adverse or Neutral effects, depending on the degree of intervisibility, contextual relationship and contribution of the Site to their significance. None of these effects constitutes a significant effect in EIA terms. Where adverse effects occur, they arise from limited changes to wider rural surrounds and with no direct impact to the assets. With several assets existing topography, vegetation and distance prevent any perceptible change within their settings.

10.8.4 In planning policy terms, and consistent with the requirements of the NPPF, all harm identified is assessed as less than substantial, falling at the low end of the spectrum for all assets except Top Wild Park Farmhouse, where harm is assessed at the middle of the spectrum. In each case, the identified level of harm must be weighed against the public benefits of the scheme, including renewable energy generation, carbon reduction and increased energy security. These benefits are recognised in national policy as carrying significant weight and forming an important material consideration.

10.8.5 Overall, the proposed development will result in a single significant heritage effect in EIA terms, with all other effects being not significant.

Table 10.9: Summary Tables of the Construction and Operation Effects on Heritage Assets

CONSTRUCTION EFFECTS						
Asset	**Nature of Effect**	**Value**	**Magnitude of Effect**	**Significance of Effects**	**Mitigation / Enhancement Measures**	**Residual Effects (Significant Effect/ Not Significant Effect in EIA terms)**
Top Wild Park Farm	Temporary – Change in Setting	Moderate	Minimal	Minor Adverse	None proposed	Major Adverse (Significant)
Hall Farmhouse	Temporary – Change in Setting	Moderate	Minimal	Minor Adverse	None proposed	Neutral (Not Significant)
Barn and attached Cowhouse at Hall Farm	Temporary – Change in Setting	Moderate	Minimal	Minor Adverse	None proposed	Neutral (Not Significant)
Fishponds 260m northwest of Mercaston Hall Farm	Temporary – Change in Setting	High	Minimal	Minor adverse	None proposed	Moderate adverse (Not Significant)
Church of All Saints, Mugginton	Temporary – Change in Setting	High	Minimal	Minor Adverse	None proposed	Minor Adverse (Not Significant)
Ravensdale Park Conservation Area	Temporary – Change in Setting	Moderate	Minimal	Minor Adverse	None proposed	Minor Adverse (Not Significant)

Ravensdale Deer Park, Lodge, Mill and Fishpond	Temporary – Change in Setting	High	Minimal	Minor Adverse	None proposed	Minor Adverse (Not Significant)
Mugginton Conservation Area	Temporary – Change in Setting	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Mugginton Medieval Settlement and part of an Open Field System Scheduled Monument	Temporary – Change in Setting	High	No Change	Neutral	None proposed	Neutral (Not Significant)
Brailsford House	Temporary – Change in Setting	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Coach House at Brailsford House	Temporary – Change in Setting	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Oaklands	Temporary – Change in Setting	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Coach House at Oaklands	Temporary – Change in Setting	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Brailsford Conservation Area	Temporary – Change in Setting	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)

OPERATIONAL EFFECTS						
Asset	**Nature of Effect**	**Value**	**Magnitude of Effect**	**Significance of Effects**	**Mitigation / Enhancement Measures**	**Residual Effects (Significant Effect/ Not Significant Effect in EIA terms)**
Top Wild Park Farm	Permanent – Change in Setting*	Moderate	Medium	Major Adverse	Embedded Within the Design.	Major Adverse (Significant)
Hall Farmhouse	Permanent – Change in Setting*	Moderate	No change	Neutral	None proposed	Neutral (Not Significant)
Barn and attached Cowhouse at Hall Farm	Permanent – Change in Setting*	Moderate	No change	Neutral	None proposed	Neutral (Not Significant)
Fishponds 260m northwest of Mercaston Hall Farm	Permanent – Change in Setting*	High	Low	Moderate Adverse	Embedded Within the Design.	Moderate Adverse (Not Significant)
Church of All Saints, Mugginton	Permanent – Change in Setting*	High	Minimal	Minor Adverse	Embedded Within the Design.	Minor Adverse (Not Significant)
Ravensdale Park Conservation Area	Permanent – Change in Setting*	Moderate	Minimal	Minor Adverse	Embedded Within the Design.	Minor Adverse (Not Significant)
Ravensdale Deer Park, Lodge, Mill and Fishpond	Permanent – Change in Setting*	High	Minimal	Minor Adverse	Embedded Within the Design.	Minor Adverse (Not Significant)

Mugginton Conservation Area	Permanent – Change in Setting*	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Mugginton Medieval Settlement and part of an Open Field System Scheduled Monument	Permanent – Change in Setting*	High	No Change	Neutral	None proposed	Neutral (Not Significant)
Brailsford House	Permanent – Change in Setting*	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Coach House at Brailsford House	Permanent – Change in Setting*	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Oaklands	Permanent – Change in Setting*	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Coach House at Oaklands	Permanent – Change in Setting*	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)
Brailsford Conservation Area	Permanent – Change in Setting*	Moderate	No Change	Neutral	None proposed	Neutral (Not Significant)

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11.0 TRANSPORT AND ACCESS

11.1 Introduction

Competent Expert

11.1.1 This chapter has been prepared by Enzygo Limited. The competent expert responsible for the assessment holds relevant qualifications in transport planning and has sufficient experience in EIA transport chapters to ensure the completeness and quality of this assessment, in accordance with Regulation 18(5) of the EIA Regulations.

11.1.2 This chapter has been prepared by Josh Burkin BSc (Hons), MCIHT, MTPS, CMILT, who is an Associate Director of Transport Planning at Enzygo. Josh has eleven years' professional experience in development-led Transport Assessment and Environmental Statement chapters, including extensive experience leading transport inputs for energy projects across England and Wales. He is fully qualified and competent to prepare this ES chapter.

Overview

11.1.3 This chapter of the ES presents an assessment of the likely significant effects of the proposed development in relation to transport and access during the construction, operation and decommissioning phases.

11.1.4 This chapter is supported by the following Appendices:

Appendix 11.1: Transport Assessment (TA)

Appendix 11.2: Construction Traffic Management Plan (CTMP)

Structure of this Chapter

11.1.5 The structure of this chapter is as follows:

- Assessment Methodology (Section 11.2);
- Legislative and Policy Framework (Section 11.3);
- Study Area (Section 11.4);
- Baseline Conditions (Section 11.5);
- Embedded Mitigation (Section 11.6);
- Assessment of Likely Significant Effects (Section 11.7);
- Additional Mitigation and Enhancement Measures (Section 11.8);

- Residual Effects (Section 11.9);
- Cumulative Effects (Section 11.10); and
- Summary (Section 11.11).

Consultation

11.1.6 Pre-application consultation has been undertaken with DDC as the Local Highway Authority (LHA) and the LPA.

11.1.7 Key consultation activities include:

- Transport Technical Note (October 2025): Submitted to support EIA Scoping Opinion request. Response received 12 November 2025 (Ref: 25/01045/EIASO).
- Pre-application Response (January 2026): DCC response received 22 January 2026 (Ref: DDDC/2025/015016). Detailed technical review of draft Transport Statement and CTMP with identification of additional requirements.
- National Highways Consultation: Separate consultation has been undertaken with National Highways in respect of their proposed junction improvement schemes on the A38, including Markeaton Roundabout. This consultation has focused on coordinating construction programmes to avoid or minimise overlap and prevent cumulative or inter-project traffic impacts on the shared road network. The outcomes of this consultation are summarised at Section 11.10.

11.1.8 Key issues raised through consultation and how they have been addressed are summarised in Table 11.1. Full consultation correspondence is provided in Appendix 11.1.

Table 11.1: Summary of Consultation Issues and Responses

Consultee	Issue Raised	How Addressed in this ES Chapter
Derbyshire County Council (DCC)	Transport Assessment (not Statement) required	Full TA prepared (*Appendix 11.1*). This ES chapter draws on the TA throughout.
	Traffic survey validity (Ashbourne roadworks, Jan–Nov 2025)	New ATC surveys undertaken January 2026 post-roadworks completion. *See Section 11.5.*
	Collision data (CrashMap concerns; COVID-affected period)	Up-to-date data obtained from Derbyshire Constabulary (2020–2025). *See Section 11.5.*
	Visibility splays (100kph design speed required)	85th percentile speeds confirmed below 85kph in January 2026 surveys. 85kph

		design speed (160m splays) adopted. *See Section 11.6.*
	Forward visibility along A52 through junction	Forward visibility of 240m (1.5× SSD) assessed per DMRB CD109 para 2.13. *See Section 11.6.*
	Swept paths for 18.55m articulated HGV (all movements)	Swept path analysis provided for all movements without opposing lane encroachment. *See Section 11.6 and Appendix 11.1*.
	Abnormal load vehicle confirmation	60MVA transformer (19.4m × 3.0m) confirmed. Swept paths in *Appendix 11.1*. *See Section 11.6*.
	Construction traffic substantiation (first-principles required)	First-principles construction traffic calculation provided. *See Section 11.7 and TA Appendix 7*.
	Staff traffic and parking substantiation	Staff numbers and parking demand confirmed at 60 peak staff / 40 spaces. *See Section 11.6 and 11.7*.
	Sustainable travel assessment (800m / 2km / 5km catchments)	Accessibility assessment undertaken. *See Section 11.5*.
	Wood Lane crossing proposals	No crossing of Wood Lane required; revised red line boundary places all development east of Wood Lane. DNO access track crossings at Top Wild Park Farm described at *Section 11.6*.
	Off-site highway works and temporary traffic management	Addressed at *Section 11.6*. DCC Network Management Team contacted.
	Layby protection measures	Measures described at *Section 11.6.*
	Stopping up redundant accesses	To be secured by planning condition; addressed at *Section 11.6*.
	Decommissioning access confirmed	Confirmed at *Section 11.6*.
	Banksmen on highway (corrected wording required)	Wording corrected throughout: on-highway control by Police or authorised officers only.
	Abnormal load coordination with NH and Police	Consultation procedures confirmed. *See Section 11.6*.
	Community engagement and Considerate Constructors	Community engagement strategy in CTMP (*Appendix 11.2*) and *Section 11.6*.
	NPPF paragraphs 115 and 117 compliance	Full policy assessment at *Section 11.3*. Sustainable travel assessment at *Section 11.5*.

National Highways (NH)	Construction HGV trip generation, routing, and hourly AM/PM peak assessment	Construction traffic generation in Section 11.7. Routing in *Section 11.6*. TA (*Appendix 11.1*).
	Construction worker routes and arrival/departure times	Staff traffic addressed at *Section 11.7*. Tidal pattern and routing in CTMP (*Appendix 11.2*).
	Abnormal loads: Water Preferred Policy, Agreement in Principle, early route engagement, permitting process	Full abnormal load process set out at *Section 11.6*. Swept paths in *Appendix 11.1*.
	Operational staff numbers to be evidenced	Operational phase assessed at *Section 11.7*. 1–2 visits per week by car/van confirmed.
	A38 Derby Junctions scheme – cumulative impacts	Cumulative effects assessment at *Section 11.10*. Programme pending RIS3 confirmation. Coordination framework established.

11.2 Assessment Methodology

Guidance

11.2.1 This assessment has been prepared in accordance with the requirements of the EIA Regulations and follows the methodology set out in the IEMA Guidelines for the Environmental Assessment of Road Traffic (2023). The IEMA Guidelines provide a well-established methodology for assessing the environmental effects of road traffic associated with development proposals and are widely accepted by highway authorities and planning inspectors.

Screening Thresholds

11.2.2 The IEMA Guidelines identify two principal rules for determining the scale of assessment required:

Rule 1: Include highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); and

Rule 2: Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

11.2.3 Where thresholds are not exceeded, effects are generally considered to be not significant. A proportionate assessment has nevertheless been undertaken given the presence of PRoW and limited receptors.

Baseline Data Collection

11.2.4 Baseline data collection has comprised of the following:

- **Traffic Surveys**: Automatic Traffic Count (ATC) surveys at two locations on the A52 (January 2026);
- **Speed Surveys**: Vehicle speed data collected as part of the ATC surveys;
- **Collision Data**: Personal Injury Collision (PIC) data for the study area from Derbyshire Constabulary;
- **Site Visits**: To observe existing conditions and validate desktop assessments; and
- **Accessibility Assessment**: Walking (800m and 2km) and cycling (5km) catchment mapping from the site, in accordance with DCC pre-application comments.

Receptor Sensitivity

11.2.5 Receptor sensitivity has been defined in accordance with IEMA Guidelines:

- **High Sensitivity:** Non-motorised users (pedestrians, cyclists, horse riders and PRoW users), vulnerable road users (children, elderly and disabled persons).
- **Low Sensitivity:** Motorised road users (car drivers, van drivers, HGV drivers, bus passengers).

Magnitude of Change

11.2.6 The magnitude of change is defined by percentage changes in traffic and HGV flows, assessed with reference to IEMA thresholds summarised in **Table 11.2**.

Table 11.2: IEMA Magnitude of Change Thresholds

Magnitude	Total Traffic Change	HGV Traffic Change
High	>90%	>90%
Medium	60-90%	60-90%
Low	30-60%	30-60%
Negligible	<30%	<30%

Significance Criteria

11.2.7 The significance of effects is determined by combining receptor sensitivity with magnitude of change, as shown in **Table 11.3**.

Table 11.3: Significance Matrix

Magnitude	Sensitivity	
	High	Low
High	Major Adverse (Significant)	Moderate Adverse (Significant)
Medium	Moderate Adverse (Significant)	Minor Adverse (Not Significant)
Low	Minor Adverse (Not Significant)	Negligible Adverse (Not Significant)
Negligible	Negligible Adverse (Not Significant)	Negligible Adverse (Not Significant)

11.2.8 Effects of Moderate or Major significance are considered *Significant* in EIA terms. Effects of Minor or Negligible significance are considered *Not Significant*.

Impact Assessment Criteria

11.2.9 The assessment considers five environmental effects identified in IEMA 2023 guidance. The method applied to assess each effect is set out below:

- **Severance:** Assessed by comparing the forecast increase in total traffic and HGV flows against baseline conditions on the A52, with reference to the IEMA Rule 1 threshold (30% increase in total flows or HGVs). The significance of any change in the barrier effect of the A52 to pedestrian and cyclist movement is assessed qualitatively, having regard to baseline traffic volumes, speeds, and the presence of crossing facilities.

- **Driver delay:** Assessed by estimating the number of construction vehicles turning into and out of the proposed site access per hour, based on the forecast HGV delivery profile and the permitted delivery window. This is compared against A52 through-traffic flows to determine whether material delay to passing vehicles is likely. Junction geometry and design are also considered.

- **Non-motorised user (NMU) delay and amenity:** Assessed by reference to the percentage change in total traffic and HGV flows experienced by pedestrians, cyclists, horse riders and PRoW users, with reference to the IEMA Rule 1 (30%) and Rule 2 (10% at sensitive locations) thresholds. The presence of pedestrian infrastructure, baseline NMU activity, and proximity of PRoW to the site access and construction traffic route are considered in the assessment.

- **Fear and intimidation:** Assessed using the IEMA Degree of Hazard methodology, which calculates a combined hazard score from three parameters: average hourly traffic flow (scored A1), average hourly HGV flow (scored B1), and average vehicle speed (scored C1). The total score is compared between baseline and construction scenarios to determine whether the level of hazard experienced by NMUs changes materially.

- **Road safety:** Assessed through two complementary methods:

a) a Personal Injury Collision (PIC) review based on data obtained from Derbyshire Constabulary, covering the full construction traffic route from the proposed site access to Markeaton Roundabout, to identify any pre-existing safety concerns that could be exacerbated by the proposed development; and

b) a review of the site access design against DMRB standards (CD109, CD123) and an independent Stage 1 Road Safety Audit (RSA1), which will be carried out post submission, in accordance with DMRB GG119, to confirm the adequacy of the proposed access arrangements.

Limitations and Assumptions

11.2.10 The following limitations and assumptions apply:

- Traffic **Survey Validity:** Surveys gathered in January 2026 are considered to represent typical network flows for the purpose of this assessment.

- **Collision Data:** Up-to-date Personal Injury Collision (PIC) data has been obtained directly from Derbyshire Constabulary, covering October 2020 to September 2025, addressing DCC's concerns about earlier CrashMap data.

- **Construction Programme:** A detailed construction programme is not yet finalised. The assessment is based on conservative assumptions for peak and average construction. Actual impacts are forecast to be lower.

11.3 Legislative And Policy Framework

National Policy

National Planning Policy Framework (NPPF) (December 2024)

11.3.1 Chapter 9 of the NPPF addresses sustainable transport. Key relevant paragraphs include:

- ***Paragraph 115**: In assessing specific applications for development, it should be ensured that:*

a) *sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
b) *safe and suitable access to the site can be achieved for all users;*
c) *the design of streets and transport elements reflects current national guidance; and*
d) *any significant impacts can be cost-effectively mitigated.*

- ***Paragraph 116**: Development should only be prevented or refused on highway grounds if there would be an **unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe**.*
- ***Paragraph 117**: Within this context, applications should:*

a) *give priority to pedestrian and cycle movements, both within the scheme and with neighbouring areas;*
b) *address the needs of people with disabilities and reduced mobility;*
c) *create places that are safe, secure and attractive;*
d) *allow for the efficient delivery of goods; and*
e) *be designed to enable charging of plug-in and other ultra-low emission vehicles.*

11.3.2 The assessment demonstrates compliance with all three paragraphs. In relation to NPPF paragraph 115(a), the rural location and nature of the development (temporary solar park construction) limits opportunities for sustainable transport, but an accessibility assessment has been undertaken and car-sharing measures are proposed as part of the CTMP. Safe and suitable access is achieved through the DMRB-compliant site access design.

Local Policy

Derbyshire Dales District Council Local Plan (Adopted 2017)

- ***Policy HC19 (Accessibility and Transport):** Requires that all new development is located where the highway network can satisfactorily accommodate traffic or can be improved as part of the development.*

11.3.3 The A52 can satisfactorily accommodate the temporary construction traffic.

- ***Policy HC21 (Car Parking Standards)**: Requires adequate parking provision.*

11.3.4 On-site parking for all construction staff and vehicles is provided within the construction compound, with no highway parking required.

Derbyshire Local Transport Plan 3 (LTP3) (Adopted April 2011)

- ***Policy TS1:** Requires developers to demonstrate that road and community safety will be effectively addressed.*

11.3.5 This is demonstrated through the TA, CTMP, and site access design.

11.4 Study Area

11.4.1 The site is located on agricultural land immediately north of the A52 Main Road, approximately 1.5km east of Brailsford village and 8km west of Derby city centre. The Study Area comprises:

- **A52 Main Road:** From Brailsford village eastward to Markeaton Roundabout (approximately 8km), including the site frontage and proposed access location; and
- **Wood Lane:** A minor road connecting to the A52, which runs along the western boundary of the development site. No development is proposed west of Wood Lane and wood lane will not be used by construction traffic.

11.4.2 The Study Area has been established based on feedback from DCC during pre-application consultation and extends to cover the full construction traffic route from the SRN to the site.

11.4.3 In accordance with DCC's requirements, the accessibility assessment in the Transport Assessment (**Appendix 11.1)** extends to cover 800m and 2km walking catchments and a 5km cycling catchment from the site.

11.5 Baseline Conditions

Traffic Flows

11.5.1 Automatic Traffic Count (ATC) surveys were undertaken at two locations on the A52 from 23 to 31 January 2026. Surveys recorded continuous 7-day traffic flows, vehicle classification, and traffic speeds.

11.5.2 Survey locations:

- **ATC Site 1:** A52 west of proposed site access location; and
- **ATC Site 2:** A52 east of proposed site access.

11.5.3 Full survey data is provided in **Appendix 11.1**. A summary of baseline traffic flows is reported in **Table 11.4**.

Table 11.4: Baseline Traffic Flow Summary Daily 07:00-19:00 (ATC Sites 1 and 2)

Ref	Direction	5-Day Average 07:00-19:00		7-Day Average 07:00-19:00		18-Hour AADT
		Total Traffic	HGV %	Total Traffic	HGV %	
ATC 1	Eastbound	4,970	10.30%	4,681	8.40%	5,442
	Westbound	5,227	6.50%	5,007	5.30%	5,661
	Two-way	**10,197**	**8.40%**	**9,688**	**6.85%**	**11,103**
ATC 2	Eastbound	5,216	9.50%	4,876	7.80%	5,559
	Westbound	5,195	7.10%	4,817	6.00%	5,620
	Two-way	**10,411**	**8.30%**	**9,693**	**6.90%**	**11,179**

11.5.4 Daily traffic flows between 07:00 and 19:00 on the A52 in proximity of the proposed site access are in the range of 10,000 to 10,500 vehicles per day, consistent with expectations for a rural A-class road. HGV composition is 8.4 % of total traffic on an average weekday.

11.5.5 For the purposes of this assessment, ATC Site 2 data is adopted as the baseline, relating to traffic flows on the A52 east of the proposed site access on the proposed construction traffic route between the Site and the A38 Markeaton Roundabout.

11.5.6 Weekday hourly flows demonstrate typical commuter peaks of approximately 450-550 vehicles per direction in the AM peak period (08:00-09:00) and 450-550 vehicles per direction in the PM peak (17:00-18:00). Inter-peak flows are approximately 350-500 vehicles per hour. HGV movements are distributed relatively evenly throughout the daytime period.

Traffic Speeds

11.5.7 85th percentile traffic speeds recorded at each ATC location are summarised in **Table 11.5**.

Table 11.5: Recorded 85th Percentile Traffic Speeds

Location	Speed Limit	B-A (eastbound) 85th %ile	A-B (westbound) 85th %ile
ATC 1 (west of Wood Lane)	50 mph	52.4 mph (83.9 kph)	53.0 mph (84.8 kph)
ATC 2 (east of proposed access)	50 mph	50 mph (80.0 kph)	51.1 mph (81.8 kph)

11.5.8 Recorded 85th percentile speeds on the A52 in the vicinity of the proposed site access are slightly above the posted 50mph speed limit, however all are below 85 kph.

11.5.9 In accordance with DCC's pre-application response and DMRB CD109, the 85th percentile speeds have been applied to determine visibility splays. The recorded 85th percentile speeds from the 2026 surveys at ATC Sites 1 and 2 are under 85 kph. This gives a desirable minimum stopping sight distance (SSD) of 160m, which has been adopted for both the eastbound and westbound approaches to the proposed site access.

Road Safety

11.5.10 Personal Injury Collision (PIC) data has been obtained directly from Derbyshire Constabulary, covering the period from October 2020 to September 2025.

11.5.11 The collision study area extends along the A52 from the proposed site access eastward to Markeaton Roundabout, covering the full construction traffic route between the site and the SRN.

Table 11.6: Summary of Personal Injury Collisions

Year	Serious	Slight	Total
2020		3	3
2021	1	6	7
2022	2	9	11
2023	1	7	8
2024	2	5	7
Total		**8**	**8**

11.5.12 A total of 44 Personal Injury Collisions (PICs) were recorded within the study area over the five-year period from October 2020 to September 2025 (Table 11.6). GIS analysis identified a cluster of 15 collisions at Markeaton Roundabout, consistent with typical roundabout operation (rear-end shunts and lane-change incidents); there is no evidence of an inherent design flaw.

11.5.13 Along the A52 corridor between the proposed site access and Markeaton Roundabout, 29 collisions were recorded. Two occurred in the vicinity of the proposed site access: one serious (February 2021, LGV overtaking) and one slight (February 2024, driver distraction). Both are attributable to driver behaviour and neither is related to the road layout; there

are no commonalities in contributory factors. No collision clusters or patterns have been identified on the A52 corridor that would suggest pre-existing road safety concerns that would be exacerbated by the proposed development.

Non-Motorised Users and Pedestrian Infrastructure

11.5.14 Pedestrian provision in the vicinity of the site is limited, reflecting the rural character of the surrounding area. A footway is provided along the northern side of the A52 with sections of grass verge separation. Street lighting is present towards Brailsford but not in the immediate vicinity of the proposed site access.

11.5.15 Pedestrian and cyclist activity along the A52 in the vicinity of the site was observed to be very low during site visits, consistent with the rural character of the area. No formal NMU count data has been collected; however, given the absence of any major trip attractors along this section of the A52, and the limited pedestrian infrastructure, baseline NMU flows are considered to be *negligible* for the purposes of this assessment.

Public Rights of Way

11.5.16 Twelve Public Rights of Way (PRoW) are located within or adjacent to the site, as illustrated in **Appendix 11.1, (Figure 10)**. These comprise footpaths and bridleways providing connectivity across the agricultural landscape. The PRoW routes will be kept open as far as is possible throughout construction. Any PRoW routes temporarily severed due to construction activities will be diverted and signed in agreement with DCC. Temporary closures will be minimised by phasing of construction works. Routes maintained will be protected by applying measures secured through the CTMP.

11.5.17 All PRoW will be retained on their legal alignments throughout the operational life of the proposed development and will remain open and accessible to users.

Accessibility Assessment

11.5.18 In accordance with DCC's requirement and NPPF paragraphs 115(a) and 117(a), an accessibility assessment has been undertaken covering 800m, 2km walking and 5km cycling catchments from the proposed site access on the A52. The catchment mapping is provided in **Appendix 11.1**.

11.5.19 The 800m catchment encompasses the site access and a short section of the A52. No residential properties, services or facilities fall within the 800m catchment. The 2km catchment extends to include the eastern edge of Brailsford village and a small number of scattered rural properties.

11.5.20 The footway on the A52 provides a pedestrian connection toward Brailsford. The 5km catchment extends further to encompass the wider area including parts of Kirk Langley and Kedleston. However, there are no dedicated cycling facilities on the A52 or connecting routes, and the high traffic speeds on the A52 make cycling unattractive.

11.5.21 Given the rural location of the site, there is a lack of cycling infrastructure and pedestrian connectivity to residential areas. Opportunities for sustainable travel by construction staff are therefore also limited. This is consistent with NPPF paragraph 115(a) which requires sustainable transport to be prioritised 'taking account of the type of development and its location'.

11.5.22 For a temporary construction project on rural agricultural land, the opportunities to prioritise sustainable transport modes are inherently constrained. Notwithstanding this, bus services on the A52 comprise the Number 2 and Swift services, providing connections between Derby, Ashbourne and Uttoxeter. The closest stops are located adjacent to Wood Lane, approximately 800m from the proposed construction compound, and provide a realistic travel option for construction staff residing along this corridor. Car-sharing measures are also promoted in the CTMP.

11.6 Embedded Mitigation

11.6.1 A comprehensive range of embedded mitigation measures have been incorporated into the design and construction methodology of the proposed development. Each measure will be secured through the planning process via:

- planning conditions; and/or
- a Section 278 Highway Works Agreement with DCC.

11.6.2 **Table 11.7** summarises all embedded mitigation measures and their purpose along with the expected delivery mechanism.

Site Access Design

11.6.3 The proposed site access junction is located on the southern boundary of the site, fronting the A52 within a section of road subject to a 50mph speed limit. It has been designed in accordance with DMRB design standards CD109 (Highway Link Design) and CD123 (Geometric Design of At-Grade Priority and Signal-Controlled Junctions) and in consultation with DCC. The site access layout is shown in **Appendix 11.1.**

Visibility Splays

11.6.4 Visibility splays of 160m have been demonstrated in both directions from the site access, measured in accordance with DMRB CD109. This is based on an 85 kph design speed, which is the next highest design speed step above the recorded 85th percentile traffic speeds, of which the maximum was 53.0 mph (84.8 kph), as required by DCC. The visibility splay drawing is provided in **Appendix 11.1.**

11.6.5 The existing hedgerow along the A52 frontage is set back sufficiently from the carriageway edge to avoid obstruction of the visibility splays. The verge within the visibility splay area will be maintained below 0.6m in height during the construction period to ensure unobstructed visibility.

Forward Visibility

11.6.6 In accordance with DMRB CD109 paragraph 2.13 and Note 2, a junction visibility splay of 160m has been demonstrated in both directions from a point 2.4m back from the carriageway edge. A further forward visibility splay of 160m has been plotted, over a distance 1.5 times the required 160m stopping sight distance (240m), in accordance with DMRB CD109 paragraph 2.13. This confirms adequate junction and forward visibility for drivers on the A52 approaching the junction from both directions. The forward visibility assessment is presented in the access drawings in **Appendix 11.1**.

Junction Geometry

11.6.7 The junction bellmouth has been designed with a minimum 12m compound corner radius and corner tapers in accordance with DMRB CD123 to accommodate the swept paths of all anticipated construction vehicles, including 18.55m articulated HGVs and the defined abnormal load vehicle.

11.6.8 The bellmouth is locally widened to allow simultaneous entry and exit movements without vehicles needing to stop on the A52. The first 20m of the access from the A52 will be constructed in hardstanding materials to highway authority specification, preventing mud and debris being tracked onto the public highway.

Swept Path Analysis

11.6.9 Swept path analysis has been undertaken for the following vehicle types and movements at the proposed site access junction:

- 18.55m articulated HGV (maximum permissible length as of 2023): left-in, right-in, left-out, and right-out;
- Abnormal load vehicle (60MVA transformer, 19.4m length, 3.0m width): right-in, left-out; and
- Internal access track movements.

11.6.10 The swept path analysis is provided in **Appendix 11.1**. It confirms that all vehicles can negotiate the site access and internal routes without conflict, and without encroaching into opposing lanes on the A52. This is achieved through the junction geometry including corner tapers, as required by DCC.

Access Track Crossings at Top Wild Park Farm

11.6.11 Following engagement with the occupants of Top Wild Park Farm, which is located centrally within the site boundary (outside the application red line), the proposed layout has been refined to maintain and protect existing access arrangements. No crossing of Wood Lane is required; the revised red line boundary means all development areas are located to the east of Wood Lane.

11.6.12 The DNO access track and the internal solar farm access track cross the existing private farm access track at two discrete locations in the vicinity of Top Wild Park Farm, as shown in the site layout plans (**Appendix 11.1**). The first crossing is to the west of the farmstead, where the DNO access track intersects the farm track before continuing eastward. The second crossing is located further east, where the internal solar farm track crosses the same farm access route.

11.6.13 Between the two crossing points, the DNO access track runs broadly parallel to the existing farm access track, minimising disruption to established farm movements. Each crossing point will be constructed to an appropriate specification to accommodate the full range of construction and operational vehicles, including HGVs. Detailed design, surfacing, drainage, and any localised widening will be agreed with the landowner prior to commencement of works, alongside appropriate reinstatement proposals. The overall arrangement ensures the DNO access track and the existing farm access track can operate independently, with suitable separation and visibility maintained throughout.

Off-Site Highway Works and Temporary Traffic Management

11.6.14 The construction of the new A52 site access junction involves off-site highway works that will temporarily affect the operation of the A52. The following temporary traffic management measures will be implemented:

- **Temporary Traffic Management:** The site access construction works will require temporary traffic management on the A52, to be agreed with DCC's Network Management Team. This may include temporary traffic signals, a lane closure, or speed restrictions during the access construction period.

- **Temporary Traffic Regulation Orders (TTROs):** Where necessary (for example, temporary closure of the layby west of the site access during construction), TTROs will be applied for and implemented in accordance with statutory requirements and timescales.

- **Temporary Access:** Consideration has been given to temporary access requirements during the period when the permanent A52 site access is under construction. If early construction activities require site access before the permanent junction is complete, a temporary access arrangement will be agreed with DCC.

11.6.15 The applicant will contact DCC's Network Management Team prior to commencement to discuss temporary traffic management measures, TTROs, and the programme for temporary traffic management.

Layby Measures

11.6.16 Measures will be implemented to prevent site-related traffic from using the layby located to the west of the proposed site access. This may include temporary closure of the layby during the site access construction period, secured through a TTRO. A preliminary drawing showing the options for temporary or management measures is contained in **Appendix 11.2.**

11.6.17 During the remaining construction period, signage and CTMP provisions will prevent drivers from using the layby as informal waiting or parking. All details will be agreed with DCC prior to construction.

Construction Compound and Parking

11.6.18 A temporary construction compound will be established within the development site. The compound is located on an area of the site where no solar arrays are proposed and will

not require relocation during the construction programme. The compound layout is contained in **Appendix 11.2.** The compound has been sized to accommodate:

- staff parking for 40 cars or vans;
- construction vehicle parking and queuing areas to prevent on-highway waiting;
- materials laydown areas for solar panels, mounting structures, cabling, and other components;
- welfare facilities including offices, canteen, and WC block;
- wheel wash facility (location to be agreed with DCC); and
- turning area within the site to accommodate vehicles arriving in error or to be turned away.

11.6.19 The compound layout and capacity is set out in the site layout plans (**Appendix 11.1**). The compound is located on an area of the site where no solar arrays are proposed and will not require relocation during the construction programme.

Construction Traffic Routing

11.6.20 A designated construction traffic route has been established requiring all HGV traffic to approach the site from the east via the A38 and A52. The route is:

- **From A38 north/south:** via A38 to Markeaton Roundabout;
- **Markeaton Roundabout to site:** westbound along A52 (approximately 8km); and
- **Into site:** via the new A52 site access junction.

11.6.21 Measures to prevent use of unsuitable routes by construction traffic are set out in the CTMP. These include route instructions to be disseminated to all drivers, GPS tracking (where available), and a complaints mechanism.

11.6.22 It is noted that movement on the highway can only be controlled by the Police or authorised officers; accordingly, on-highway traffic management and enforcement will be coordinated through appropriate channels, not through the use of banksmen on the public highway.

Construction Deliveries

11.6.23 All HGV deliveries will be scheduled to avoid peak highway periods (08:00–09:00 and 17:00–18:00).

11.6.24 Deliveries will be controlled via a booking system to prevent vehicle stacking and ensure no vehicles wait on the public highway.

11.6.25 Deliveries will be distributed throughout the working day, with the majority of HGV movements occurring outside peak periods. This approach ensures that construction traffic does not materially interact with peak network conditions on the A52.

Community Engagement

11.6.26 The Principal Contractor will be required to comply with the community engagement commitments set out in the accompanying CTMP (Appendix 11.2). The FORS accreditation scheme will be applied, with a preference for FORS-accredited operators. A community engagement strategy is set out in the CTMP, including:

- Advance notification to nearby residents and businesses of construction programme and timing;
- Courtesy boards at the site access with contact details for the site coordinator;
- A complaints management procedure with an agreed Service Level Agreement for responding to concerns; and
- Regular updates to the local community on construction progress and any changes to operations.

Abnormal Loads

11.6.27 A single abnormal load movement will be required to deliver transformer units. The abnormal load vehicle is a 60MVA transformer unit measuring 19.4m in length and 3.0m in width. A technical drawing showing these dimensions of this vehicle is included in **Appendix 11.1**.

11.6.28 Swept path analysis for the abnormal load vehicle has been undertaken for the route from Markeaton Roundabout along the A52 to the site access, and for right turns in and left turns out at the site access junction. The analysis, provided in **Appendix 11.1**, demonstrates the vehicle can access and egress the site without conflict.

11.6.29 NH has confirmed that the abnormal loads process is managed by their Abnormal Loads team and that early route feasibility work is encouraged to mitigate delays to project

delivery. NH requires that the port of delivery is agreed and compliance with the Water Preferred Policy is demonstrated, using the nearest suitable port of entry to minimise road mileage. An Agreement in Principle (to approve the port of entry) will be obtained from NH as early as practicable. NH must be contacted 8 to 10 weeks prior to each planned movement, at which point route suitability will be reassessed in coordination with all relevant structure owners and highway authorities. An application must then be submitted to NH, and if approved, the permit will be valid for six months. There is a further legal obligation to notify NH of the exact date and time of each movement at least 5 days in advance.

11.6.30 Abnormal load movements will also be coordinated with DCC and Derbyshire Police through the standard ESDAL notification process. Movements will be scheduled outside network peak hours and in accordance with conditions agreed with the relevant authorities. Consultation has also been undertaken with NH regarding their funded A38 junction improvement schemes, including proposals for Markeaton Roundabout, to ensure that abnormal load routing and any temporary traffic management associated with both schemes are compatible. This coordination is described further in **Section 11.10**.

Decommissioning

11.6.31 The proposed A52 site access will be retained throughout the operational life of the development and will be used for decommissioning traffic at the end of the operational period (anticipated approximately 40 years after commencement of operation).

11.6.32 A Decommissioning Traffic Management Plan will be prepared prior to decommissioning, following similar principles to the CTMP but updated to reflect conditions at that time. Decommissioning traffic is expected to be lower than construction traffic as the site access and internal infrastructure will already be in place.

Summary of Embedded Mitigation

Table 11.7: Summary of Embedded Mitigation Measures

Measure	Purpose	Standard / Requirement
New A52 site access junction	Safe access for all vehicle types	DMRB CD109 / CD123; 160m visibility splays
Forward visibility through junction	Safe A52 through-movement	DMRB CD109 para 2.13

18.55m HGV swept paths (all movements)	Accommodate max permissible HGV	No opposing lane encroachment
Abnormal load swept paths (all movements)	Safe transformer delivery	60MVA vehicle confirmed
Corner tapers at junction	Prevent opposing lane encroachment	DMRB CD123
Internal access tracks with passing places	Safe two-way HGV movements	4.0m width, 7.0m at passing places
Designated HGV route from A38	Avoid unsuitable roads	Enforced through CTMP
Route enforcement measures	Prevent use of unsuitable routes	CTMP provisions
Construction compound with parking	No highway parking	40 spaces for staff; loading/unloading area
Turning area for unauthorised vehicles	Prevent reversing onto A52	Along site access track
Wheel washing facilities	Prevent mud on highway	Mandatory use; visual inspection
DNO and internal access track crossings at Top Wild Park Farm	Maintain farm access; safe two-way operation	Amended access track to avoid overlap with farm access
Off-site highway works Traffic Management	Safe access construction	DCC Network Management Team
Layby protection measures	Prevent misuse	TTRO if required
HGV delivery windows	Avoid highway peak hours	No deliveries in AM/PM peaks
CTMP	Comprehensive traffic management	Agreed with DCC pre-construction
FORS accreditation	Freight operator quality assurance	The Principal Contractor will encourage the use of FORS-accredited operators where practicable
Community engagement strategy	Local liaison	SLA for complaints response
Abnormal load coordination	Multi-authority notification	NH, DCC, Police via ESDAL
PRoW protection measures	Maintain connectivity and safety	Signage; managed crossings and temporary diversions as

		required and in agreement with DCC
Stage 1 Road Safety Audit	Independent safety review	RSA1 compliant with DMRB GG119 will be carried out post submission
Travel Plan / car-sharing	Reduce staff vehicle trips	CTMP provisions

11.7 Assessment Of Likely Significant Effects

Construction Phase

Construction Traffic Generation

11.7.1 Construction traffic has been derived using a first-principles methodology, with material quantities, vehicle capacities, and construction phasing assessed in detail. The full methodology and supporting calculations are reported in **Appendix 11.1**, specifically the Construction Traffic Forecast Technical Note at Appendix 7 of the TA. The resulting daily HGV and staff movement profiles by construction phase are summarised in the TA (Tables 6, 7, and 8). The phasing of HGV deliveries across the construction programme gives rise to the following daily profiles:

- **Peak period (Weeks 15–25):** During the peak construction phase (Weeks 15–25) when all activities overlap — aggregate and concrete deliveries for hardstanding coinciding with solar panel, frame, and cabling installations — HGV activity is at its highest. This generates a maximum of 14 HGV arrivals and 14 HGV departures per day (28 two-way movements). The full phased breakdown of daily HGV movements and staffing is set out in the Transport Assessment (Appendix 11.1).

- **Average construction (Weeks 1–56):** Averaged across the full 56-week programme, HGV activity equates to approximately 8 arrivals and 8 departures per day (16 two-way movements). Activity is higher in the first half of the programme when bulk aggregate and concrete deliveries dominate, reducing substantially from Week 26 once aggregate deliveries are complete.

Staff Traffic

11.7.2 Peak construction staffing is estimated at 60 personnel on site daily during Weeks 5–35, when multiple activities overlap. Staffing reduces to approximately 30 in the early and late phases, and to around 20 during the final commissioning period (Weeks 36–56).

11.7.3 At a car-sharing factor of 1.5 persons per vehicle, reflecting the rural location, peak staffing of 60 generates a maximum of 40 staff vehicle arrivals and 40 departures per day (80 two-way movements). Averaged across the full construction programme, this reduces to approximately 27 arrivals and 27 departures (54 two-way movements) per day. Staff trips are tidal in nature, concentrated in the 07:00–09:00 arrival window and the 16:00–18:00 departure window, largely avoiding the highway network peaks. HGV deliveries are

distributed across the mid-day period when staff are already on site, as set out in the Transport Assessment (Appendix 11.1).

Construction Traffic Impact Assessment

11.7.4 **Table 11.8** presents the construction traffic impact on the A52, using ATC Site 2 baseline data (5-day weekday average, January 2026), being the survey location east of the proposed site access on the construction traffic route.

Table 11.8: Construction Traffic Impact on A52

Scenario	Total Vehicles	HGVs	HGV %	% Change (Total)	% Change (HGV)
Baseline (ATC 2, 5-day avg)	10,410	864	8.3%	-	-
Peak Construction	+108	+28	8.5%	+1.04%	+3.24%
Baseline + Peak Construction	10,518	892	8.5%		
Typical Construction	+70	+16	8.4%	+0.67%	+1.85%
Baseline + Typical Construction	10,480	880	8.4%		

11.7.5 The percentage increases in traffic on the A52 as a result of construction are modest:

- +1.04% total traffic and +3.24% HGV traffic during the peak period (Weeks 15–25),
- +0.67% total and +1.85% HGV averaged across the full construction programme.

11.7.6 Applying the IEMA screening rules: the A52 does not exceed the Rule 1 threshold of 30% increase in either total traffic or HGVs on any link; and no sensitive receptors (schools, hospitals, care homes) have been identified on the construction traffic route between Markeaton Roundabout and the site access that would trigger the Rule 2 threshold of 10%.

11.7.7 Notwithstanding this, a proportionate assessment of all five IEMA effects has been undertaken below given that PRoW users and a small number of residential properties are present in the vicinity of the site access.

Receptor Identification

11.7.8 The following receptors have been identified on the A52 construction traffic route between Markeaton Roundabout and the site access:

- PRoW users crossing or adjacent to the A52 and within the development site (High Sensitivity);
- Pedestrians using the A52 footway (High Sensitivity);
- Residents of properties fronting the A52 (Low Sensitivity); and
- Motorised road users on the A52 (Low Sensitivity).

11.7.9 No schools, hospitals, or care homes have been identified on the construction traffic route between the site access and Markeaton Roundabout. Brailsford village (including its primary school) is located west of the site access and outside the designated HGV route; construction HGVs will not pass through the village.

Severance

11.7.10 Community severance occurs where traffic creates a barrier to movement. The A52 already carries substantial traffic (approximately 10,400 vehicles/day) at high speeds (85th percentile 53-54mph). The proposed development adds a maximum of 108 vehicles/day (+1.04%) during peak construction. This modest increase will not materially alter crossing opportunities or create new severance effects. The magnitude is assessed as Negligible.

Significance: Negligible Adverse (Not Significant)

- Receptor sensitivity: High (NMUs)
- Magnitude: Negligible
- Duration: Temporary (12 months)

Driver Delay

11.7.11 Driver delay may result from construction vehicles turning into and out of the site access. Assuming HGV deliveries are distributed across the permitted delivery window (09:00–15:00, i.e. 6 hours), 14 HGV arrivals per day equates to approximately 2.3 arrivals per hour at peak construction. Allowing for departures, this gives approximately 4–5 turning movements per hour at the site access, which will cause negligible delay to A52 through-traffic.

11.7.12 The junction geometry allows vehicles to enter and exit without conflict, reducing the need for HGVs to stop on the A52 aside from whilst giving way to oncoming traffic before turning right. Staff vehicle movements are forecast to follow tidal patterns in the network peak periods (07:00-10:00 and 16:00-19:00). The magnitude is assessed as Negligible.

Significance: Negligible Adverse (Not Significant)

- Receptor sensitivity: Low (motorised users)
- Magnitude: Negligible
- Duration: Temporary (12 months)

NMU Delay and Amenity

11.7.13 Pedestrian activity along the A52 in the vicinity of the site is very low, with limited trip attractors locally. The +1.04% increase in total traffic and +3.24% in HGVs will not materially affect crossing delay or amenity for the small number of pedestrians using this section. The magnitude is assessed as Negligible.

Significance: Negligible Adverse (Not Significant)

- Receptor sensitivity: High (NMUs)
- Magnitude: Negligible
- Duration: Temporary (12 months)

Fear and Intimidation

11.7.14 A Degree of Hazard assessment has been undertaken for the A52 in accordance with IEMA guidance. The assessment is presented in **Table 11.9.**

Table 11.9: Degree of Hazard Assessment

Parameter	Baseline	Baseline + Peak Construction
18-hour AADT (two-way)	11,179	11,287
A. Average Hourly Traffic Flow	621	627
A1. Flow score	10	10
18-hour HGV flow (two-way)	864	892
B. Average Hourly HGV Flow	48	50
B1. HGV score	0	0
C. Average speed	46 mph	~46 mph
C1. Speed score	30	30

Total Hazard Score (A1+B1+C1)	**40 (Moderate)**	**40 (Moderate)**

11.7.15 The Degree of Hazard remains '*Moderate*' in both scenarios with no step change. The magnitude is assessed as *Negligible* given the non-material increase in HGV traffic.

Significance: Negligible Adverse (Not Significant)

- Receptor sensitivity: High (NMUs)
- Magnitude: Negligible
- Duration: Temporary (12 months)

Road Safety

11.7.16 The baseline collision review, based on Derbyshire Constabulary data covering the five-year period October 2020 to September 2025, identifies a low collision rate on the A52 with no clusters or patterns at the proposed access location or along the construction traffic route from Markeaton Roundabout.

11.7.17 Two collisions were recorded in the vicinity of the proposed site access during the study period; both are attributable to driver behaviour and neither is related to the road layout. There are no pre-existing highway safety concerns on the A52 corridor that would be exacerbated by the proposed development.

11.7.18 The collision record is further supported by the design-led approach to the site access (DMRB-compliant geometry, 160m visibility splays, Stage 1 RSA) which provides independent assurance of highway safety.

11.7.19 The site access is designed to DMRB standards with 160m visibility splays, forward visibility through the junction, 18.55m HGV swept paths without opposing lane encroachment, and corner tapers per CD123. A Stage 1 Road Safety Audit in accordance with DMRB GG119 will be completed as part of planning, and further audits will be undertaken as part of the Road Safety Audit process. The magnitude is assessed as Low.

Significance: Minor Adverse (Not Significant)

- Receptor sensitivity: High (all road users)
- Magnitude: Low
- Duration: Temporary (12 months)

Operational Phase

11.7.20 Once operational, the development will generate only occasional maintenance visits (typically 1-2 per week at a maximum) by car or van. This level of traffic is indistinguishable from normal traffic variations and will have no perceptible effect on any of the assessed transport criteria. All operational effects are assessed as **Negligible Adverse (Not Significant).**

Decommissioning Phase

11.7.21 Decommissioning will use the same site access junction as construction and operation, which will have been in place throughout the operational period. Decommissioning related traffic volumes are expected to be equivalent to or less than those during construction, as the site access and internal track infrastructure will already be in place and no abnormal load deliveries are anticipated for decommissioning.

11.7.22 It is acknowledged that baseline traffic conditions on the A52 may differ materially from those assessed here, given the anticipated 40-year operational period. Accordingly, a Decommissioning Traffic Management Plan will be prepared closer to the decommissioning date, informed by traffic conditions prevailing at that time.

11.7.23 On the basis that decommissioning related traffic volumes will be no greater than those assessed for construction, and that the access infrastructure will be established, all decommissioning effects are assessed as **Negligible to Minor Adverse (Not Significant).**

11.8 Additional Mitigation and Enhancement

11.8.1 All effects are assessed as Not Significant with embedded mitigation in place. No additional mitigation is required beyond the measures set out in **Section 11.6**. The following further measures are recommended to supplement the embedded mitigation package:

11.8.2 Stage 1 and 2 Road Safety Audit to provide independent safety review of access design (to be completed at detailed design stage);

11.8.3 Highway condition surveys on the A52 in proximity of the site access pre- and post-construction to identify and rectify any damage; and

11.8.4 Post-construction reinstatement of the access track crossings at Top Wild Park Farm and any other temporary highway works.

11.9 Residual Effects

11.9.1 Given that all effects with embedded mitigation are assessed as Not Significant and no additional mitigation is required, residual effects are equivalent to those assessed in **Section 11.7**. **Table 11.10** summarises residual effects.

Table 11.10: Summary of Residual Effects

Phase	Effect	Magnitude	Sensitivity	Significance	Significant (Yes/No)
Construction	Severance	Negligible	High	Negligible Adverse	No
	Driver Delay	Negligible	Low	Negligible Adverse	No
	NMU. Delay and Amenity	Negligible	High	Negligible Adverse	No
	Fear and Intimidation	Negligible	High	Negligible Adverse	No
	Road Safety	Low	High	Minor Adverse	No
Operation	All Effects	Negligible	All	Negligible Adverse	No
Decommissioning	All Effects	Neg.-Low	All	Neg.-Minor Adverse	No

11.9.2 All residual effects are considered Not Significant.

11.10 Cumulative Effects

11.10.1 Inter-project cumulative effects arise where traffic from this development combines with traffic from other developments on the same highway network.

11.10.2 The anticipated construction period of the proposed development is forecast to take place over a period of approximately 56 weeks (around 12 months) between 2030 and 2035. The Applicant is committed to ongoing consultation with key stakeholders to avoid overlaps of construction period with any nearby major schemes.

A38 Junction Improvement Schemes (National Highways)

11.10.3 NH has a funded improvement scheme for junctions on the A38, including Markeaton Roundabout which forms part of the construction traffic route for the Proposed Development. Funding for these works was confirmed in 2025. As construction traffic associated with the Proposed Development will access the A52 via Markeaton

Roundabout, there is potential for cumulative or inter-project traffic impacts if the construction programmes overlap.

11.10.4 Pre-application consultation has been undertaken directly with National Highways regarding the A38 Derby Junctions scheme. At the time of this consultation, NH confirmed that the construction programme for the A38 works is not yet finalised and is subject to confirmation through RIS3. NH did not consider a meeting necessary at this stage but confirmed they will review the TA and CTMP when submitted with the planning application. The applicant is committed to ongoing engagement with NH as the A38 programme is confirmed, with the aim of coordinating construction periods to avoid or minimise any overlap between the two schemes. This coordination is intended to prevent cumulative construction traffic impacts on Markeaton Roundabout and the surrounding road network, and to ensure that temporary traffic management measures associated with either scheme do not conflict.

11.10.5 The key considerations arising from this consultation are as follows:

- **Construction Programme Coordination:** Dialogue has been established with NH to share construction programme information and identify any periods of potential overlap. Where overlap cannot be entirely avoided, the applicant is committed to coordinating delivery schedules and, if necessary, adjusting the timing of peak construction activities to minimise concurrent impacts on Markeaton Roundabout and the A38 corridor;

- **Traffic Management Coordination:** Any temporary traffic management measures on the A38 or at Markeaton Roundabout associated with NH works could affect the construction traffic route for the Proposed Development. The consultation has sought to ensure that temporary diversions, lane closures, or signal changes on the A38 are factored into the Proposed Development's Construction Logistics. If the A38 works require temporary closure or restriction of Markeaton Roundabout, alternative routing for construction HGVs will be agreed with DCC and NH in advance;

- **Abnormal Load Routing:** The abnormal load route for the proposed development passes through Markeaton Roundabout. Any modifications to the roundabout geometry during the A38 improvement works could affect the ability of abnormal loads to navigate the junction. This has been raised with NH and the timing of abnormal load deliveries will be coordinated to avoid periods when the roundabout is subject to temporary works that would restrict passage; and

- **Ongoing Liaison:** The Applicant is committed to maintaining ongoing liaison with NH through the construction period to respond to any changes in the A38 improvement programme. The CTMP includes provisions for updating construction logistics in response to changes in the wider highway network, and a communication protocol with NH will be established prior to construction commencement.

11.10.6 Subject to the above coordination measures, it is concluded that the potential for significant cumulative traffic impacts between the proposed development and the A38 junction improvement works can be appropriately managed and is not considered significant.

Other Cumulative Developments

11.10.7 A review of the LPA's and DCC planning registers has been undertaken to identify any other committed developments with construction programmes that could overlap with the proposed development on the same section of the A52. No committed developments have been identified that would give rise to material cumulative traffic effects on the A52 construction traffic route.

Background Traffic Growth

11.10.8 The application of TEMPro traffic growth factors to establish the future baseline accounts for background development traffic from smaller committed developments and general traffic growth trends. This provides a conservative cumulative assessment.

Cumulative Effects Conclusion

11.10.9 Through proactive consultation with NH and programme coordination, the potential for significant inter-project cumulative effects between the Proposed Development and the A38 junction improvement works is considered to be appropriately managed. No other significant cumulative transport effects have been identified. No significant cumulative effects are predicted.

11.11 Summary

11.11.1 This chapter has assessed the likely significant effects of the proposed development on transport and access during construction, operation, and decommissioning.

11.11.2 The construction phase generates a temporary and modest increase in traffic on the A52: a maximum of 28 two-way HGV movements (14 arrivals, 14 departures) per day during the peak construction period (Weeks 15–25), with up to 80 staff vehicle movements per day. Averaged across the full 56-week construction programme, daily HGV movements reduce to 16 two-way and staff movements to 54 two-way. These represent increases of +1.04% total traffic and +3.24% HGVs during peak construction, well below IEMA thresholds.

11.11.3 Comprehensive embedded mitigation is incorporated including: a DMRB-compliant site access with 160m visibility splays and forward visibility; 18.55m HGV and abnormal load swept paths without opposing lane encroachment; designated HGV routing via the A38 and A52; a detailed CTMP; DNO and internal access track crossings at Top Wild Park Farm; off-site highway works temporary traffic management; construction compound with staff parking and vehicle turning; and community engagement measures.

11.11.4 All residual effects are assessed as Not Significant. The proposed development will not result in unacceptable highway safety impacts or severe residual cumulative impacts on the road network, and therefore complies with NPPF paragraph 116. The assessment is based on confirmed construction traffic calculations derived from first principles (**Appendix 11.1**), January 2026 ATC survey data, and Derbyshire Constabulary collision data covering October 2020 to September 2025.

12.0 SUMMARY AND CONCLUSION

12.1 Introduction

12.1.1 This ES has been prepared in accordance with the EIA Regulations in support of a proposed 55MW solar photovoltaic (PV) development at Brailsford, Derbyshire. The ES presents the findings of the EIA, which has been undertaken to identify, assess and, where necessary, mitigate the likely significant environmental effects of the proposed development.

12.1.2 This ES is accompanied by a Non-Technical summary in accordance with the EIA Regulations (Volume 1: Part A of this ES).

12.1.3 The EIA has been informed by a formal Scoping Opinion issued by the LPA, alongside ongoing consultation with statutory consultees and stakeholders. The assessment has been carried out by a multidisciplinary team of suitably qualified experts and follows established best practice and relevant guidance.

12.1.4 The ES considers the site and its surroundings, the design and evolution of the proposed development, and a range of environmental topics. Key topics assessed in detail include landscape and visual effects, ecology and nature conservation, built heritage, and transport. Other topics including noise, air quality, water environment, geo-environmental conditions, socio-economics, and climate change have all been scoped out of detailed assessment on the basis that they would not give rise to any likely significant effects which would otherwise require further assessment.

12.1.5 The EIA has been undertaken using a robust methodology, including baseline data collection, desk-based studies, field surveys, and consultation. Potential effects have been assessed across both the construction and operational phases, taking into account direct, indirect, cumulative and combined effects.

12.1.6 Embedded mitigation and design evolution have been integral to the assessment process, ensuring environmental considerations have shaped the final scheme.

12.1.7 The proposed development has evolved significantly through the EIA process, including a reduction in site area of over 50% and a corresponding reduction in generating capacity from 80MW to 55MW. These changes, alongside enhanced landscaping and layout refinement, have been implemented to minimise environmental effects while maintaining the scheme's renewable energy benefits.

12.1.8 Overall, the ES concludes that, with the implementation of embedded and additional mitigation measures, the proposed development would not give rise to any significant adverse environmental effects. In several areas, such as biodiversity enhancement and climate change, the scheme is expected to deliver positive environmental benefits. The development will also make a meaningful contribution to renewable energy generation, supporting national and local policy objectives for the transition to a low-carbon future.

APPENDIX 1.1 SITE LOCATION PLAN

APPENDIX 1.2 LPA SCOPING OPINION

APPENDIX 8.1 LVIA PHOTOGRAPHS

APPENDIX 8.2 METHODOLOGY

APPENDIX 8.3 LANDSCAPE AND VISUAL RELATED PLANNING POLICY

APPENDIX 8.4 VALUE AND SENSITIVITY OF RECEPTORS

APPENDIX 8.5 LANDSCAPE EFFECTS

APPENDIX 8.6 VISUAL EFFECTS

APPENDIX 8.7 RESIDENTIAL VISUAL AMENITY ASSESSMENT

ASSESSMENT 8.8 PHOTOMONTAGES

APPENDIX 10.1 BUILT HERITAGE ASSESSMENT

APPENDIX 11.1 TRANSPORT ASSESSMENT (TA)

APPENDIX 11.2 CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP)

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Gloucestershire
GL12 8AA
Tel: 01454 269 237

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Samuel House
5 Fox Valley Way
Stocksbridge
Sheffield S36 2AA
Tel: 0114 321 5151

MANCHESTER
Ducie House
Ducie Street
Manchester
M1 2JW
Tel: 0161 413 6444

CARDIFF
Regus House
Malthouse Avenue
Cardiff Gate Buisness Park
CF23 8RU
Tel: 02920 023 700