Rosefield Solar Farm

Design Approach Document (Clean)



EN010158/APP/5.8.3
Revision 3
Change Application
June 2026
Rosefield Energyfarm Limited

APFP Regulation 5(2)(q)

Planning Act 2008

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

Document Revision Schedule

Revision Number	Date	Page / Paragraph reference	Reason for Revision
01	September 2025		DCO Submission
02	March 2026	Page 9, Paragraph 1.1.2 Page 93, Paragraph 5.4.16 Page 94, Paragraph 5.5.14 Page 96, Figure 5.6 Page 134, Figure 6.9 Page 136, Figure 6.10 Page 141, Figure 6.11 Page 157, Paragraph 6.10.1 Page 163, Figure 6.20	Deadline 1
03	June 2026	Page 4/5, Key terms Page 9, Paragraph 1.1.2 Page 14, Paragraph 1.3.2 Page 96, Figure 5.6 Page 101, Paragraph 5.5.19 Page 119, Paragraph 6.3.21 Page 134, Figure 6.9 Page 136, Figure 6.10 Page 162, Paragraph 6.10.9 Page 163, Figure 6.20 Page 176, Second paragraph Page 179, Paragraph 7.1.4	Change Application

Contents

Key Terms **4**

Executive Summary **7**

1. Introduction **8**

1.1 Purpose of The Report 9

1.2 The Proposed Development 11

1.3 Document Structure 12

1.4 Compliance with Planning Inspectorate's Advice on Good Design 18

2. Good Design **20**

2.1 Policy Context for Good Design 21

3. Site Context **28**

3.1 Site Overview 29

3.2 Topography 33

3.3 Landscape 35

3.4 Biodiversity 41

3.5 Cultural Heritage 47

3.6 Agricultural Land 51

3.7 Water Resources 53

3.8 Access and Recreation 55

3.9 Other Relevant Factors 57

3.10 Compliance with Planning Inspectorate's Advice on Good Design 58

4. Design Approach **60**

4.1 Introduction 61

4.2 Vision 63

4.3 Corporate Commitments 63

4.4 Strategic Principles 64

4.5 Project Principles 65

4.6 Design Commitments 72

4.7 Compliance with Planning Inspectorate's Advice on Good Design 73

5. Design Evolution **78**

5.1 Introduction 79

5.2 Site selection 81

5.3 Design Stage 1 83

5.4 Design Stage 2 89

5.5 Design Stage 3 97

5.6 Compliance with Planning Inspectorate's Advice on Good Design 104

6. Proposed Design **108**

6.1 Introduction 109

6.2 - 6.11 Strategic Principles 110 - 165

6.12 Compliance with Planning Inspectorate's Advice on Good Design 168

7. Conclusions **178**

7.1 Summary 179

7.2 Compliance with Planning Inspectorate's Advice on Good Design 180

8. References **186**

Appendix 1: Field Numbering System **189**

Key Terms

Bridleway links/Permissive Paths – Informal bridleways/paths signed as permissive that the landowner allows the public to use for the operational period of the Proposed Development.

Concept Masterplan – A plan showing the early design of the Proposed Development presented at Non-Statutory (Phase One) Consultation.

Control Documents – Documents listed in Schedule 13 of the draft Development Consent Order (DCO) which are proposed to be secured by the DCO and act as legal controls for the Proposed Development.

Design Commitments – A Control Document which sets outs specific design commitments for the detailed design of the Proposed Development **[EN010158/APP/5.9].**

Green and Blue Infrastructure – A network of multifunctional green space and other green features, urban and rural, which can deliver quality of life and environmental benefits for communities. Blue infrastructure refers to the water elements of green infrastructure, including watercourses, waterbodies, and wetlands.

Illustrative Masterplan – An illustrative layout showing one way the Proposed Development could be carried out within the constraints of the DCO Application.

Mitigation and Enhancement Areas – The areas within the Order Limits that are being proposed for mitigation and enhancement.

Order Limits – The maximum extent of land potentially required temporarily and/or permanently for the construction, operation and decommissioning of the Proposed Development.

Outline Landscape and Ecological Management Plan (Outline LEMP) – A Control Document setting out the framework for how Green and Blue Infrastructure will be managed throughout the construction and operational phases of the development **[EN010158/APP/7.6]**.

Project Principles – Project level design principles used to guide design-related decision making and deliver good design.

Rosefield Substation – A compound containing electrical equipment to enable connection to the National Grid East Claydon Substation.

Solar Photovoltaic (PV) development – This comprises the Ground Mounted Solar PV generating station, Balance of Solar System (BoSS) and distribution cables, access tracks and ancillary works.

Solar Photovoltaic (PV) modules – Panels comprised of photovoltaic cells beneath a layer of toughened glass that convert sunlight into electrical current.

Strategic Principles – Strategic level design principles, informed by guidance, used to guide the early stages of design and establish Project Principles.

The Proposed Development – a solar photovoltaic (PV) development and energy storage, together with associated infrastructure that will generate energy for export to the National Grid.

Works Plans – A Control Document which demonstrates the relationship between the location of the Proposed Development and the limits of deviation within which the development and works may be carried out **[EN010158/APP/2.3]**.



Executive Summary

Rosefield Solar Farm (the Proposed Development) is proposed to help meet the urgent need for home grown, secure, renewable energy that is required by Government policy to address climate change and energy security.

The Proposed Development also offers the opportunity to deliver wide-ranging benefits beyond renewable energy production including recovery of natural environments, economic growth and social benefits such as education, health and wellbeing opportunities.

The Design Approach Document (DAD) demonstrates how the Proposed Development would fulfil the requirement for good design, both in terms of good design as a process and good design outcomes. It sets out how good design aspirations and intentions have cascaded through the design process and how these tangibly manifest themselves as good design outcomes that support sustainable development.

Good design has been embedded into the Proposed Development via a clear design framework from the outset of the design process and has included the evolution and application of Project Principles. The Project Principles have set the framework of design and been continually tested and improved in response to further baseline survey work, design evolution, environmental assessment and stakeholder feedback to deliver good design outcomes.

Throughout the design process the Applicant has sought to respond sensitively and transparently to matters raised and develop a sensitive, well-designed proposal that delivers benefits beyond clean, renewable energy.

1. Introduction

1.1 Purpose of the Report

1.1.1 This Design Approach Document (DAD) has been prepared on behalf of Rosefield Energyfarm Limited ('the Applicant') to support the application for a Development Consent Order (DCO) for the construction, operation and decommissioning of Rosefield Solar Farm (hereafter referred to as the 'Proposed Development').

1.1.2 This document has been updated alongside the Change Application to add reference to a new bridleway link. References to other application documents have not been updated from the original submission. Please refer to the **Guide to the Application [EN010158/APP/1.2.9]** for the list of current versions of documents.

1.1.3 The document is prepared pursuant to Regulation 5(2)(q) of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (APFP Regulations) **[Ref. 1-1]** and forms part of a suite of supporting documents for the DCO Application.

1.1.4 The primary purpose of the DAD is to demonstrate how the Proposed Development would fulfil the requirement for good design and demonstrate adherence to the mitigation hierarchy (to avoid, reduce, mitigate, compensate) set out and required within the Overarching National Policy Statement for Energy (NPS EN-1) **[Ref. 1-2]** and the NPS for Renewable Energy Infrastructure (NPS EN-3) **[Ref. 1-3]**.

1.1.5 The DAD is not a Control Document as set out in the list of Control Documents set out in the **Guide to the Application [EN010158/APP/1.2]**. The Project Principles established in this DAD are therefore embedded to, and secured by, a range of different 'documents and plans to be certified' within Schedule 13 and pursuant to the requirements in Schedule 2 of the **draft DCO [EN010158/APP/3.1].** Some of the key Control Documents of relevance to this DAD include:

- **Works Plans [EN010158/APP/2.3]**
- **Design Commitments [EN010158/APP/5.9]**
- **Outline Construction Environmental Management Plan [EN010158/APP/7.2]**
- **Outline Operational Environmental Management Plan [EN010158/APP/7.3]**
- **Outline Decommissioning Environmental Management Plan [EN010158/APP/7.4]**
- **Outline Construction Traffic Management Plan [EN010158/APP/7.5]**
- **Outline Landscape and Ecological Management Plan [EN010158/APP/7.6]**

1.1.6 This document has been prepared with reference to the Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design **[Ref. 1-4]**, and specifically Annex A of this advice, which sets out the good design issues applicants should consider before submitting a NSIP application for examination. The DAD explains how good design has been embedded into the Proposed Development from the outset of the design process via a clear design framework and how this has provided a shared understanding of desired outcomes for the Proposed Development and informed decision making. It explains the way in which the design has evolved since inception, the rationale for the proposals contained within the DCO application, and the mechanism by which good design would be secured post-consent. Tables explaining how the design process and the Proposed Development have complied with the issues identified at Annex A are provided at the end of section of this DAD as relevant.

1.1.7 This document also highlights the important role played by consultation and engagement and how this has influenced the layout and design of the Proposed Development.

1.2 The Proposed Development

1.2.1 A description of the key components of the Proposed Development, as well as details of how it would be constructed, operated, maintained and decommissioned is provided in **ES Volume 1, Chapter 3: Proposed Development Description [EN010158/APP/6.1]**.

1.2.2 The Proposed Development comprises the construction, operation (including maintenance), and decommissioning of solar photovoltaic ('PV') development and energy storage, together with associated infrastructure and an underground cable connection to the National Grid East Claydon Substation.

1.2.3 The Proposed Development would include a generating station with a total exporting capacity exceeding 50 megawatts ('MW').

1.2.4 The location of the Proposed Development is shown on **Figure 1.1** and encompasses approximately 675 hectares (ha) of land in Buckinghamshire (hereafter referred to as the 'Site' or 'Order Limits').



Figure 1.1: Site Location

1.3 Document Structure

1.3.1 This report has been subdivided into the following sections:

Policy Context for Good Design

Provides a summary of the policy and guidance for achieving good design for infrastructure.

Site Context and Analysis

Provides an overview of the physical, environmental, social and cultural context of the Proposed Development that has informed the design.

Design Approach and Vision

Establishes the approach to delivering good design via a clear design framework and the mechanisms by which it will be secured post consent.

Design Evolution

Explains the evolution of the design from inception to submission including how the design has responded to consultation feedback.

Proposed Design

Summarises the operational design of the Proposed Development and demonstrates how it has been informed by/ responded to each of the Project Principles.

Conclusion

Provides a summary of the design proposals and how they fulfil the requirement for good design.



1.3.2 The principal components of the Proposed Development include:

- Solar PV development consisting of:
  - Ground mounted Solar PV generating station. The generating station would include Solar PV modules and mounting structures; and
  - Balance of Solar System (BoSS) which comprises: Inverters; Transformers; Switchgear; Combiner Boxes; acoustic barriers and cabling.
- A project substation (the 'Rosefield Substation') compound comprising: Transformers; Switchgear; reactive power compensation bays; disconnectors; circuit breakers; busbars; control equipment; lightning surge arrestors; building(s) including office, control, functions, material storage, material laydown areas and welfare facilities; firewalls; fencing and acoustic barriers; a security cabin; parking as well as wider monitoring, maintenance and emergency equipment;
- A Main Collector Compound and two Satellite Collector Compounds comprising: Switchgear; Transformers; ancillary equipment; operation and maintenance and welfare facilities; material storage; material laydown areas; fencing and acoustic barriers; and security cabins;
- Battery Energy Storage System (BESS) compound comprising: batteries and associated Inverters; Transformers; Switchgear, ancillary equipment and their containers; office, control and welfare buildings; fencing and acoustic barriers; monitoring, maintenance and emergency systems; air conditioning; electrical cables; fire safety infrastructure; operation (including maintenance) security facilities; material storage; and material laydown areas;
- Interconnecting Cable Corridor(s) to connect the Solar PV modules and the BESS to the Satellite and Main Collector Compounds to the Rosefield Substation;
- A Grid Connection Cable Corridor to connect the Rosefield Substation to the National Grid East Claydon Substation via 400kV cabling;
- Ancillary infrastructure works comprising: boundary treatment; security equipment; lighting; fencing; landscaping; internal access tracks; works to facilitate vehicular access; earthing devices; earthworks; surface water management; utility connections and diversions; and any other works identified as necessary to enable the Proposed Development;
- Green and blue infrastructure, recreation and amenity works comprising: landscaping; habitat management; biodiversity enhancement; the creation of three permissive footpaths and a proposed bridleway link; and works to permanently divert four PRoW Footpaths in five instances;
- Site-wide operational monitoring and security equipment; and
- Highways infrastructure improvements and safety works comprising: minor junction improvement works; road widening; passing places; and works to facilitate vehicular access to the Site.

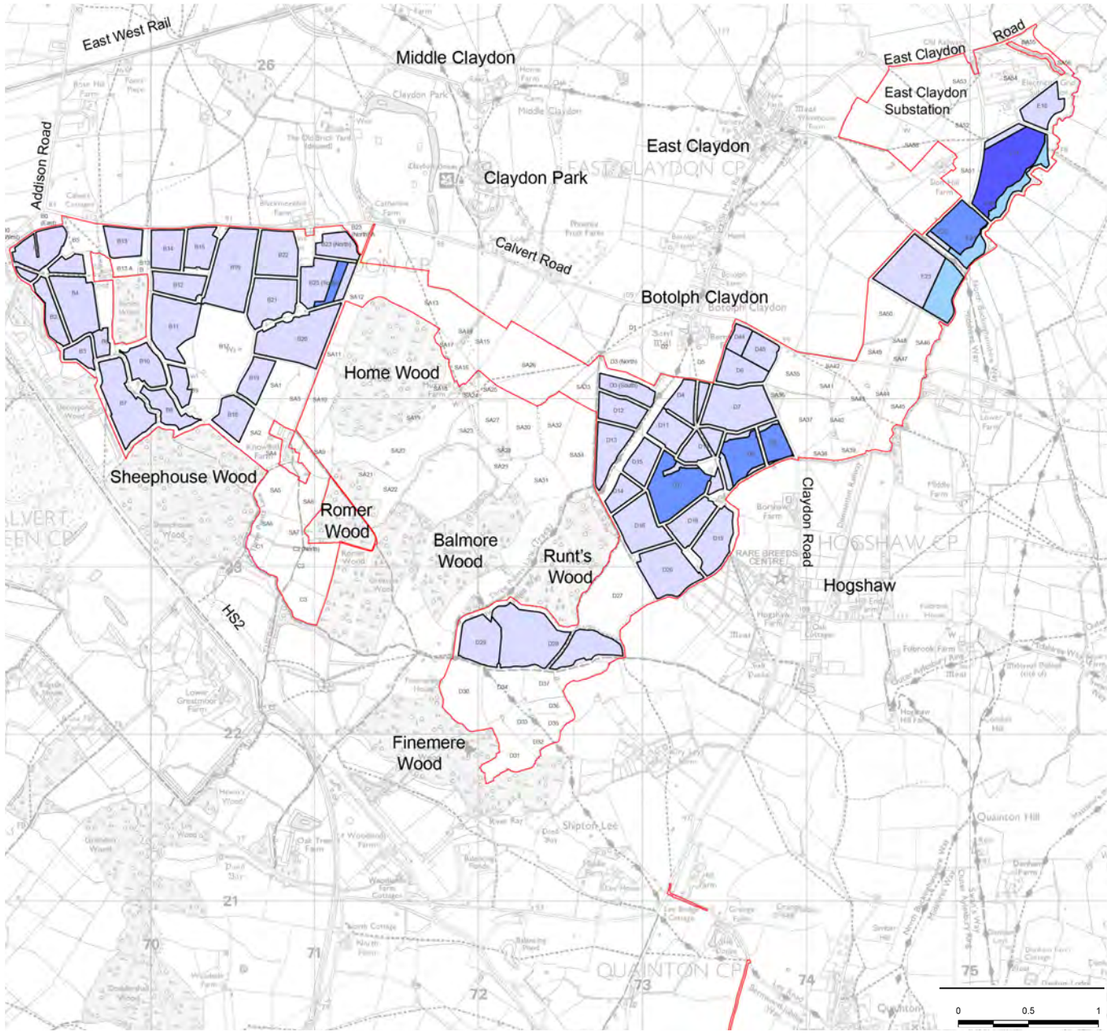


Figure 1.1: Height Parameters

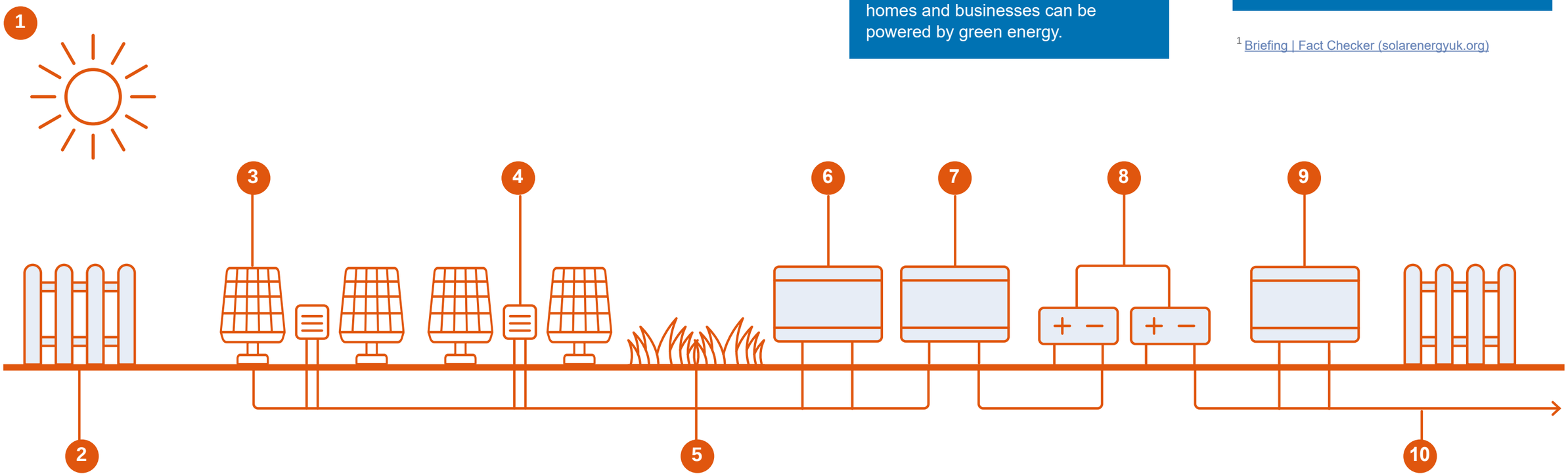
1.3.3 The parameters of the Proposed Development, including scale, heights and dimensions/footprints, will be secured by the **Design Commitments [EN010158/APP/5.9]**.

1.3.4 A schematic diagram showing the main elements of the Proposed Development is shown in **Figure 1.2**.

Battery storage is important because renewable technologies like wind and solar do not generate electricity at a constant rate - and the times electricity is generated is not always when electricity demand is highest. Batteries store energy for when it is most needed, and is considered by National Grid as a technology that has a key part to play in ensuring homes and businesses can be powered by green energy.

Solar panels don't need direct sunlight to work and can produce power all year round. Even in winter, solar technology is powerful and effective. At one point in February 2022, solar provided more than 20% of the UK's electricity.[1]

[1] Briefing | Fact Checker (solarenergyuk.org)



1. Solar Energy
2. Fencing
3. Solar Panels
4. Inverters
5. Landscape and Biodiversity Areas
6. Collector Compounds
7. Solar Farm Substation
8. Battery Storage
9. National Grid Substation
10. Cables

Figure 1.2: Schematic diagram showing the main elements that typically make up a solar farm

Not to scale and for indicative purposes only

1.4 Compliance with Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design

Skills

Consideration	Project Compliance
What professional disciplines and skill sets are being and will be working on the design of the project?	The Applicant has assembled a broad range of professional disciplines and skill sets to develop the Proposed Development via an interdisciplinary approach to design. This includes: a masterplanning design lead, environmental specialists, engineers, planners and engagement consultants. A full list of environmental specialists and their relevant professional experience, capabilities and competency is detailed within **ES Volume 4, Appendix 1.1: Statement of Competency [EN010158/APP/6.4].**
Is there a design champion designated for this project, and if so, who is it and what are their skills?	The Applicant recognises the importance of designating a design champion to ensure good design is prioritised from the early stages of the Proposed Development, to provide continual emphasis on the importance of good design throughout the design process and to hold the project team to account on delivering good outcomes. Ruth Knight is the masterplanning and design lead for the Proposed Development with responsibility for providing oversight and design direction to the wider design team during the pre-application stage, supported by Alister Kratt (Director) who was a co-author of the National Infrastructure

Consideration	Project Compliance
Is there a design champion designated for this project, and if so, who is it and what are their skills?	Commission's (NIC's) 'Design Principles for National Infrastructure' **[Ref 1-5]** and provided peer review of The Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design **[Ref. 1-4]**. This includes ensuring that the Proposed Development delivers in accordance with both strategic level design principles (hereby referred to as Strategic Principles) and project level design principles (hereby referred to as Project Principles) described in Section 5 (Design Approach and Vision) of this DAD. Ruth is a Technical Director at Abseline and sub-consultant to LDA Design, with over 20 years' experience specialising in the delivery of large scale masterplanning, design and implementation projects for infrastructure. Alister Kratt, Director at LDA Design, is Head of Infrastructure and has over 30 years experience. He is a recognised leader in good design for renewable energy infrastructure and, along with the wider team, advises clients on good design process and design outcomes by deploying design principles and early visioning to support stakeholder engagement and to secure positive legacy outcomes. Alister Kratt sits on a range of advisory bodies and review panels including the National Infrastructure Commission (now NISTA), Design Council and Design Commission for Wales.

Section 2

Good Design

2. Good Design

2.1 Policy Context for Good Design

2.1.1 Good design is important and has a direct effect on the quality of people's lives. It is as much about processes and behaviours as it is about delivering design outcomes that support sustainable development.

2.1.2 In England the design of infrastructure projects is the subject of key policy documents and guidance notes, which have been used to help inform the approach to achieving 'good design' throughout this DAD. These include NPS EN-1 **[Ref. 1-2]**, NPS EN-3 **[Ref. 1-3]**, the Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design **[Ref. 1-4]** and the National Infrastructure Commission's (NIC's) 'Design Principles for National Infrastructure' report **[Ref 1-5]**.

National Policy Statement for Energy (EN-1)

2.1.3 Section 4.7 of NPS EN-1 **[Ref. 1-2]** sets out criteria for good design for energy infrastructure. It states that *"applying good design to energy projects should produce sustainable infrastructure sensitive to place, including impacts on heritage, efficient in the use of natural resources, including land-use, and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible"* (Paragraph 4.7.2).

2.1.4 Paragraph 4.7.3 demonstrates the link between good design and the need to apply the mitigation hierarchy to avoid, reduce, mitigate or compensate for any adverse environmental effects of development. It states that: *"good design is also a means by which many policy objectives in the NPSs can be met, for example the impact sections show how good design, in terms of siting and use of appropriate technologies, can help mitigate adverse impacts such as noise".*

2.1.5 Given the benefits of good design in mitigating the adverse impacts of a development, NPS EN-1 highlights the need to consider good design from the early stages of the design process and states that: *"design principles should be established from the outset of the project to guide the development from conception to operation"* (Paragraph 4.7.5). Footnote 122 of NPS EN-1 states that *"Design principles should take into account any national guidance on infrastructure design, this could include for example the Design Principles for National Infrastructure published by the National Infrastructure Commission"*.

2.1.6 Section 4.7 of NPS EN-1 states that the Applicant must demonstrate how the design process was conducted and how the proposed design evolved in their application. The advice continues in paragraph 4.7.8 stating that *"Applicants should also consider any design guidance developed by the local planning authority".*

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

2.1.7 NPS EN-3 **[Ref. 1-3]** also sets expectations on 'good design' and the application of the mitigation hierarchy in relation to renewable energy infrastructure. Section 2.1 states: *"Applicants must show how any likely significant negative effects would be avoided, reduced, mitigated or compensated for, following the mitigation hierarchy. Early application of the mitigation hierarchy is strongly encouraged, as is engagement with key stakeholders including SNCBs, both before and at the formal pre-application stage"* (para 2.1.8)

2.1.8 Paragraph 2.5.2 states: *"Proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity, opportunities for co-existence/ co-location with other marine and terrestrial uses, and in the design of the project to mitigate impacts such as noise and effects on ecology and heritage."*

2.1.9 Section 2.10 of NPS EN-3 sets out the influencing factors on the design of solar farms. Paragraph 2.10.59 states that *"Applicants should consider the criteria for good design set out in EN-1 Section 4.7 at an early stage when developing projects".*

Nationally Significant Infrastructure Projects: Advice on Good Design

2.1.10 The Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design **[Ref. 1-4]** sets out the duty of the Secretary of State to *"contribute to sustainable development, mitigating and adapting to climate change and achieving good design"* in preparing NPSs. It refers to the criteria set out in the NPSs for achieving good design in projects, and includes definitions of good design, including that used by Planning Policy Wales, which *"defines design as" the relationship between all elements of the natural and built environment". It emphasises the need to go beyond aesthetics and include "the social, environmental and economic aspects of the development, including its construction, operation and management, and its relationship to its surroundings".*

2.1.11 In relation to achieving good design, the Advice on Good Design states: *"Achieving good design requires a holistic approach to deliver high quality, sustainable infrastructure that responds to place and takes account of often complex environments. Good design is not primarily about how infrastructure looks, although these considerations (the aesthetics) are important.*

Achieving high quality, good design outcomes requires an effective, intentional, transparent, deliverable process to be planned, followed and secured. Success in good design comes from a combination of securing both good process and good outcomes."

2.1.12 Annex A of the Advice on Good Design sets out the considerations relating to good design which applicants should address before applying for acceptance under section 55 of the Planning Act. These considerations are set out at the end of each of the following sections of this **Design Approach Document**, with a summary of how the design process has complied.

Design Principles for National Infrastructure

2.1.13 The NIC's 'Design Principles for National Infrastructure' **[Ref. 1-5]** provides further guidance on good design for infrastructure projects and is referred to in NPS EN-1. It highlights the importance of the design process to bring together engineering, environmental and creative expertise to shape and deliver a development project. The document notes that *"design is as much about process as it is product. Imaginative thinking about design should be embedded at every step of planning and delivery. The principles ensure a good process leads to a good design outcome"*. The document sets out four thematic design principles for national infrastructure. These are:



Climate

Mitigate greenhouse gas emissions and adapt to climate change.



People

Reflect what society wants and share benefits widely.



Places

Provide a sense of identity and improve our environment.



Value

Achieve multiple benefits and solve problems well.

2.1.14 The NIC Design Principles are deliberately high level and intended to provide a framework for more detailed project level design principles to be developed on individual schemes. Further guidance on how to develop and embed project level design principles for major infrastructure projects is provided in the NIC's 'Project Level Design Principles' document **[Ref. 2-1]**. It states that *"Project level design principles should directly address the Design Principles for National Infrastructure of climate, people, places and value, plus any supporting organisational or sectoral principles. There should be a clear logic to the structuring of the design principles, from strategic to project level, within an easy-to understand hierarchy."* Furthermore, it states that the development of project level design principles is an iterative, ongoing activity throughout the lifecycle of a project and should evolve to reflect *"any significant new information coming to light, a deeper understanding of community and place, and the development of detailed designs."*

Vale of Aylesbury Local Plan

2.1.15 Local policy on design is set out within the Vale of Aylesbury Local Plan (VALP) 2013 – 2033 **[Ref. 2-2]** and in particular Policy BE2 Design of new development. The pre-amble to Policy BE2 advocates: *"A design-led approach is required that respects the vernacular character of towns and villages, and where development in the countryside is necessary or appropriate, new development respects the existing character and visual amenity of rural landscapes and buildings."*

2.1.16 It continues at paragraph 8.42 *"The key to the council's approach towards the design of new development is a focus on local distinctiveness. This refers to the unique quality of buildings, landscape and topography in a locality that defines its character. Within Aylesbury Vale there is a wide variety of landscape character types … locally important pattern of fields, hedgerows and streams …".*

2.1.17 Policy BE2 states:

"All new development proposals shall respect and complement the following criteria:

a. The physical characteristics of the site and its surroundings including the scale and context of the site and its setting;

b. The local distinctiveness and vernacular character of the locality, in terms of ordering, form, proportions, architectural detailing and materials;

c. The natural qualities and features of the area; and

d. The effect on important public views and skylines."

2.1.18 Policy C3 Renewable Energy relates to the location and design of renewable energy projects in Buckinghamshire. It contains criteria in relation to 'off-site' renewable energy, including solar, indicating that planning permission will normally be granted where:

p. "There is no significant adverse effect on landscape or townscape character, ecology and wildlife, heritage assets whether designated or not, areas or features of historical significance or amenity value.

q. there is no significant adverse impact on local amenity, health and quality of life as a result of noise, emissions to atmosphere, electronic interference or outlook through unacceptable visual intrusion, and

r. there is no adverse impact on highway safety. Where development is granted, mitigation measures will be required as appropriate to minimise any environmental impacts. When considering the social and economic benefits, the council will encourage community participation/ ownership of a renewable energy scheme."

2.1.19 The Vale of Aylesbury Local Plan Design Supplementary Planning Document (SPD) **[Ref. 2-3]** provides further guidance on design. The objective of the SPD is to *"inform and guide the quality of design for all development across the area"*. The SPD principally relates to housing development (large urban extensions, single houses, house extensions and building conversion). However, the Design SPD *"puts forward principles and standards for new development that aim to create safe and attractive places that are sensitive to, and maintain or enhance, Aylesbury Vale's special character"*. This includes a section on understanding the context to a site, including consideration of landscape character, ecology, settlement character and local distinctiveness, as addressed in Section 4 of this DAD. Section 4 of the SPD relates to the structure of developments, stating *"Getting the structure of development right – the layout of … landscape, land uses and buildings and how they integrate with the surrounding area is crucial to creating successful, attractive and sustainable places".* Section 7 of the SPD relates to development in the countryside, and requires consideration of factors such as responding to the landscape and rural boundary treatments.

2.1.20 Good design has been a fundamental consideration from the outset of the Proposed Development. This DAD demonstrates how good design has been embedded to the Proposed Development via a clear set of Project Principles which reflect national and local policy, how they have provided a shared understanding of desired outcomes for the Proposed Development, provided a framework for decision making, and ultimately driven good design outcomes that would be secured by the **draft DCO [EN010158/APP/3.1].**



Section 3

Site Context

3. Site Context

3.1 Site Overview

3.1.1 The Site is located within the administrative boundary of Buckinghamshire Council. The settlements of Calvert, Middle Claydon, Botolph Claydon, East Claydon and Hogshaw lie within 1.5km of parts of the Order Limits. Further afield (within 3km of the Order Limits) lie the settlements of Steeple Claydon, Edgcott, Shipton Lee, Granborough and Winslow. The village of Quainton lies within 1.5km of the part of the Order Limits at Snake Lane / Fidlers Field, where there would be highway works

3.1.2 The Site encompasses an area of approximately 675 ha of land, centred approximately at OS grid reference SP728234 and extends across four parcels of land which comprise Parcel 1, Parcel 1a, Parcel 2 and Parcel 3 along with the National Grid East Claydon Substation, Grid Connection Cable Corridor, Interconnecting Cable Corridors and associated access. The Order Limits and four land parcels are presented in **Figure 3.1.**

3.1.3 The land within the Order Limits predominantly consists of agricultural fields and pastureland interspersed with hedgerows, ditches, woodland blocks and farm access tracks. The hedgerows within the Site range from dense tall vegetation to sporadic shrubs and trees present. The fields are bordered by a mix of hedgerows, trees and ditches. The characteristics of each land parcel, and the features surrounding them, vary and are described below with typical site photographs presented in **Figure 3.2**.

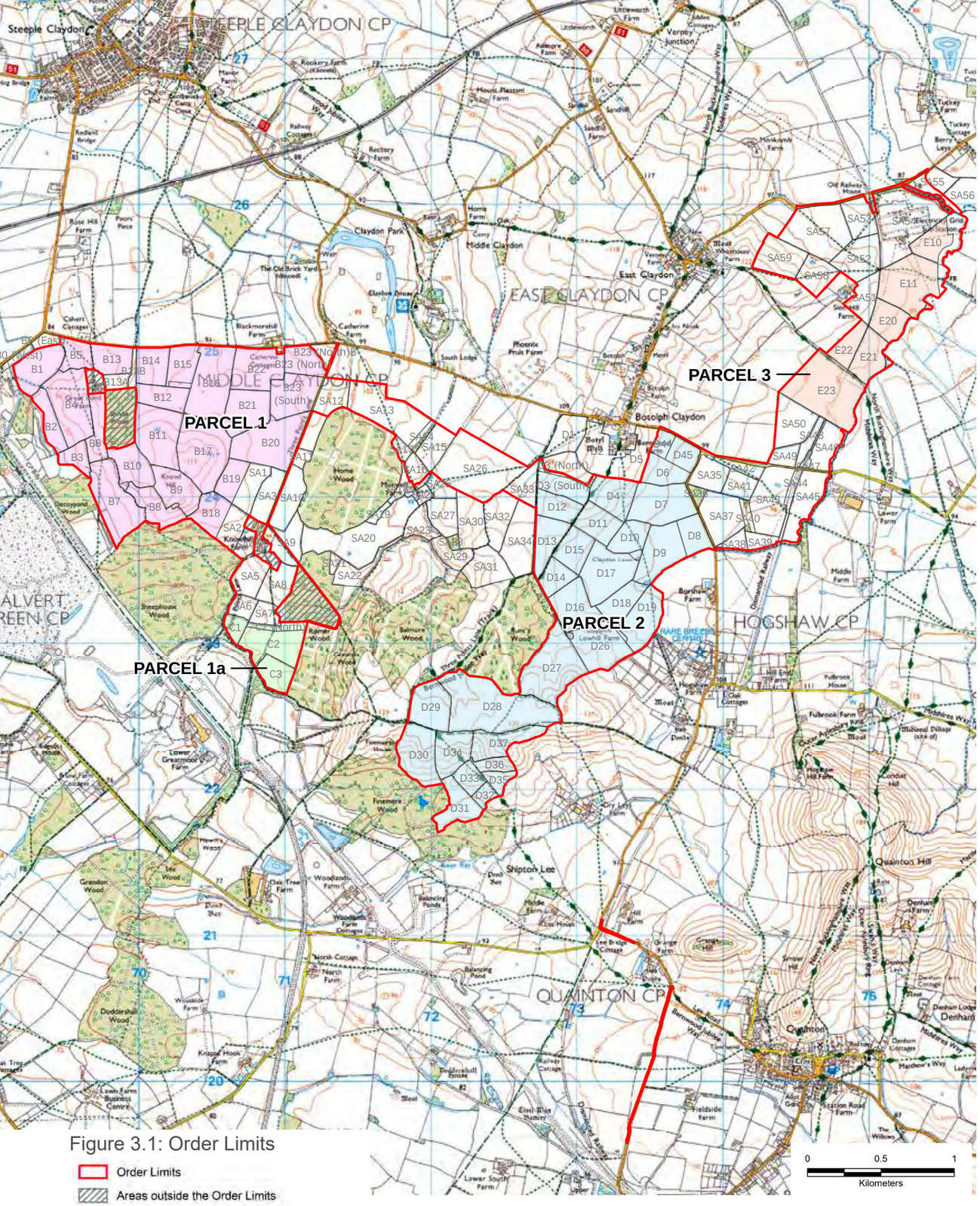


Figure 3.1: Order Limits

3.1.3

- Parcel 1: Parcel 1 is the western-most parcel of the Site and measures 183ha. Parcel 1 is bordered by several woodland blocks including Shrubs Wood, Decoypond Wood and Sheephouse Wood. Calvert Road sits on the northern boundary of Parcel 1. Parcel 1 is located in close proximity to an active High Speed Rail (HS2) works area, which is located approximately 100m south of the Order Limits.
- Parcel 1a: Parcel 1a is the smallest parcel (15ha) and is located to the south east of Parcel 1. Parcel 1a is bordered by Sheephouse Wood to the north west, Romer Wood and Greatsea Wood to the east, Muxwell Brook to the north and by hedgerows to the south. Parcel 1a is also located in close proximity to the active HS2 works area, which is located approximately 100m west of the Order Limits.
- Parcel 2: Parcel 2 is located approximately 1km east of Parcel 1a and is 228ha. Parcel 2 is bordered by Runt's Wood to the west, Finemere Wood to the south and the residential settlement of Botolph Claydon directly to the north.
- Parcel 3: Parcel 3 is the northern most parcel of land within the Site and is 55ha. Adjacent to Parcel 3 lies the existing National Grid East Claydon Substation which would be the point of grid connection for the Proposed Development.

3.1.4 The Proposed Development would connect to the National Grid East Claydon Substation. The existing National Grid East Claydon Substation is located in Field SA54, which sits within the Order Limits to the north of Parcel 3. Equipment within the existing substation is not enclosed and is visible from the surrounding area. Overhead lines approach the existing National Grid East Claydon Substation from the north, east, south and south west, with pylons located within Parcel 3 of the Proposed Development.



Figure 3.2: Site photographs

3.1.5 National Grid are proposing works at the East Claydon Substation which are yet to be confirmed in detail but would form a separate planning application that will be pursued by National Grid. The Applicant understands that the replacement is likely to be located to the west of the existing National Grid East Claydon Substation, but the appearance of the replacement substation and the extent of works required to the existing pylons and overhead lines is currently unknown.

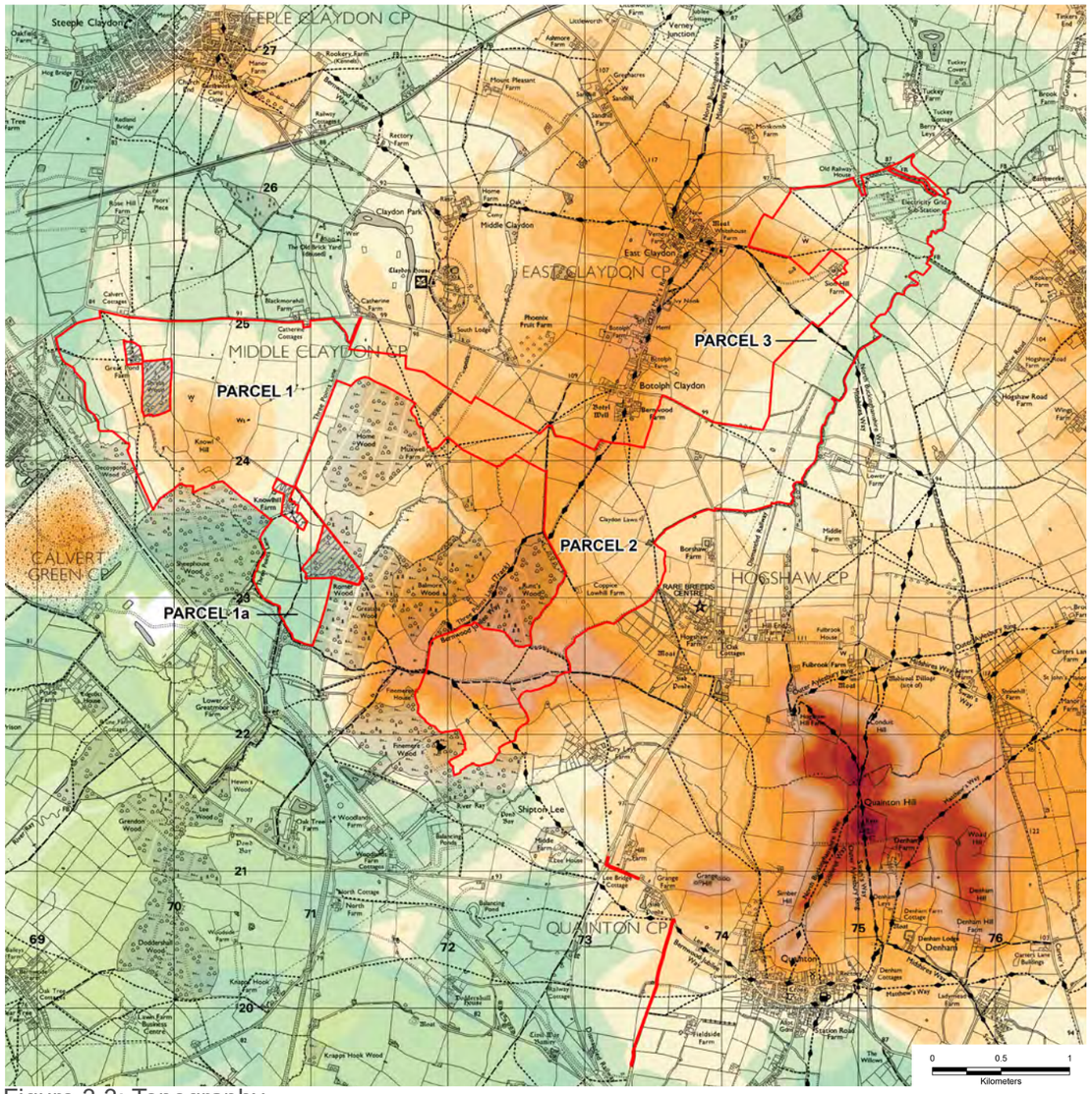


Figure 3.3: Topography





Figure 3.4: Topographical features within the Site:

3.2 Topography

3.2.1 The topography of the Site and the surrounding area is shown in **Figure 3.3.**

3.2.2 Parcels 1 and 1a are gently undulating with the highest point being Knowl Hill at around 116m above ordnance datum (AOD). The rest of Parcel 1 is at an elevation of 80-90m AOD, sloping down in all directions from Knowl Hill, and Parcel 1a slopes down to the south west, at an elevation of 79-84m AOD. Parcel 2 is located on a low ridge crest that continues north east towards Steeple Claydon and East Claydon, with a high point in the south of the Parcel at 137m AOD. The landform within Parcel 2 slopes southwards towards Finemere Wood in Fields D30-D37 and north west in Fields D28 and D29. Fields D26 and D27 slope broadly northwards, with the majority of the northern half of the Parcel sloping towards the east and Fields D3 (South) D12 and D13 sloping towards the west from the ridgeline followed by the Bernwood Jubilee Way. Parcel 3 is located on relatively flat ground at 89-95m AOD on the north east of the ridge, facing towards the east and Claydon Brook.

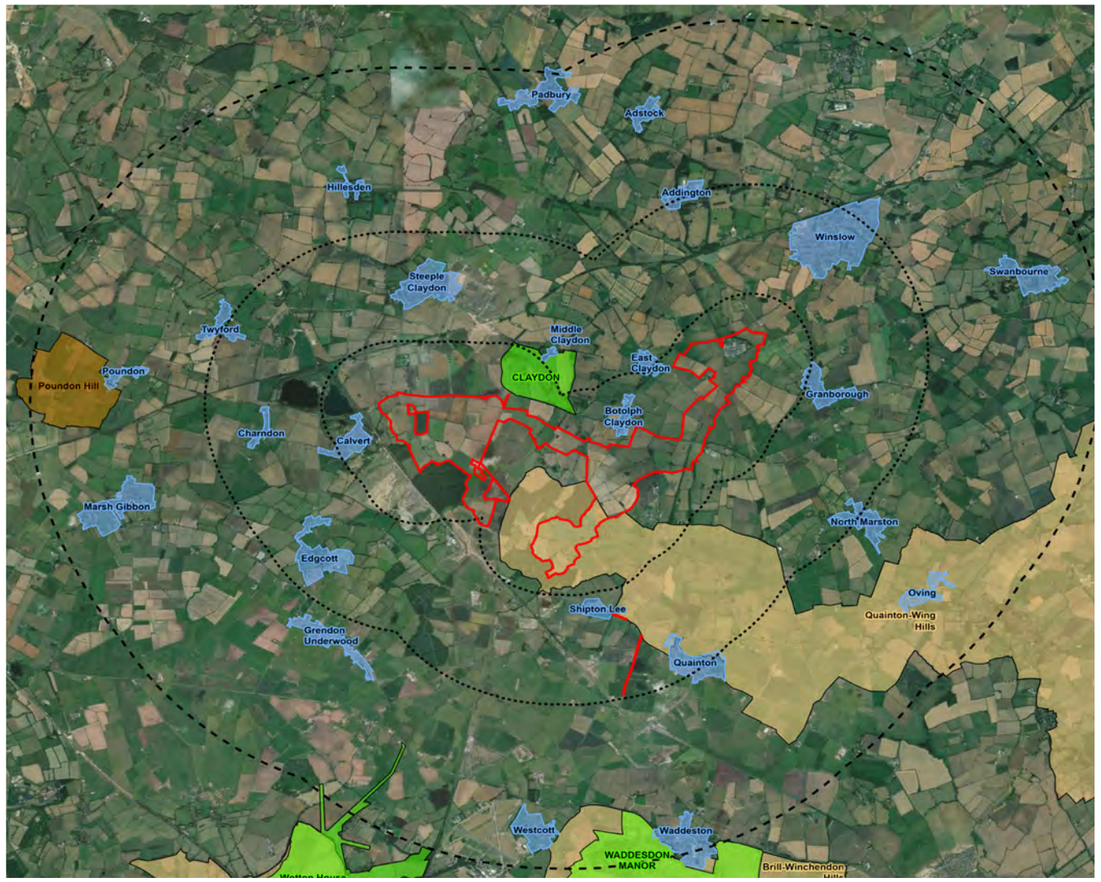


Figure 3.5: Landscape Study Area, Context and Designations

3.3 Landscape

3.3.1 No part of the Site or its immediate surrounding context falls within a statutory designated landscape. The nearest nationally designated landscape is the Chilterns National Landscape, which is approximately 18km to the south of the Site.

3.3.2 The southern area of Parcel 2 lies within the locally designated Quainton-Wing Hills Area of Attractive Landscape (see **ES Volume 3, Figure 10.1 Landscape Study Area Context Designations [EN010158/APP/6.3]** and **Figure 3.5**. This Area of Attractive Landscape is defined as "A large area of undulating hills and ridges spanning east – west and populated with a series of small villages" **[Ref. 3-1].**

3.3.3 Claydon Registered Park and Garden is located immediately to the north of the Site (see **ES Volume 3, Figure 10.1 Landscape Study Area, Context and Designations [EN010158/APP/6.3]** and **Figure 3.5**). Registered Parks and Gardens are heritage rather landscape designations but are indicators of heritage value in the landscape.

3.3.4 Waddesdon Manor Registered Park and Garden and Wotton Underwood Registered Park and Garden are both located over 2.1km from the nearest extent of the Order Limits or 3.9km from the southern edge of the closest parcel of land at Parcel 2. The level of potential visibility of the Proposed Development is low for these two Registered Parks and Gardens. Field survey work, in conjunction with visualisations and viewpoint analysis, demonstrates that any distant glimpses of the Proposed Development would be barely perceptible.

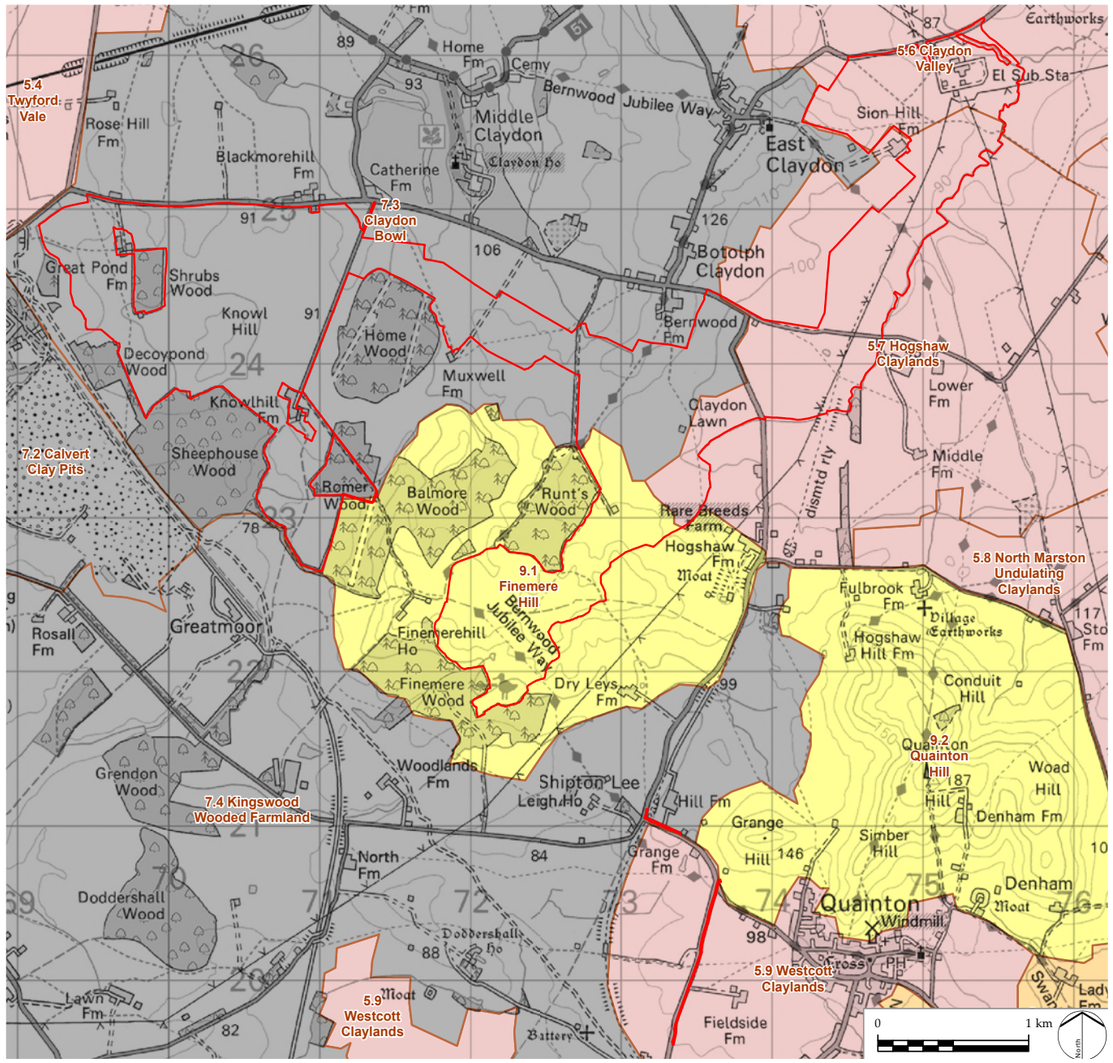


Figure 3.6: District Landscape Character Area

Order Limits

Aylesbury Vale Landscape Character Assessment

4 Undulating Clay Plateau

4.12, Winslow Ridge (West) *Under the Scale bar

5 Shallow Valleys

5.4, Twyford Vale; 5.6, Claydon Valley; 5.7, Hogshaw Claylands; 5.8, North Marston Undulating Claylands; 5.9, Westcott Claylands

7 Wooded Lowland Lowlands

7.1, Poundon – Charndon Settled Hills; 7.2, Calvert Clay Pits; 7.3, Claydon Bowl; 7.4, Kingswood Wooded Farmland

9 Low Hill and Ridges

9.1, Hartwell House & Golf Course; 9.2, Quainton Hill

3.3.5 The Proposed Development is located primarily within National Character Area (NCA) 108 Upper Thames Clay Vale **[Ref. 3-2],** as shown in **ES Volume 3, Figure 10.3 National Character Areas [EN010158/APP/6.3]**, including the entirety of Parcels 1, 1a, 2 and 3, with only the southern extents of the road improvements to Claydon Road and Snake Lane/Fidlers Field extending into the north western edge of NCA 109: Midvale Ridge **[Ref. 3-3].** The summary description of the NCA states:

"The Upper Thames Clay Vales National Character Area (NCA) is a broad belt of open, gently undulating lowland farmland on predominantly Jurassic and Cretaceous clay … covers an extensive area of low-lying land extending from Wiltshire and Gloucestershire to the west of Swindon through to Aylesbury in Buckinghamshire in the east … The area is dominated by watercourses … Watercourses and lakes provide important areas for wildlife and recreation … There is little woodland cover (around 3 per cent) but hedgerows and mature field and hedgerow trees are a feature, and many watercourses are fringed with willow or poplar."

3.3.6 At a district level, the Aylesbury Vale Landscape Character Assessment **[Ref. 3-4]** identifies Landscape Character Types (LCTs), which are subdivided into Landscape Character Areas (LCAs). As shown in **ES Volume 3, Figure 10.4 District Landscape Character Areas [EN010158/APP/6.3] and Figure 3.6**, approximately half of the Site is located within LCT 7: Wooded Rolling Lowlands and specifically LCA 7.3: Claydon Bowl. This includes the whole of Parcel 1 and 1a, and the north-western section of Parcel 2. The southern section of Parcel 2 is located in LCT 9: Low Hills and Ridges and specifically LCA 9.1: Finemere Hill. Parcel 3 is located in LCT 5: Shallow Valleys, with the majority located in LCA 5.7: Hogshaw Claylands and just the northernmost extents located in LCA 5.6: Claydon Valley. The southern extents of the Order Limits, along Snake Lane/Fidlers Field, passes through LCA 7.4 Kingswood Wooded Farmland and LCA 5.9 Westcott Claylands to the south.



Site photograph looking towards Parcel 1 from Claydon House

3.3.7 Relevant Key Characteristics for the three main LCAs are described in the Aylesbury Vale Landscape Character Assessment **[Ref. 3-4]** as follows:

- LCA 5.7: Hogshaw Claylands
  - "Gently sloping bowl of low ground
  - Mixed agriculture with more pasture
  - Good hedgerow pattern
  - Meandering streams"
- LCA 7.3: Claydon Bowl
  - "Bowl with high ground around the edge
  - Gently sloping ground
  - Moderate level of woodland cover
  - Mixed farming with slightly more arable
  - Small straight lanes
  - Settlement on high ground
  - Claydon House and parkland"
- LCA 9.1: Finemere Hill
  - "Hill with steep sides particularly to the south
  - Very high level of woodland cover
  - Source of several streams including the river Ray
  - Predominantly grassland, half of which is unimproved
  - Good Rights of Way network following distinctive historic tracks
  - Ancient woodland with probable assarts."

3.3.8 Further details of the landscape and visual baseline are provided in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2].**

3.3.9 Key landscape and visual issues that have influenced the design of the Proposed Development are also provided in **ES Volume 2, Chapter 10:Landscape and Visual [EN010158/APP/6.2].** Those, alongside factors that have been raised during consultation and resulted from surveys can be summarised as follows:

- Effects on landscape character across LCA 5.7 – Hogshaw Claylands, LCA 7.3 – Claydon Bowl and LCA 9.1 – Finemere Hill, including the existing influence of the current National Grid East Claydon Substation and the overhead lines/pylons in its vicinity;
- Landscape and visual effects on the Quainton-Wing Hills Area of Attractive Landscape, including views to and from Quainton Hill;
- Visual effects on residential receptors, both in settlements and individual properties such as:
  - Properties along Calvert Road at Catherine Cottages and Calvert Cottages.
  - Properties at Pond Farm and Knowhill Farm (located within the area outside the Order Limits in Parcel 1).
  - Properties in Botolph Claydon and East Claydon, including properties at Bernwood Farm, Weir Lane and Sion Hill Farm (with East Claydon able to be scoped out of the detailed Landscape and Visual assessment and properties on Weir Lane scoped out of the Residential Visual Amenity Assessment in **ES Volume 4, Appendix 10.5: Residential Visual Amenity Assessment [EN010158/APP/6.4]).**
  - Properties along Claydon Road at Hogshaw Farm and Borshaw Farm (with the properties scoped out of the Residential Visual Amenity Assessment in **ES Volume 4, Appendix 10.5: Residential Visual Amenity Assessment [EN010158/APP/6.4]).**
  - Properties along East Claydon Road at Berry Leys Farm, Tuckey Farm Cottage and Station House (with Berry Leys Farm and Tuckey Farm scoped out of the Residential Visual Amenity Assessment in **ES Volume 4, Appendix 10.5: Residential Visual Amenity Assessment [EN010158/APP/6.4]).**
- Visual effects on local road users, including:
  - Orchard Way;
  - Calvert Road;
  - Claydon Road; and
  - East Claydon Road.
- Visual effects on users of recreational routes and receptors, including:
  - Long distance trails that pass through the Site: North Buckinghamshire Way, The Midshires Way and Bernwood Jubilee Way. This includes consideration of the views from the Bernwood Jubilee Way towards Quainton Hill.
  - PRoW through and in close proximity to the Site.
  - Visitors to Claydon House and Hogshaw Farm and Wildlife Park.



Site photograph looking towards Quainton Hill and Grange Hill

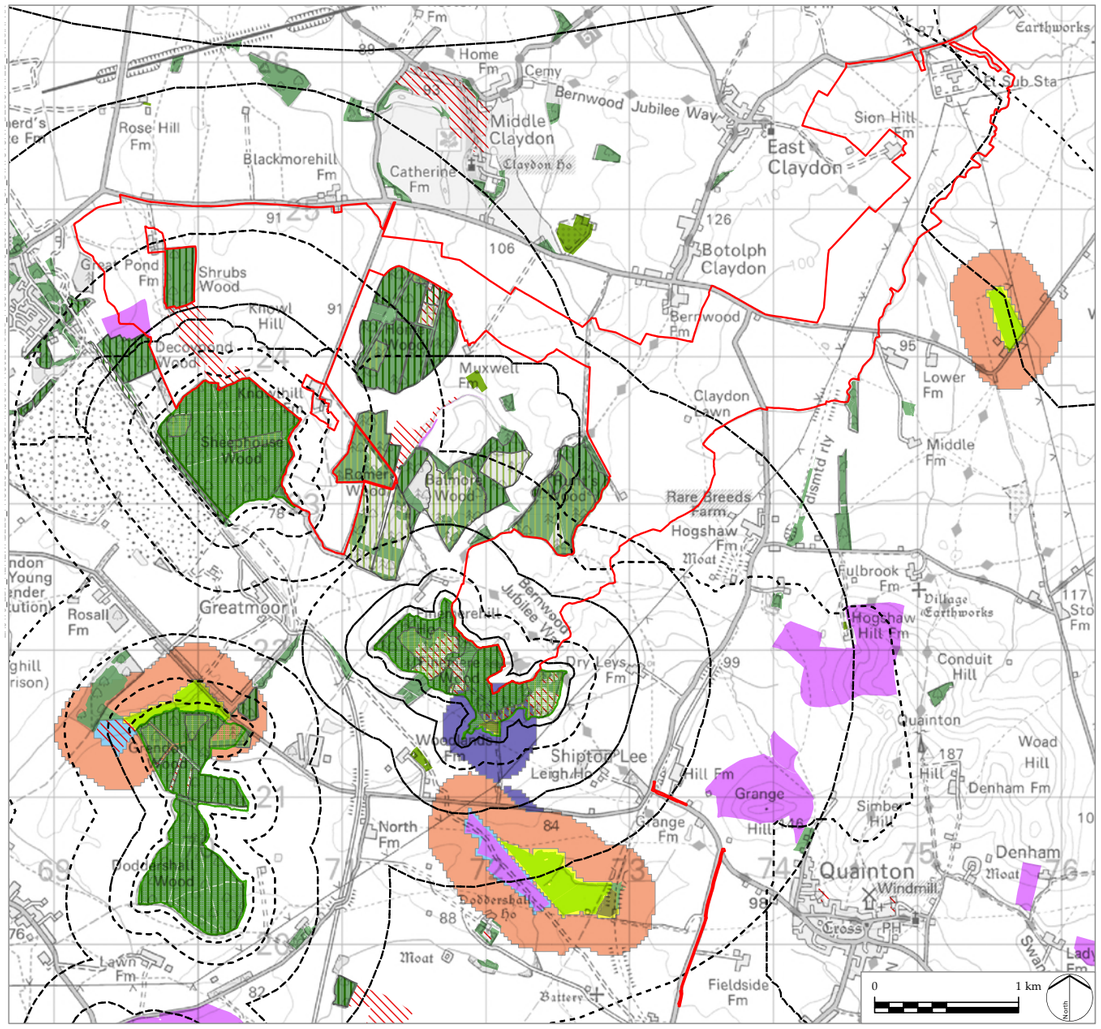


Figure 3.7: Biodiversity features

Order Limits

Sites of Special Scientific Interest

SSSI Impact Risk Zones

Ancient Woodland

Ancient & Semi-Natural Woodland

Ancient Replanted Woodland

Priority Habitat Inventory

Deciduous woodland

Good quality semi-improved grassland

Lowland calcareous grassland

Lowland meadows

No main habitat but additional habitats

Traditional orchard

Habitat Networks Combined

Network Enhacement Zone 1

Network Enhacement Zone 2

Primary Habitat

Restorable Habitat

3.4 Biodiversity

3.4.1 There are no international statutory designations within 10km of the Site.

3.4.2 There are three nationally protected statutory designated nature conservation sites within 2km of the Site, as shown in **ES Volume 3, Figure 7.1: Location of Statutory Designated Sites [EN010158/APP/6.3]** and **Figure 3.7.** These are Sheephouse Wood Site of Special Scientific Interest (SSSI) (adjacent to Parcel 1 and Parcel 1a), Finemere Wood SSSI (adjacent to Parcel 2), and Grendon and Doddershall Woods SSSI (approximately 1.36km southwest of Parcel 1a).

3.4.3 The Applicant is aware that Natural England is in the process of designating a new landscape-scale Bernwood SSSI that encompasses the above existing SSSIs and also extended to include neighbouring areas of ancient woodland. However, at the time of writing (July 2025), limited information on the proposed Bernwood SSSI designation is publicly available and the date for designation is not yet known. Therefore, the proposed Bernwood SSSI has not been specifically considered in the assessment presented in **ES Volume 2, Chapter 7: Biodiversity [EN010158/APP/6.2]** as a receptor in its own right. However, Sheephouse Wood SSSI, Finemere Wood SSSI, Grendon and Doddershall Woods SSSI, ancient woodland and Bechstein's bats (all of which would fall under the proposed Bernwood SSSI designation) have all been considered in the assessment.

3.4.4 As shown on **ES Volume 3, Figure 2.1: Environmental Considerations [EN010158/APP/6.3]** and **Figure 3.7**, two non-statutory designated sites are partially located within the Order Limits; Romer Wood Local Wildlife Site (LWS) and Greatsea Wood LWS. These sites are located to the north of Parcel 1a and are included in the Order Limits to enable the use of an existing access track through the woodlands to access mitigation and enhancement areas within Parcel 1a for habitat creation and ongoing maintenance, as HS2 has also done. The use of this access track will involve no loss of woodland habitat, and no built development is proposed along the access track.

3.4.5 Non-statutory designated sites located outside of the Order Limits but directly adjacent (all of which are ancient woodland), as shown in **ES Volume 3, Figure 7.2: Location of Non-statutory Designated Sites [EN010158/APP/6.3],** include:

- Shrub Woods LWS – directly adjacent to Parcel 1;
- Decoypond Wood LWS – directly adjacent to Parcel 1;
- Runt's Wood LWS – directly adjacent to Parcel 2;
- Finemere WTR – south of Parcel 2;
- Home Wood, Middle Claydon LWS – adjacent to the Interconnecting Cable Corridor between Parcels 1 and 2; and
- Balmore Wood LWS is located approximately 95m west of Parcel 2.


View across Parcel 2 towards Runt's Wood


View towards HS2 planting on southern boundary of Parcel 1


View from Claydon Brook across Parcel 3


View from Quainton Hill towards Parcel 2

Figure 3.8: Site photographs

3.4.6 The Bernwood Biodiversity Opportunity Area (a landscape scale non-statutory designation) is located within the Order Limits and overlaps with Parcel 1, 1a and 2 and the Interconnecting Cable Corridors, as detailed in **ES Volume 3, Figure 7.2: Location of Non-statutory Designated Sites [EN010158/APP/6.3].** Biodiversity Opportunity Areas are specific locations identified by Buckinghamshire Council as having the greatest potential for improving biodiversity, often serving as buffers or to connect existing protected areas. They are areas where habitat creation and restoration efforts can be focused to maximize their positive conservation impact, potentially leading to a more efficient approach to wildlife conservation.

3.4.7 The majority of fields across the Site are bounded by hedgerows, with several of the hedgerows supporting mature trees and dry ditches. Species typically recorded included Hawthorn (Crataegus monogyna), Blackthorn (Prunus spinosa), Elm (Ulmus agg.), Dogwood (Cornus sanguinea), Hazel (Corylus avellana), Ash (Fraxinus excelsior), Oak (Quercus sp.), Elder (Sambucus nigra), Field Maple (Acer campestre), Rose (Rosa sp.), Willow (Salix sp.) and Bramble (Rubus fruticosus agg.). 43 hedgerows within the Order Limits were classified as 'important' under The Hedgerows Regulations 1997, Part 2, 'wildlife and landscape criteria for important hedgerow selection'. Further details regarding hedgerows are provided in **ES Volume 4, Appendix 7.7: Preliminary Ecological Appraisal (2025) [EN010158/APP/6.4].**

3.4.8 Multiple individual mature trees and lines of mature trees were recorded across the Site, of which several were classified as ancient and/or veteran. Further details regarding individual trees and lines of trees are provided in **ES Volume 4, Appendix 7.7: Preliminary Ecological Appraisal (2025) [EN010158/APP/6.4].** Further details regarding ancient and veteran trees are provided in **ES Volume 4, Appendix 7.13: Stage 1 Arboricultural Report [EN010158/APP/6.4].**

3.4.9 Other habitats found within the Site, as detailed in **ES Volume 2, Chapter 7: Biodiversity [EN010158/APP/6.2],** include:

- Cereal and non-cereal crops;
- Lowland mixed deciduous woodland and other woodland;
- Arable field margins;
- Ponds, watercourses and ditches; and
- Mixed scrub, bramble scrub, other neutral grassland and modified grassland.

3.4.10 The background desk study identified records within the Order Limits for black hairstreak and brown hairstreak butterfly. The food source for black and brown hairstreak caterpillars, Blackthorn (Prunus spinosa), is recorded abundantly across the Site within hedgerows and woodland areas. Natural England has released several reports in support of the proposed Bernwood SSSI designation **[Ref. 3-5, Ref. 3-6 and Ref. 3-7].** Invertebrate surveys undertaken within the Bernwood area have highlighted that the woodland areas, scrub and hedgerow habitats support a diverse range of important invertebrate species, including black hairstreak and brown hairstreak butterfly. The woodlands and hedgerows in the area make a significant contribution towards the maintenance of the local meta-population and colonies of black hairstreak and brown hairstreak butterfly, which are considered important in a national context.

3.4.11 No records of Great Crested Newt (GCN) (Triturus cristatus) were identified within the Order Limits. However, the background desk study identified records of GCN within 2km of the Order Limits. Twelve ponds within the Site and within 500m from the Order Limits had a confirmed positive presence of GCN environmental DNA. The areas of woodland, grassland margins and hedgerows within the Order Limits were considered suitable to provide foraging, refuge and hibernation opportunities for GCN, and the Site is considered of up to County importance for GCN.

3.4.12 Barn owl (Tyto alba), hobby (Falco subbuteo), red kite (Milvus milvus) and peregrine falcon (Falco peregrinus) have been recorded as breeding or potentially breeding within the Order Limits. Woodland habitat, trees and electricity pylons and infrastructure within the National Grid East Claydon Substation, located within and adjacent to the Order Limits, are considered suitable breeding habitat for these species. The areas of grassland and arable field margins within the Site are considered suitable foraging habitats for these species and foraging raptors have been recorded frequently across the Site. Barn owl boxes have also been recorded across the Site.



Figure 3.9: Common pipistrelle (Pipistrellus pipistrellus) Credit: George Wilkinson

3.4.13 The background desk study identified records of grey partridge (Perdix perdix), skylark (Alauda arvensis) and yellow wagtail (Motacilla flava); ground nesting bird species of Principal Importance for conservation in England, with breeding having been recorded as probable or confirmed within the Order Limits for all three species. The areas of grassland and arable field margins are considered suitable habitat for ground nesting species, with Parcel 2 supporting the greatest diversity of farmland bird species including grey partridge.

3.4.14 Based on the bat activity recorded during surveys, the Site is considered to support an assemblage of at least ten bat species. The assemblage comprises: common pipistrelle (Pipistrellus pipistrellus), soprano pipistrelle (Pipistrellus pygmaeus), Nathusius' pipistrelle (Pipistrellus nathusii), noctule (Nyctalus noctule), Leisler's (Nyctalus leisleri), serotine (Eptesicus serotinus), brown long-eared (Plecotus auritus), barbastelle (Barbastella barbastellus), Daubenton's bat (Myotis daubentonii) and Myotis species (Myotis sp.) that could not be identified to species level. There are six resident species of Myotis species in the UK, all with similar call characteristics, and therefore it is likely that the Myotis calls represent more than one species. From survey work carried out for HS2 by Natural England **[Ref. 3-8],** it is known that five species of Myotis are present within the vicinity of the Order Limits, comprising Bechstein's bat (Myotis bechsteinii), whiskered bat (Myotis mystacinus), Brandt's bat (Myotis brandtii), Daubenton's bat (Myotis daubentonii) and Natterer's bats (Myotis nattereri). On the basis of both the recorded bat activity, and survey work undertaken by HS2, the site is likely to support an assemblage of 13 bat species.

3.4.15 Survey findings indicate that within the Order Limits, the hedgerows are likely to provide a more valuable and well used resource than open areas within fields, with no evidence found to indicate a significant reliance on open field areas for foraging or commuting at the paired static detector locations.

3.4.16 Other species recorded within or adjacent to the Site, as detailed in **ES Volume 2, Chapter 7: Biodiversity [EN010158/APP/6.2],** include:

- Terrestrial invertebrates (excluding black hairstreak and brown hairstreak butterfly);
- Non-ground nesting birds;
- Wintering birds (surveys identified that Parcels 1 and 2 were of greatest value to wintering birds);
- Otters; and
- Badgers.

3.4.17 Desk study and field surveys have been conducted in addition to analysis of existing records and information on designated sites and protected or otherwise notable species within the local area. Further details on the biodiversity baseline and these surveys are provided in **ES Volume 4, Appendices 7.1 – 7.16 [EN010158/APP/6.4]**. Discussion of the baseline and details on the impact assessment and mitigation is in **ES Volume 2, Chapter 7: Biodiversity [EN010158/APP/6.2].**

3.4.18 Key biodiversity issues that have influenced the design of the Proposed Development are also provided in **ES Volume 2, Chapter 7: Biodiversity [EN010158/APP/6.2]** and can be summarised as follows:

- Effects on current SSSIs and areas of Ancient Woodland/LWSs;
- Consideration of the proposed Bernwood SSSI, although limited detail is currently available;
- Effects on Important Hedgerows under The Hedgerows Regulations 1997;
- Effects on trees, particularly ancient and/or veteran trees;
- Effects on habitat for black hairstreak and brown hairstreak butterfly;
- Effects on ponds and terrestrial habitat with GCN potential;
- Effects on ground nesting bird habitat, including 34 territories of skylark; and
- Effects on bat foraging, commuting and roosting, including key routes between existing woodlands such as Sheephouse Wood, Shrubs Wood, Romer Wood, Runt's Wood and Finemere Wood.

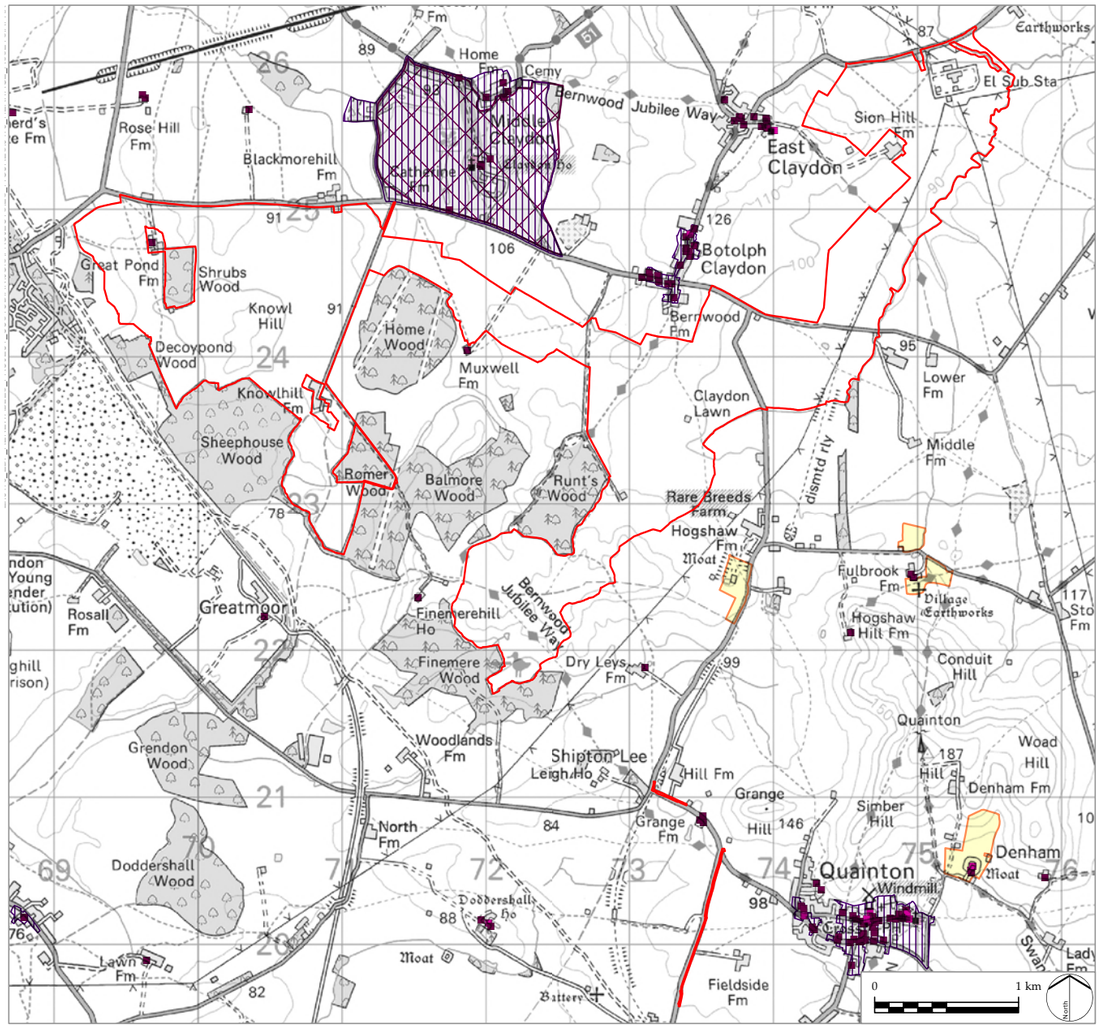


Figure 3.10: Cultural heritage features

Order Limits

Registered Park and Garden

Conservation Areas

Scheduled Monuments

Listed Buildings (grade inicated)

I

II*

II

3.5 Cultural Heritage

3.5.1 As shown in **ES Volume 3, Figure 9.1: Heritage assets within the Order Limits [EN010158/APP/6.3]** and **Figure 3.10**, there are no designated cultural heritage assets located within the Order Limits, but the Grade II Listed Pond Farmhouse (NHLE1214849) is encircled by Parcel 1.

3.5.2 **ES Volume 3, Figure 9.3: Designated heritage assets within 5km of the Order Limits overlain on ZTV [EN010158/APP/6.3]** show that there are 508 Listed Buildings within the 5km cultural heritage study area, including nine grade I listed buildings (comprising six churches and three country houses), 30 grade II* listed buildings and 469 grade II listed buildings.

3.5.3 There are six scheduled monuments within 5km of the Order Limits. Five of these are medieval in date and consist of a preceptory of the Knights Hospitaller, two deserted villages, a standing cross, and a moated site. One is an Iron Age slight univallate hillfort.

3.5.4 There are fourteen Conservation Areas within the 5km study area. The Site is situated adjacent to two of these Conservation Areas: Botolph Claydon and Middle Claydon. Botolph Claydon Conservation Area lies north of Parcel 2 and protects the historic core of the village, with listed buildings along the main streets through the village; Orchard Way, Weir Lane and Botyl Road. It derives significance from the character and appearance as a small settlement, and the groupings of historic buildings both listed and non-listed. As a rural settlement it also derives significance from the wider agricultural surroundings. Middle Claydon Conservation Area largely coincides with the Claydon Registered Park and Garden and lies to the north of Parcel 1.

3.5.5 Within 5km of the Site, there are four Registered Parks and Gardens (two Grade I and two Grade II). The Grade II Registered Park of Claydon sits c. 300m from the Site and was landscaped by James Sanderson between 1763 and 1776 for the Verney family. Claydon derives its significance from its historic and artistic interest as an 18th century landscaped park. The registered park and garden also derives significance from its wider agricultural surroundings as well as the woodlands to the south. The Site forms part of setting of the Registered Park and Gardens.

3.5.6 In terms of non-designated heritage assets, there are 27 non-designated heritage assets (recorded by the HER) within the Order Limits and 937 recorded non-designated heritage assets beyond the Order Limits within the 1km study area.

3.5.7 As shown in **Figure 12: Important Hedgerows at Annex A of ES Volume 4, Appendix 9.1: Archaeological Desk-based Assessment and Stage 1 Setting Assessment [EN010158/APP/6.4]**, there are five historical or modern parish boundaries which pass through or bound the Order Limits. These are defined by nine hedgerows which are therefore classed as ‘important’ in accordance with Criterion 1 of the 1997 Hedgerows Regulations. There are 30 field boundaries within or bounding the Order Limits that are shown on the 1839 tithe map (predating 1845) and therefore qualify as ‘important’ under Criterion 5 of the 1997 Hedgerows Regulations. Of these, two lie within the Interconnecting Cable Corridor in the central portion of the Order Limits.



Bernwood Farmhouse locally listed building to the north of Parcel 2



View from Claydon House towards Parcel 1 across Registered Park and Garden



The Granary, Pond Farm and The Old Diary listed buildings adjacent to Parcel 1

Figure 3.11: Site photographs of Rosefield Cultural Heritage Features

3.5.8 Geophysical survey of the Site, as reported at **ES Volume 4, Appendix 9.2: Geophysical Survey Report [EN010158/APP/6.4]**, identified fourteen Areas of Archaeological Activity (AAA's). An AAA is described as a (usually) broad area where a pattern and density of anomalies/ features (whose extent can be clearly defined) is clearly indicative of archaeological (usually settlement) activity. Individual features may also be classified as an AAA based on their proximity to other more extensive areas of activity. The AAAs include:

- A large, partial rectangular enclosure, immediately east of Shrubs Wood.
- Faint linear anomalies in the east of Field B17, a second group of possible, partial enclosures.
- A rectilinear complex in the centre and south of Field SA26 and continuing westwards and southwards.
- Possible double-ditched trackway in the west of Field D2.
- A series of interconnected linear ditch-like responses define a series of enclosures and/or field system, trackways and ditches across the western half of Field E23.
- A single, apsidal enclosure north of centre within Field SA57.
- Three sides of an isolated rectilinear enclosure recorded in Field SA58.
- A sub-circular enclosure in the north-eastern part of Field SA55.
- A foci of likely settlement activity comprising enclosures, ditches and pit-like features across Fields E10 and E11 south of Claydon Brook.
- A single rectilinear enclosure identified in Field SA51 with a clear entrance on the eastern side.

3.5.9 In addition to the geophysical survey, trial trenching has been undertaken across a 4% sample of the areas where the Rosefield Substation, BESS and Collector Compounds could be located. These are locations that would require large areas of topsoil stripping are proposed. This is reported in **ES Volume 4, Appendix 9.3: Archaeological Trial Trenching Report; [EN010158/APP/6.4].**

3.5.10 Further details of the cultural heritage baseline are provided in **ES Volume 2, Chapter 9: Cultural Heritage [EN010158/APP/6.2]** and **ES Volume 4, Appendix 9.1: Archaeological Desk-Based Assessment and Setting Assessment [EN010158/ APP/6.4].**

3.5.11 Key heritage issues that have influenced the design of the Proposed Development are also provided in **ES Volume 2, Chapter 9: Cultural Heritage [EN010158/APP/6.2]** and can be summarised as follows:

- Effects on views from and the setting of the Listed Buildings at Claydon House, its Registered Park and Garden and non-registered areas of parkland associated with the House;
- Effects on the setting of Listed Buildings at Pond Farm;
- Effects on the setting of Conservation Areas at Middle Claydon and Botolph Claydon; and
- Effects on Important Hedgerows under The Hedgerows Regulations 1997.

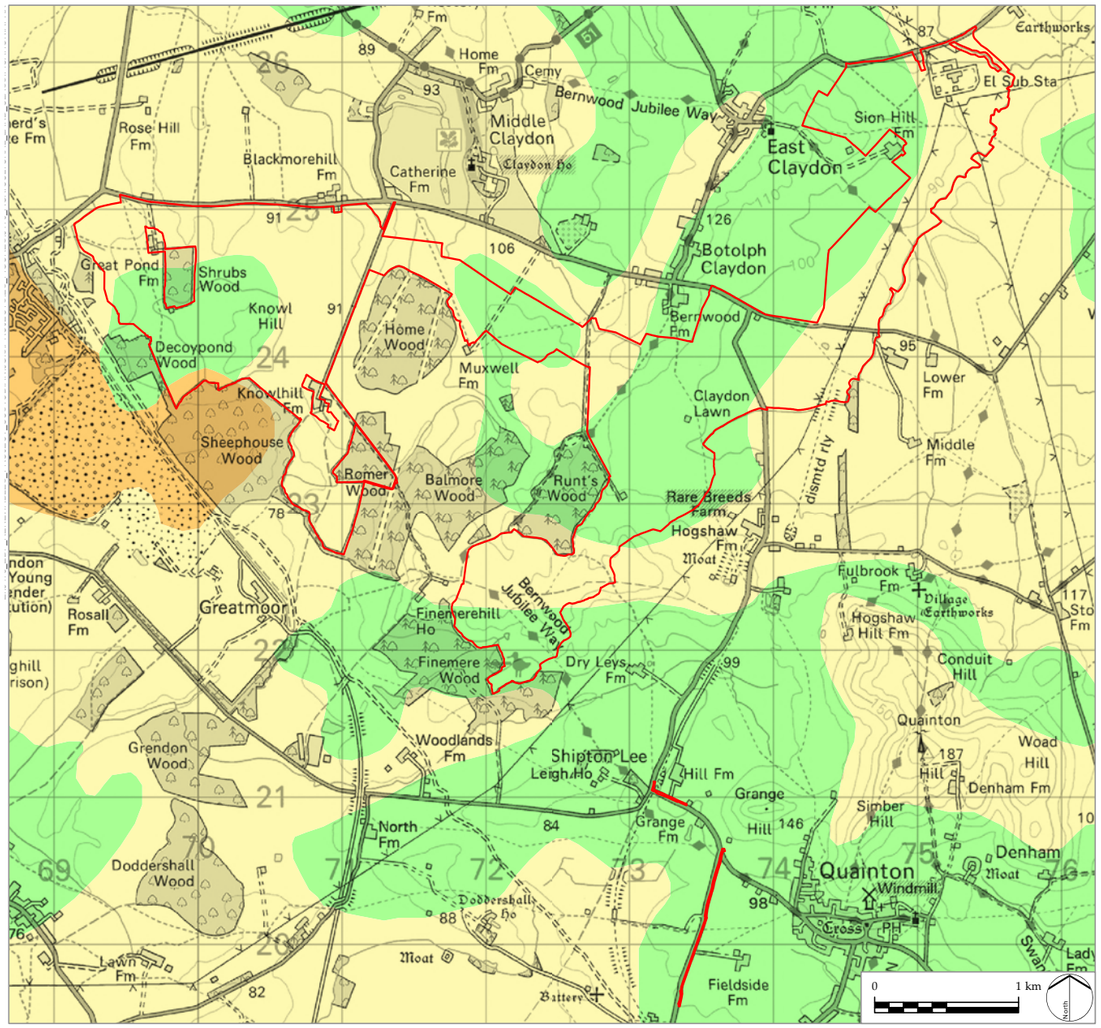


Figure 3.12: Agricultural Land Classification

Order Limits

Agricultural Land Classification Provisional (Natural England)

Grade 3

Grade 4

Non Agricultural

3.6 Agricultural Land

3.6.1 Under NPS EN-1 **[Ref 1-2]** and Natural England Guidance **[Ref 3-9],** Best and Most Versatile Agricultural Land (BMV) is defined as land in Grades 1, 2 and 3a. Poorer quality land is defined as land in Grades 3b, 4 and 5.

3.6.2 An Agricultural Land Classification (ALC) survey of the Site is shown on **ES Volume 3, Figure 12.1: Agricultural Land Classification [EN010158/APP/6.3]** and **Figure 3.12**, and shows that the majority of Site is classified as Grade 3b. The percentage of the Site covered by BMV land is approximately 15%.

3.6.3 Further details of the land, soils and groundwater baseline are provided in **ES Volume 2, Chapter 12: Soil [EN010158/APP/6.2].**

3.6.4 Rosefield Substation, BESS, Collector Compounds and Construction Compounds, which form part of the Proposed Development, should avoid BMV land and new access tracks should avoid BMV land as far as reasonably possible, to avoid long-term negative impacts on the BMV soils through compaction or the introduction of foundations.



Figure 3.13: Site photograph of arable land

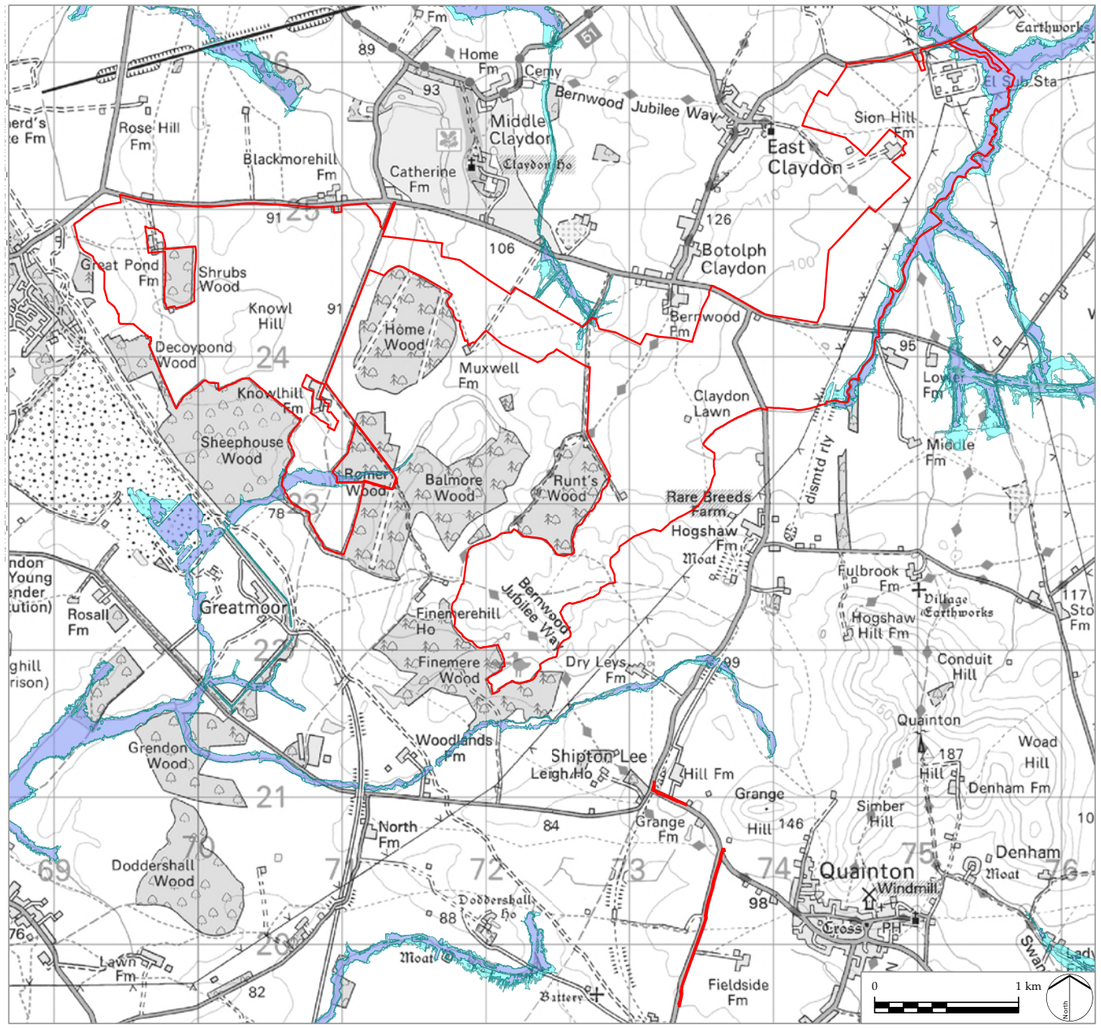


Figure 3.14: Flood zones

Order Limits

Flood Zone 3

Flood Zone 2

3.7 Water Resources

3.7.1 The Site is located on a watershed between two major river catchments. The northern section of the Site draining north/north east towards the Padbury Brook and the Claydon Brook that form part of the wider Great Ouse catchment generally draining to the north east. The southern section of the Site drains towards the River Ray to the south/south west that forms part of the wider River Thames catchment that drains to the south/south east.

3.7.2 There are no Main Rivers located within the Site. The closest Main River, River Ray, is located approximately 200m south of Parcel 2, directly south of Finemere Wood, and a tributary of the River Ray located 400m to the south west of Parcel 1a, and directly south of Sheephouse Wood.

3.7.3 There are several minor ordinary watercourses and drainage ditches located in the western section of Parcel 1, directly north of Parcel 1a and directly east of Parcel 3 (Claydon Brook).

3.7.4 As shown on **ES Volume 3, Figure 16.2: Environment Agency (EA) Flood Zones [EN010158/APP/6.3]** and **Figure 3.14**, the Site is predominately located within Flood Zone 1. There is a small section on the eastern boundary of fields within Parcel 3 adjacent to the Claydon Brook that form part of Flood Zones 2 and 3.



Figure 3.15: Site photograph of Claydon Brook

3.7.5 The Environment Agency's Surface Water Flood Risk Mapping (2025) for the Site is shown on **ES Volume 3, Figure 16.3: Environment Agency Risk of Surface Water Flooding [EN010158/APP/6.3]**. Areas of surface water flood risk are shown on the Environment Agency's mapping, most notably along the channels of the Ordinary Watercourses in the eastern and western areas of the Site and within the woodland areas to the south.

3.7.6 The Site is not located within a Source Protection Zone. However, it is located within a Surface Water Drinking Water Safeguarding Zone, but not within 1km of Surface Water Drinking Water Protection Zone.

3.7.7 Further details of the water baseline are provided in **ES Volume 2, Chapter 16: Water [EN010158/APP/6.2].**

3.7.8 Key water related issues that have influenced the design of the Proposed Development are also provided in **ES Volume 2, Chapter 16: Water [EN010158/APP/6.2]** and are intended to ensure that vulnerable aspects of the Proposed Development are located on parts of the site at lower risk and residual risk of flooding. They can be summarised as follows:

- Rosefield Substation, BESS and Collector Compounds should be located outside of Flood Zones 2 and 3; and
- Rosefield Substation, BESS and Collector Compounds should be located outside areas of high and medium risk of surface water flooding.

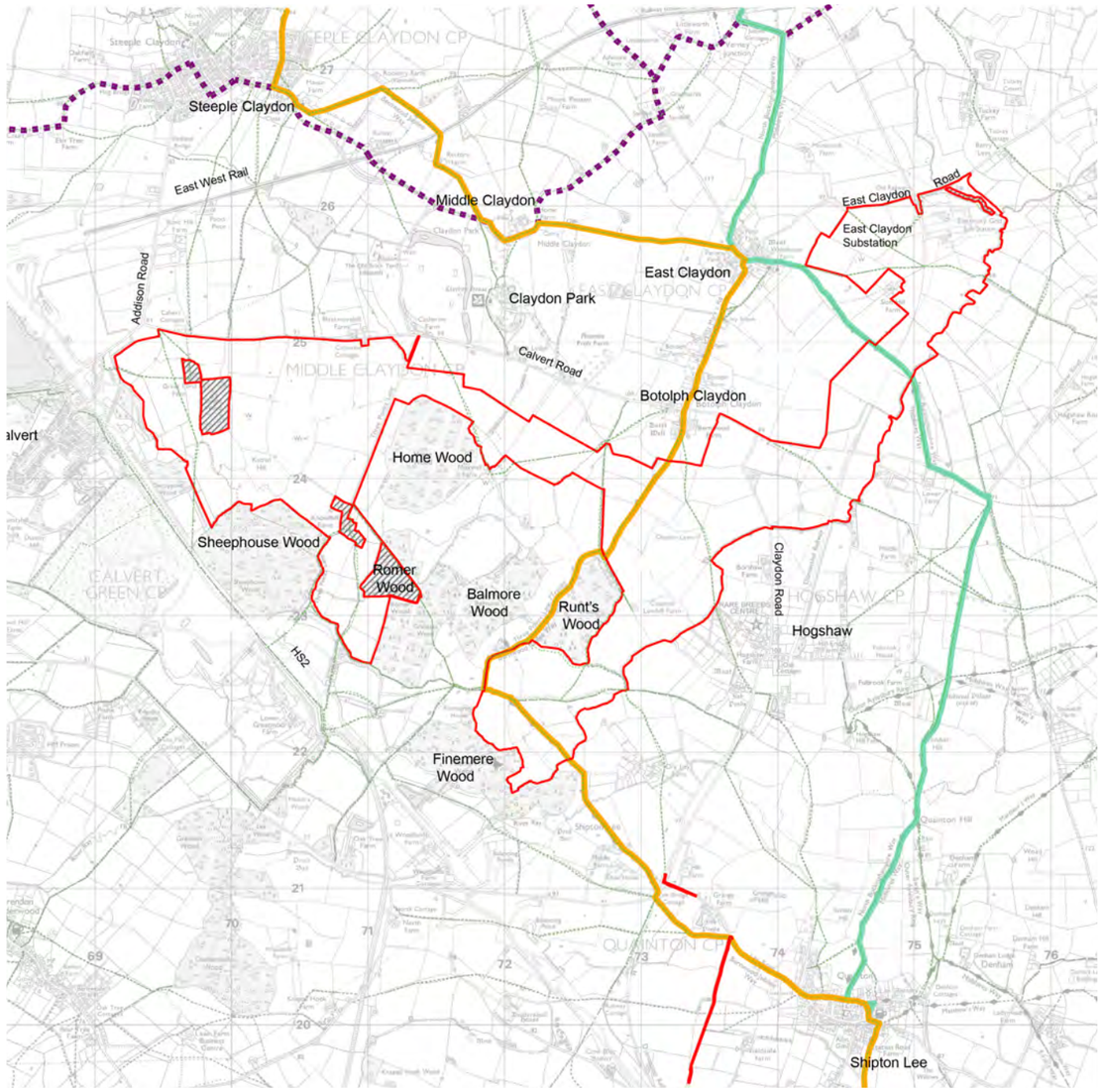


Figure 3.16: Roads and PRoW



Figure 3.17: Site photographs of PRoW and permissive paths

3.8 Access and Recreation

3.8.1 Parcels 1 and 2 are bordered to the north by Calvert Road which provides direct access to Botolph Claydon and Calvert. East Claydon Road, which lies to the north of Parcel 3, provides direct access to the National Grid East Claydon Substation and the settlement of East Claydon.

3.8.2 A HS2 works area is located in close proximity to the western edge of Parcels 1 and 1a, and southern edge of Parcel 2. It is approximately 100m from Parcel 1 and 1a and less than 500m from Parcel 2. This section of HS2 is currently under construction. Permanent HS2 mitigation planting is located directly adjacent to the western edge of Parcel 1 and to the north and south of Parcel 1a, with a small section of mitigation planting intersecting Parcel 1a, as outlined in **ES Volume 3, Figure 2.1: Environmental Considerations [EN010158/APP/6.3].**

3.8.3 The East West Rail railway line, which is currently under construction, is located approximately 850m north of Parcel 1 at its closest point and runs west to east.

3.8.4 There is an extensive network of PRoW within and adjacent to the Site, which provide links to the surrounding settlements as shown in **ES Volume 3, Figure 2.2: Public Rights of Way [EN010158/APP/6.3]** and **Figure 3.16**. The distribution of PRoW varies across the land parcels as follows:

- Public rights of way (SCL/12/1, SCL/12/2, SCL/13/1, SCL/13/2) extend within the western extents of Parcel 1, in Fields B1 and B4 to B7;
- Public rights of way (MCL/17/1, MCL/18/1, MCL/18/2 and MCL/20/2) are located south of Knowlhill Farm outside of the area of Solar PV development and run south into and around Parcel 1a through the Internal Access Corridor;
- Public rights of way (MCL/15/1, MCL/16/1, and ECL/9/1) traverse through the Interconnecting Cable Corridor and Internal Access Corridor between Parcels 1 and 2.

- Public rights of way (ECL/7/1, ECL/9/2 and, ECL/10/1) extend south from Botolph Claydon to within the northern extent of Parcel 2, and continue as public rights of way (ECL/8/1, ECL/8/2, ECL/7/2, ECL/10/2, ECL/10/3, ECL/10/4, ECL/10/5, QUA/38/1, QUA/39/1, QUA/40/1, QUA/40/2, QUA/40/3, QUA/41/1 and QUA/42/2) through and along the boundary of Parcel 2;
- Public rights of way (ECL/11/1, ECL/11/2, ECL/11/3, ECL/11/4) extend from Botolph Claydon to East Claydon following the route of Botyl Road then forking off-road close to the property Ivy Nook. ECL/11/1 extends to the west of Parcel 3;
- Public rights of way (ECL/6/1 and ECL/5/1) cross through the Interconnecting Cable Corridor and Internal Access Corridor between Parcel 2 and 3;
- Public rights of way (ECL/4/2) traverses east to west across Parcel 3;
- Public rights of way (ECL/3/1, ECL/3A/1, ECL/3/2, and ECL/4/1) are located within the Grid Connection Corridor; and
- Public rights of way (QUA/24/1, QUA/22A/1, and QUA/23/1) cross Fiddlers Field/Snake Land.

3.8.5 Long distance trails that pass through the Site include the following:

- The North Buckinghamshire Way passes through Parcel 3 between Fields E21 and E23. The North Buckinghamshire Way is a 33 mile route from the Ridgeway National Trail in the south to the Buckinghamshire County boundary to the north. Within the Site the route follows PRoW ECL/5/1 and HOG/6/1, continuing to East Claydon to the north west and Quainton to the south. These are public footpaths and therefore can only be used by pedestrians;
- The Midshires Way follows the same alignment through the Site as the North Buckinghamshire Way. It is a 225 mile route between the Ridgeway National Trail in Buckinghamshire to the South and the Trans Pennine Trail in Greater Manchester to the North; and
- Bernwood Jubilee Way runs from north to south through the west of Parcel 2 and is a 61 mile walking and cycling route which circles the former Bernwood Forest, the Royal Hunting Forest of Henry II. The route as a whole is circular and connects many woodland areas, as well as Buckingham. Within the Site, it follows PRoW ECL/8/1, QUA/27/2, QUA/42/2, QUA/40/1 and QUA/39/1. In addition, it follows ECL/10/3 and MCL/19/1 along the western edge of Runt's Wood outside the Order Limits, but connecting the north and south of Parcel 2. Within the Site, the PRoW are mainly footpaths and therefore can only be used by pedestrians.

3.8.6 Further details of the access and recreation baseline are provided in **ES Volume 2, Chapter 10: Landscape and Visual, Chapter 14: Population** and **Chapter 15: Transport and Access [EN010158/APP/6.2].**

3.8.7 Key access and recreation issues that have influenced the design of the Proposed Development are broadly covered by the landscape and visual issues outlined above.

3.9 Other relevant factors

HS2

3.9.1 A section of HS2 is currently under construction to the south west of the Site. The works area is located approximately 100m from Parcel 1 and 1a and less than 500m from Parcel 2. The works in this vicinity include the Sheephouse Wood Bat Protection Structure, which will be located on the HS2 line immediately adjacent to Sheephouse Wood and to the south west of Parcel 1, and the HS2 Infrastructure Maintenance Depot at Calvert to the north west of the Site. Permanent HS2 mitigation planting is located directly adjacent to the western edge of Parcel 1 and to the north and south of Parcel 1a, as outlined in **ES Volume 3, Figure 2.1: Environmental Considerations [EN010158/APP/6.3]**. The HS2 works will also result in the permanent diversion of PRoW in the vicinity of the Site, but will not impact any routes within the Order Limits. As part of the HS2 works, a new footway has been created along Addison Road to the north west of the Site, linking Calvert Road to Steeple Claydon. This will be continued along Calvert Road from Addison Road to Calvert.

3.9.2 Key issues relating to HS2 that have influenced the design of the Proposed Development include the locations of mitigation planting, the interaction with works areas and the diverted PRoW, and connectivity with new routes created as a result of HS2.

Farming practices

3.9.3 The Site is currently a mix of arable and pastoral farmland. Areas of the Site in the Grid Connection Cable Corridor and Interconnecting Cable Corridors will be returned to farming uses post construction and adjacent areas of farmland will continue to be farmed outside the Proposed Development.

3.9.4 Key issues relating to farming practices that have influenced the design of the Proposed Development include consideration of how land can be farmed post construction and allowing continued access between landholdings/field parcels during construction and operation.

Noise

3.9.5 The majority of the Proposed Development is located within a rural setting, with background noise typically relating to natural sounds and livestock noises away from roads, with traffic on local roads audible closer to transport routes. Noise from HS2 construction works can be heard across much of the Site, but particularly in and around Parcel 1.

3.9.6 Key issues relate to the proximity of residential properties close to the Order Limits, as identified in **ES Volume 2, Chapter 13: Noise and Vibration [EN010158/APP/6.2]**

3.10 Compliance with Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design

Analysis, Research

Consideration	Project Compliance
How has the development site been analysed to inform a good design approach?	The Site and its surrounding context have been analysed via a broad range of environmental, social and economic factors based on an interdisciplinary approach to design. This has included analysis undertaken as part of the technical assessments within the **Environmental Statement [EN010158/APP/6.1-6.4]** which has been integrated into the design process. Analysis has been undertaken at a range of scales and included consideration of areas outside the Order Limits. It has included desktop analysis and assessment, site visits, site surveys, technical studies and engagement with landowners and stakeholders. The analysis undertaken by the Applicant has provided a holistic understanding of the Site and has directly informed the development of the Project Principles. The Project Principles have been used to guide design evolution and embed good design outcomes to the Proposed Development.



Section 4

Design Approach

4. Design Approach

4.1 Introduction

4.1.1 In accordance with policy requirements, the approach to achieving good design was considered at the outset of the Proposed Development and a framework for good design was developed by the Applicant.

4.1.2 This section provides an overview of the design framework (illustrated in **Figure 4.1**) and demonstrates how good design aspirations and intentions have cascaded through the project and will be secured as good design outcomes within the detailed design of the Proposed Development.

4.1.3 Should the DCO be granted, the detailed design for the Proposed Development would be controlled by the relevant certified documents and plans and submitted for approval by the relevant planning authority post-consent . Securing the detailed design post-consent is necessary to accommodate changes in technological advancements that could affect the design layout of the Proposed Development and allow design flexibility for the Proposed Development because the rapid pace of change in Solar PV and energy storage technologies, means technology could be adopted at the detailed design stage that does not currently exist. . Flexibility is also required to allow the Proposed Development to respond to factors identified during pre-commencement surveys, such as protected species or poor ground conditions, and to allow connection into either the existing or replacement National Grid East Claydon Substation, given that the final location and timing of the works on the replacement National Grid East Claydon Substation form a separate planning application by National Grid Electricity Transmission and have not been confirmed at this stage.

4.1.4 The Proposed Development seeks to allow provisions in the DCO for technological innovation and improvements that may be realised during the procurement and construction phase. This will ensure the Proposed Development can prioritise sustainable techniques and technologies in construction and operation and positively contribute to delivering the UK to net zero by 2050.

4.1.5 Good design outcomes will be secured during the detailed design of the Proposed Development, in accordance with the ES assessment, via Control Documents contained within the **draft DCO [EN010158/APP/3.1]**. Adherence to the Control Documents will secure good design outcomes, uphold the conclusions of the ES and provide for flexibility. A full list of Control Documents is set out in the **Guide to the Application [EN010158/APP/1.2].**

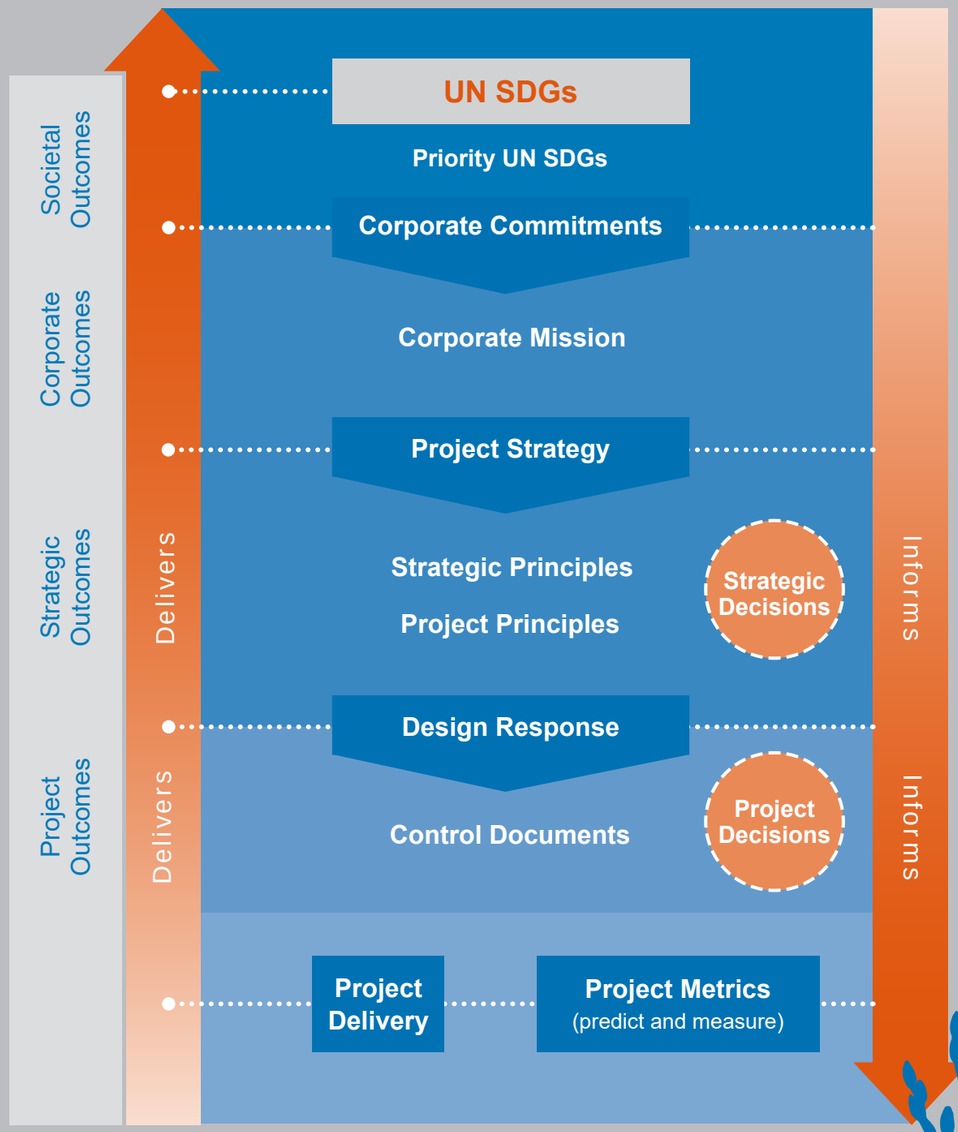


Figure 4.1: Design framework

4.2 Vision

4.2.1 In accordance with the Applicant's corporate commitments, the Applicant's vision is to develop a sustainable solar development that helps to meet the urgent need for home grown, secure, renewable energy while also achieving outcomes that support the delivery of the United Nations (UN) Sustainable Development Goals (SDGs) **[Ref 4-1]**.

4.2.2 This has and will be achieved through the design framework outlined in this document which will be used to drive design related decision making for the Proposed Development. By responding to the Project Principles, the Proposed Development will deliver outcomes that contribute to progress against the UN SDGs whilst also supporting the UK's transition towards Net Zero.

4.3 Corporate Commitments

4.3.1 Rosefield Energyfarm Limited (also known as the 'Applicant') is a joint venture between EDF Renewables UK and Ireland and PS Renewables.

4.3.2 EDF Renewables UK and Ireland is part of the EDF Group, which has been a participant of the UN Global Compact **[Ref 4-2]** since 2001, a voluntary initiative based on commitments by business leaders to implement sustainability and advance sustainable development principles and take steps to support the UN SDGs **[Ref 4-1]**. As a result, the EDF Group and its companies has a comprehensive foundation of sustainable development commitments that flow to its activities. This includes the Applicant.

4.3.3 In accordance with EDF Renewables UK's mission statement that 'sustainable development underpins all activities' in relation to its DCO scaled solar projects, the Applicant has developed a design framework that seeks to achieve a genuine and robust connection between the Proposed Development and the achievement of outcomes that support the delivery of the UN SDGs.

4.4 Strategic Principles

4.4.1 The thematic principles identified in the NIC 'Design Principles for National Infrastructure' have informed the wider Project Objectives for The Proposed Development under which the Project Principles have been developed. These are:

- Climate (Mitigate greenhouse gas emissions and adapt climate change) - Make efficient use of our land to increase the supply of clean, secure and affordable energy in the UK.
- People (Reflect what society wants and share benefits widely) - Be a good neighbour by respecting others, working considerately and recognising our place within the community.
- Places (Provide a sense of identity and improve our environment) - Design a layout that responds to the distinctive character of the local environment and creates opportunities to deliver recreational, landscape and ecological enhancements.
- Value (Achieve multiple benefits and solve problems well) - Work closely with the communities in which the Proposed Development is located to ensure that benefits are shared locally.

4.4.2 The Applicant adopted 10 Strategic Principles to guide the design of the Proposed Development at the early stages of the Proposed Development. The Strategic Principles were developed by EDF Renewables UK and are informed by the UN SDGs and NIC guidance. They are intended to bring multiple disciplines together through a common set of principles to deliver sustainable development outcomes. Each Strategic Principle is mapped to the UN SDGs and includes a series of actions that all projects are expected to comply with. They are:

- Build resilience in a changing climate.
- Design places that support and enhance local communities.
- Ensure responsible construction, ongoing maintenance and decommissioning.
- Improve economic resilience through education and by boosting the UK supply chain.
- Increase biodiversity appropriate to the landscape character and connect nature.
- Lead with the landscape.
- Make efficient use of the land, touch it lightly.
- Manage water, improve quality, reduce pollution.
- Provide new ways to enjoy the countryside that go beyond the lifetime of the scheme.
- Support agricultural productivity

4.5 Project Principles

4.5.1 In accordance with the criteria for good design set out in NPS EN-1 (refer to Section 2) **[Ref. 1-2]** and the PINS Advice on Good Design **[Ref. 1-4]**, project level design principles (hereby referred to as 'Project Principles') were subsequently developed by the Applicant to facilitate the practical application of the Strategic Principles at the project level.

4.5.2 The Project Principles use the Strategic Principles as a framework and are based on an understanding of the Proposed Development's local context, the people it would affect, and the potential benefits and outcomes it can deliver. The Project Principles are used to drive design related decision making throughout the lifecycle of the Proposed Development and are continually tested and improved in response to further baseline survey work, design evolution, environmental assessment and stakeholder feedback to secure the best outcomes at detailed design.

4.5.3 Development of the Project Principles has included engagement with relevant consultees, including:

- Buckinghamshire Council;
- Historic England;
- National Trust;
- Natural England;
- Environment Agency;
- National Highways;
- Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust;
- Anglian Water
- UK Health Security Agency; and
- Buckinghamshire Fire and Rescue.

4.5.4 Future information on how the Project Principles have shaped the design of the Proposed Development is provided in Sections 5 (Design Evolution) and Section 6 (Proposed Development).

Strategic Design Principles



Build resilience in a changing climate





Design places that support and enhance local communities





Ensure responsible construction, ongoing maintenance and decommissioning





Improve economic resilience through education and by boosting the UK supply chain





Increase biodiversity appropriate to the landscape character and connect nature





Lead with the landscape





Make efficient use of the land, touch it lightly





Manage water, improve quality, reduce pollution





Provide new ways to enjoy the countryside that go beyond the lifetime of the scheme





Support agricultural productivity



* Each of the Strategic Principles has been mapped against the relevant UN SDGs as indicated by the square symbols under each principle.

4.5.5 The Project Principles for the Proposed Development are set out on the following pages under each of the Strategic Principles.



Project Principle 1.1



Build resilience in a changing climate

1.1 Design for resilience and adaptation to future climate change.



Project Principles 2.1 – 2.5



Design places that support and enhance local communities

2.1 Engage openly, transparently and meaningfully with stakeholders, taking their feedback into account and making use of local knowledge to improve the Proposed Development throughout the design process.

2.2 Consider the amenity of Botolph Claydon and individual homes and properties, allowing appropriate setbacks and buffers and planting proposals assessed on a case by case basis.

2.3 Consider sequential views and the experience of people using the local network of Public Rights of Way and recreational routes, Calvert Road, Claydon Road and other local roads.

2.4 Work with the Claydon Estate to secure the long-term management of both the agricultural landscape and mitigation/enhancements provided by the scheme.

2.5 Identify opportunities for wider community benefits in consultation with local stakeholders.



Project Principles 3.1 – 3.5



Ensure responsible construction, ongoing maintenance and decommissioning

3.1 Access for construction works will be located to limit disruption to the local community, including avoiding construction traffic passing through surrounding villages such as Botolph Claydon, East Claydon, Steeple Claydon, Granborough, Quainton and Calvert.

3.2 Behave as a considerate neighbour through construction, operation and decommissioning.

3.3 Provide clear lines of communication between the developer and the local community.

3.4 Prioritise sustainable resource management and techniques and minimise carbon emissions throughout the lifecycle of the Proposed Development, applying the highest possible levels of transparency and sustainability throughout the supply chain.

3.5 Oppose the abuse of human rights and forced labour anywhere in the global supply chain and ensure compliance of all suppliers with the Modern Slavery Act.



Project Principles 4.1 – 4.2



Improve economic resilience through education and by boosting the UK supply chain

4.1 Foster innovation and extend supply chain to leave a lasting legacy value for Buckinghamshire and the UK.

4.2 Provide education and interpretation of the Proposed Development and the historic and biodiversity features of the Site and its context.



Project Principles 5.1 – 5.7



Increase biodiversity appropriate to the landscape character and connect nature

5.1 Retain, wherever reasonably possible, existing landscape features such as hedgerows, trees, woodlands, ditches, ponds and watercourses with appropriate buffers from the Proposed Development.

5.2 Manage existing habitats identified through habitat surveys to increase their value for wildlife.

5.3 Create new habitats to support key species such as Bechstein's bats and black hairstreak butterfly.

5.4 Respect and where possible create and enhance habitats adjacent to the mitigation works undertaken in relation to HS2.

5.5 Use locally native species wherever possible to create new habitats, increase the number of pollinator species and create food sources for birds during winter months.

5.6 Use land under and between solar panels to improve soil health and deliver biodiversity benefit for pollinators and farmland birds.

5.7 Deliver a substantial Biodiversity Net Gain beyond the minimum of 10%.



Project Principles 6.1 – 6.5



Lead with the landscape

6.1 Ensure proposals fit with the natural environment and draw from existing characteristics, informed by relevant local studies such as the Aylesbury Vale Landscape Character Assessment.

6.2 Within parts of the Site that fall within the Quainton-Wing Hills Area of Attractive Landscape (AAL), give careful consideration to the location of any development and respecting the Special Qualities of the designation e.g. enhancing field boundaries and retaining key views towards the AAL.

6.3 Respect the historic pattern of the landscape and setting of cultural sites, including Claydon House and individual Listed Buildings, responding to the distinctive character of the local environment.

6.4 Conserve and where possible enhance designed landscape features such as Home Wood and Knowl Hill, including ensuring that the 'designed' appearance of woodlands such as Shrubs Wood is retained, and give consideration to providing greater access to enable their appreciation.

6.5 Retain existing vegetation wherever reasonably possible to maintain the fabric of the Site and aid assimilation of development into its context.

Project Principles 7.1 – 7.6

Make efficient use of the land, touch it lightly

7.1 Optimise generation and export capacity of the solar farm within the constraints of the Site to make the most efficient use of the land and available grid connection.

7.2 Internal access tracks and cable routes will use existing tracks, hedgerow and watercourse crossings and/or gaps in the hedgerows wherever practical.

7.3 The grid connection route should comprise below ground cables where possible, with surface mounted cable trays to be utilised within areas of archaeological sensitivity. The use of overhead lines will be avoided.

7.4 Cable routes will run alongside access tracks as much as possible to avoid wider excavations.

7.5 Fences will be designed to integrate with the local environment, allow for the movement of wildlife (e.g. through the use of mammal gates) and meet the functional requirements of the Proposed Development.

7.6 Minimise the use of concrete, trenches and foundations.

Project Principles 8.1 – 8.2

Manage water, improve quality, reduce pollution

8.1 Improve water quality and flood resilience.

8.2 Apart from Solar PV modules, no built structures (Rosefield Substation, BESS, ITS, Independent Outdoor Equipment (transformer, switchgear and central inverters), Collector Compounds and Construction Compounds) will be located within Flood Zones 2, 3a or 3b, or within areas of high or medium risk of surface water flooding. Solar PV modules will be above the maximum flood height level.

Project Principles 9.1 – 9.4

Provide new ways to enjoy the countryside

9.1 Retain existing Public Rights of Way and recreational routes within the Site where practicably possible, safeguarding existing amenity.

9.2 Landscape and ecological mitigation and enhancements will be provided and routes will be maintained to ensure they remain passable/ unobstructed for the lifetime of the Proposed Development.

9.3 Protect the amenity of the Bernwood Jubilee Way and North Bucks and Midshires Way, retaining views towards the Quainton Hills where reasonably possible.

9.4 Consideration will be given to the creation of additional routes to provide inclusive access to new locations around the Site, connecting to the existing network of promoted walks, cycleways and bridleways.

Project Principles 10.1

Support agricultural productivity

10.1 Avoid development within fields comprising majority Grade 1, 2 or 3a agricultural land where possible

4.6 Design Commitments

4.6.1 Design commitments have been developed to support the practical application of the Project Principles at detailed design and are secured via requirement in the **draft DCO [EN010158/APP/3.1].**

4.6.2 Design commitments are needed to secure elements of the design which are not covered by other Control Documents and include commitments relating to the size, type and colour of elements of the Proposed Development. A full list of commitments is set out in the **Design Commitments [EN010158/APP/5.9].**

4.6.3 Each Project Principle has the potential to influence multiple aspects of the Proposed Development and inform a variety of different outputs. For example, the spatial extents set out on the **Works Plans [EN010158/APP/2.3], Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6]** and specific design requirements, such as the size type and colour of different components, which are set out in the **Design Commitments [EN010158/APP/5.9]**. Section 6 of this **DAD** provides a summary of how the Proposed Development has responded to each of the Project Principles and where they are secured.

4.6.4 On this basis, the Project Principles (and the outputs derived from them) are embedded to, and secured by, a range of different 'documents and plans to be certified' within **Schedule 13** and pursuant to the requirements in **Schedule 2** of the **draft DCO [EN010158/APP/3.1].** The Project Principles themselves are therefore not secured.

4.6.5 Should the DCO be granted, the detailed design will be controlled by the relevant certified documents and plans to ensure it is developed in accordance with the Project Principles. Adherence to the certified documents and plans, pursuant to Schedule 2 of the **draft DCO [EN010158/APP/3.1]**, will secure the intended outputs of the Project Principles at the detailed design stage whilst also upholding the conclusions of the Environmental Statement and providing for flexibility.

4.7 Compliance with Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design

Vision

Consideration	Project Compliance
What is the vision for the completed development and its surroundings? Where is it set out?	The vision for the Proposed Development is defined above in **Section 4 of this DAD**. In accordance with the Applicant's corporate commitments, the Applicant's mission is to develop a sustainable solar development that helps to meet the urgent need for home grown, secure, renewable energy while also achieving outcomes that support the delivery of the UN SDGs. This is articulated through the identification and application of design principles which have been used to drive design related decision making for the Proposed Development. By responding to the design principles, the Proposed Development will deliver outcomes that contribute to progress against the UN SDGs whilst also supporting the UKs transition towards Net Zero.
Set out the narrative, how the vision will achieve sustainability, create a new place and hold the design together.	The narrative for the Proposed Development, including how it will achieve sustainability, create a new place and hold the design together is set out above in **Section 4 of this DAD**. It explains how the Applicant has developed a clear design framework from the outset of the Proposed Development which provides a line of sight between good design aspiration and intentions, tangible design outputs and the delivery of outcomes that support sustainable development. This is achieved through the identification and application of the Project Principles that embed good design outcomes.

Design Principles

Consideration	Project Compliance
Set out the good design principles being applied to the project.	**Section 4 above of this DAD** sets out the design principles that have been adopted by the Applicant and applied to the Proposed Development. These include 'Strategic Principles' and project level design principles (referred to as 'Project Principles'). Each Project Principle has the potential to influence multiple aspects of the Proposed Development and inform a variety of different outputs. Should the DCO be granted, the detailed design will be controlled by the relevant certified documents and plans to ensure it is developed in accordance with the Project Principles.
Are the design principles structured or grouped logically?	The Applicant has adopted 10 'Strategic Principles' to guide the design of the Proposed Development at the early stages of the project. These are informed by the UN SDGs and NIC guidance. They provide an overarching framework to guide the development of Project Principles. Project Principles were developed by the Applicant to facilitate the practical application of the Strategic Principles at the project level. The Project Principles are based on an understanding of the Proposed Development's local context, the people it would affect, and the potential benefits and outcomes it can deliver. They are grouped logically under each of the Strategic Principles.

Design Principles Continued

Consideration	Project Compliance
How will they be developed prior to consent?	Project Principles have evolved throughout the design process, being informed and refined by stakeholder engagement, consultation feedback, technical studies and environmental assessments to secure the best outcomes for the Proposed Development. This included engagement with statutory consultees including Buckinghamshire Council, Natural England, Historic England, National Trust, Berks, Bucks and Oxon Wildlife Trust and the Environment Agency. Further amendments to the certified plans and documents, including design commitments, may be made during the examination process in light of matters raised by stakeholders and in accordance with the Project Principles.
How will they be illustrated and secured?	This **DAD** demonstrates how Project Principles have been used to guide decision making throughout the evolution of the Proposed Development **(Section 5)** and how they manifest themselves as tangible outputs in the proposed design **(Section 6)**. These outputs are embedded (illustrated) within, and secured by, the relevant 'documents and plans to be certified' within **Schedule 13** of the **draft DCO [EN010158/APP/3.1].** They include **Works Plans [EN010158/APP/2.3], Design Commitments [EN010158/APP/5.9]** and management plans (such as the **Outline LEMP [EN010158/APP/7.6])**.

Design Principles Continued

Consideration	Project Compliance
How will they be illustrated and secured? continued	Should the DCO be granted, the Proposed Development will be controlled by the relevant certified documents and plans to ensure it is developed in accordance with the Project Principles. For example, Principle 6.1 will be secured via a combination of the spatial extents set out on the **Works Plans [EN010158/APP/2.3], the Outline LEMP [EN010158/APP/7.6]** and the **Design Commitments [EN010158/APP/5.9].** Adherence to the certified documents and plans will secure the intended outputs of the Proposed Development Project Principles whilst also upholding the conclusions of the **Environmental Statement [EN010158/APP/6.1 -6.4]** and providing for flexibility.

National Infrastructure Commission (NIC) 'principles'

Consideration	Project Compliance
Is there a response to the NIC's four principles of good design?	The NIC's principles of good design (People, Place, Climate and Value) were considered at the outset of the project in conjunction with the Applicant's corporate commitment to sustainable development and the UN SDGs. This has informed the development of the Strategic Principles set out in **Section 4 of this DAD.**
If not, what design principles have been adopted?	Not applicable
What process has been used to develop and embed project level design principles?	This **DAD** demonstrates how the design of the Proposed Development has been developed in accordance with a clear design framework, based on the criteria for good design set out in NPS EN-1 **[Ref 1-2].** This has included the adoption of project level design principles (Project Principles) to guide decision making and embed good design outcomes to the Proposed Development. Project Principles have evolved throughout the design process, being informed and refined by stakeholder engagement, consultation feedback, technical studies and assessments. They have been used to steer and influence the design of the Proposed Development to avoid and reduce adverse impacts wherever possible, make the most of opportunities for enhancement and balance the need for flexibility and certainty within the DCO Application.

Section 5

Design Evolution

5. Design Evolution

5.1 Introduction

5.1.1 This chapter summarises the design evolution of the Proposed Development and how the extent of the Order Limits and area proposed for development has evolved and reduced through the design process.

5.1.2 It explains how the spatial layout of the Proposed Development has been shaped by the Project Principles and has responded to the environmental assessment process, consultation feedback and engagement with stakeholders via an iterative design process. The design evolution described within this document specifically relates to the operational phase of the Proposed Development and describes the evolution of the Concept and Illustrative Masterplan presented at each stage of design. Three distinct stages of design are identified **(refer to Figure 5.1):**

- **Stage 1 Design** – Initial stage of the design following the identification of the Site and the proposed Order Limits. Early plans and proposals showing the Stage 1 design were published between September and November 2023 as part of the Phase One Consultation and in the EIA Scoping Report in November 2023.
- **Stage 2 Design** – This stage of design was undertaken following the Phase One Consultation to take account of the consultation feedback and the emerging results from ongoing environmental surveys. Updated plans and proposals showing the Stage 2 design, including an Illustrative Masterplan, were published between September and December 2024 as part of the Phase Two Consultation and informed the assessment detailed within the Preliminary Environmental Information Report (PEIR).
- **Stage 3 Design** – This stage of the design was undertaken following the Phase Two Consultation held in September – December 2024 to take account of the consultation feedback, ongoing engagement and the findings of further environmental assessments. Updated plans and proposals showing the outcome of this stage of the design form the basis of the ES and DCO Application.

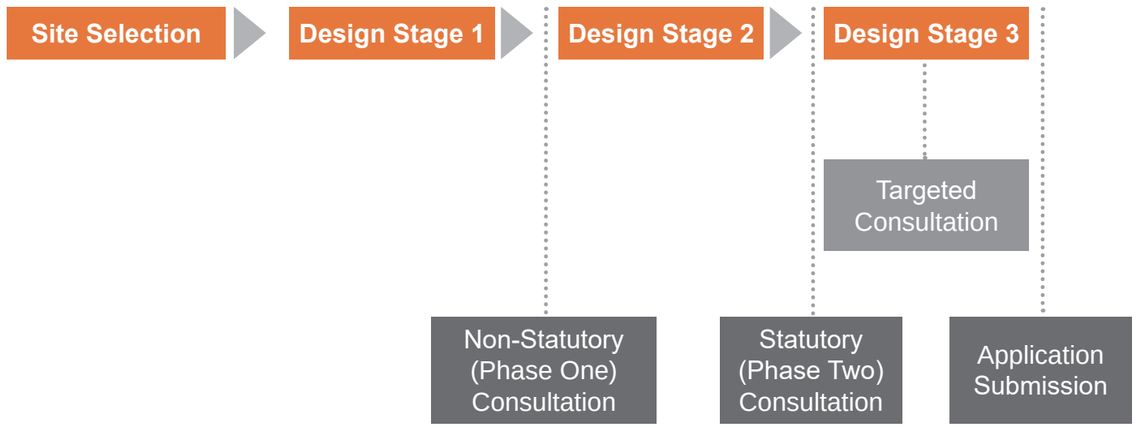


Figure 5.1: Timeline of design evolution



5.1.3 Further information on the reasonable alternatives that have been considered by the Applicant for the Proposed Development, including the initial selection of the Order Limits and the development of the design is provided in **ES Volume 1, Chapter 4: Reasonable Alternatives Considered [EN010158/APP/6.1].**

5.1.4 It should be noted that Chapter 4 describes the design of the Proposed Development in relation to the maximum parameters that were assessed within the Scoping, PEIR and ES, whereas the DAD describes the Proposed Development in relation to the Concept and Illustrative Masterplans that were presented at consultation. The purpose of the Concept and Illustrative Masterplans was to provide an example of how the Proposed Development could be carried out within the constraints of the assessment parameters, while also considering other opportunities to deliver against the Project Principles. This may result in some variation between the design described in Chapter 4 and the DAD in relation to the Stage 1 and 2 design.

5.1.5 Further information on the consultation process and how it has informed the Proposed Development is provided in the **Consultation Report [EN010158/APP/5.1].**

5.2 Site Selection

5.2.1 The Applicant undertook a systematic process to determine a suitable site for the Proposed Development, which was framed at a macro level by principles of good design. This included consideration of a range of technical, environmental and economic factors based on the site selection principles set out in NPS EN-3. These are set out in the **Planning Statement, Appendix 1: Site Selection Report [EN010158/APP/5.7]** together with a summary of the Applicant's approach to them.

5.2.2 A summary of the key reasons why the Site was selected, and how it has been informed by considerations of good design, is provided below. The Site:

- Has a grid connection offer;
- Lies in close proximity to the available grid connection;
- Lies within an area of suitable irradiance and topography;
- Is sufficiently separated from surrounding towns, villages and isolated residential properties;
- Includes a very small proportion of BMV land and is predominantly Grade 3 and 4;
- Is accessible from the local road network and well serviced by the strategic road network of the A41 to the south, A421 to the north and the A4146 to the east;
- Is located outside of key environmental and planning related designations;
- Has sufficient land outside Flood Zone 2 and 3 areas to accommodate the Rosefield Substation, BESS, ITS, Independent Outdoor Equipment (transformer, switchgear and central inverters), Collector Compounds and Construction Compounds; and
- Is on land which is available and may be voluntarily acquired with a single landowner, enabling efficiencies in delivery.

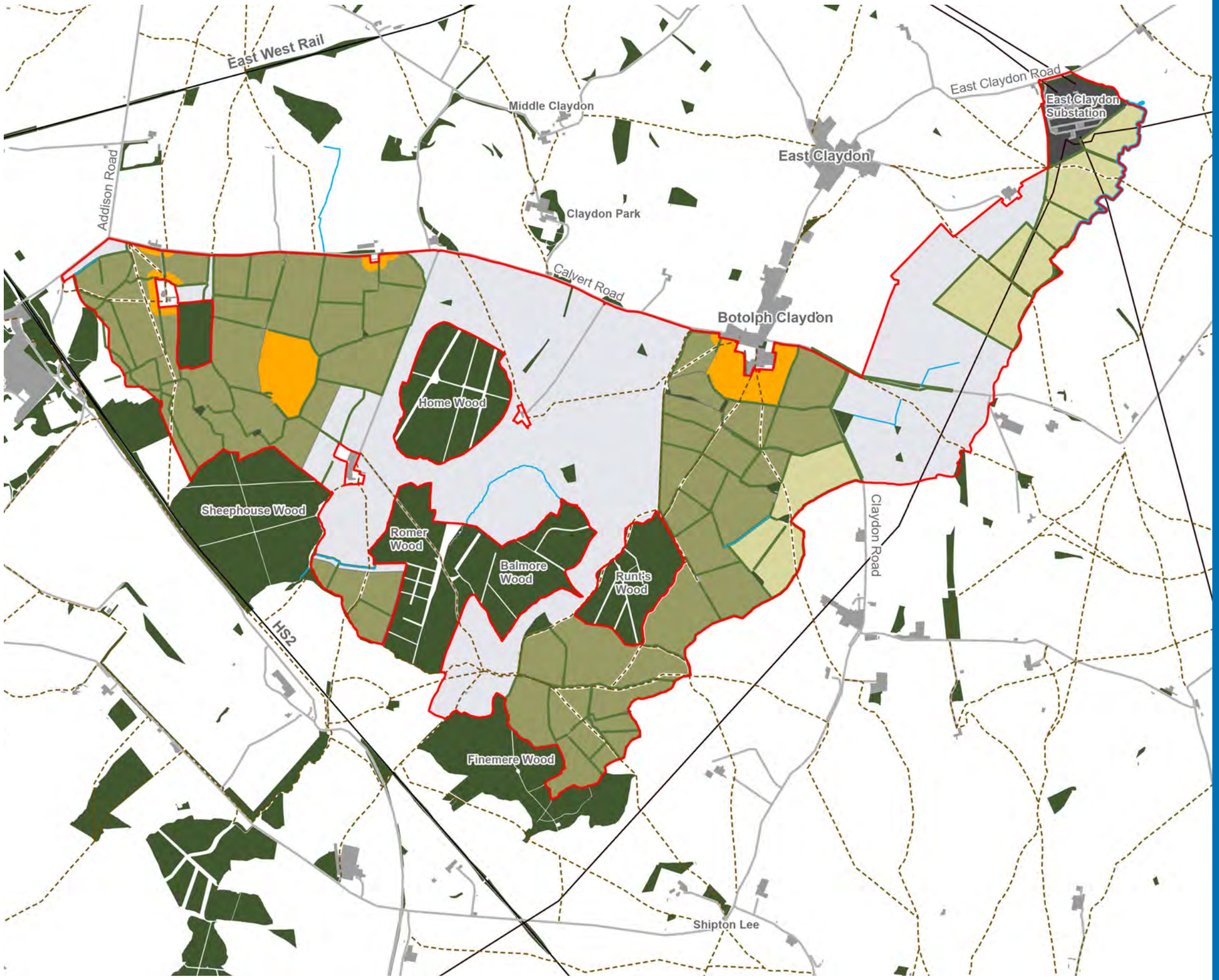


Figure 5.2: Concept Masterplan presented at Phase One Consultation

5.3 Stage 1 Design

5.3.1 Following the initial site selection by the Applicant, the initial proposed Order Limits and the surrounding context were subject to a preliminary assessment. The purpose of the assessment was to identify the opportunities and constraints of the Site, develop draft Project Principles and identify potential land parcels to accommodate the Proposed Development.

5.3.2 The assessment, which included site visits and desktop analysis, was based on an interdisciplinary approach to design and included consideration of environmental, social and economic factors. The analysis was undertaken at a range of scales and included consideration of areas outside the initial Order Limits to capture the full range of potential opportunities and constraints.

5.3.3 At the end of Stage 1, a Concept Masterplan was developed based on the findings of the preliminary assessment to show the potential areas for Solar PV development, Rosefield Substation, BESS, and initial preferred areas for mitigation and enhancement. The Concept Masterplan is shown in **Figure 5.2** and was presented at the Phase One Consultation. The draft Order Limits shown on the Concept Masterplan equate to approximately 875ha (refer to Figure 5.3.)

5.3.4 A summary of the design rationale for the Concept Masterplan is provided below with reference to the relevant Project Principles that have guided the design.

All Parcels

5.3.5 All existing woodlands and hedgerows within the Order Limits were identified for retention, with a commitment to include appropriate buffers from Solar PV development and provide enhancements where possible (Principle 5.1).

5.3.6 All existing PRoW within the Order Limits were retained on their existing alignment, with a commitment to consider opportunities to enhance routes and/or establish new routes for people to enjoy (Principles 2.3 and 9.2).

Parcel 1 and 1a

5.3.7 Potential for Solar PV development was removed from Field B17, which is land on top of Knowl Hill, to ensure Solar PV development would not be located on the highest and most visible area within Parcel 1 and reduce potential significant impacts on the setting and significance, and views from Claydon Park Grade II Registered Park and Garden and Conservation Area and Claydon House Grade I listed building (Principles 6.3 and 6.4).

5.3.8 Solar PV development was offset from residential properties along Calvert Road, at Calvert Cottages and Catherine Cottage, and at Pond Farm, to reduce potential effects on residential properties and residential amenity, as well as reduce potential significant impacts on the setting and significance of Listed Buildings (Principles 2.2 and 6.3).

5.3.9 Fields identified as unsuitable for development or having a high environmental impact risk if developed were retained within the Order Limits as ecological mitigation and enhancement areas (Principles 5.2 and 5.3).

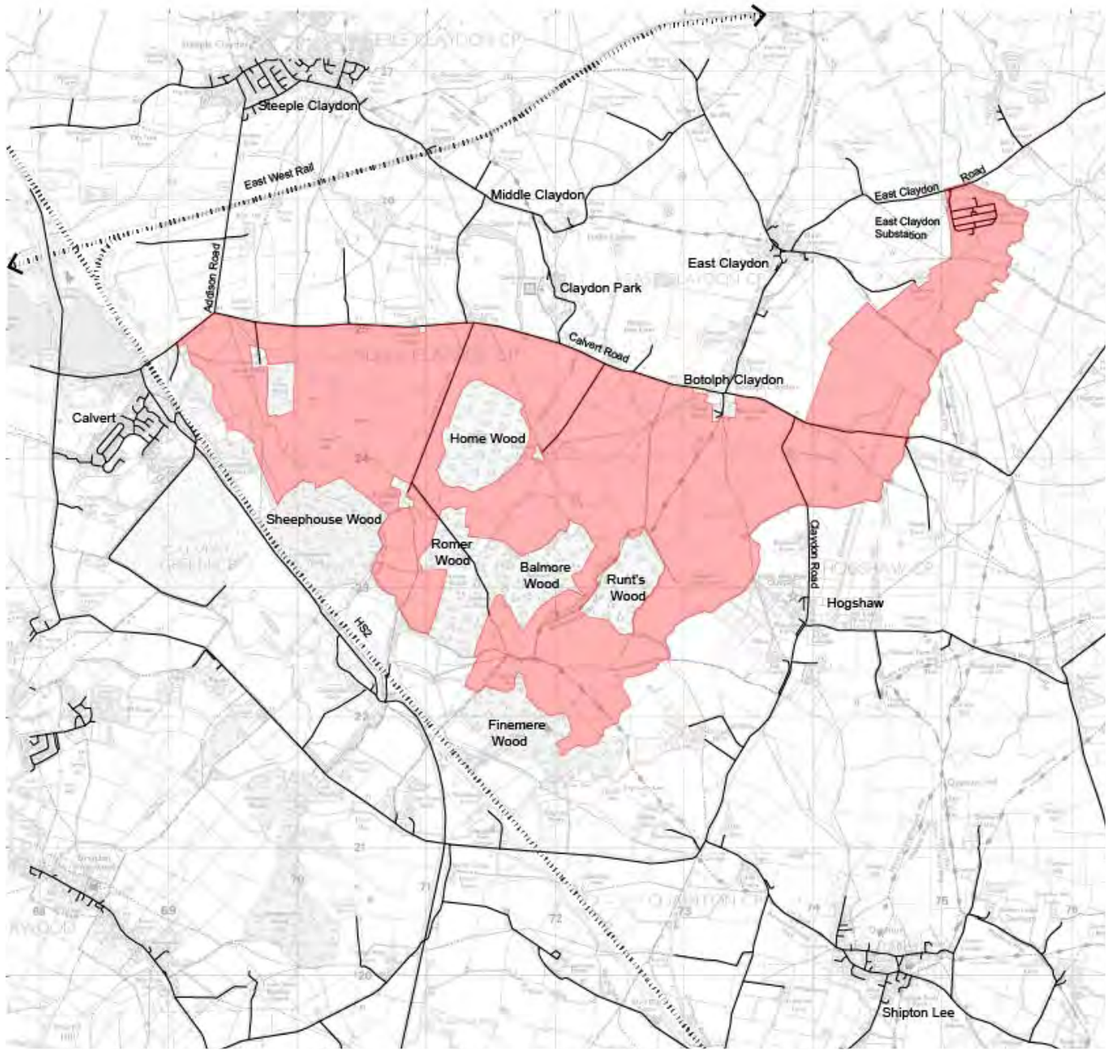


Figure 5.3: Draft Order Limits presented at Phase One Consultation

Parcel 2

5.3.10 Parcel 2 was identified as a potential location for the Rosefield Substation and BESS, for a variety of reasons including:

- Close proximity to Claydon Road to facilitate access and avoid traffic passing through the local villages such as Botolph Claydon, East Claydon, Steeple Claydon, Granborough, Quainton and Calvert (Principle 3.1).
- The scale and topography of the landscape within Fields D8, D9, D18 and D19, which is larger and less intimate than other areas of Parcel 2, and therefore more suited to large scale infrastructure. These fields are also set down into the landscape and less visible from Botolph Claydon and Quainton Hill, as well as being located outside the AAL (Principles 2.2, 6.1, 6.2 and 9.4).
- Relatively few sensitive visual receptors, such as individual properties, settlements and PRoW, compared to other areas of Parcel 2 (Principles 2.2, 2.3 and 9.2).

5.3.11 Solar PV development was offset from the fields directly south of Botolph Claydon to reduce potential effects on residential properties and the setting of Botolph Claydon and the Botolph Claydon Conservation Area (Principles 2.2, 3.1 and 6.3).

Parcel 3

5.3.12 Parcel 3 was identified as a potential location for the Rosefield Substation and BESS, for a variety of reasons including:

- Close proximity to the existing National Grid East Claydon Substation (Principle 7.1).
- Close proximity to East Claydon Road, also an approved Abnormal Indivisible Load (AIL) route, to facilitate access and avoid traffic passing through the local villages such as Botolph Claydon, East Claydon, Steeple Claydon, Granborough, Quainton and Calvert (Principle 3.1).
- The scale and topography of the landscape within Fields E10, E11, E20, E21, E22 and E23, which is larger and less intimate than other areas of the Site, and therefore more suited to large scale infrastructure (Principles 2.2, 6.1, 6.2 and 9.4).
- The presence of existing infrastructure including prominent pylons (Principle 6.1).
- Notably less PRoW than other areas of the Site (Principles 2.3, 9.1 and 9.2).



5.4 Stage 2 Design

5.4.1 Following the Phase One Consultation, the Concept Masterplan was reviewed and revised to take account of consultation feedback, emerging results from on-going environmental surveys, and updated technical information. This process involved undertaking a detailed environmental appraisal and targeted engagement with statutory consultees and stakeholders, alongside technical design workshops. Full details of the feedback received can be found in the **Consultation Report [EN010158/APP/5.1].**

5.4.2 Throughout Stage 2, the Applicant maintained an interdisciplinary approach to design and considered both the opportunities and constraints of the Proposed Development guided by the Project Principles. This enabled the Applicant to understand the complexities of the Site and identify where multiple opportunities and constraints had the potential to stack up with one another to inform design decisions.

5.4.3 Key factors influencing the evolution of the design at Stage 2 included: updated information on the proposals for the National Grid East Claydon Substation, preliminary environmental surveys including landscape and visual assessment, residential visual amenity assessment, glint and glare assessment, noise assessment, further ecology surveys, geophysical survey, and agricultural land classification surveys.

Figure 5.4: Illustrative Masterplan presented at Non-Statutory (Phase Two) Consultation

5.4.6 Following the Stage 2 design process, an Illustrative Masterplan was produced and presented at Phase Two Consultation **(refer to Figure 5.4).** The Illustrative Masterplan showed a greater level of design resolution compared to Stage 1 and included: preferred locations for proposed Solar PV development, options for the location of the Rosefield Substation and BESS, strategic planting and revised recreational routes.

5.4.7 At Stage 2 the draft Order Limits decreased from 894ha to 771ha as shown in **Figure 5.5.** Additional land was included within the draft Order Limits to the east and west of the National Grid East Claydon Substation, to allow flexibility in relation to AIL access and the National Grid East Claydon Substation proposals. The decrease in site area was largely due to the Order Limits being pulled back south of Botolph Claydon in order to increase the separation between the Proposed Development and Botolph Claydon, and the removal of some potential areas for underground cable routes, access tracks and temporary Construction Compounds as further survey and assessment work allowed the options to be refined. A summary of the key changes for Stage 2 is provided below with reference to the relevant Project Principles that have guided the design.

All Parcels

5.4.4 The following offsets were incorporated into the design derived from a combination of guidance, good practice, precedence set by other NSIP solar schemes and professional judgement from technical specialists of the project team:

- A minimum 20m offset from Solar PV development to existing woodlands and HS2 planting, increasing to 30m for ancient woodland and statutorily and locally designated wildlife sites (Principles 5.1, 5.4 and 6.5).
- A minimum 10m offset from Solar PV development to all existing hedgerows (Principle 5.1).
- A minimum 10m offset from Solar PV development to either side of existing Main Rivers and ditches where crossing is not required (Principle 8.1).
- A minimum 10m offset from Solar PV development to existing ponds and former ponds to be restored (Principle 5.1).
- A minimum 50m offset from Solar PV development to main badger setts (Principles 5.2 and 5.3).
- A minimum 10m offset from all fence lines within The Proposed Development to PRoW, except where crossings are necessary (Principles 2.3 and 9.2).
- A minimum 250m offset from Inverter Transformer Stations (ITS), BESS, Rosefield Substation and Collector Compounds to residential properties, determined on a case by case basis (Principle 2.2).

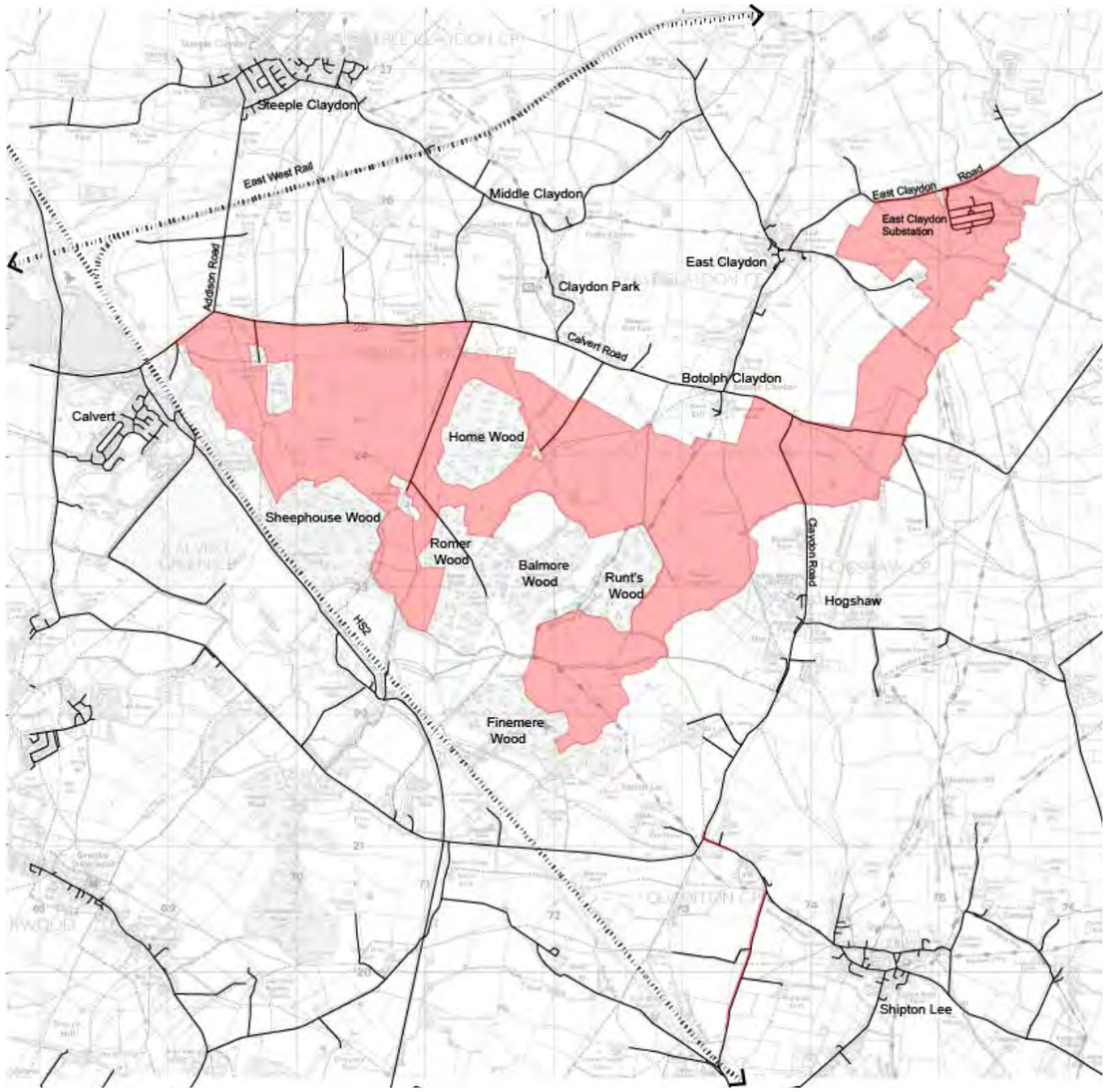


Figure 5.5: Draft Order Limits presented at Non-Statutory (Phase Two) Consultation

5.4.5 Proposed internal access tracks were illustrated across all land parcels. These were designed to utilise existing tracks, crossings and / or gaps in the hedgerows wherever practicable to reduce potential impacts on the landscape (Principle 7.2).

Parcel 1 and 1a

5.4.8 Parcel 1a was no longer proposed for Solar PV development to allow for additional areas of ecological mitigation and enhancements between Sheephouse Wood and Romer Wood, in response to consultation feedback and further survey work, to reflect the importance of the connectivity between the woodlands for bats (Principles 5.1, 5.2, 5.3 and 5.4).

5.4.9 The eastern half of Field B9 was no longer proposed for Solar PV development, in addition to the original exclusion of Solar PV development from Field B17 on Knowl Hill, to reduce impacts on the setting and views from Claydon Park Grade II Registered Park and Garden and Conservation Area and Claydon House Grade I listed building (Principles 6.3 and 6.4).

5.4.10 Parts of Fields B4, B5, B6, B13 and B22 were no longer proposed for Solar PV development to provide larger setbacks from residential properties and PRoW. To reflect the outputs from initial site visits and residential visual amenity assessments undertaken at nearby residential properties, bespoke offsets were provided for each individual property (Principles 2.2, 2.3 and 6.3).

5.4.11 Diversions were indicated to three existing PRoW (SCL/13/1, SCL/12/2 and SCL/13/2) to rationalise them into a single PRoW, providing access between Pond Farm and Calvert Road. This permanent diversion would also allow the diverted route to connect into the PRoW network north of Calvert Road at a closer point than the existing location (Principles 2.3 and 9.2).

5.4.12 The location of a potential new permissive footpath was indicated across Parcel 1, following from Phase One Consultation, connecting the to-be-rationalised PRoW SCL/13/2 to Three Points Lane, via the southern edge of Shrubs Wood and the top of Knowl Hill (Field B17) (Principles 2.3, 9.1 and 9.2).

5.4.13 Two potential locations for Collector Compounds were identified within Parcel 1, Fields B10 and B23 (South), following an initial appraisal after the Stage 1 Design. These areas were considered suitable to potentially accommodate infrastructure up to 6m high, due to their location in relation to the proposed Solar PV layout and their reduced visibility from the surrounding area, including views from Claydon Park Grade II Registered Park and Garden and Conservation Area and Claydon House Grade I listed building (Principles 6.1 and 6.3).

5.4.14 Proposed structure planting was included to provide screening, integrate the Proposed Development with the landscape and provide new habitats for biodiversity benefit. This included proposed strengthening of hedgerows along Calvert Road to screen views for road users, and provision of new hedgerows or tree belts in the vicinity of Catherine Cottages to screen views for residents (Principles 2.2, 2.3, 2.4, 5.2, 5.3 and 6.1).

Parcel 2

5.4.15 Further assessment was carried out to review suitable locations for the Rosefield Substation, taking into consideration the survey work undertaken, including landscape and visual assessments and noise modelling. Fields D8, D9, D18 and D19 were no longer proposed as an option for the Rosefield Substation, to reduce potential noise and visual effects for residents of Botolph Claydon and individual properties, with proposed locations taken forward being located closer to the existing National Grid East Claydon Substation (Principles 2.2, 2.3, 6.1 and 7.1).

5.4.16 A potential location for the BESS was identified in Parcel 2, reduced in size from the potential BESS location indicated at Stage 1, to take account of landscape and visual assessments and noise modelling. This location would be within Fields D8 and D9, but designed to avoid Flood Zones 2 and 3 (Principles 2.2, 2.3, 3.1, 6.1, 6.2, 9.2 and 9.4).

5.4.17 Two potential locations for Collector Compounds were identified within Parcel 2, Fields D17 and D8 and/or D9, following an initial appraisal after the Stage 1 Design. These areas were considered suitable to potentially accommodate infrastructure up to 6m, due to their location in relation to the proposed Solar PV layout and their reduced visibility from the surrounding area, including views from Botolph Claydon (Principles 2.2, 6.1 and 6.3).

5.4.18 Fields D1 and D3 (North) were no longer proposed for Solar PV development and no longer form part of the proposed Order Limits, to increase the distance between the Proposed Development and residential properties and address the setting of Botolph Claydon and the Botolph Claydon Conservation Area. These fields were identified as areas of concern in public feedback to the Phase One consultation (Principles 2.2 and 6.3).

5.4.19 Fields in the south of Parcel 2 (Fields D27, D30, D32, D33, D34, D35, D36 and D37) were no longer proposed for Solar PV development due to the topography, ecological considerations and landscape and visual considerations, which included reducing visibility within the AAL and from the wider landscape. These fields were shown to be used for landscape and/or ecological mitigation and enhancement (Principles 5.1, 5.2, 5.3, 6.1, and 6.2).

5.4.20 Parts of the fields located to the east of the Bernwood Jubilee Way (Fields D4, D11, D14 and D15) were no longer proposed for Solar PV development to reduce the impact on the landscape character and to retain views towards Quainton Hill and its landscape context from the Bernwood Jubilee Way (Principles 2.3, 6.1, 6.2, 9.1, 9.2 and 9.4).

5.4.21 Proposed structure planting was included to provide screening, integrate the Proposed Development with the landscape and provide new habitats for biodiversity benefit. This included proposed strengthening of hedgerows along the south eastern edge of Fields D8, D9, D19 and D26 to provide screening in views from the east such as from Hogshaw Farm and to break up views of the Proposed Development in elevated views such as from Quainton Hill, and along the southern edge of Fields D28 and D29 to break up views of the Proposed Development from the AAL (Principles 2.3, 2.4, 5.2, 5.3 and 6.1).

Parcel 3

5.4.22 Following further engagement with National Grid on the proposed replacement National Grid East Claydon Substation, the Order Limits were extended to the west of the existing National Grid East Claydon Substation to include six fields (Fields SA51, SA52, SA53, SA57, SA58 and SA59) to facilitate the Grid Connection Cable Corridor.

5.4.23 For the AIL Access Corridor into the Site, two fields (Fields SA55 and SA56) east of the National Grid East Claydon Substation were added into the Order Limits (Principle 3.1).

5.4.24 Further assessment was carried out to review suitable locations for the Rosefield Substation, taking into consideration the survey work undertaken, including landscape and visual assessments and noise modelling. Two options were shown in Parcel 3; either Field E11 or E23. The options allowed for the uncertainty of the location of the National Grid East Claydon Substation extension (Principles 2.2, 2.3, 3.1, 6.1, 6.2, 9.2 and 9.4).

5.4.25 A potential location for the BESS was identified in Parcel 3, reduced in size from the potential BESS location indicated at Stage 1, to take account of landscape and visual assessments and noise modelling. This location would be within Field E23, but designed to avoid Flood Zones 2 and 3 (Principles 2.2, 2.3, 3.1, 6.1, 6.2, 9.2 and 9.4).

5.4.26 A diversion was indicated to existing PRoW ECL/4/2 to the north of Parcel 3, to align the PRoW Footpath with the field boundaries of Fields E10 and E11, rather than crossing Field E11, in the event that the footprint of Rosefield Substation cannot be designed to avoid obstructing the current alignment of the route (Principles 2.3 and 9.2).

5.4.27 The route of the North Bucks Way and Midshires Way through Parcel 3, between Fields E21/E22 and E23, has been given a wider offset (up to 55m) than other PRoW to respond to the fact that it is a promoted route (Principles 2.3, 9.2 and 9.4).

5.4.28 Offsets were also indicated from the National Grid overhead lines and pylons. The extent of these offsets would be agreed with National Grid at the detailed design stage, subject to any changes to the alignment of the overhead lines as a result of the National Grid East Claydon Substation extension, to ensure health and safety considerations are addressed.

5.4.29 Structural planting was included to provide screening, integrate the Proposed Development with the landscape and provide new habitats for biodiversity benefit. This included proposed tree belt planting along the western edge of Fields E11, E20 and E22, and along the western and southern edges of Field E23 (Principles 2.3, 2.4, 5.2, 5.3 and 6.1).

Interconnecting Cable Corridors and Internal Access Corridors

5.4.30 Further refinement of the Interconnecting Cable Corridors between Parcels 1 and 2 and between Parcels 2 and 3 was undertaken during the Stage 2 Design. This refinement was informed by environmental surveys, assessment and stakeholder feedback. This resulted in the discounting of several areas that were not deemed suitable for the location of the Interconnecting Cable Corridors and Internal Access Corridors. These included:

- Several fields that are located directly to the south of Orchard Way were discounted due to the proximity to Claydon House and Calvert Road, to minimise any landscape and visual and cultural heritage impacts and associated noise and air quality emissions.
- Fields located to the north of Balmore Wood and south of the Muxwell Brook were removed from the Order Limits to avoid the need to cross this watercourse, limiting any associated impacts to these habitats and any potential contamination to the watercourse.
- The fields that run between Balmore Wood, Runt's Wood and Finemere Wood were removed to avoid any requirement for tree removal and to avoid ecological, noise and air quality impacts that could impact ancient woodland and sensitive bat commuting and foraging corridors.
- Several fields located directly to the west of the area of Solar PV development in Parcel 3 were removed from the Order Limits as they were not required for the Interconnecting Cable Corridor or Internal Access Corridor.

5.4.31 Buffers from sensitive receptors, such as ancient woodlands, residential properties, hedgerows and trees were included in the design, which involved discounting these areas from the development of any cabling or access works to reduce the environmental impact to these sensitive receptors.

Access to the Site

5.4.32 A small stretch of Snake Lane/Fidlers Field was added into the Order Limits during the Stage 2 Design following further transport assessments and engagement with Buckinghamshire Council Highways Authority to allow for the potential requirement for road improvement works in this location.

5.5 Design Stage 3

5.5.1 Following the Phase Two Consultation, the design of the Proposed Development was reviewed and revised in light of the comments received from stakeholders and local residents. Full details of the feedback received can be found in the **Consultation Report [EN010158/APP/5.1].** This process involved undertaking a detailed appraisal of feedback and engagement with statutory consultees, alongside several technical design workshops. The findings of further environmental assessments were also taken into account. Project Principles were used to guide decision-making throughout this process and embed good design outcomes to the Proposed Development.

5.5.2 Additional information influencing the evolution of the design at Stage 3 included: updated ecology surveys (including tree surveys), refinement of the biodiversity mitigation strategy based on the outputs of the **Environmental Statement [EN010158/APP/6.1-6.4]**, archaeological trial trenching, refinement of the PRoW strategy, technical studies relating to the grid connection and cable corridor routes, ground investigations, noise modelling and technical studies in relation to highway works.

5.5.3 As a result of the Stage 3 design process a revised Illustrative Masterplan has been developed for the DCO Application as shown in **Figure 5.6** and the **Illustrative Layout Plans and Sections [EN010158/APP/2.6].**

Figure 5.6: Illustrative Masterplan of the Proposed Development

5.5.4 The Stage 3 Illustrative Masterplan shows one way the authorised development could be carried out within the constraints of the **draft DCO [EN010158/APP/3.1].**

5.5.5 At Stage 3 the proposed Order Limits reduced from 771ha to 675ha as shown in **Figure 5.7** and the **Location, Order Limits and Grid Coordinate Plans [EN010158/APP/2.1].** A summary of the key design changes at Stage 3, including the reduction of the Order Limits, is provided below with reference to the relevant Project Principles that have guided the design.

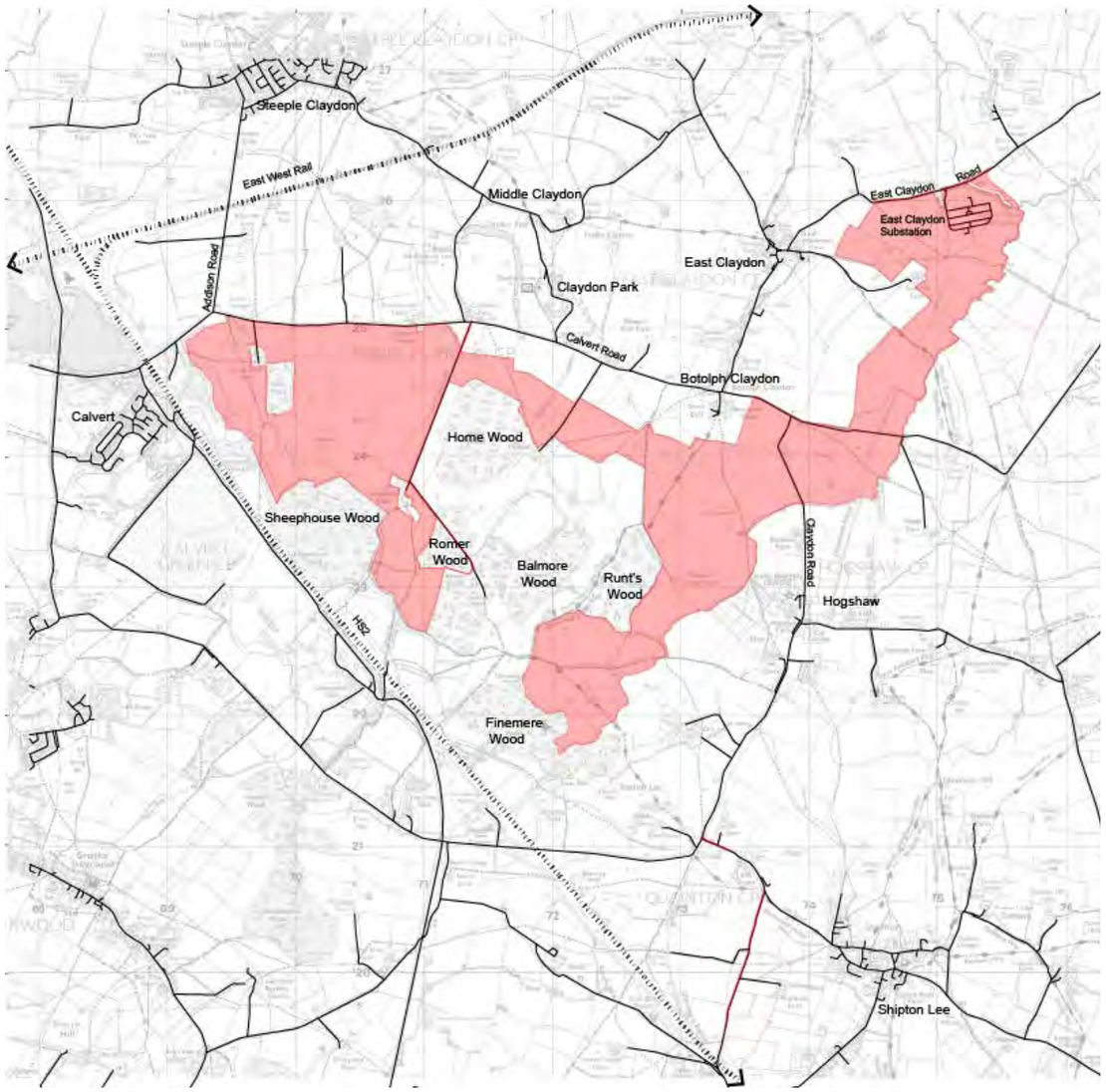


Figure 5.7: Order Limits of the Proposed Development

All Parcels

5.5.6 Following ongoing discussions with the Local Lead Flood Authority and the Environment Agency, Solar PV development offsets from ditches have been increased from 6m-9m to 10m (Principles 8.1 and 8.2).

5.5.7 A minimum offset from the principal components of the Proposed Development to tree Root Protection Areas will be applied, as far as reasonably practicable. This will reduce the impact on trees and veteran trees in line with Natural England and Forestry Commission standing advice. This has resulted in minor adjustments to the indicative scheme design, and some potential loss of Solar PV development. No veteran trees would be lost as a result of the Proposed Development and no trees would be lost as a result of Solar PV development.

Parcel 1 and 1a

5.5.8 Field B10 was removed as a potential location for a Satellite Collector Compound, following stakeholder feedback and to reduce potential impacts to the bat commuting and foraging corridor between Sheephouse Wood and Shrubs Wood. This decision also took into account the topography of this field and potential cultural heritage and landscape and visual effects from Claydon House (Principles 2.2, 6.1 and 6.3).

5.5.9 The potential extent of the Satellite Collector Compound within Field B23 was reduced to take account of areas at medium and high risk of surface water flooding, and reduce visibility from Claydon House following further engagement with National Trust and Historic England. The location of the transformers has been further modelled resulting in the potential siting area being reduced to the southern extent of the field to consider potential for noise emissions to properties sited to the north (Principles 2.2, 2.3 and 6.3).

5.5.10 Field B5 and parts of Fields B22 and B23 (North) are no longer proposed for Solar PV development to provide larger setbacks from residential properties. To reflect the outputs from further site visits and residential visual amenity assessments undertaken at nearby residential properties, bespoke offsets have been provided for each individual property (Principles 2.2, 2.3 and 6.3).

5.5.11 Following further site visits, modelling and engagement with National Trust and Historic England, the south-east corner of Field B11 and north-east corner of Field B9, which sits adjacent to Knowl Hill, are no longer proposed for Solar PV development. This will result in reduced views of the development from Claydon House and therefore reduce the level of effect to Claydon Park Grade II Registered Park and Garden and Conservation Area and Claydon House Grade I listed building (Principles 6.3 and 6.4).

5.5.12 The offset from Solar PV development along the hedgerow corridors between Sheephouse Wood, Shrubs Wood and Decoypond Wood, within the boundaries of Fields B7, B8, B9, B10, and B11, have increased from 10m to 15m either side of the hedgerows following discussions with Natural England. This will provide an enhanced biodiversity corridor to connect these woodland blocks (Principles 5.1, 5.2 and 5.3).

5.5.13 The location of a second potential new permissive footpath, to connect the permissive footpath proposed at Stage 2 to the PRoW network north of Calvert Road has been added, beginning from the intersection of Fields B17, B20 and B21, then running north to the west of B21 and B22 to Calvert Road and onwards to PRoW MCL/13/1 (Principles 2.3, 9.1 and 9.2).

5.5.14 An additional diversion has been proposed to the existing PRoW SCL/13/2 in the south of Parcel 1 (between Shrubs Wood and Decoypond Wood) to align the PRoW Footpath with the field boundary of Field B7 and reduce visual impacts for user of the PRoW. A short stretch of SCL/12/2 has been retained to ensure that no dead ends are created in the vicinity of Pond Farm (Principles 2.3 and 9.2).

5.5.15 The proposed planting and ecological mitigation and enhancement proposals evolved in response to formal feedback from the Phase Two Consultation and further engagement with consultees and local residents. The main changes to the landscape and ecological proposals within Parcels 1 and 1a are as follows:

- Pond creation, recreation of defunct ponds and restoration/ enhancement of existing ponds.
- Woodland belts included to the south of Calvert Cottages along the boundaries of Field B4 and B5 to help screen views from the residential properties at Calvert Cottages.
- Further refinement of the proposals within Parcel 1a, including strengthening the planting implemented by HS2 between Romer Wood and Sheephouse Wood, and enhancement of woodland edges for bat habitat.
- Review of the treatment of the eastern edge of Shrubs Wood to retain the 'designed' appearance of the woodland whilst providing habitat enhancements.
- Review of the treatment of the corridor between Finemere Wood and Runt's Wood and around Runt's Wood, including enhancement of woodland edges for bat habitat.
- Early planting/habitat management is proposed within Parcel 1 and 1a around the residential properties at Calvert Cottages and Catherine Cottages, ahead of construction.
- Management of grassland within the Order Limits will be undertaken by a combination of sheep and cattle grazing.

Parcel 2

5.5.16 In response to feedback received during the Phase Two Consultation, the BESS is now solely proposed to be located in Fields D8 and/or D9 in Parcel 2. This change was consulted on during a Targeted Consultation period between 21 May and 16 July 2025, and addresses feedback in relation to the operation of existing tenant farmers and views from Botolph Claydon and East Claydon (Principles 2.2, 3.2, 6.1 and 7.1).

5.5.17 The siting zone of the BESS within Field D8 and Field D9 has been refined to account of the revised surface water flooding extents issued by the Environment Agency in January 2025. This involved discounting the area of medium and high risk surface water flooding adjacent to the south east of the fields from the proposed location of the BESS (Principle 8.2).

5.5.18 The offset between the Solar PV development and the hedgerow corridor between Runt's Wood and Finemere Wood, along the northern boundaries of Field D28 and D29, has been increased from 20m to 30m following feedback from statutory consultees. This will provide an enhanced biodiversity corridor to connect these woodlands, in particular for bats (Principles 5.1, 5.5 and 5.3).

5.5.19 A new permissive footpath across Parcel 2 which connects the existing PRoW ECL/8/1 to PRoW ECL/9/2 and ECL/10/2, along the north of D3 (South), creating a new circular route (Principles 2.3, 9.1 and 9.2); and a new bridleway link across Parcel 2 which would be accessible to the public during the operation (including maintenance) phase of the Proposed Development. It would connect to the existing PRoW Bridleway (reference 'ECL/10/5') before tracking south west along the proposed internal access track through Field D27 and then along PRoW Footpath (reference 'QUA/41/1') to join PRoW Bridleway (reference 'QUA/40/2' and 'QUA/40/3') that runs along the southern edge of Fields D28 and D29. The total distance of the link would be approximately 0.9 km long, of which 0.3 km follows the alignment of PRoW Footpath reference 'QUA/41/1'.

5.5.20 An additional diversion has been proposed to the existing PRoW ECL/7/2 in the east of Parcel 2, to align the PRoW Footpath with the field boundary of Field D19 and reduce visual impacts for users of the PRoW (Principles 2.3 and 9.2).

5.5.21 The proposed planting and ecological mitigation and enhancement proposals evolved in response to formal feedback from the Phase Two Consultation and further engagement with consultees and local residents. The main changes to the landscape and ecological proposals within Parcel 2 are as follows:

- Recreation of defunct ponds and restoration/enhancement of existing ponds.
- Woodland belt included along the northern boundary of Field D3 (South) to help screen views from Botolph Claydon and the local PRoW network.
- Enhancement of field boundaries, through planting of gaps and/or changes to management practices, to provide additional screening.
- Additional early planting/habitat management is proposed within Parcel 2, along the boundary of Fields D30, D29 and D28, ahead of construction.
- Management of grassland within the Order Limits will be undertaken by a combination of sheep and cattle grazing.

Parcel 3

5.5.22 The AIL Access Corridor is located to the east of the National Grid East Claydon Substation into Field SA55 and enters Field E10 in Parcel 3 from the other side of Claydon Brook. This corridor has been refined to reduce impact on trees and have minimal vegetation removal required, resulting in a reduction in the Order Limits within Fields SA55 and SA56. The AIL access to the Site located to the north of Parcel 3 would only be used for abnormal loads and would not be used for any other movements into Parcel 3 to avoid HGVs accessing the Site from the north, via Winslow (Principles 2.2 and 3.1).

5.5.23 Following feedback from the Phase Two Consultation, the Rosefield Substation is now proposed to be sited in Fields E11 and/or E20. This change in design (amongst others) was consulted on during the Targeted Consultation undertaken between 21 May and 16 July 2025. The removal of Field E23 as a potential siting zone for the Rosefield Substation would reduce the maximum possible length of the Grid Connection Cable Corridor between the Rosefield Substation and National Grid East Claydon Substation. Shorter distances have commercial and energy efficiency advantages and would also minimise environmental effects and temporary disruption associated with construction (Principles 2.2, 2.3, 3.1, 6.1, 6.2, 9.2 and 9.4). In addition, this also addresses feedback in relation to the operation of existing tenant farmers and views from Botolph Claydon and East Claydon (Principles 2.2, 3.2, 6.1 and 7.1).

5.5.24 In response to feedback received during the Phase Two Consultation, the BESS is no longer proposed in Field E23. This change was consulted on during a Targeted Consultation period between 21 May and 16 July 2025, and addresses feedback in relation to the operation of existing tenant farmers and views from Botolph Claydon and East Claydon (Principles 2.2, 3.2, 6.1 and 7.1).

5.5.25 The number of potential locations for the Main Collector Compound was reduced resulting in the removal of Field E23, as consulted on during the Targeted Consultation period between 21 May and 16 July 2025. Further refinement of the remaining fields under consideration for the Main Collector Compound in Parcel 3 has taken into account the landscape and visual effects and surface water flood risk so as not to encroach into areas of medium or high pluvial and/or fluvial flood risk along Claydon Brook (Principles 2.2, 3.2, 6.1 and 7.1).

5.5.26 Offsets from overhead lines were previously shown at Stage 2 Design. However, due to the uncertainty about their location, they have been removed. Offsets to overhead lines are to be taken into account at detailed design and these offsets will add to the green infrastructure opportunities (Principle 5.3).

5.5.27 The proposed planting and ecological mitigation and enhancement proposals evolved in response to formal feedback from the Phase Two Consultation and further engagement with consultees and local residents. The main changes to the landscape and ecological proposals within Parcel 3 are as follows:

- •Recreation of defunct ponds and restoration/enhancement of existing ponds.
- •Management of grassland within the Order Limits will be undertaken by a combination of sheep and cattle grazing.

Interconnecting Cable Corridors and Internal Access Corridors

5.5.28 The Interconnecting Cable Corridor and Internal Access Corridor between Parcel 1 and 2 has been refined further during the Stage 3 Design based on further environmental survey inputs (including ground level tree assessments for bat roost potential and tree surveys), Site visits and stakeholder feedback. The potential location to the south of Home Wood was discounted to reduce the proximity to Knowlhill Farm, Home Wood and Romer Wood, as well as avoid uneven topography.

5.5.29 Fields SA10, SA11, SA18-25, SA27-32, and SA34 have therefore been removed from the Order Limits as they are no longer required for cabling or access. Removal of these fields was preferable to reduce the environmental impact in the following ways:

- Crossing of Muxwell Brook would not be required, thus reducing any impacts to the watercourse and surrounding habitats.
- There would be fewer field boundaries (hedgerows) that would require crossing. Therefore, the proposed corridor reduces the length of hedgerow requiring removal and thus reducing risk on hedgerows, bat commuting and foraging corridors, bird nesting habitat, and black and brown hairstreak butterfly habitat.

5.5.30 The corridor between Parcels 1 and 1a, consisting of Fields SA1-8 and part of Field SA9, will provide access into Parcel 1a to undertake biodiversity and landscape mitigation and enhancement. As no Solar PV development is proposed here, cabling is not required within this corridor.

5.5.31 The Internal Access Corridor has been updated to incorporate the existing HS2 track which passes through Romer Wood. This will allow access into Parcel 1a without the requirement to create a new access track and therefore, reduce impact on surrounding habitats. The HS2 track will not require any work to be undertaken.

Access to the Site

5.5.32 Following further design and taking into consideration feedback, there are five proposed access points into the Site, as shown in the **Streets, Rights of Way and Access Plans [EN010158/APP/2.4]** (Principles 2.2 and 3.1). These are:

- The main access to Parcel 1, Parcel 1a and Parcel 2 would be via one single point of access located on Claydon Road to provide immediate access into Fields D7 and D8. The access location allows HGVs to access the Site via Snake Lane/Fidlers Field and the A41 to the south, avoiding the local settlements of Botolph Claydon, Calvert and Steeple Claydon, and would reduce traffic movements related to the Proposed Development on local roads, minimising local disruption and associated noise and air quality impacts.
- A second access is located on Quainton Road, to the north of Parcel 2 between/along Fields D44 and D45. This provides a connection between Parcels 1, 1a and 2 and Parcel 3 via Claydon Road and Granborough Road.
- The third access is from Granborough Road, providing access to Parcel 3 into Field SA46.
- The fourth and fifth access points would be provided in close proximity to one another on Three Points Lane to allow for east/west movements between Fields B23 (South) and SA12 to serve Parcels 1 and 1a.

5.6 Compliance with Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design

Integrated design approach

Consideration	Project Compliance
Explain how an integrated, holistic approach to the project's design will be achieved.	The Applicant has adopted an interdisciplinary approach to the design and EIA process guided by the design principles set out in Section 4 (Design Approach and Vision) of this DAD. This has included consideration of both the opportunities and constraints of the Proposed Development based on detailed analysis of the Site by a broad range of technical disciplines (as set out and assessed by **Chapters 6 – 16 of the Environmental Statement [EN010158/APP/6.2])**. This approach has enabled the Applicant to understand the complexities of the Site and identify where multiple opportunities and constraints have the potential to stack up with one another to provide a good design response and allow for coexistence and co-location with other terrestrial uses. For example, creating green infrastructure corridors that mitigate the visual impact of the scheme and also provide biodiversity and recreational benefits to the local environment; ensuring an appropriate interface with the HS2 mitigation works and the functions they are trying to achieve; and physical and visual interactions with the historic landscape and environment relating to Claydon House.

Integrated design approach

Consideration	Project Compliance
Where is it shown in the documentation? Is there a masterplan?	This **DAD** explains the Applicant's approach to achieving good design via the application of the design principles set out in **Section 4** (Design Approach and Vision). **Section 5** (Design Evolution) and **Section 6** (Proposed Design) demonstrate how these design principles have been used throughout the design process to guide decision making and embed good design outcomes to the Proposed Development. An illustrative masterplan of the Proposed Development is shown in Section 5 (Design Evolution) of this **DAD**. **Illustrative Layout Plans and Sections [EN010158/APP/2.6]** are also provided to demonstrate the anticipated design and layout of the Proposed Development but this is subject to the detailed design being undertaken once consent is granted pursuant to **Requirement 5** of the **draft DCO [EN010158/APP/3.1]**. In addition to this, the Applicant has submitted **Works Plans [EN010158/APP/2.3]** to demonstrate the relationship between the proposed location of the Proposed Development and the limits of deviation within which the development and works may be carried out.

Integrated design approach

Consideration	Project Compliance
How will this be secured?	If DCO consent is given, the design of the Proposed Development will be secured by the relevant 'documents and plans to be certified' within **Schedule 13** of the **draft DCO [EN010158/APP/3.1]**. They include: • **Works Plans [EN010158/APP/2.3]** to control spatial extents of the Proposed Development; • **Design Commitments [EN010158/APP/5.9]** to control elements of the detailed design such as size, type and colour; and scale and location. • Outline management plans such as the **Outline LEMP [EN010158/APP/7.6]**. • Adherence to the certified documents and plans will secure the intended outputs of the Proposed Development, secure good design outcomes, uphold the conclusions of the **Environmental Statement [EN010158/APP/6.1-6.4]**, and provide for flexibility.

People

Consideration	Project Compliance
What consultation has taken place with statutory and local authorities, communities and people with an interest in the land?	**The Consultation Report [EN010158/APP/5.1]** sets out how pre-application consultation (both statutory and non-statutory) was undertaken in the development of the Proposed Development. This included three main stages of consultation (Phase One Consultation, Phase Two Consultation and Targeted Consultation) between 2023 and 2025.

People - continued

Consideration	Project Compliance
What consultation has taken place with statutory and local authorities, communities and people with an interest in the land? Continued	**The Consultation Report [EN010158/APP/5.1]** also details the Applicant's continuous programme of engagement on the Proposed Development which took place in parallel with, and complementary to, its formal stages of pre application consultation. This included ongoing engagement with statutory consultees, host authorities, land interests and the local community.
How will their views be incorporated in the design evolution and where will this be set out?	The design of the Proposed Development has evolved over three distinct stages of design, as set out in **Section 5** (Design Evolution) of this **DAD**. At each stage of design, the Proposed Development was reviewed and refined to take account of consultation feedback, stakeholder engagement, technical assessment and advice, and the outcomes of the EIA. This includes the testing and refinement of the Project Principles which have been used to guide design related decision making throughout the evolution of the Proposed Development. The Applicant had regard to all responses received to consultation, with feedback resulting in a number of changes being made to the Proposed Development at each stage of design. These changes are summarised in the **Consultation Report [EN010158/APP/5.1]** and this **DAD**. If the DCO is consented, the **Outline LEMP [EN010158/APP/7.6]** commits the Applicant to consult with the Community Liaison Group (CLG) on relevant points of interest during the detailed design stage, prior to the submission and approval of the detailed design in accordance of **Requirement 7** of the **draft DCO [EN010158/APP/3.1].** This could include, for example, include the location and content of interpretation boards and waymarking signage.

Section 6

Proposed Design



6. Proposed Design

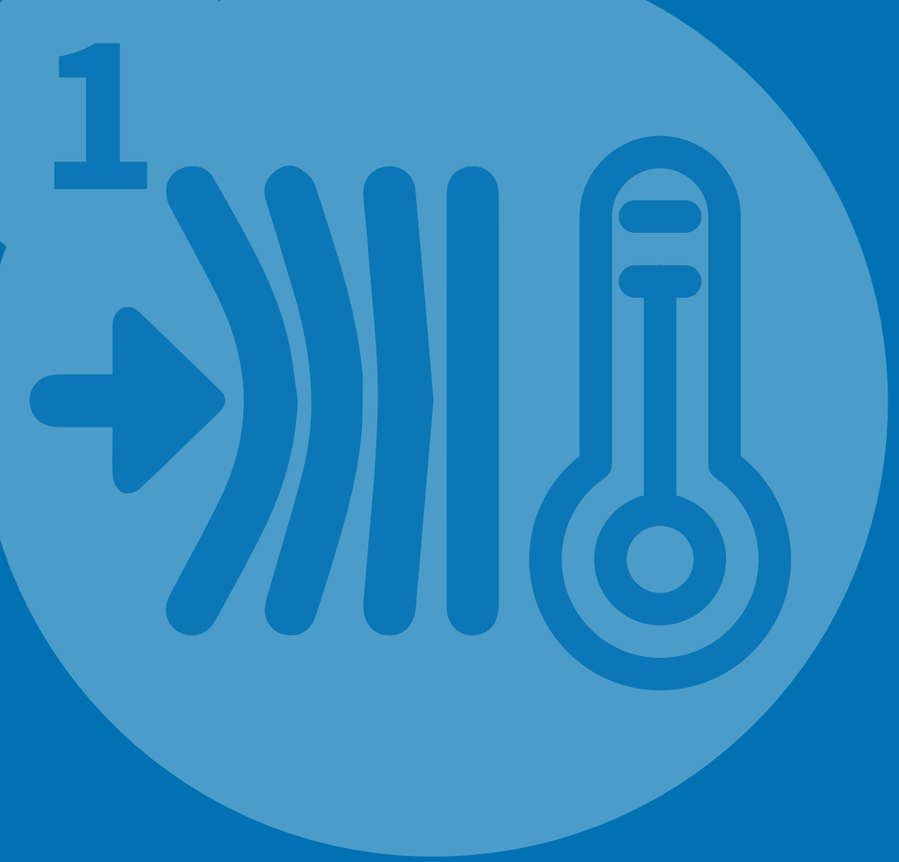
6.1 Introduction

6.1.1 This section summarises the operational design of the Proposed Development and demonstrates how it has responded to each of the Project Principles presented in Section 4 (Design Approach and Vision). The Proposed Development represents the culmination of the three stages of design outlined in Section 5 (Design Evolution), which have all been guided by the Project Principles.

6.1.2 Further information on the construction and decommissioning of the Proposed Development is provided in the **Outline Construction Environmental Management Plan [EN010158/APP/7.2]** and the **Outline Decommissioning Environmental Management Plan [EN010158/APP/7.4]** and is not covered in this document.

6.1.3 As described in **Section 4 (Design Approach and Vision)** and demonstrated in **Section 4 (Design Evolution)**, Project Principles have been used throughout the design process to guide decision making and embed good design outcomes to the Proposed Development. These outcomes will be secured in the detailed design of the Proposed Development, in accordance with the conclusions of the **Environmental Statement [EN010158/APP/6.1-6.4]**, via Control Documents contained within the **draft DCO [EN010158/APP/3.1]**. Should the DCO be granted, detailed design would need to be approved by the local planning authority in accordance with these Control Documents.

6.1.4 Field reference numbers are shown in **ES Volume 3, Figure 2.4: Field Numbering System [EN010158/APP/6.3]** which is included in **Appendix 1** for ease of reference.



Build resilience in a changing climate

6.2 Strategic Principle 1 - Build resilience in a changing climate

Project Principle 1.1

Design for resilience and adaptation to future climate change

6.2.1 One of the major risks posed to new developments regarding climate change is flood risk. The Applicant will locate potentially vulnerable infrastructure (i.e. Rosefield Substation, BESS, ITS, Independent Outdoor Equipment (transformer, switchgear and central inverters), Collector Compounds and Construction Compounds) in locations within Parcels 2 and 3 where flood risk is considered to be 'very low', with the parameters for these components designed to ensure development is excluded from Flood Zones 2 and 3 as well as areas of medium and high risk of surface water flooding. This infrastructure will be situated on raised platforms above ground level, to further minimise the residual flood risk. Further information on the extent of design measures implemented to minimise flood risk can be found in **ES Volume 4, Appendix 16.1: Flood Risk Assessment [EN010158/APP/6.4]**, as well as Project Principles 8.1 and 8.2.

6.2.2 Proposed planting will also be cognisant of future climate change and species that are drought tolerant and/or require relatively less watering will be favoured.



Design places that support and enhance local communities

6.3 Strategic Principle 2 - Design places that support and enhance local communities

Project Principle 2.1

Engage openly, transparently and meaningfully with stakeholders, taking their feedback into account and making use of local knowledge to improve the Proposed Development throughout the design process

6.3.1 The Applicant has engaged widely on the Proposed Development to ensure that landowners, the local community and stakeholders have been able to engage with the design of the Proposed Development. This has included formal consultation, site visits, and technical meetings with statutory consultees comprising (refer to **Figures 6.1 - 6.2**):

- Buckinghamshire Council;
- Relevant Parish Councils;
- Historic England;
- National Trust;
- Natural England;
- Environment Agency;
- National Highways;
- Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust; and
- Buckinghamshire Fire and Rescue.

6.3.2 Formal consultation included non-statutory, statutory and targeted phases of consultation to provide consultees with the opportunity to understand and share feedback on the emerging proposals. At each phase of consultation, the Applicant ensured that a range of engagement techniques were used, that materials were available in different formats and at appropriate levels and that the consultation was widely publicised. The Applicant has had regard to all responses received to consultation in finalising its proposals, with feedback from all phases of consultation resulting in changes to the design of the Proposed Development. These changes, along with details of the ways in which the Applicant has complied with legislation, guidance and advice notes on pre-application consultation are explained in the **Consultation Report [EN010158/APP/5.1]**.

6.3.3 In addition to the formal consultation process, the Applicant sought to work with landowners, tenant farmers and the local community to make use of local knowledge to improve the Proposed Development. For example, this included discussions with landowners and tenants to understand the relative productivity and accessibility of different areas of the Site, and any ongoing operational requirements associated with farming practices, which has informed the spatial layout of the Proposed Development e.g. the removal of the option for the Rosefield Substation, BESS and Main Collector Compound to be located in Field E23. Discussions with the local community related to considerations such as how the Proposed Development could improve the local PRoW network, where new routes would be most beneficial, how the Proposed Development could support community aspirations, routes to Site for construction traffic, residential amenity considerations and locations for mitigation planting.



Figure 6.1: Stakeholder engagement: public consultation



Figure 6.2: Stakeholder engagement: site visit

Project Principle 2.2

Consider the amenity of Botolph Claydon and individual homes and properties, allowing appropriate setbacks and buffers and planting proposals assessed on a case by case basis

6.3.4 The Applicant has developed the design of the Proposed Development to incorporate appropriate offsets to local settlements and dwellings which would be secured by the spatial extents shown on the **Works Plans [EN010158/APP/2.3].**

6.3.5 This has formed part of the iterative design and EIA process and is assessed in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2]** and **ES Volume 4, Appendix 10.5: Residential Visual Amenity Assessment [EN010158/APP/6.4]**.

6.3.6 **Figure 6.3** shows the proposed location for Solar PV development, Rosefield Substation and Main Collector Compound and BESS in relation to local villages and illustrates the offsets that have been incorporated to the design.

6.3.7 As a result of the offsets that have been incorporated into the Proposed Development, **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2]** confirms that the development would not impact the character of local villages (Botolph Claydon, East Claydon, Steeple Claydon, Granborough, Quainton and Calvert).

6.3.8 From the majority of Botolph Claydon, the Proposed Development would either be not visible or receptors would experience small scale effects. Other than this, a medium scale change to views would be experienced from a localised area of the village east of Botyl Road.

6.3.9 From Granborough, there would be visibility of Rosefield Substation and Main Collector Compound while Solar PV modules would be visible across Parcel 3 from a limited extent of the settlement, to the west of Sovereign Close. Otherwise, the settlement would only experience a small or negligible scale of change to visual amenity.

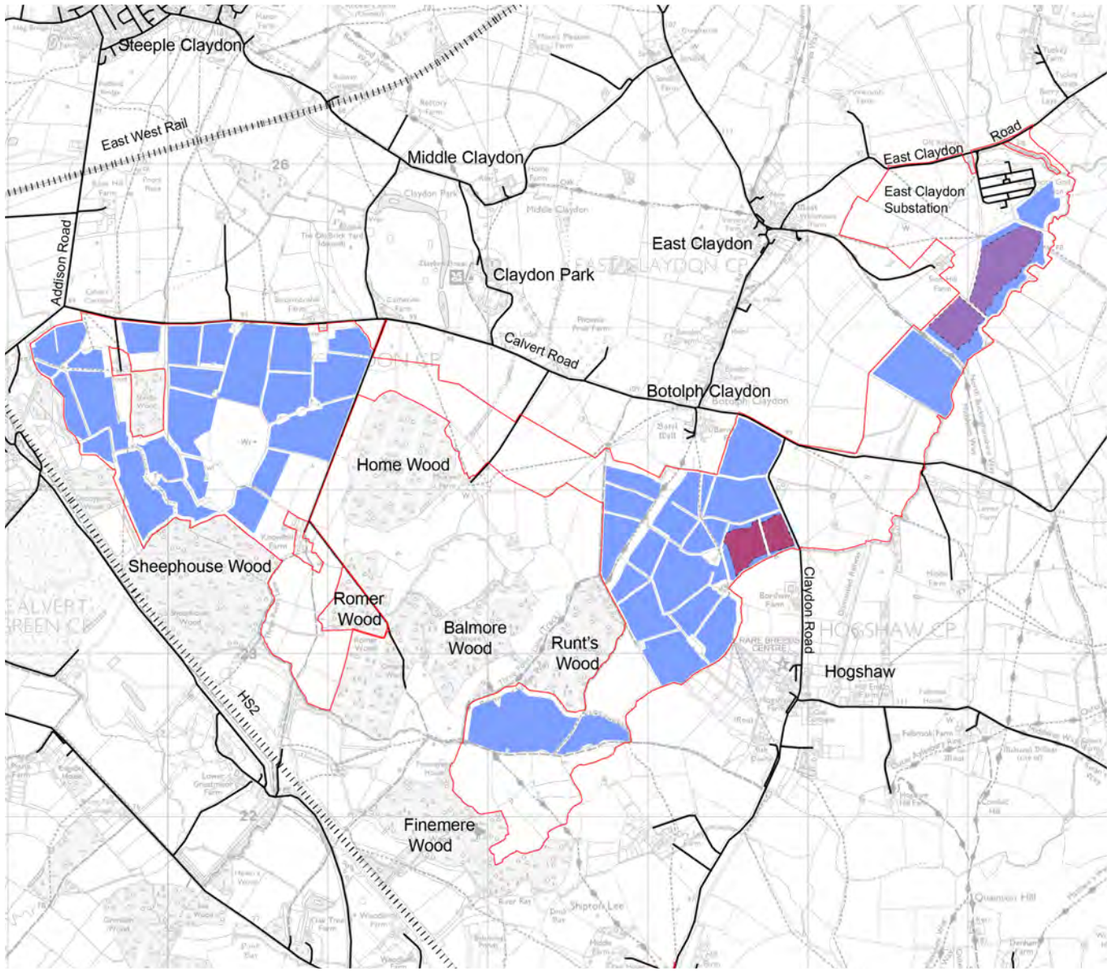


Figure 6.3: Proposed location for Solar PV development (blue), Rosefield Substation and Main Collector Compound (light pink) and BESS (dark pink)

6.3.10 East Claydon, Quainton and Calvert were scoped out of detailed assessment in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2]**. **ES Volume 4, Appendix 5.1: EIA Scoping Report [EN010158/APP/6.4]** indicated that the ZTVs show some distant visibility in some cases from the edges of these villages, but it is unlikely there would be any views of the Proposed Development from these settlements. Any glimpses would be distant, filtered and negligible.

6.3.11 Whilst a small number of residential properties would have some view of the Proposed Development, the design approach and mitigation measures proposed ensure the visual effects would not be overbearing at any dwelling.

Project Principle 2.3

Consider sequential views and the experience of people using the local network of Public Rights of Way and recreational routes, Calvert Road, Claydon Road and other local roads

6.3.12 The Applicant has developed the design of the Proposed Development to reduce visual impacts on users of the local road network. This has formed part of the iterative design and EIA process and includes provision of offsets and screening which would be secured by the spatial extents shown on the **Works Plans [EN010158/APP/2.3]** and **Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6]**.

6.3.13 Management to slowly increase the height of the existing hedgerows, to ensure the longevity of the hedgerows, particularly where elm is present, and gapping up of the hedgerows as required, would soften views of the Proposed Development from Calvert Road to the north of Parcel 1 and from Claydon Road to the north-east of Parcel 2.

6.3.14 Where an Interconnecting Cable Corridor or Grid Connection Cable Corridor crosses a hedgerow along Claydon Road, or visibility splays are required at new access junctions, and the hedgerow is removed, these would be reinstated post-construction as far as practicable. For visibility splays, this replacement planting would be located outside the visibility splay but as close to the original alignment as possible. These measures would be secured by the **Outline LEMP [EN010158/APP/7.6]**.

6.3.15 The Applicant has also developed the design of the Proposed Development to consider views and the experience of people using the local PRoW. This has formed part of the iterative design and EIA process and is assessed in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2]**. The proposed design response includes discounting Solar PV development from specific fields within the Order Limits to break up the amount of development along footpaths and to create green infrastructure corridors aligned to them. This is summarised as follows:

- In Parcel 1, existing PRoW would generally be diverted either around the perimeter of fields or through retained open spaces for the majority of routes. As a result, there are relatively few sections of PRoW where the Solar PV development would occupy land immediately adjacent to both sides of a footpath. Views from the PRoWs would therefore be of a mosaic of Solar PV development and open space/green infrastructure corridors.
- In Parcel 2, the Bernwood Jubilee Way would have a larger offset of 55m from the proposed Solar PV development to allow continued views over the Solar PV panels towards Quainton Hill and its landscape context. In addition, the diversion of PRoW ECL/7/2 to align the PRoW with the field boundary of Field D19 would ensure that parts of the route do not have Solar PV development immediately adjacent to both sides of a footpath.
- In Parcel 3, the Mid Shires Way and North Bucks Way would have a larger offset of 30m from the proposed Solar PV development to allow greater separation from the Proposed Development. In addition, the diversion of PRoW ECL/4/2 to align the PRoW with the field boundaries of Fields E10 and E11 provides greater separation from Rosefield Substation.

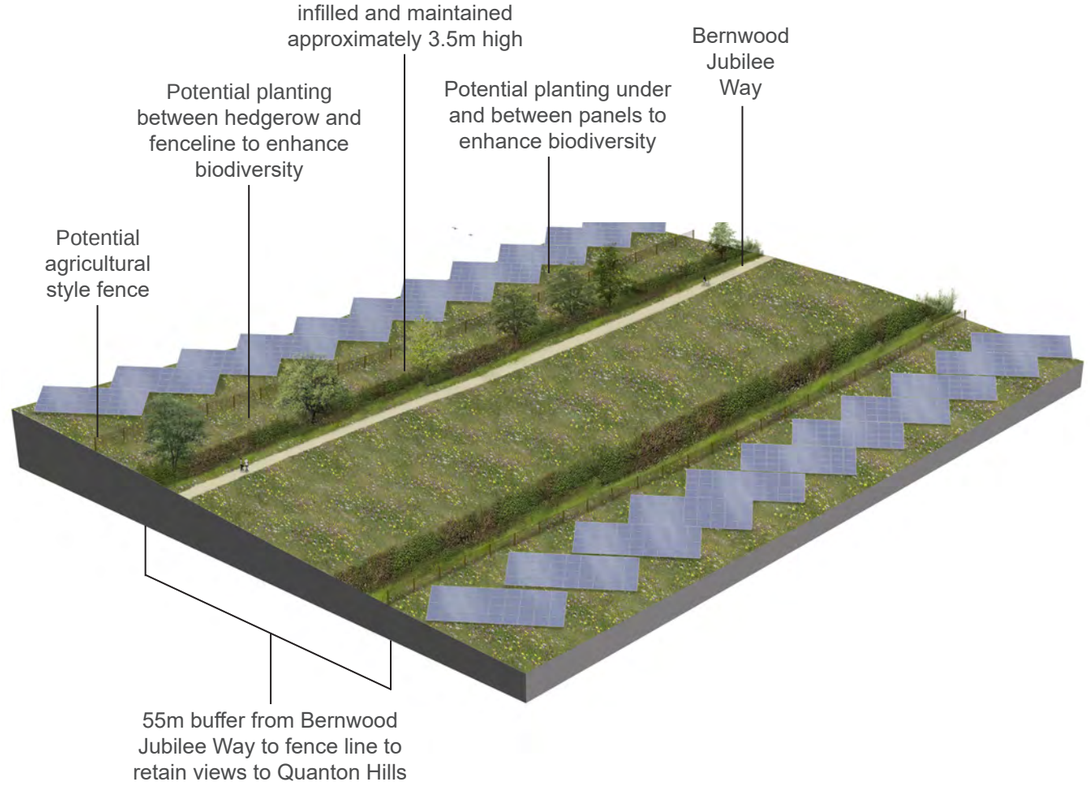


Figure 6.4: Illustration of proposed green corridor along Bernwood Jubilee Way

- Where Solar PV development is proposed adjacent to footpaths, perimeter fencing will be offset at least 10m from either side of existing PRoW as secured by the **Design Commitments [EN010158/APP/5.9]**. Larger offsets would also be provided to PRoWs that coincide with the Bernwood Jubilee Way, Mid Shires Way and North Bucks Way. These offsets would provide corridors of open space along the existing footpaths to create variation and interest for users (refer to **Figures 6.4 to 6.5**).

6.3.16 As a result of the mitigation measures summarised above the level of visual change for PRoW users will be reduced. Whilst there will be some permanent closures of PRoW, this will all be replaced by diverted routes and this will ensure that PRoWs can continue to be used largely as they are pre-development of the Site.

6.3.17 Further information on how the design of the Proposed Development would respond to existing PRoW is provided in Project Principles 9.2 and 9.4.

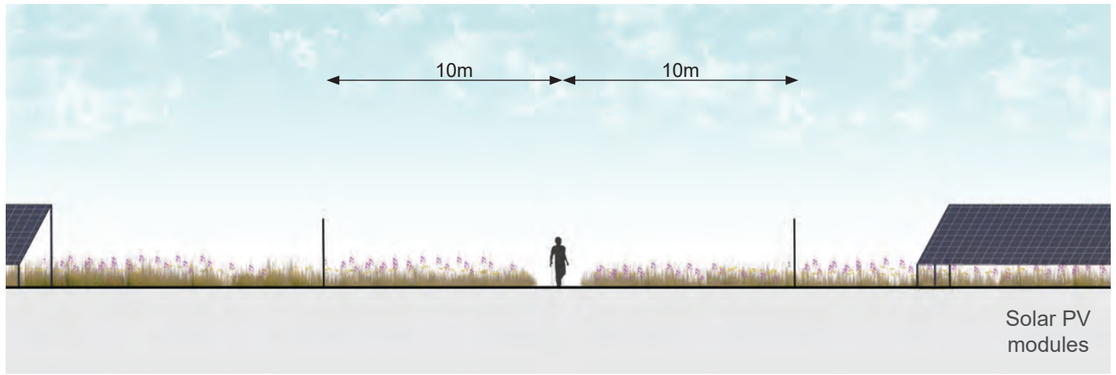


Figure 6.5: Typical section showing 10m offset from PRoW to perimeter fencing of Solar PV development

Project Principle 2.4

Work with the Claydon Estate to secure the long-term management of both the agricultural landscape and mitigation/enhancements provided by the scheme

6.3.18 The Applicant has developed the design of the Proposed Development in collaboration with the landowner to secure the long-term management of the agricultural landscape and benefits provided by the Proposed Development.

6.3.19 The proposed location of new footpaths and structural planting has been informed by discussions with the landowner. In both cases, the Applicant has sought to locate footpaths and planting at the edges of existing agricultural fields to reduce potential impacts on farming activities as shown in **Appendix 1: Green and Blue Infrastructure Parameters and Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6].**

6.3.20 6.3.20. During the operation of the Proposed Development, the landscape within the Order Limits will be managed in accordance with the **Outline LEMP [EN010158/APP/7.6]**.

Project Principle 2.5

Identify opportunities for wider community benefits in consultation with local stakeholders

6.3.21 The Applicant is committed to providing benefits to the local community that respond to the policies in NPS EN-1 and NPS EN-3 in relation to green and blue infrastructure, permissive paths, bridleway links and retention and enhancement of PRoW. These benefits have been identified through consultation and include proposed enhancements and improvements to the local footpath network (refer to Project Principles 2.3, 9.2 and 9.4). These would include the provision of 1.3km of new permissive paths and 0.9km of new bridleway link for the duration of the operational (including maintenance) phase.

6.3.22 Full consideration of the benefits of the Proposed Development is provided in the **Planning Statement [EN010158/APP/5.7].**



Ensure responsible construction, ongoing maintenance and decommissioning

6.4 Strategic Principle 3 - Ensure responsible construction, ongoing maintenance and decommissioning

Project Principle 3.1

Access for construction works will be located to limit disruption to the local community, including avoiding construction traffic passing through surrounding villages such as Botolph Claydon, East Claydon, Steeple Claydon, Granborough, Quainton and Calvert

6.4.1 The Applicant is committed to limiting disruption to the local community. All construction traffic, with the sole exception of AILs is proposed to approach the Site from the A41, located to the south of the Proposed Development. Deliveries for construction materials will be made by Heavy Goods Vehicle (HGV) and Light Goods Vehicles (LGV). Access from the A41 will be taken from South Station Road/Dews Way, Snake Lane/Fidlers Field and Claydon Road (see **Figure 6.6).**

6.4.2 It is expected that AIL traffic associated with the transport of up to 14 inbound vehicle movements for the Transformer components will commence from the M1 corridor and will proceed to the Site via Milton Keynes, Buckingham and Winslow.

6.4.3 These measures are secured by the **Outline Construction Traffic Management Plan (CTMP) [EN010158/APP/7.5]**.

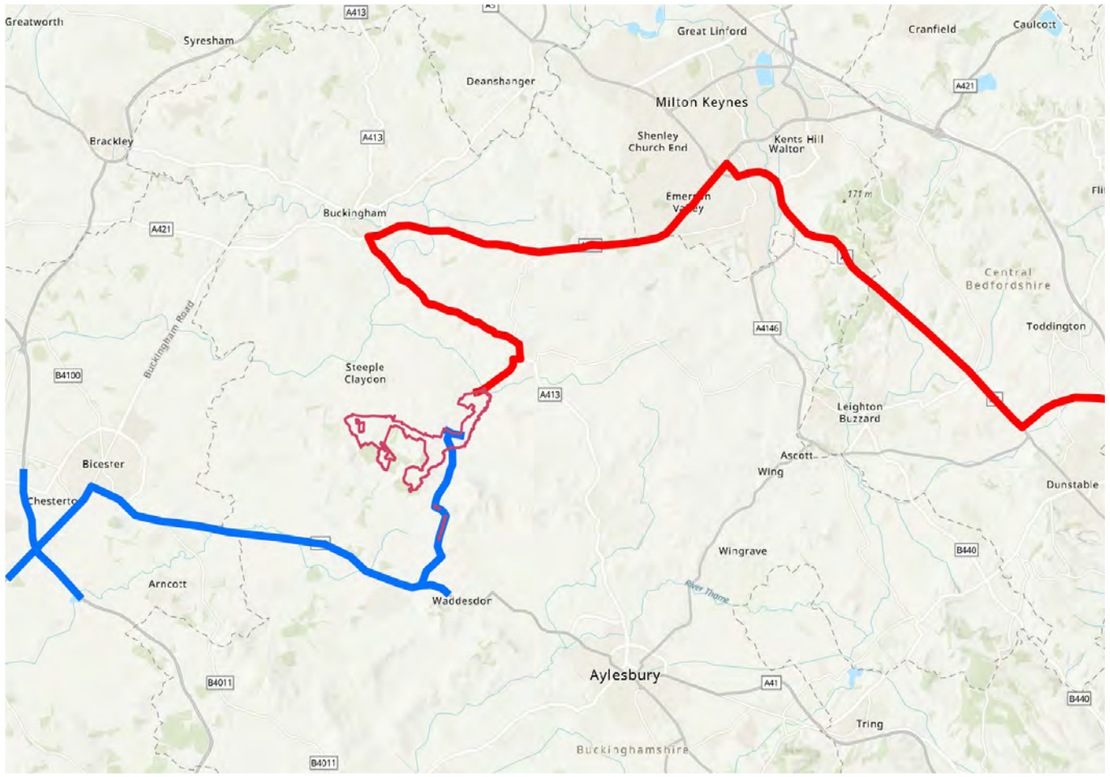


Figure 6.6 Construction Access







Figure 6.7: Precedent images showing construction of a solar farm

Project Principle 3.2

Behave as a considerate neighbour through construction, operation and decommissioning

6.4.4 Measures which ensure this principle is appropriately implemented are included and secured in the **Outline Construction Environmental Management Plan (CEMP) [EN010158/APP/7.2]**, **Outline Decommissioning Environmental Management Plan (DEMP) [EN010158/APP/7.4], Outline Operational Environmental Management Plan (OEMP) [EN010158/APP/7.3], and Outline CTMP [EN010158/APP/7.5]** which support the DCO Application.

6.4.5 Examples of these measures include:

- Outline CEMP, Outline OEMP and Outline DEMP
  - Control of light to prevent or reduce the impact on human and ecological receptors
  - Control of noise to comply with noise thresholds presented in **ES Volume 1, Chapter 13: Noise and Vibration [EN010158/APP/6.1]**.
  - Parking provisions to ensure a dedicated construction car park would be located within and/or adjacent to each Primary Construction Compound with some parking, where required, at Secondary Construction Compounds. During operation parking for vehicles will be available for use by workers adjacent to the Main Collector Compound.
  - Establishment of the CLG to facilitate liaison between representatives of people living in the vicinity of the Order Limits and other relevant organisations in relation to the construction of the Proposed Development.
- Outline CTMP
  - Control of the construction traffic routes to the Proposed Development, avoiding traffic passing through villages.
  - Control of the AIL route to follow the National Highways High and Heavy Load route from Winslow.
  - Identification of barred routes, naming settlements through which HGV traffic will not be allowed to travel.

Project Principle 3.3

Provide clear lines of communication between the developer and the local community

6.4.6 Pre-application consultation and engagement with the local community have been key features of the design of the Proposed Development as summarised in the **Consultation Report [EN010158/APP/5.1].** This has included two phases of formal consultation and a Targeted Consultation on changes to the proposed layout of the BESS and location of Rosefield Substation and Main Collector Compound, alongside a continuous programme of stakeholder and community engagement.

6.4.7 Should the Application be granted consent, a CLG would be established prior to construction on the main site commencing, and last through the construction phase of the Proposed Development. This would provide a forum for discussion throughout the construction period, supplemented by a dedicated Community Liaison Officer to act as a point of contact should there be any queries outside of the forum. This is secured by the **Outline CEMP [EN010158/APP/7.2]** and through **Requirement 5** of the **draft DCO [EN010158/APP/3.1].**

6.4.8 While the CLG would not be in place during operation, updates would be given to the local community and stakeholders at key milestones to maintain an on-going relationship over the entire lifetime of the Proposed Development. There would also be contact details onsite and online for members of the community and stakeholders to contact the asset operations team.

Project Principle 3.4

Prioritise sustainable resource management and techniques and minimise carbon emissions throughout the lifecycle of the Proposed Development, applying the highest possible levels of transparency and sustainability throughout the supply chain

6.4.9 The summary of **ES Volume 2, Chapter 8: Climate [EN010158/APP/6.2]** indicates that the predicted lifecycle emissions associated with the Proposed Development, not accounting for any greenhouse gas (GHG) savings, is 1,191,562 tCO2e. Taking into account GHG savings results in a net total of 3 million tCO2e saved over the lifespan of the Proposed Development when compared to Combined Cycle Gas Turbine-generated electricity.

6.4.10 6.4.10. Measures which ensure this principle is appropriately implemented can be found throughout multiple additional documents submitted in support of the DCO Application, including the **Outline CEMP [EN010158/APP/7.2], Outline DEMP [EN010158/APP/7.4], Outline OEMP [EN010158/APP/7.3], and Outline Employment, Skills and Supply Chain Plan [EN010158/APP/7.14].** Likewise, some of the other principles stated in this document indirectly contribute to this principle, such as Project Principle 7.7.

6.4.11 The minimisation of carbon emissions throughout the project lifecycle will also be achieved through adherence to best practice guidelines in-place throughout the lifespan of the Proposed Development for all applicable aspects of construction (including maintenance and replacement), operation, and decommissioning. This includes:

- Implementing measures to decrease fuel use by maximising energy efficiencies, for example to ensure all vehicles switch off engines when stationary and ensure construction vehicles are well maintained and conform to current emissions standards.
- Promoting the use of sustainable fuels in construction vehicles, and where possible making use of electric vehicles to reduce fuel consumption.
- Liaising with construction staff to minimise GHG emissions associated with their commute to the Site, including provision of staff minibuses, and promoting lower carbon modes of travel such as car sharing options and use of public transport.
- Using locally sourced and/or produced materials. The use of recycled aggregates, where appropriate, for foundations, sub-bases, hard-standings and pavement materials.
- Actions to meet the waste hierarchy in accordance with the principles of the Government's Resources and waste strategy for England 2018 **[Ref. 6.1]**. Promoting the recycling of materials by segregating construction waste to be re used and recycled where practical.
- Supporting suppliers to produce a Carbon Management Plan to meet carbon reduction objectives.

Project Principle 3.5

Opposing the abuse of human rights and forced labour anywhere in the global supply chain and ensuring compliance of all suppliers with the Modern Slavery Act

6.4.12 As set out in the **Outline Employment, Skills and Supply Chain Plan [EN010158/APP/7.14]**, the Applicant is committed to working to ensure sustainable, ethical practice across supply chains, and will not tolerate fraud, corruption or abuse of human rights.

6.4.13 The Applicant recognises that modern slavery and human trafficking are growing global concerns and consistently strives to ensure that its own operations, and those of the supply chains, are appropriately evaluating the risks of modern slavery and human trafficking.

6.4.14 The Applicant recognises the increased risk of Modern Slavery in the solar energy supply chain, particularly due to the complexities associated with the manufacture of solar PV panels. These risks are taken seriously and a rigorous approach is applied to ensure that all supply chain partners align with the Applicant's values and legal obligations, including compliance with the Modern Slavery Act 2015 **[Ref. 6.2]**.



Improve economic resilience through education and by boosting the UK supply chain

6.5 Strategic Principle 4 - Improve economic resilience through education and by boosting the UK supply chain

Project Principle 4.1

Foster innovation and extend supply chain to leave a lasting legacy value for Buckinghamshire and the UK

6.5.1 The Applicant has an established record of adding legacy value through supply chains and has committed to promoting the delivery of economic benefits generated by the Proposed Development to residents and business. This includes opening up opportunities for enhanced business growth and productivity through winning contracts on the Proposed Development and catalysing increased capabilities and specialisms in green construction and manufacturing across Buckinghamshire. This is set out within the **Outline Employment, Skills and Supply Chain Plan [EN010158/APP/7.14].**

6.5.2 Tier 1 contractors would define supply chain needs right across the work phases. The Applicant and its contractors would then participate in awareness raising, market warming events for businesses both within the area local to the Site and right across Buckinghamshire regarding opportunities to engage with work on-site.

6.5.3 This would include offering opportunities for businesses providing relevant goods and services to register an interest in tendering for work; market warming events to provide businesses with information on required supplier capacity and capability requirements; and the creation of practical processes to connect Tier 1 contractors and potential local suppliers.

6.5.4 The Applicant would work with the Buckinghamshire New University and University of Buckingham to promote technical knowledge transfer and encourage innovation regarding solar and other renewable energy development and storage.

6.5.5 If DCO consent is granted, the Outline Employment, Skills and Supply Chain Plan would be developed into a final Employment, Skills and Supply Chain Plan to be approved by the relevant planning authority. This is secured through **Requirement 15** of the **draft DCO [EN010158/APP/3.1].**

Project Principle 4.2

Provide education and interpretation of the Proposed Development and the historic and biodiversity features of the Site

6.5.6 The Proposed Development would be designed to provide education and interpretation of the solar farm site as set out within the **Outline LEMP [EN010158/APP/7.6].**

6.5.7 Opportunities for the local community to engage with and learn about the natural environment will be provided. This will include the provision of informal, low-key interpretation boards at appropriate, strategic points across the Order Limits that would allow the local community to learn and engage with nature. Information will also be provided on the solar farm, climate change, local history and ecology and the benefits of renewable energy. This would be agreed in consultation with the CLG.

6.5.8 The Applicant would create opportunities for residents to access employment, upskilling and re-skilling opportunities. The opportunities would be led by the workforce needs of the Proposed Development, but could include work experience placements, entry level jobs, joint apprenticeship schemes and higher-level job opportunities. This is set out within the **Outline Employment, Skills and Supply Chain Plan [EN010158/APP/7.14].**

6.5.9 The Applicant would also harness the motivational potential of the Proposed Development to inspire the next generation of talent to confidently invest their careers and futures in Buckinghamshire, by raising awareness of potential opportunities in solar and other renewable industries within the region.



Increase biodiversity appropriate to the landscape character and connect nature

6.6 Strategic Principle 5 - Increase biodiversity appropriate to the landscape character and connect nature

Project Principle 5.1

Retain, wherever reasonably possible, existing landscape features such as hedgerows, trees, woodlands, ditches, ponds and watercourses with appropriate buffers from the Proposed Development

6.6.1 The Applicant is committed to the retention of existing vegetation within the Order Limits wherever reasonably possible, to retain the fabric of the site and aid assimilation of development into its context. This includes the retention of the individual trees throughout the Site.

6.6.2 Existing vegetation will be protected by the provision of minimum offsets derived from a combination of guidance, good practice, precedence set by other NSIP solar schemes and professional judgement from technical specialists of the project team. They include a minimum 20m offset from existing woodland, increased to 30m for ancient woodland and statutorily and locally designated wildlife sites, a minimum 10m offset from existing hedgerows, Main Rivers and ditches, and ponds to perimeter fencing surrounding the Solar PV development. Some exceptions for hedgerows and ditches are provided where access tracks and/or cable route crossings are required. However, these would be kept to a minimum and reinstated/restored as close to the existing alignment as practicable. The offsets will be secured by the **Design Commitments [EN010158/APP/5.9]** and the spatial extents shown on the **Works Plans [EN010158/APP/2.3]**.

Project Principle 5.2

Manage existing habitats identified through habitat surveys to increase their value for wildlife

6.6.3 During the operation of the Proposed Development, existing vegetation within the Order Limits will be managed and maintained in accordance with the **Outline LEMP [EN010158/APP/7.6]**. This includes repairing and/or improving existing hedgerows adjoining a siting zone for Solar PV development, Satellite Collector Compound, BESS or Rosefield Substation to infill gaps. These hedgerows would be allowed to grow out more fully and would be managed for visual screening and biodiversity benefits.

6.6.4 Project Principles 5.3 and 5.6 relate to the creation of new habitats, which may in some cases also incorporate aspects of managing existing habitats to increase their biodiversity value.

Project Principle 5.3

Create new habitats to support key species such as Bechstein's bats and black hairstreak butterfly

6.6.5 The Applicant has developed the design of the Proposed Development to create a mosaic of habitats to support bats, ground nesting birds, butterflies and other key species. This will include the creation of over 80ha of open grassland mitigation area for ground nesting birds and bats to increase species diversity, with potential for grazing by sheep or cattle, spread across Parcels 1, 1a and 2 at strategic locations, as shown in **Figure 6.8,** to maximise biodiversity benefit. This is designed to provide open nesting habitat for ground nesting birds to compensate for habitat lost due to placement of Solar PV modules, improve habitat and carrying capacity for ground nesting birds, and increase insect diversity to benefit other nesting birds and foraging bats. The creation of other types of new grassland would be spread across the Proposed Development at strategic locations. The types of grassland habitat would vary to reflect the local landscape character and soil types.

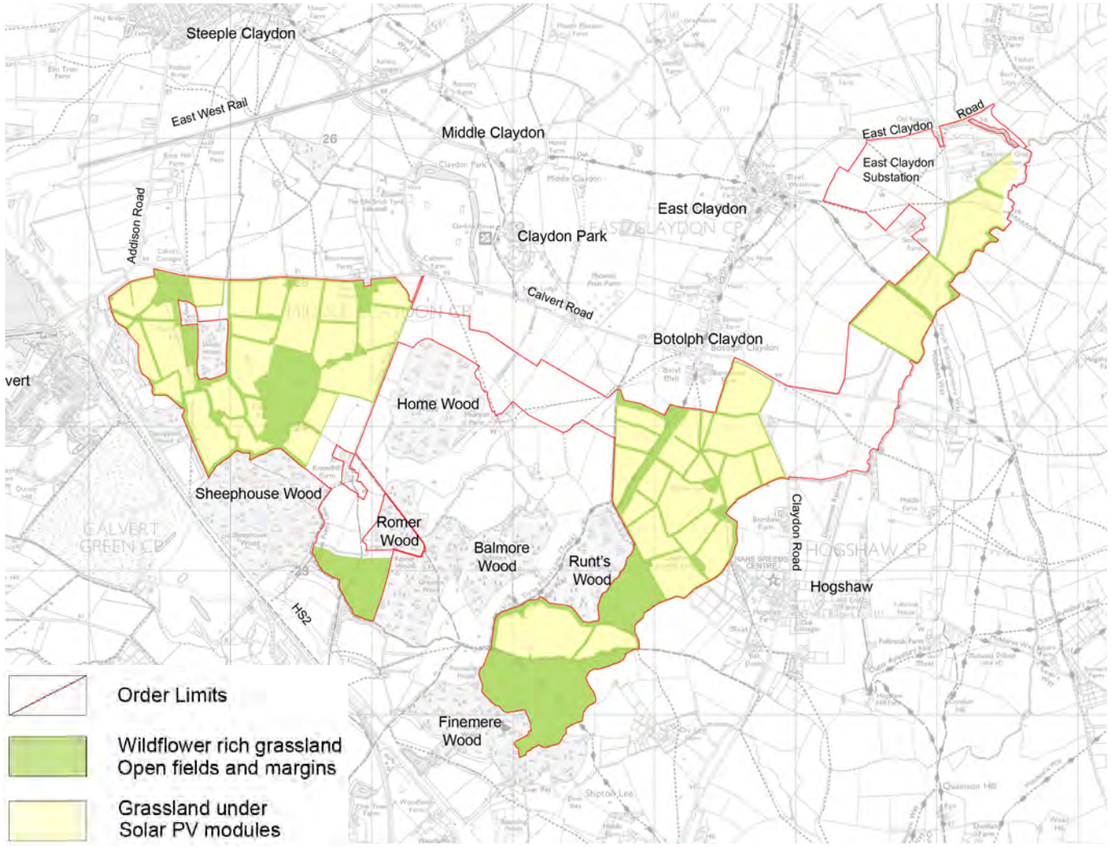


Figure 6.8 Location of proposed grassland habitats

6.6.6 Elsewhere throughout the Site, a minimum 10m offset would be provided from all existing hedgerows (with the exception of where access tracks and/or cable routes are required to cross an existing feature). This is based on published guidance and is secured by the **Design Commitments [EN010158/APP/5.9]** and the spatial extents set out by the **Works Plans [Ref EN010158/APP/2.3].** The offsets will consist of a mosaic of species-rich grassland and scrub, which will provide wildlife corridors throughout the Proposed Development, improving connectivity across the Site to the wider landscape. This would include the creation of new grassland and scrub margins, tree belts and hedgerows. They would provide a variety of biodiversity benefits including: new habitat for invertebrates (including black hairstreak and brown hairstreak butterfly), reptiles, amphibians, small mammals and birds; vegetated cover for foraging and dispersal, to maintain bat commuting corridors across the landscape, and provide a winter seed source for birds.

6.6.7 Management of woodland, hedgerows and scrub habitat that contain Blackthorn will be undertaken in such a manner to ensure maintenance works do not damage or destroy Blackthorn that could support black or brown hairstreak eggs.

6.6.8 Impacts of the Proposed Development on birds is assessed in **ES Volume 2, Chapter 7: Biodiversity [EN010158/APP/6.2]** which concludes that there is anticipated to be an overall significant beneficial effect due to enhancement of farmland bird nesting habitat and foraging habitat as detailed in and secured by the **Outline LEMP [EN010158/APP/7.6].**

6.6.9 In addition to the retention of existing vegetation, the Proposed Development includes extensive proposals for new planting as shown by the **Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6]** and illustrated on Figure 6.10. This would include approximately 4335m of new hedgerow planting and 8.8ha of new tree belts which would exceed the amount of existing vegetation removed during construction.

6.6.10 The Applicant is committed to undertaking 'early' planting as part of the Proposed Development. Early planting refers to planting that can take place following DCO consent (if it is granted) and before construction is started as far as reasonably practicable. This is referred to as early planting because it would be implemented earlier than the 'worst case' scenario assessed within the Environmental Statement which assumes new planting would be implemented after construction. A phasing strategy for new planting would be developed at the detailed design stage of the project within the detailed LEMP(s). This would identify priority areas for early planting identified through engagement with the CLG, Buckinghamshire Council, the Environment Agency and Natural England, to be implemented based on areas that would have most benefit in reducing the short-term impacts of the Proposed Development.

Project Principle 5.4

Respect and where possible create and enhance habitats adjacent to the mitigation works undertaken in relation to HS2

6.6.11 The applicant is aware of the HS2 mitigation planting that has been undertaken to the south and west of Parcel 1, including along the northern boundary of Parcel 1a. Perimeter fencing surrounding the Solar PV development will be offset at least 20m from all HS2 planting. This is in line with all other woodland that is neither ancient or covered by an ecological designation, given that the purpose of the planting is to establish woodland to screen HS2 and to provide ecological habitat for bats in particular. The offsets are secured by the **Design Commitments [EN010158/APP/5.9]** and the spatial extents shown on the **Works Plans [EN010158/APP/2.3].**

6.6.12 The landscape and ecological proposals for Parcel 1a have been designed to complement the mitigation works undertaken in the vicinity of the Parcel, enhancing the connectivity between Sheephouse Wood and Romer Wood. These measures would be secured by the **Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6].**

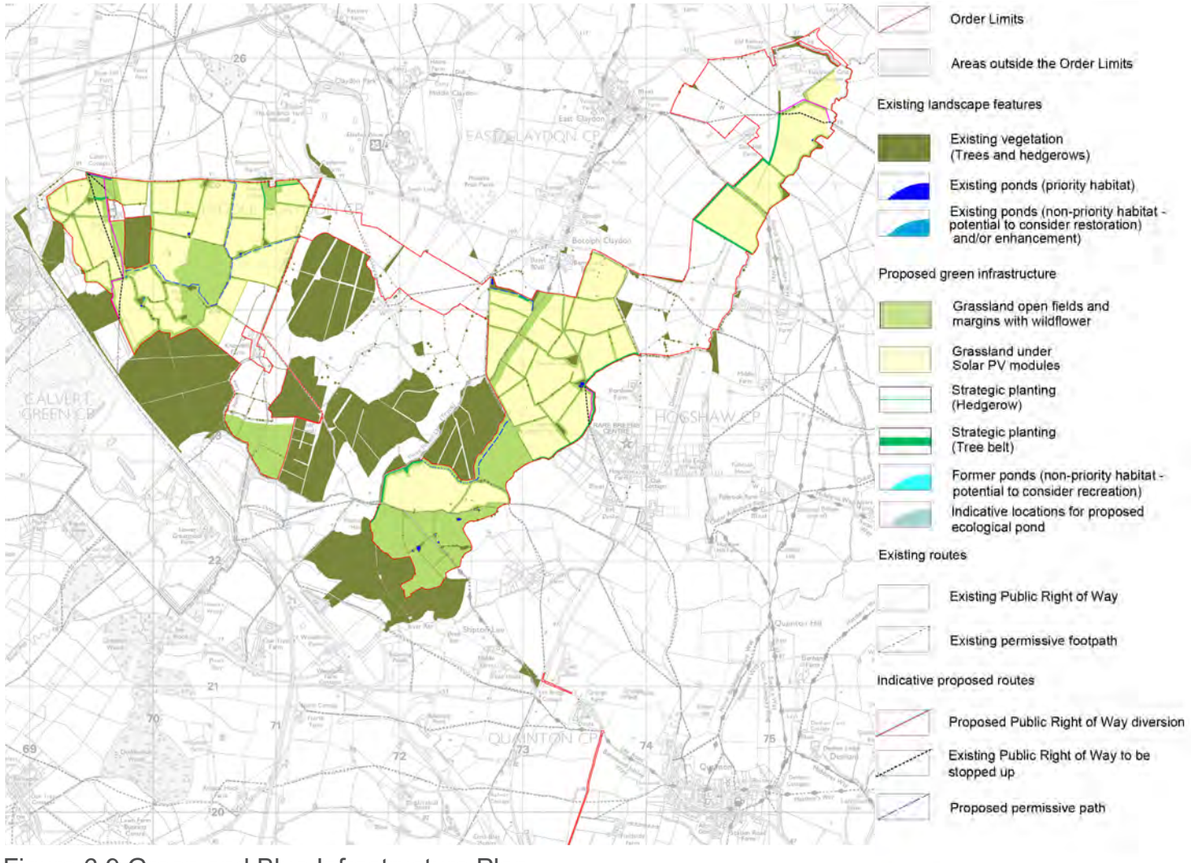


Figure 6.9 Green and Blue Infrastructure Plan

Project Principle 5.5

Use locally native species wherever possible to create new habitats, increase the number of pollinator species and create food sources for birds during winter months

6.6.13 The Applicant is committed to using locally native species to create new habitats, increase the number of pollinator species and create food sources for wildlife. This is set out within the **Outline LEMP [EN010158/APP/7.6]** together with details of the general approach to planting to be approved at detailed design.

6.6.14 Species mixes would replicate as far as practicable the makeup and pattern of planting typologies found within the local environment and with consideration of future climate change. They would consist of native and indigenous species with preference given to plant species of local provenance wherever possible. Mixes would include species which maximise biodiversity and provide habitat for wildlife guided by local requirements and objectives, and the landowner's knowledge and experience of creating similar habitats in the local area and advice from local organisations such as the Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust and the Butterfly Conservation Trust where practicable. A proportion of field margins will be sown with a suitable seed mix to provide winter food source for farmland birds and will incorporate areas of spring and autumn cultivation to enable continued growth of a number of scarce plants that require open conditions.

6.6.15 Tree belts will be a combination of native broadleaf and coniferous species and include bushier smaller species such as hazel, hawthorn and blackthorn to provide structure and screening at lower levels.

6.6.16 Hedgerows will comprise a native mix of scrubby species such as hawthorn, blackthorn and hazel, interspersed with taller tree species such as field maple and oak which will mature to become large hedgerow trees. The location of new structure planting is shown in **Figure 6.9** and would be secured by the **Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6].**

Project Principle 5.6

Use land under and between solar panels to improve soil health and deliver biodiversity benefit for pollinators and farmland birds

6.6.17 The Applicant has developed the design of the Proposed Development to use land under and between Solar PV modules to deliver biodiversity benefit for pollinators and farmland birds. This is set out within the **Outline LEMP [EN010158/APP/7.6]** and will include the creation of legume (clovers, vetches etc.) rich modified grassland and species-rich neutral grassland under and between panels to increase floristic diversity and consequently increase invertebrate diversity and abundance (refer **to Figure 6.10**). An increase in invertebrate diversity and abundance will provide a foraging source for birds and bats.

Project Principle 5.7

Deliver a substantial Biodiversity Net Gain beyond the minimum of 10%

6.6.18 The combination of measures detailed in the **Outline LEMP [EN010158/APP/7.6]** results in the Proposed Development delivering a Biodiversity Net Gain of 40% for Habitats, 17% for Hedgerows and 10% for Watercourses at this stage of the design. This has been assessed through the **ES Volume 4, Appendix 7.17: Biodiversity Net Gain Assessment [EN010158/APP/6.4]** and is based on the Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Metric **[Ref. 6.3]**. Updates to the BNG calculation will be undertaken as part of the detailed design and LEMP(s) to ensure a minimum of 10% BNG is delivered.

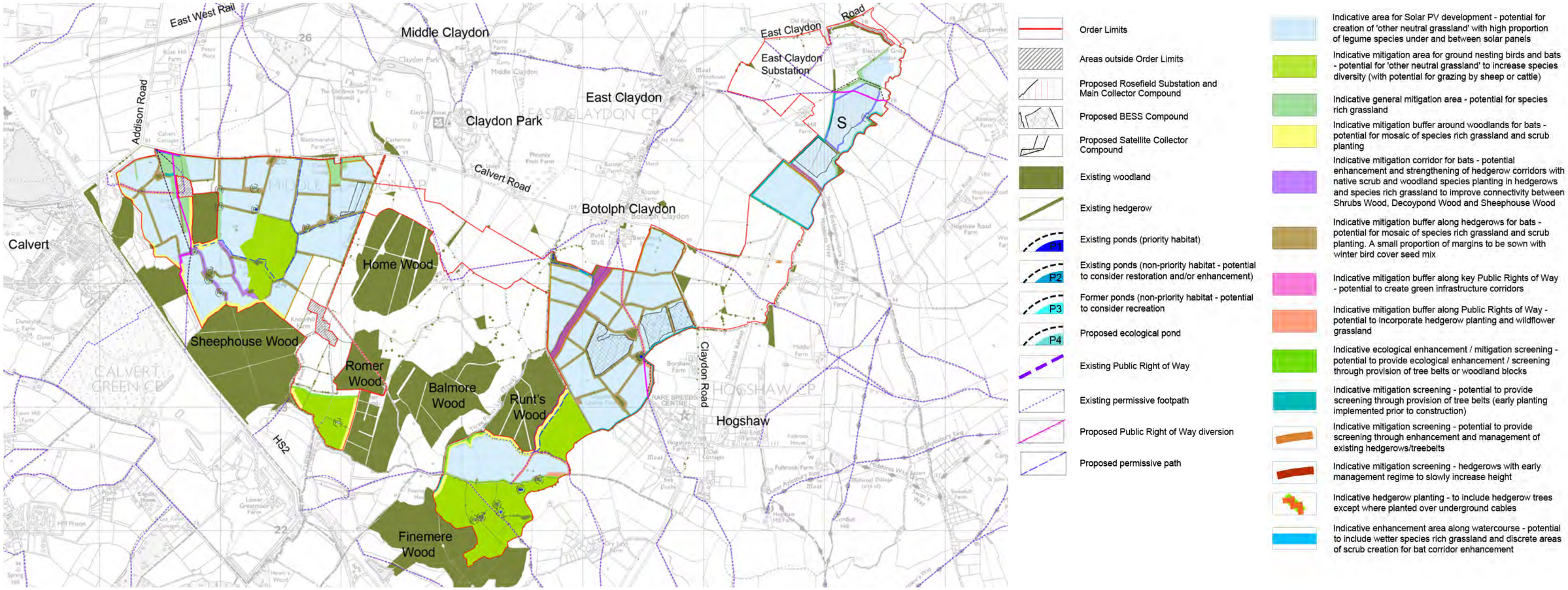


Figure 6.10 Landscape and Ecological Mitigation and Enhancements Plan

6

Lead with the landscape

6.7 Strategic Principle 6 - Lead with the landscape

Project Principle 6.1

Ensure proposals fit with the natural environment and draw from existing characteristics, informed by relevant local studies such as the Aylesbury Vale Landscape Character Assessment

6.7.1 The Applicant has developed the design of the Proposed Development to respond to the distinctive and unique local character of the Site. This has formed part of the iterative design and EIA process and is assessed in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2]**. A summary of how the design of the Proposed Development responds to the local character of the Site is provided as follows.

6.7.2 The Rosefield Substation will be located in Parcel 3, adjacent to the existing National Grid East Claydon Substation and in an area already influenced by electricity infrastructure such as pylons and overhead lines. This area of the Site also has a flatter landform, meaning that cut and fill to create the platform for the Rosefield Substation would be minimised. There is also a pattern of linear tree belts, such as along the disused railway line that runs along the western edge of National Grid East Claydon Substation, within this area and therefore any similar planting within Parcel 3 would not be uncharacteristic.

6.7.3 The BESS compound would be located within a lower lying area of Parcel 2, which would also reduce the amount of cut and fill required. It will also mean that the BESS units would be seen with a backdrop of the landform, rather than appearing on the skyline. Hedgerow trees are also a feature of the field boundaries in the vicinity of the proposed BESS Compound and would provide a degree of filtering in views towards the BESS Compound.

6.7.4 In Parcels 1 and 2, the Proposed Development will respond to undulations in topography where they form notable features in the landscape. This includes ensuring that Knowl Hill in Parcel 1 (Field B17 and parts of Fields B9 and B11) remains free of Solar PV development, given its prominence in views from Claydon House and the local area. The more visually prominent slopes in views from Quainton Hill (Field D27 and D30-37), within the AAL, will also be kept free of Solar PV development to reduce visibility from the higher ground to the south east.

6.7.5 In all Parcels, the mass of Solar PV development would be frequently broken up by breaks in Solar PV development, areas of mitigation and wide grass strips. This would help maintain a connection with the rural context of the landscape, combining agrarian characteristics with those of a solar farm. As a result, the Solar PV development would not be oppressive or overbearing within the landscape. In addition, within Parcel 2, offsets along the Bernwood Jubilee Way would allow views towards Quainton Hill to be retained (see Project Principle 9.4.)

6.7.6 New planting, in the form of tree belts and hedgerows, would help to screen the proposed built development and integrate it to the surrounding landscape, whilst also providing habitat for biodiversity receptors. Planting would be designed to complement the existing vegetation mix, structure and pattern of the landscape. For example, in the north of Parcel 1, new tree belts would be rectilinear in form to respond to the 'designed' character of areas in the context of Claydon House (refer to **Figure 6.11**). In Parcels 1, 1a and 2 woodland scrub planting is proposed to compliment the existing woodland habitat at Runt's Wood, Greatsea/ Romer Wood, Sheephouse Wood, Decoypond Wood and the southern edge of Shrubs Wood (refer to **Figure 6.12**). These measures would be secured through the **Outline LEMP [EN010158/APP/7.6].**

6.7.7 The range of colour and material options identified within the **Design Commitments [EN010158/ APP/5.9]** is designed to minimise potential impacts on local landscape character, visual amenity and nearby built heritage assets and allow for flexibility in the detailed design. All of the colours identified within the **Design Commitments [EN010158/ APP/5.9]** allow for a grey or green colour option. This responds to the predominant characteristics of the rural landscape which include open skies and vegetation blocks (hedgerows, trees and woodlands). Allowing for both grey and green colour options enables flexibility at the detailed design stage to select the most appropriate colour for individual components depending on their location. For example, where a component is located against a woodland backdrop green is likely to be the most appropriate colour choice.



Figure 6.11 Existing designed features in Parcel 1 showing rectilinear woodland and copses

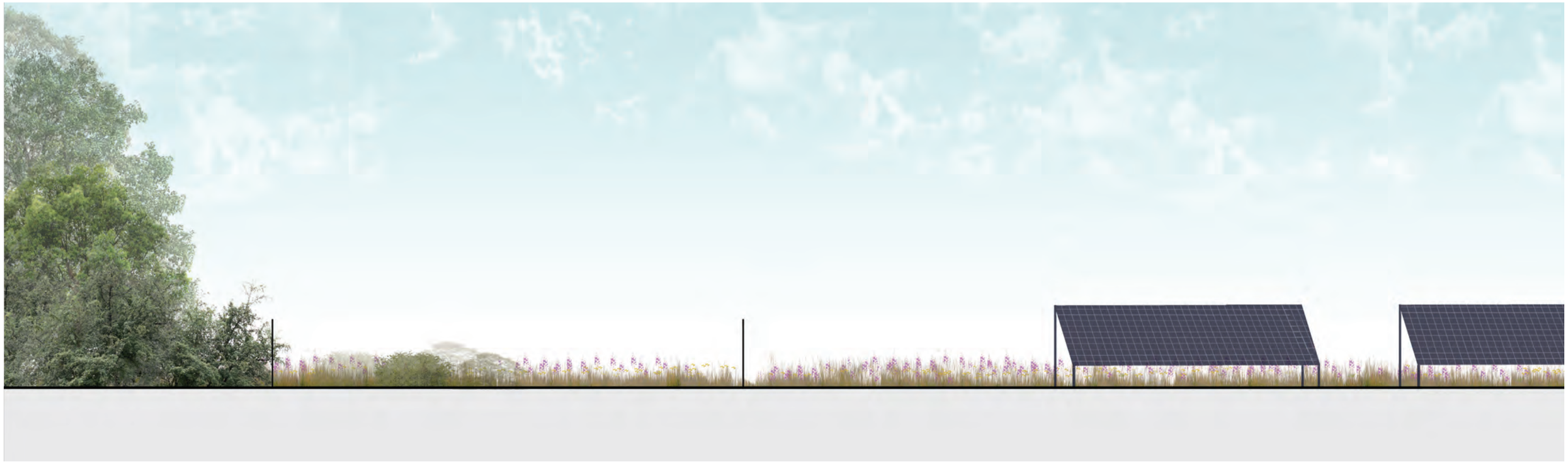


Figure 6.12 Typical section showing 20m offset from existing woodland

Project Principle 6.2

Within parts of the Site that fall within the Quainton - Wing Hills Area of Attractive Landscape (AAL), give careful consideration to the location of any development and respecting the Special Qualities of the designation e.g. enhancing field boundaries and retaining key views towards the AAL

6.7.8 The Quainton-Wing Hills AAL covers the southern area of Parcel 2 (refer to **Figure 6.13**). Special qualities of the AAL relevant to the study area assessed in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2**] include:

- "Spectacular panoramic views from frequent vantage points;
- Strong sense of rural tranquillity, openness and a coherent landscape character;
- Cultural features providing a sense of history;
- Public rights of way and road network which enable views of and appreciation of the landscape;
- The importance of the hills in views from other areas of the district, providing a backdrop and sense of enclosure to Aylesbury Vale; and
- Remaining ancient woodland in the west of the area that was once part of the medieval hunting forest of Bernwood, irregular and assart fields."

6.7.9 Consideration of these special qualities has formed part of the iterative design and EIA process and is assessed in **ES Volume 2, Chapter 10: Landscape and Visual [EN010158/APP/6.2]**. Key design decisions have included keeping the more visually prominent slopes in panoramic views from Quainton Hill (Fields D27 and D30-37) free of Solar PV development to reduce visibility from this vantage point, as well as from PRoW and local roads with views of the landscape. As per Project Principle 9.4, views from the Bernwood Jubilee Way towards the hills have been retained by offsetting the Solar PV development from the route to retain views over the Solar PV panels.

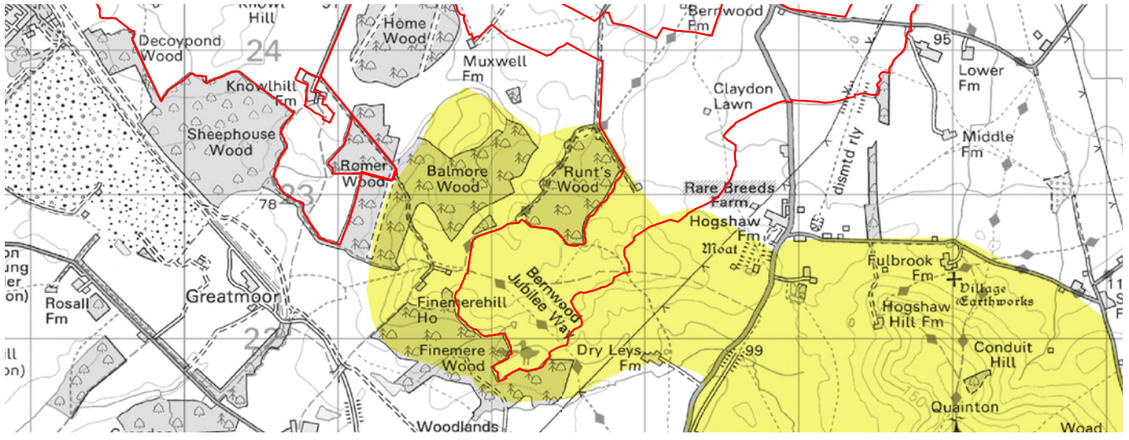


Figure 6.13 Quainton-Wing Hills AAL (Shown in yellow)

Project Principle 6.3

Respect the historic pattern of the landscape and setting of cultural sites, including Claydon House and individual Listed Buildings, responding to the distinctive character of the local environment

6.7.10 The Applicant has developed the design of the Proposed Development to conserve the heritage assets within the Site and surrounding area. This has formed part of the iterative design and EIA process and is assessed in **ES Volume 2, Chapter 9: Cultural Heritage [EN010158/APP/6.2].** A summary of how the design of the Proposed Development responds to local heritage assets is provided as follows and would be secured by the spatial extents shown on the **Works Plans [EN010158/APP/2.3]** and **Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of the **Outline LEMP [EN010158/APP/7.6].**

6.7.11 The Proposed Development is located outside the boundary of the designated assets at Claydon House. Solar PV development is omitted from Field B17 and parts of Fields B9 and B11 at Knowl Hill land to minimise setting impacts and visibility from Claydon Park Grade II Registered Park and Garden, Middle Claydon Conservation Area and Claydon House Grade I listed building. Additional public access to designed views of the house will be made possible by the creation of the permissive path to the summit of Knowl Hill. As indicated in Project Principle 6.4, the designed landscape features associated with the wider setting of Claydon House and Park, including the rectilinear woodland features in Parcel 1 would be retained and changes to the defined woodland edges avoided. This will allow continued appreciation of the features and their contribution to the understanding and appreciation of the wider historic landscape setting to the parkland.

6.7.12 Solar PV development is omitted from land to the south of Botolph Claydon, at Fields D1, D2, D3 (North) and D5 to minimise setting impacts to the Botolph Claydon Conservation Area and listed buildings within it.

6.7.13 New hedgerows proposed along the western boundary of Field B5, adjacent to the Pond Farm access, and to the eastern boundary of Solar PV development in Field B22, and north of Field B23 (North), will soften and partially screen views of Solar PV development and/or the Satellite Collector Compound from Pond Farm and listed farmhouses east of Claydon Park. Infilling of the avenue of poplar trees to Three Points Lane, along with replacement planting of vegetation in any visibility splays for junctions on to Three Points Lane, will also soften and partially screen views of Solar PV development and the Satellite Collector Compound from Claydon Park.

6.7.14 The 15m width belt of structural native woodland planting along the northern boundary of Field D3 (South) has been designed to provide further screening of views of Solar PV development from Botolph Claydon.

6.7.15 6.7.15. As set out in relation to Project Principle 6.1, the colour and material options identified within the **Design Commitments [EN010158/APP/5.9]** are designed to minimise potential impacts on built heritage assets and allow for flexibility in the detailed design.

Project Principle 6.4

Conserve and where possible enhance designed landscape features such as Home Wood and Knowl Hill, including ensuring that the 'designed' appearance of woodlands such as Shrubs Wood is retained

6.7.16 Landscape features within areas of Parcel 1 and its immediate context have historic associations with Claydon House and its parkland context. These include features such as Knowl Hill and the tree planting on top of it, the rectilinear form of Shrubs Wood, and Home Wood and the designed rides through it.

6.7.17 Project Principle 6.3 sets out the design response taken in relation to Knowl Hill and its visibility from Claydon House, as well as the new public access that would be created to allow appreciation of the designed view between Knowl Hill and Claydon House. In addition, the treatment of the eastern edge of Shrubs Wood, which forms part of the wider landscape setting of Claydon Park, has been given deliberate consideration to retain the 'designed' rectilinear appearance of the woodland whilst providing habitat enhancements.

6.7.18 The northern part of Parcel 1 has the greatest potential for visibility from Claydon Park Grade II Registered Park and Garden, Middle Claydon Conservation Area and Claydon House Grade I listed building, and the greatest historic connection to Claydon House. New planting within this area would have a 'designed' appearance. For example, in the north of Parcel 1, new tree belts would be rectilinear in form to reflect the 'designed' character of areas in the context of Claydon House, which are considered appropriate additions to the landscape. These measures would be secured by **Outline LEMP [EN010158/APP/7.6].**

Project Principle 6.5

Retain existing vegetation wherever reasonably possible to maintain the fabric of the Site and aid assimilation of development into its context

6.7.19 The Applicant is committed to the retention of existing vegetation within the Order Limits wherever reasonably practicable to retain the fabric of the site and aid assimilation of development into its context.

6.7.20 Existing vegetation will be protected by the provision of minimum offsets derived from a combination of guidance, good practice, precedence set by other NSIP solar schemes, professional judgement from technical specialists of the project team and discussions with Natural England and the Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust. They include a minimum 20m offset from existing woodlands and HS2 planting, increased to 30m for ancient woodland and statutorily and locally designated wildlife sites, and a minimum 10m offset from existing hedgerows, ponds and ditches/watercourses to perimeter fencing surrounding the Solar PV development. Some exceptions for hedgerows and ditches are provided where access tracks and/or cable route crossings are required however, these would be kept to a minimum and restored where practicable. The offsets will be secured by the **Design Commitments [EN010158/APP/5.9]** and the spatial extents shown on the **Works Plans [EN010158/APP/2.3].**

6.7.21 During the operation of the Proposed Development, existing vegetation within the Order Limits will be managed and maintained in accordance with the **Outline LEMP [EN010158/APP/7.6]**. This includes repairing and/or improving existing hedgerows adjoining a siting zone for Solar PV development, Satellite Collector Compound, BESS or Rosefield Substation to infill gaps. These hedgerows would be allowed to grow out more fully and managed for visual screening and biodiversity benefits.

Make efficient use of the land, touch it lightly

6.8 Strategic Principle 7 - Make efficient use of the land, touch it lightly

Project Principle 7.1

Optimise generation and export capacity of the solar farm within the constraints of the site to make the most efficient use of the land and available grid connection

6.8.1 The Applicant has developed the design of the Proposed Development to respond to its local context whilst optimising the generation and export capacity of the Proposed Development within the constraints of the Site. This is needed to help meet the urgent need for home grown, secure, renewable energy that is required by Government policy to address climate change and energy security. **The Statement of Need [EN010158/APP/5.6]** provides further detail on the need for the Proposed Development. Optimisation of the design has included the siting of the Proposed Development to make use of existing and available grid infrastructure, incorporation of BESS technology to provide grid balancing services, and allowance for future technological innovation and improvements within the provisions of the **draf**t **DCO [EN010158/APP/3.1]**. The Proposed Development equates to an output of 1 MW per 5 acres which represents an efficient use of the land for Solar PV development and associated infrastructure within the range identified at paragraph 2.10.17 of NPS EN-3. **The Environmental Statement [EN010158/APP/6.2]** provides a detailed assessment of the constraints of the Site and provides detail of the embedded mitigation to reduce the impacts of the Proposed Development.

Project Principle 7.2

Internal access tracks and cable routes will use existing tracks, hedgerow and watercourse crossings and/or gaps in the hedgerows wherever practical

6.8.2 The Applicant has committed to use existing tracks, crossings and / or gaps in the hedgerows for all internal access tracks and cable routes wherever practicable. This is set out in the **Design Commitments [EN010158/APP/5.9]** for the detailed design of the Proposed Development which is secured by a requirement in the **draft DCO [EN010158/APP/3.1].**

6.8.3 In some instances, utilising existing tracks, crossing and / or gaps in the hedgerows might not be practicable, or might have greater impacts on the local environment compared to alternative designs. Elsewhere it may not be possible to accommodate the cable route within an existing gap in the hedgerow and this might necessitate additional vegetation removal.

6.8.4 **Appendix 3: Vegetation Removal Parameters** of the **Outline LEMP [EN010158/APP/7.6]** show the maximum area of vegetation anticipated to be removed by the Applicant for the purposes of the Proposed Development and has been informed by indicative dimensions for the cable trenching, indicative location of internal access tracks and indicative locations for cable crossings as shown in **ES Volume 3, Figures [EN010158/APP/6.3]**. Final extents of vegetation removal would be secured post consent by requirement of the **draft DCO [EN010158/APP/3.1]** to submit detailed LEMP(s).

Project Principle 7.3

The grid connection route should comprise below ground cables where possible, with surface mounted cable trays to be utilised within areas of archaeological sensitivity. The use of overhead lines will be avoided

6.8.5 The Applicant has committed to below ground cabling for the Interconnecting Cable Corridors and the Grid Connection Cable Corridor (see **Figure 6.14**), to reduce the visual impact of the scheme and help integrate the Proposed Development with the local environment. This is set out in the **Design Commitments [EN010158/APP/5.9]** which is secured by a requirement in the **draft DCO [EN010158/APP/3.1].**

6.8.6 Cabling would be laid underground, except where:

- Cabling connects Solar PV modules and String Inverters;
- Solar PV modules are located in flood risk areas;
- archaeological sensitivity dictates that below ground cabling is unsuitable; and
- where a statutory undertaker's utility does not allow for cabling to be buried.

6.8.7 In these instances, cabling would be contained within suspended ducts or fixed cable trays which would be: fixed no higher than the bottom edge of Solar PV modules; mounted under the Solar PV modules and be fixed to the mounting structures.

Project Principle 7.4

Cable routes will run alongside access tracks as much as possible to avoid wider excavations

6.8.8 The Applicant has committed to Interconnecting Cable Corridors and the Grid Connection Cable Corridor running alongside access tracks as much as possible to avoid wider excavations. This is set out in the **Design Commitments [EN010158/APP/5.9]** which is secured by a requirement in the **draft DCO [EN010158/APP/3.1].**

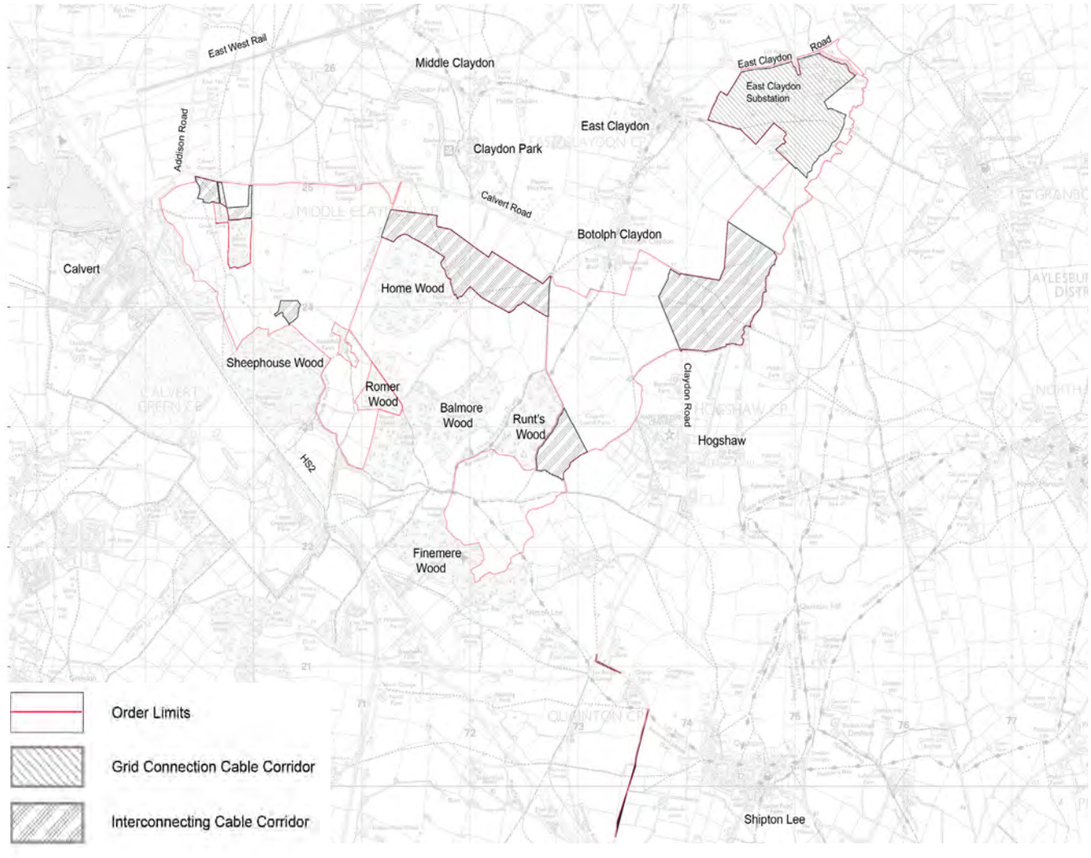


Figure 6.14 Interconnecting Cable Corridors and Grid Connection Cable Corridor

Project Principle 7.5

Fences will be designed to integrate with the local environment, allow for the movement of wildlife (e.g. through the use of mammal gates) and meet the functional requirements of the Proposed Development.

6.8.9 The Applicant has committed to design fences to integrate with the local environment, allow for the movement of wildlife and meet the functional requirements of the Proposed Development.

6.8.10 For perimeter fencing surrounding Solar PV development, fences would be offset from existing vegetation to create a network of wildlife corridors across the Order Limits (as described in Project Principle 6.1). The fencing would be designed to permit the passage of wildlife, either through a clearance at ground level or via mammal gates, and would not be constructed through existing hedgerows or ditches wherever practicable. Perimeter fencing around the Solar PV development would comprise 'deer-proof' fencing which is formed of wooden and/or metal post and wire mesh (refer to **Figure 6.15**) to reduce visual impact on the local environment and would be screened by new hedgerow planting at visually sensitive locations.

6.8.11 Perimeter fencing around other elements of the Proposed Development, such as the Rosefield Substation and BESS, would comprise metal palisade fencing or metal mesh with pulse monitoring to meet the safety and security requirements of the Proposed Development.

6.8.12 Measures relating to fencing set out in the **Design Commitments [EN010158/APP/5.9]** which is secured by a requirement in the **draft DCO [EN010158/APP/3.1].**



Figure 6.15: Precedent image of wooden post and wire mesh perimeter fence

Project Principle 7.6

Minimise the use of concrete, trenches and foundations

6.8.13 The Applicant has committed to minimise the use of concrete and foundations where practicable within the detailed design of the Proposed Development to reduce the impact on the land and support the return to agricultural at decommissioning.

6.8.14 For areas of Solar PV development, the mounting structure of the Solar PV modules would be predominantly fixed to the ground using driven or helical piles which could easily be removed at decommissioning.

6.8.15 Concrete footings would only be used where ground conditions restrict the use of piles, for example, where there are areas of sensitive archaeology. This will be secured by the **Outline CEMP [EN010158/APP/7.2].**

6.8.16 For other elements of the Proposed Development that require hardstanding, such as the BESS and compound areas, the layout would be designed to make the most efficient use of land and the extent of foundations would be limited to the minimum functional requirement.



Manage water, improve quality, reduce pollution

6.9 Strategic Principle 8 - Manage water, improve quality, reduce pollution

Project Principle 8.1

Improve water quality and flood resilience

6.9.1 The **Outline Drainage Strategy [EN010158/APP/7.11]** will attenuate rainfall runoff from the areas of proposed hardstanding associated with the Proposed Development, utilising a sustainable drainage system (SuDS). The surface water will either be discharged to the ground via infiltration, if found to be a viable option, or discharged at a restricted rate to local watercourses. In addition, the **Outline Battery Safety Management Plan [EN010158/APP/7.9]** includes the likely approach to management of firefighting water, to ensure that firefighting water is disposed of correctly and is not allowed to runoff into watercourses.

6.9.2 **ES Volume 4, Appendix 16.1 - Flood Risk Assessment [EN010158/APP/6.4]** indicates that flood risk will not be exacerbated as a result of the Proposed Development, when the **Outline Drainage Strategy [EN010158/APP/7.11]** is implemented.

6.9.3 It is proposed within the **Outline Drainage Strategy [EN010158/APP/7.11]** that perimeter swales downslope of the access tracks will provide additional surface water attenuation and promote infiltration into the ground for surface water runoff from fields containing Solar PV development. This can assist with slowing the flow of water within the site.

6.9.4 The **Outline Drainage Strategy [EN010158/APP/7.11]** has also been developed to demonstrate how surface water runoff from the Proposed Development will be managed using SuDS, incorporating measures to ensure there is no detriment to the quality of surface water runoff leaving the Site. During the operation (including maintenance) phase, the implementation of the measures detailed in and secured by the **Outline OEMP [EN010158/APP/7.3]** would ensure the water quality is maintained as a minimum, if not improved.

6.9.5 A minimum 10m offset from watercourses and a minimum 20m offset from Claydon Brook in Fields E20, E11, E10 and the northern section of E21 will also be provided, to ensure that habitats along the margins of the watercourses are maintained. Opportunities to enhance these corridors, through the creation of wetter species rich grassland and discrete areas of scrub will also be explored as part of the detailed design, in accordance with the **Outline LEMP [EN010158/APP/7.6].**

Project Principle 8.2

Apart from Solar PV modules, no built structures (Rosefield Substation, BESS, ITS, Independent Outdoor Equipment (transformer, switchgear and central inverters), Collector Compounds and Construction Compounds will be located within Flood Zones 2, 3a or 3b, or within areas of high or medium risk of surface water flooding. Solar PV modules will be above the maximum flood height level

6.9.6 Apart from Solar PV development, the Applicant has developed the design of the Proposed Development to ensure that Rosefield Substation, BESS, ITS, Independent Outdoor Equipment (transformer, switchgear and central inverters), Collector Compounds and Construction Compounds will be located in Flood Zone 1. This is secured via the **Design Commitments [EN010158/APP/5.9].**

6.9.7 Once attached to the mounting structure, the minimum height of the lowest part of the Solar PV modules will be 0.8m above the existing ground level (AGL). In flood risk areas, this will be raised up to 1.8m above ground level. This will be above the calculated flood height level for the maximum credible scenario as assessed within the **ES Volume 4, Appendix 16.1: Flood Risk Assessment [EN010158/APP/6.4].** Therefore, Solar PV modules within Flood Zone 2 or 3 will be resilient to flooding and will remain safe across the operational (including maintenance) phase of the Proposed Development.

6.9.8 Due to the relatively small cross sectional area of the mounting structures fixed in the ground (which the Solar PV modules and string inverters would be mounted to), it is deemed through **ES Volume 4, Appendix 16.1: Flood Risk Assessment [EN010158/APP/6.4]** that there would be a negligible displacement of flood water and storage within functional flood plains (Flood Zone 3b). Therefore, the locating of Solar PV modules and string inverters in Flood Zone 2 and 3 areas would not materially increase flood risk elsewhere.

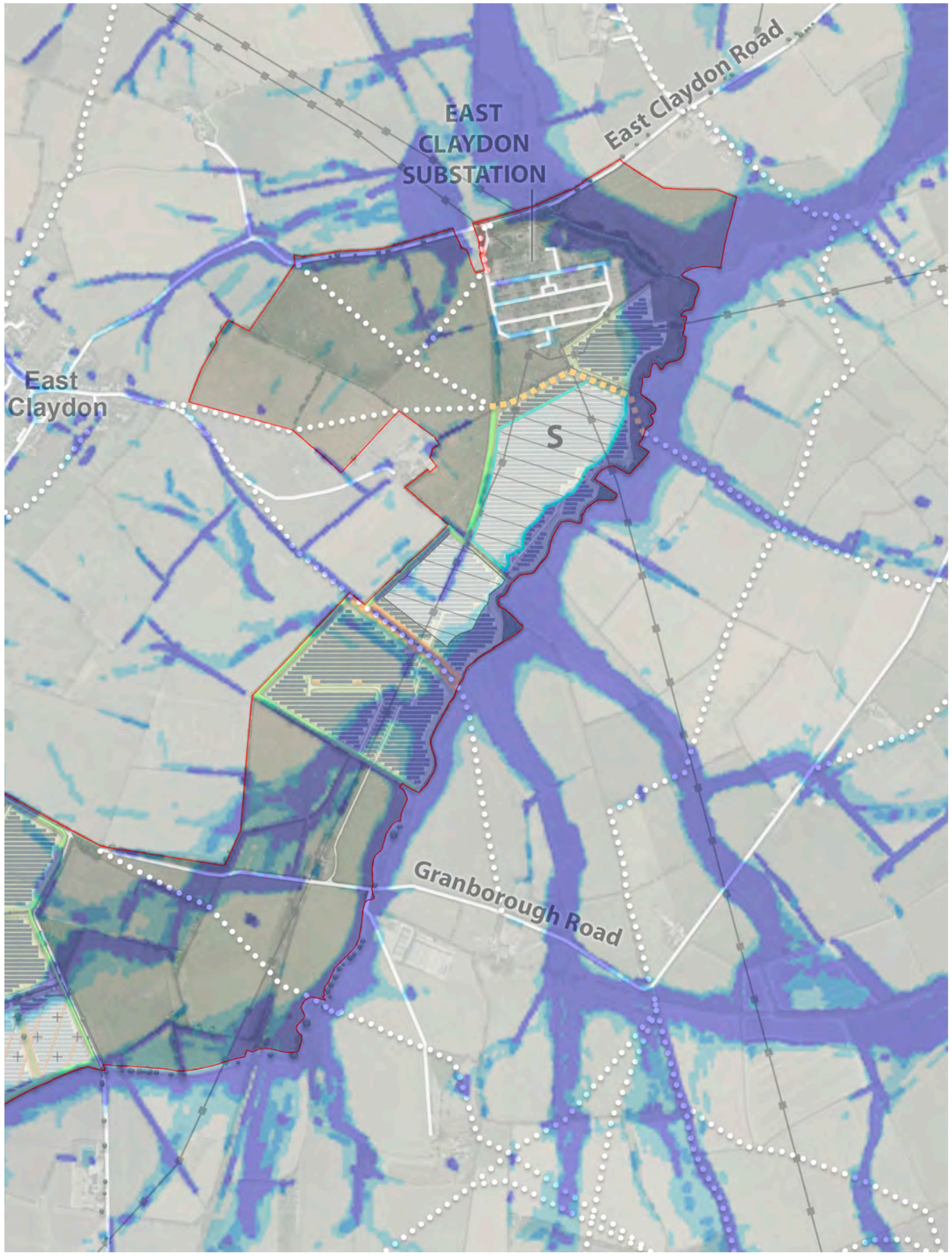


Figure 6.16: Areas of medium and high risk surface water flooding within Parcel 3 overlaid onto Illustrative Masterplan



Provide new ways to enjoy the countryside

6.10 Strategic Principle 9 - Provide new ways to enjoy the countryside

Project Principle 9.1

Retain existing Public Rights of Way and recreational routes within the Site where practicably possible, safeguarding existing amenity

6.10.1 The Applicant has developed the design of the Proposed Development to retain the majority of PRoW within the Order Limits on their existing alignment during operation. Five PRoWs would be permanently diverted to either rationalise existing routes or to allow routes to follow field boundaries, creating variety of user experiences along the routes and creating stretches of the routes where Solar PV development would be located to one side only. These are shown on **Figure 6.19** and **ES Volume 3, Figure 3.10 Existing and Proposed PRoW and Permissive Footpaths [EN010158/APP/6.3]** and the Streets, **Rights of Way and Access Plans [EN010158/APP/2.4]** and are as follows:

- A diversion to the existing PRoW ECL/4/2 (463m to-be-stopped up) to the north of Parcel 3 to align the PRoW Footpath with the field boundaries of Fields E10 and E11, rather than crossing Field E11 (new length 559m).
- A diversion to the existing PRoW ECL/7/2 (244m to-be-stopped up) to the east of Parel 2 to align the PRoW Footpath with the field boundary of Field D19 (new length 274m).
- A diversion to the existing PRoW SCL/13/2 (323m to-be-stopped up) to the south of Parcel 1 (between Shrubs Wood and Decoypond Wood) to align the PRoW Footpath with the field boundary of Field B7 (new length 410m).
- Diversions to three existing PRoW SCL/13/1, SCL/12/2 and a further diversion to SCL/13/2 (1,087m to-be-stopped up) to rationalise them into a single PRoW Footpath providing access between Pond Farm and Calvert Road (new length 1,027m), whilst ensuring no dead ends are created on the routes.

Project Principle 9.2

Landscape and ecological mitigation and enhancements will be provided and routes will be maintained to ensure they remain passable/ unobstructed for the lifetime of the Proposed Development.

6.10.2 In addition to the retention of most PRoW (with the exclusion of the PRoW which are permanently diverted), mitigation measures are proposed to minimise the level of visual change for PRoW users and ensure that PRoW can continue to be used the same as pre-development of the Site. This includes a minimum 10m offset to Solar PV development from all PRoW. These offsets are secured by the **Design Commitments [EN010158/APP/5.9]** and the spatial extents shown on the **Works Plans [EN010158/APP/2.3].** Further information on how the design of the Proposed Development would respond to existing PRoW is provided in Project Principles 2.3 and 9.4. **Figure 6.17** shows the indicative treatment of a sample PRoW with different types of buffers and planting applied to either side.

6.10.3 Larger offsets would also be provided to PRoWs that coincide with the Bernwood Jubilee Way, Mid Shires Way and North Bucks Way. These offsets would provide corridors of open space along the existing footpaths to create variation and interest for users.

6.10.4 Management of vegetation along the PRoW routes would be secured by the **Outline LEMP [EN010158/APP/7.6]** and will ensure that the routes remain passable/unobstructed for the lifetime of the Proposed Development.

Project Principle 9.3

Protect the amenity of the Bernwood Jubilee Way and North Bucks and Midshires Way, retaining views towards the Quainton Hills where reasonably possible

6.10.5 The Applicant has developed the design of the Proposed Development to protect the amenity of the Bernwood Jubilee Way as it runs through Parcel 2, between Botolph Claydon and Runt's Wood. This has included offsetting the Solar PV development by 55m, rather than 10m, to allow continued views over the Solar PV panels towards Quainton Hill and its landscape context. This would minimise the potential visual effects on users of the footpath and ensure no views of towards Quainton Hill and its landscape context would be interrupted by the Proposed Development.

6.10.6 In Parcel 3, between Fields E21/ E22 and E23, the Mid Shires Way and North Bucks Way would have a larger offset from the proposed Solar PV development to allow greater separation from the Proposed Development (see **Figure 6.18**). This would minimise the potential visual effects on users of the footpath.

6.10.7 These offsets are secured by the D**esign Commitments [EN010158/ APP/5.9]** and the spatial extents shown on the **Works Plans [EN010158/ APP/2.3].**

6.10.8 Mitigation planting, in the form of new hedgerows, is proposed along the western boundaries of Fields D4, D11, D14 and D15 adjacent to the Bernwood Jubilee Way and along the northern boundary of Field E23 adjacent to the Mid Shires Way and North Bucks Way. Once these hedgerows have established to a height of 3.5m there would be heavily filtered glimpses of the tops of the Solar PV development **(see Figure 6.19)** The location of mitigation planting would be secured by **Appendix 1: Green and Blue Infrastructure Parameters** and **Appendix 2: Landscape and Ecological Mitigation and Enhancements** of th**e Outline LEMP [EN010158/APP/7.6].**

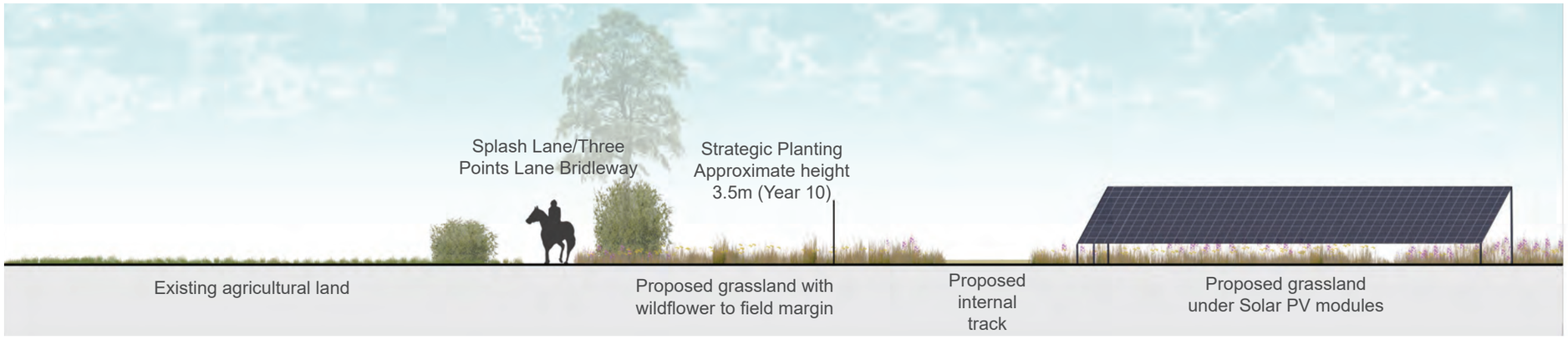


Figure 6.17: Indicative section through PRoW (Splash Lane)

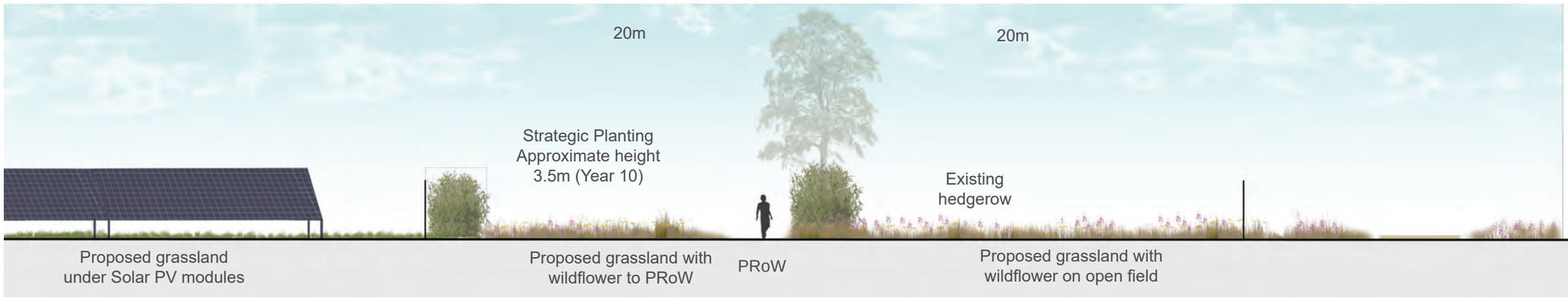


Figure 6.18: Indicative section through PRoW Midshires Way



Figure 6.19: Indicative section through PRoW Bernwood Jubilee Way

Project Principle 9.4

Consideration will be given to the creation of additional routes to provide inclusive access to new locations around the Site, connecting to the existing network of promoted walks, cycleways and bridleways

6.10.9 The Applicant has developed the design on the Proposed Development to create an enhanced and better-connected footpath network. This includes approximately 3.1km of additional permissive paths as shown on **Figure 6.20**. These are secured by the **Outline Rights of Way and Access Strategy [EN010158/APP/7.8]** and are described as follows. Creation of three new permissive paths:

- A new permissive footpath across Parcel 1 by connecting the to-be-rationalised PRoW SCL/13/2 to Three Points Lane, via the southern edge of Shrubs Wood and the top of Knowl Hill (Field B17) (approximate length 1.9km);
- A new permissive footpath, to connect the permissive footpath proposed at Stage 2 as described in the bullet point above, to the PRoW network north of Calvert Road has been added, beginning from the intersection of Fields B17, B20 and B21, then running north to the west of B21 and B22 to Calvert Road and onwards to PRoW MCL/13/1 (approximate length 0.7km); and
- A new permissive footpath across Parcel 2 which connects the existing PRoW ECL/8/1 to PRoW ECL/9/2 and ECL/10/2, along the north of D3 (South) (approximate length 0.5km).
- A new bridleway link across Parcel 2, which would be accessible to the public during the operation (including maintenance) phase of the Proposed Development. It would connect to the existing PRoW Bridleway (reference 'ECL/10/5'), before tracking south west along the proposed internal access track through Field D27 and then along PRoW Footpath (reference 'QUA/41/1') to join the PRoW Bridleway (reference 'QUA/40/2' and 'QUA/40/3') that runs along the southern edge of Fields D28 and D29.

6.10.10 All paths would be managed in accordance with the **Outline Rights of Way and Access Strategy [EN010158/APP/7.8]** and include waymarking and signage in accordance with the **Outline LEMP [EN010158/APP/7.6].**

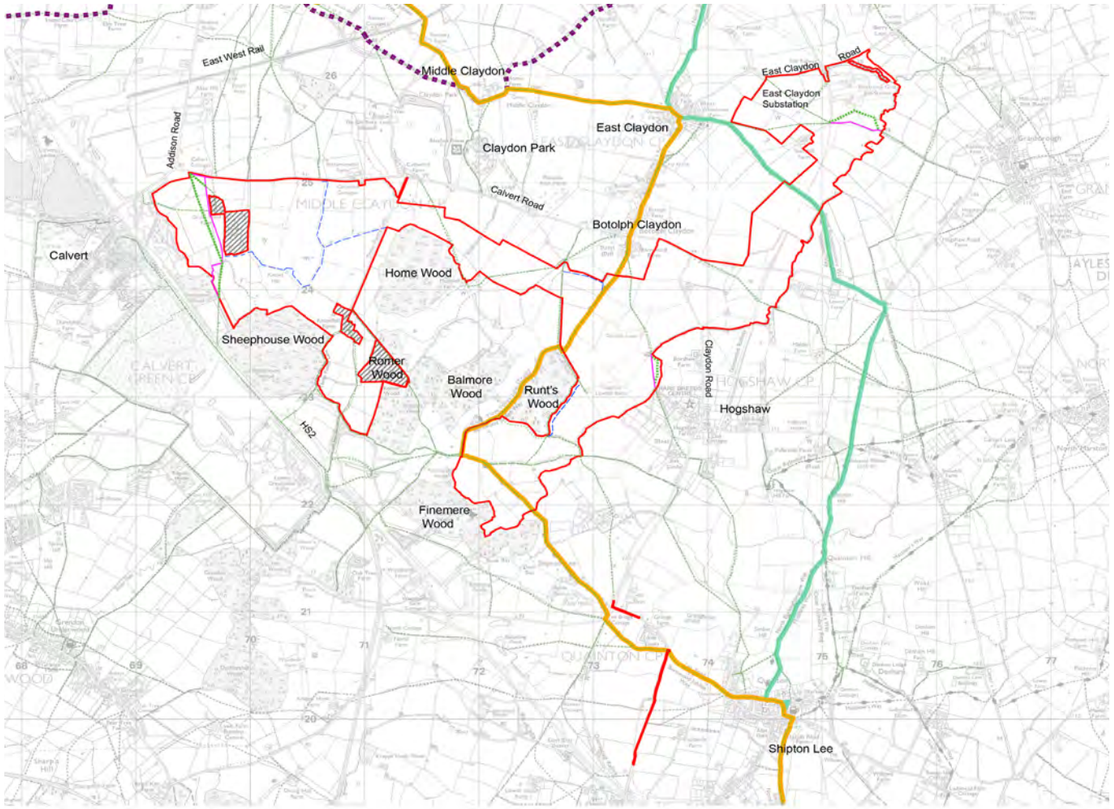


Figure 6.20 Existing and Proposed PRoW and Permissive Footpaths

Order Limits

Long Distance Recreational Routes

- Bernwood Jubilee Way
- North Buckinghamshire Way/ Midshires Way
- Sustrans National Cycle Network Route

Existing Routes

- Existing Public Right of Way
- Existing permissive footpath
- Existing Public Right of Way to be stopped up

Indicative Proposed Routes

- Proposed Public Right of Way Diversion
- Proposed permissive path

Support agricultural productivity

6.11 Strategic Principle 10 - Support agricultural productivity

Project Principle 10.1

Avoid development within fields comprising majority Grade 1, 2 or 3a agricultural land where possible

6.11.1 In accordance with NPS EN-1, the Applicant has sought to avoid and minimise impacts on BMV land and preferably use land in areas of poorer quality except where this would be inconsistent with other sustainability considerations. This has influenced both the initial site selection process and the subsequent design evolution of the Proposed Development.

6.11.2 At a macro level, the **Planning Statement, Appendix 1: Site Selection Report [EN010158/APP/5.7]** provides details of how the Order Limits were selected with regard to the quality of the land.

6.11.3 The proportion of BMV land within the Order Limits is low, with approximately 98.5% of the Site classified as non-BMV. Areas of BMV (3ha of Grade 2 land and 7ha of Grade 3a) are located in Fields B8 and B10 in Parcel 1 (refer to **Figure 6.21**). This has been assessed through **ES Volume 2, Chapter 12: Soil [EN010158/APP/6.2].**

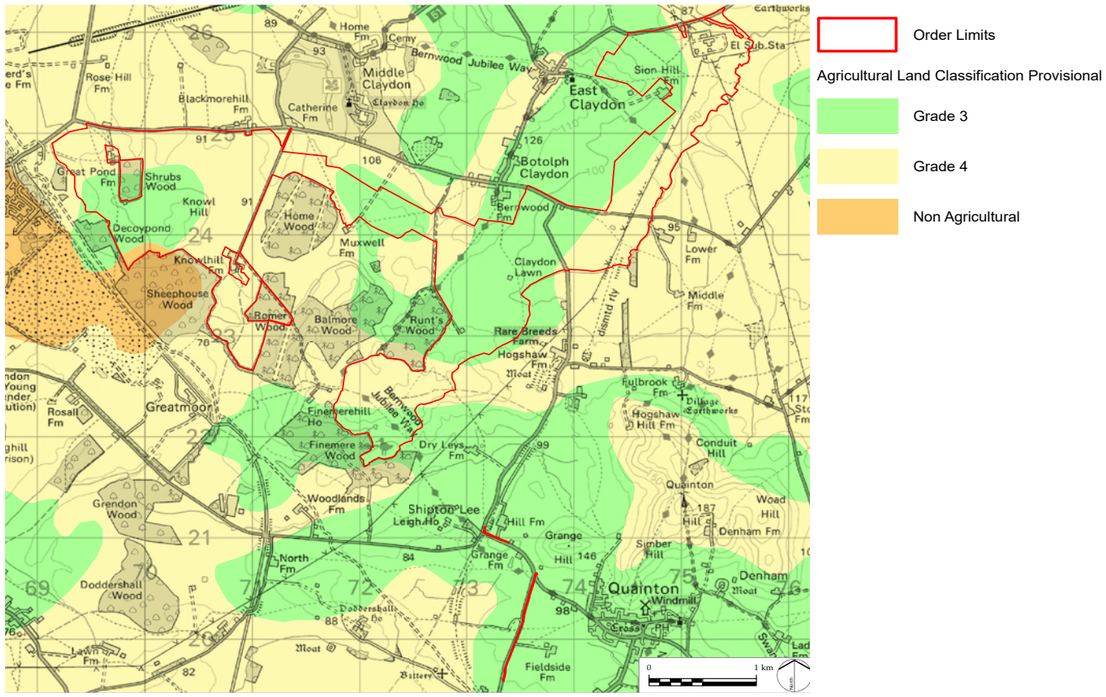


Figure 6.21 BMV Figure

6.12 Compliance with Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design

Developing the design

Consideration	Project Compliance
Describe the approach to good design and explain how the design has (and will continue) to evolve.	The approach to achieving good design is set out in **Section 4 (Design Approach and Vision) of this DAD.** It describes how the Applicant has used Project Principles to guide decision making and embed good design outcomes to the Proposed Development. **Section 5 (Design Evolution)** and **Section 6 (Proposed Design)** of this **DAD** demonstrate how the Proposed Development has evolved in response to the Project Principles during the pre-application period. If DCO consent is given, future design evolution of the Proposed Development will be controlled by the documents and plans to be certified within the **draft DCO [EN010158/APP/3.1]**. For example, the detailed layout and design of Solar PV development will be controlled by the spatial extents set out by the **Works Plans [EN010158/APP/2.3]**, and the design measures stated in the **Design Commitments [EN010158/APP/5.9].** A full list of Control Documents is set out in the **Guide to the Application [EN010158/APP/1.2]**. Adherence to the Control Documents will secure good design outcomes, uphold the conclusions of the Environmental Statement, and provide for flexibility.

Developing the design. Continued

Consideration	Project Compliance
Describe the approach to good design and explain how the design has (and will continue) to evolve. Continued	If DCO consent is given, the detailed design will be developed for approval by the relevant planning authority in accordance with **Requirement 5** of the of the **draft DCO [EN010158/APP/3.1]**. **Requirement 5** also sets out that the detailed design must be in accordance with the design commitments and project parameters as well as any details approved under **Requirements 7 (battery safety management), 8 (landscape and ecology management plan), 9 (fencing and other means of enclosure), 10 (drainage), 11 (archaeology), 15 (operational noise) and 17 (public right of way and permissive path management plan) .** During the detailed design process, certain aspects of the detailed landscape design will be developed through engagement with the CLG, Buckinghamshire County Council, the Environment Agency and Natural England as set out in Section 5 of the **Outline LEMP [EN010158/APP/7.6].**
How is any required flexibility being addressed?	The Proposed Development seeks to allow flexibility within the DCO for technological innovation and improvements that may be realised during the procurement and construction phase to ensure that the Proposed Development will prioritise sustainable techniques and technologies in construction and operation and positively contribute to delivering the UK to net zero by 2050.

Consideration	Project Compliance
How is any required flexibility being addressed? Continued	To facilitate this flexibility, the approach to the ES has been to adopt the 'Rochdale Envelope' approach, whereby the minimum and /or maximum parameters and reasonable 'worst case' have been assessed. The envelope is controlled by Control Documents secured by the **draft DCO [EN010158/APP/3.1]** including: • **Works Plans [EN010158/APP/2.3]** to control spatial extents of the Proposed Development; and • **Design Commitments [EN010158/APP/5.9]** to control elements of the detail design such as size, type and colour.
What are the emerging design principles and how have the principles directly informed decision making?	The design principles are set out in **Section 4** (Design Approach) of this **DAD** and include 'Strategic Principles' and 'Project Principles'. Strategic Principles were identified at the early stages of the Proposed Development to provide a high-level framework for developing the design of the Proposed Development in accordance with UN SDG and NIC guidance. Project Principles use the Strategic Principles as a framework and were developed to facilitate the practical application of the Strategic Principles at the project level.

Consideration	Project Compliance
What are the emerging design principles and how have the principles directly informed decision making? Continued	This **DAD** demonstrates how the design principles have been used throughout the pre-application process to guide design related decisions **(Section 5)** and how they manifest themselves as tangible outputs in the design and management of the Proposed Design **(Section 6)**. Section 6 of this **DAD** explains where each of these tangible outputs are embedded to and secured by the 'documents and plans to be certified' in the **draft DCO [EN010158/APP/3.1]** to deliver the Project Principles. For example this includes: • **Works Plans [EN010158/APP/2.3]** that illustrate maximum extents for each of the Works as described in Schedule 1 of the **draft DCO [EN010158/APP/3.1];** • **Design Commitments [EN010158/APP/5.9]** that set out how the detailed design must be developed within the relevant Work extents; and • other Control Documents (such as the **Outline LEMP [EN010158/APP/7.6]**), that provide further prescriptions on the design and ongoing management for elements of the Proposed Development. A full list of 'documents and plans to be certified' is set out in **Schedule 13** of the **draft DCO [EN010158/APP/3.1].**

Consideration	Project Compliance
Is there a hierarchical approach to elements of the proposal (for example in designing major and less important bridges in a highways scheme)?	Throughout the iterative design and EIA process, the Applicant has considered and assessed individual components of the Proposed Development on a case-by-case basis and developed an appropriate design response. For example, siting and design of the Rosefield Substation and BESS has been a key consideration and the subject of separate design studies and development. A description of the different components of the Proposed Development, as well as details of how it would be constructed, operated, maintained and decommissioned is provided in **ES Volume 1, Chapter 3: Proposed Development Description [EN010158/APP/6.1].** The way in which the design has evolved in response to different components of the Proposed Development is described in **Section 5** (Design Evolution) and **Section 6** (Proposed Design) of this **DAD**.
Have digital techniques, including algorithms and AI been used in design development? If so, explain the tools and data used.	A range of digital techniques have been used to analyse and assess the Site as part of the iterative design and EIA process. This has included digital surveys (such as drone photography), digital mapping (using GIS software) and the production of digital models, wireframes and photomontages. Algorithms and AI have not been used to develop the design of the Proposed Development.

Consideration	Project Compliance
Is there a coherent narrative of how the approach to design has evolved?	In accordance with policy requirements, the approach to achieving good design was considered at the outset of the Proposed Development and a framework for good design was developed by the Applicant. This is set out in **Section 4** (Design Approach and Vision) of this **DAD**, which demonstrates how good design aspirations and intentions have cascaded through the project and will be secured as good design outcomes within the detailed design of the Proposed Development.
Where are design outcomes set out?	The outcomes that the Applicant is seeking to deliver are encapsulated by the Strategic Principles set in **Section 4** (Design Approach and Vision) of this **DAD**. The Strategic Principles were adopted at the early stages of the Proposed Development and provide a framework for analysing the Proposed Development in accordance with UN SDG and NIC guidance. Each Strategic Principle is mapped to the UN SDGs which is an outcomes-based framework comprising 17 interconnected goals, a blueprint to achieve a better and more sustainable future for all. This **DAD** demonstrates how these outcomes have been used as a framework to develop the Project Principles, and how they cascade through the project and will be secured through the **Design Commitments [EN010158/APP/5.9]** as tangible outputs within the detailed design of the Proposed Development.

Developing the design. Continued

Consideration	Project Compliance
Will additional value beyond the site boundary be incorporated?	Application of the design principles set out in the **Section 4** (Design Approach and Vision) of this **DAD** has guided the Applicant to consider and deliver value beyond the Order Limits where possible. This is set out in **Section 6** (Proposed Design) which demonstrates how the Proposed Development has responded to each of the Project Principles. Some examples of how the Proposed Development will secure additional value beyond the Order Limits are provided as follows: • The response to Project Principle 9.1 has resulted in proposals for a better-connected footpath network that will provide enhanced connectivity to settlements outside the Order Limits. • The response to Project Principles 5.1 and 5.3 has resulted in proposals for new habitats that will extend and improve connectivity between Local Wildlife Sites outside the Order Limits. • The response to Project Principle 4.1 demonstrates how the Proposed Development could have economic benefit and could generate access to employment, up-skilling and re-skilling opportunities for people and enhanced business growth and productivity and potential to increase capabilities and specialisms in green construction and manufacturing. This is set out within the **Outline Employment, Skills and Supply Chain Plan [EN010158/APP/7.14].**

Independent design review

Consideration	Project Compliance
Has the design development been the subject of an independent design review?	The Applicant has undertaken a robust approach to design based on the criteria for good design set out in NPS EN-1 **[Ref 1-2]** and including multiple phases of consultation and engagement. Pre-application consultation and engagement were key features of the evolution of the Proposed Development, enabling continuous improvements to the Applicant's proposals. This included consultation and engagement on the design principles which have guided the design of the Proposed Development. In parallel with three phases of formal pre-application consultation on the proposals, the Applicant conducted a programme of stakeholder engagement to gain feedback on the design of the Proposed Development. This included ongoing meetings with a number of stakeholders including but not limited to the host authorities, statutory undertakers, Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust, Buckinghamshire Fire and Rescue, and the Environment Agency. The Applicant also engaged with specialist and technical officers from Natural England during the pre-application stage of the Proposed Development. In light of the extensive consultation and engagement, the Applicant did not undertake an independent design review of the Proposed Development which is consistent with the approach taken by other consented DCO solar schemes.

Independent design review Continued

Consideration	Project Compliance
If so, what were the main comments and how has the design responded to them?	Not applicable.
Is it the intention to include design reviews post-consent? If so, how are these secured?	The Proposed Development has been informed by extensive environmental assessment, consultation, and engagement with statutory and non-statutory consultees during the pre-application process. This has included discussion of the design principles with the Buckinghamshire Council. As a result, the Applicant is not intending to undertake an independent design review of the Proposed Development post-consent. If DCO consent is given, Control Documents contained within the **draft DCO [EN010158/APP/3.1]** provide sufficient fixity to ensure good design outcomes are delivered through the detailed design of the Proposed Development, in accordance with the conclusions of the **Environmental Statement [EN010158/APP/6.2].**

Place

Consideration	Project Compliance
How is placemaking being addressed?	Placemaking is being addressed through the application of the Project Principles set out in Section 4 (Design Approach and Vision) of this DAD. The principles are based on an understanding of the Proposed Development's local context, the people it would affect, and the potential benefits and outcomes it can deliver and have been used to steer and influence the evolution of the Proposed Development. Some examples of how the Proposed Development will address placemaking via the Project Principles is set out as follows: In response to Project Principle 2.2 the Applicant has developed the design of the Proposed Development to incorporate appropriate offsets to local settlements and dwellings. As a result of the offsets that have been incorporated into the Proposed Development, the landscape and visual assessment confirms that the development would not impact the character of local villages (Botolph Claydon, East Claydon, Steeple Claydon, Granborough, Quainton and Calvert) and would only be visible from isolated locations on the edges of some of these villages. In response to Project Principle 5.1 the Applicant has developed the design of the Proposed Development to respond to the distinctive and unique local character of the Site. This has informed the proposed location for different components of the Proposed Development. For example, locating the Rosefield Substation and BESS compound in Parcel 3 and lower lying areas of Parcel 2; discounting Solar PV development from notable topographic features in the landscape; and the use of 'designed' woodland blocks in the north of Parcel 1 to replicate the character of the parkland around Claydon House.

Consideration	Project Compliance
How will this be a distinctive place and how will the community benefit from it?	This **DAD** demonstrates how the Proposed Development has responded to each of the Project Principles in Section 6 (Proposed Design). This includes how the design responds to the distinctive and unique local character of the Site and provide benefits to the local community via an enhanced green infrastructure network. Some examples of how the Proposed Development will be a distinctive place and how the community will benefit from it are provided as follows: The Proposed Development will create an enhanced and better-connected PRoW network. This would include the provision of 3.1km of permissive paths and 0.9km of proposed bridleway link for the duration of the project. The proposed routes are secured by the **Streets, Rights of Way and Access Plans [EN010158/APP/2.4].** The Proposed Development will create significant areas of new habitats that respect and enhance features within the landscape, including delivering a Biodiversity Net Gain and improvements in ecological connectivity. **ES Volume 4, Appendix 7.17 - Biodiversity Net Gain Assessment [EN010158/ APP/6.4]** is based on the indicative habitat creation proposals secured in the **Outline LEMP [EN010158/APP/7.6].** However, on a precautionary basis, the Applicant is committing to a minimum net gain of 40% area habitat units, 17% hedgerow units and 10% watercourse units. These measures are secured by the **Green Infrastructure Parameters** presented in **Appendix 1** of the **Outline LEMP [EN010158/APP/7.6].**

Consideration	Project Compliance
Describe what the quality of place outcome will be, how this relates to the vision and how it will be secured?	The Proposed Development will deliver beneficial place outcomes in accordance with the Strategic Principles set out in Section 4 (Design Approach and Vision) of this **DAD**. These outcomes have been embedded into the design of the Proposed Development via the application of Project Principles and will be secured within the relevant Control Documents (being the 'documents and plans to be certified' within the **draft DCO [EN010158/APP/3.1]).** For example, the outcome identified for Strategic Principle 2 is to 'Design Places that support and enhance local communities'. This has been developed into Project Principles 2.1-2.5 which include taking account of local knowledge, providing appropriate offsets to local settlements and dwellings, considering views and experience of people using the local road and PRoW network, and securing long term benefits for the landscape and the community. Application of these principles has resulted in tangible outputs within the design of the Proposed Development. This includes the omission of built development from sensitive areas of the Site, the provision of new planting for screening mitigation, and the provision of enhancements such as the community growing area. These outputs will be secured by a range of Control Documents contained within the **draft DCO [EN010158/ APP/3.1]** including the spatial extents shown on the **Works Plans [EN010158/APP/2.3]** and the Green Infrastructure Parameters presented in **Appendix 1** of the **Outline LEMP [EN010158/ APP/7.6].**

Section 7

Conclusions

7. Conclusions

7.1 Summary

7.1.1 The design of the Proposed Development has been developed in accordance with a clear design framework, based on the criteria for good design set out in NPS EN-1 and the PINS guidance. This has included the adoption of project level design principles (Project Principles) to guide decision making and embed good design outcomes to the Proposed Development.

7.1.2 Project Principles have evolved throughout the design process, being informed and refined by stakeholder engagement, consultation feedback, technical studies and assessments. They have been used to steer and influence the design of the Proposed Development to avoid and reduce adverse impacts wherever possible, make the most of opportunities for enhancement and balance the need for flexibility and certainty within the DCO Application.

7.1.3 In addition to the generation of secure, decarbonised, clean, renewable energy, the Proposed Development would deliver a number of environmental, social and economic benefits. These include significant areas of new habitats that respect and enhance features within the landscape, including over 80ha of grassland (including neutral grassland), 4335m of new hedgerows, 8.8ha of tree belt planting, and 3 new or recreated ponds, delivering a Biodiversity Net Gain and improvements in ecological connectivity.

7.1.4 The Proposed Development would also provide benefits to the local community via an enhanced green and blue infrastructure network including provision of 3.1km of new permissive footpaths and 0.9km of proposed bridleway link for the duration of the project.

7.1.5 If consent is given, the design of the Proposed Development will be secured and implemented post-consent, in accordance with the **Environmental Statement [EN010158/APP/6.1 - 4]**, via Control Documents contained within the **draft DCO [EN010158/APP/3.1].** Adherence to the Control Documents will secure good design outcomes, uphold the conclusions of the Environmental Statement, and provide for flexibility.

7.2 Compliance with Planning Inspectorate's Nationally Significant Infrastructure Projects: Advice on Good Design

Design Approach Document (DAD)

Consideration	Project Compliance
Is a DAD provided?	This **DAD** has been submitted as part of the DCO Application.
Does the DAD address the brief, the design process, the design principles, and beneficial outcomes?	This **DAD** addresses the brief, the design process, the design principles and beneficial outcomes of the Proposed Development in the following sections: **Section 4** (Design Approach and Vision) of this **DAD** explains the Applicant's approach to achieving good design and provides an overview of the design framework developed by the Applicant. This includes the identification of beneficial outcomes based on the United Nations Sustainable Development Goals (UN SDGs), and the use of design principles to guide decision making. **Section 5** (Design Evolution) of this **DAD** summarises the evolution of the Proposed Development. It explains how the spatial layout of the Proposed Development has been shaped by design principles, and has responded to the environmental assessment process, consultation feedback and engagement with stakeholders via an iterative design process. **Section 6** (Proposed Design) of this **DAD** provides a summary of how the Proposed Development has responded to each of the project level design principles and where they are secured.

Design Approach Document (DAD) Continued

Consideration	Project Compliance
If a DAD is not provided, where are the design process and design principles set out?	Not applicable.

Response

Consideration	Project Compliance
What are the main significant adverse effects of the proposed development and how are they addressed to enable good design?	A summary of the key issues relating to each environmental factor, derived from consideration of any significant effects identified in **ES Volume 2, Chapters 6 to 15 [EN010158/APP/6.2]**, is summarised in **Section 3** (Site Context and Analysis) of this DAD. **Section 4** (Design Approach) and **Section 5** (Design Evolution) of this DAD explain how the Applicant has developed a clear design framework from the outset of the Proposed Development to achieve good design in accordance with policy requirements. This includes the adoption of an iterative design process that responds to the findings of environmental assessment at each stage of design. The Approach to the EIA is set out in **ES Volume 1, Chapter 5: Approach to the EIA [EN010158/APP/6.1]** and has been based on an iterative design process of 'embedding' mitigation within the design of the Proposed Development, for example, including offsets to sensitive receptors such as woodland, hedgerows and existing Public Rights of Way. The embedded (primary) mitigation measures relevant to each environmental factor are detailed in **ES Volume 2, Chapters 6 to 15 [EN010158/APP/6.2].**

Response Continued

Consideration	Project Compliance
What are the main significant adverse effects of the proposed development and how are they addressed to enable good design? Continued	Where adverse environmental effects were identified through early assessment work, opportunities to avoid, reduce, mitigate and compensate were identified and incorporated into the Proposed Development in accordance with the criteria for good design set out in NPS EN-1 **[Ref 1-2].** This has included the avoidance of potential significant environmental effects, where possible, through design refinements and iterations in the first instance. Information on how the design has evolved to avoid potential adverse effects is provided in this **DAD** and **ES Volume 1, Chapter 4: Reasonable Alternatives Considered [EN010158/APP/6.1]**. This approach also informed the initial selection process of the Order Limits as detailed in the Site Selection Report which forms Appendix 1 to the **Planning Statement [EN010158/APP/5.7].** The **Environmental Statement [EN010158/APP/6.1-4]** provides a robust assessment of the potential impacts of the Proposed Development and finds that there are limited significant adverse residual effects remaining after mitigation. These are for Biodiversity, Cultural Heritage, and Landscape and Visual . While the Applicant has taken all reasonable measures to minimise these likely significant adverse effects, it is not possible to remove them completely due to the nature of the Proposed Development, the sensitivity of receptors and the existing rural context. Further information on how the residual adverse effects are considered in the planning balance are provided in **Section 10** of the **Planning Statement [EN010158/APP/5.7].**

Delivery

Consideration	Project Compliance
How will the final design be delivered? Will there be a design management plan, a design guide or a design code? If not, why are they not required?	If DCO consent is given, the detailed design of the Proposed Development must be developed in accordance with the ‘documents and plans to be certified’ within **Schedule 13** of the **draft DCO [EN010158/APP/3.1]** and the Requirements set out in **Schedule 2.** In accordance with Requirement 5, No part of Works Nos 1. to 6 and 9 may commence until the detailed design has been submitted and approved by the relevant planning authority. The detailed design must adhere to the **Works Plans [EN010158/APP/2.3]** as well as the **Design Commitments [EN010158/APP/5.9]** as set out within **Requirement 5** of the **draft DCO [EN010158/APP/3.1].** Requirement 5 also sets out that the detailed design must accord with any details approved within **Requirements 7, 8, 9, 10, 11, 15 and 17** of the draft DCO. The measures secured through these documents provide the necessary commitments to achieve good design outcomes in accordance with the Strategic Principles and Project Principles.
Is there a design consultation plan to engage the community following consent of the DCO?	Should consent be granted, a CLG would be established for the duration of the construction period as set out Requirement 6 of the **draft DCO [EN010158/APP/3.1]**. In addition, the **Outline LEMP [EN010158/APP/7.6]** requires the Applicant to consult with the CLG on relevant points of interest during the detailed design stage. This could include, for example, the location and content of interpretation boards and waymarking signage and options for planting alongside footpaths (height, species and density).

Delivery Continued

Consideration	Project Compliance
Is there an agreed process for post-consent decisions with local planning authorities and others, where required?	If DCO consent is given, the detailed design of the Proposed Development must be developed in accordance with the 'documents and plans to be certified' within **Schedule 13** of the **draft DCO [EN010158/APP/3.1]**, including engagement with the CLG, and submitted to the relevant planning authority (Buckinghamshire Council) for approval as set out by **Requirement 5 in Schedule 2** of the **draft DCO [EN010158/APP/3.1].**

National Policy Statements (NPSs)

Consideration	Project Compliance
How have the requirements for good design in the relevant NPS (or NPSs) been met?	The Proposed Development has met all the requirements for Good Design as set out within NPS EN-1 **[Ref 1-2]** and NPS EN-3 **[Ref 1-3]**. This is evidenced in **Appendix 4 (Policy Compliance Assessment Tables)** of the **Planning Statement [EN010158/APP/5.7]** and demonstrated in this **DAD**. The key pages of the policy compliance tables in relation to Good Design are as follows: For NPS EN-1 refer to Pages 8, 9,25, 56-57, 68, For NPS EN-3 refer to Pages 2, 10, 15.



Section 8

References



8. References

Ref. 1-1 The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (as amended).

Ref. 1-2 Department for Energy Security and Net Zero (2023). Overarching National Policy Statement for Energy (NPS EN-1).

Ref. 1-3 Department for Energy Security and Net Zero (2023). National Policy Statement for Renewable Energy Infrastructure (NPS EN-3).

Ref. 1-4 Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on Good Design.

Ref. 1-5 National Infrastructure Commission (2020) Design Principles for National Infrastructure.

Ref. 2-1 National Infrastructure Commission (2024) Project Level Design Principles.

Ref. 2-2 Buckinghamshire Council, formerly Aylesbury Vale District Council (2018) Vale of Aylesbury Local Plan 2013 – 2033.

Ref. 2-3 Buckinghamshire Council, formerly Aylesbury Vale District Council (2023) Vale of Aylesbury Local Plan Design Supplementary Planning Document.

Ref. 3-1 Buckinghamshire Council, formerly Aylesbury Vale District Council (2016) Defining the Spatial Qualities of local landscape designations in Aylesbury Vale District.

Ref. 3-2 Natural England (2014) National Character Area (NCA) Profile 108: Upper Thames Clay Valley.

Ref. 3-3 Natural England (2014) National Character Area (NCA) Profile 109: Midvale Ridge.

Ref. 3-4 Jacobs on behalf of Aylesbury Vale District Council and Buckinghamshire County Council (2008) Aylesbury Vale Landscape Character Assessment.

Ref. 3-5 Natural England (2024) A Survey of the Black Hairstreak Butterfly in North Buckinghamshire. The results of surveys of the distribution of Black Hairstreak, Satyrium pruni in a complex of woodlands in the Bernwood Area.

Ref. 3-6 Natural England (2023) Bernwood Area Invertebrate Surveys 2017-2021 NERR129.

Ref. 3-7 Natural England (2023). Bernwood Invertebrate Surveys 2021. Saproxylic and Hymenoptera focused surveys in Ham Home-cum-Hamgreen Woods SSSI and Grendon and Doddershall Woods SSSI, Buckinghamshire.

Ref. 3-8 Natural England (2024). The Bernwood population of Bechstein's Bats. A Non-Technical Summary (NECR558).

Ref. 3-9 Natural England, formerly Ministry of Agriculture, Fisheries, and Food (1998) Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land (ALC011).

Ref. 4-1 United Nations (adopted 2015) Sustainable Development Goals.

Ref. 4-2 United Nations (2000) United Nations Global Compact.

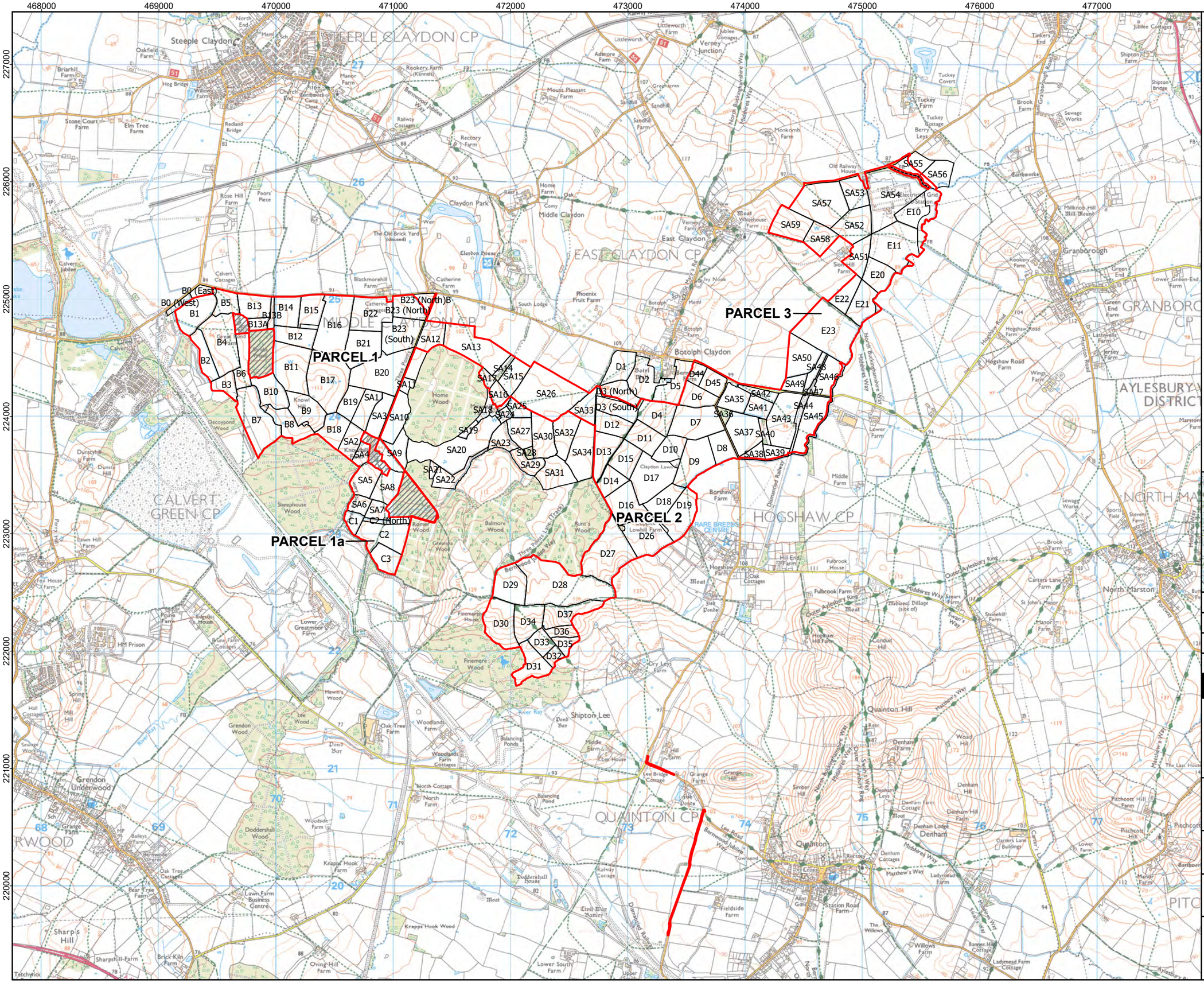
Ref. 6-1 Department for Environment, Food & Rural Affairs and Environment Agency (2018) Resources and waste strategy for England.

Ref. 6-2 The Stationary Office (2015) Modern Slavery Act.

Ref. 6-3 Department for Environment, Food & Rural Affairs (last updated 2024) Statutory biodiversity metric.

Appendix 1
Field Numbering System

Application Document Ref: EN010158/APP/5.8.3
Planning Inspectorate Scheme Ref: EN010158


PARCEL 1
PARCEL 1a
PARCEL 2
PARCEL 3
B0 (East)
B0 (West)
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
B13A
B13B
B14
B15
B16
B17
B18
B19
B20
B21
B22
B23 (North)B
B23 (North)
B23 (South)
SA1
SA2
SA3
SA4
SA5
SA6
SA7
SA8
SA9
SA10
SA11
SA12
SA13
SA14
SA15
SA16
SA17
SA18
SA19
SA20
SA21
SA22
SA23
SA24
SA25
SA26
SA27
SA28
SA29
SA30
SA31
SA32
SA33
SA34
SA35
SA36
SA37
SA38
SA39
SA40
SA41
SA42
SA43
SA44
SA45
SA46
SA47
SA48
SA49
SA50
SA51
SA52
SA53
SA54
SA55
SA56
SA57
SA58
SA59
C1
C2 (North)
C2
C3
D1
D2
D3 (North)
D3 (South)
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
D19
D26
D27
D28
D29
D30
D31
D32
D33
D34
D35
D36
D37
E10
E11
E20
E21
E22
E23
STEEPLE CLAYDON CP
EAST CLAYDON CP
MIDDLE CLAYDON CP
CALVERT GREEN CP
HOGSHAW CP
QUAINTON CP
GRANBOROUGH CP
AYLESBURY DISTRICT
NORTH MARSTON
Steeple Claydon
Middle Claydon
East Claydon
Botolph Claydon
Granborough
Quainton
Shipton Lee
Grendon Underwood
North Marston
Denham
Claydon Park
Verney Junction
Littleworth
Rookery Farm (Kennels)
Manor Farm
Church End
Earthworks Camp Close
Oakfield Farm
Briarhill Farm
Hog Bridge
Wilcox Farm
Stone Court Farm
Elm Tree Farm
Redland Bridge
Railway Cottages
Rectory Farm
Mount Pleasant Farm
Ashcroft Farm
Greenacres
Sandhill
Sandhill Farm
Monkomb Farm
Tuckey Covert
Tuckey Farm
Tuckey Cottage
Berry Leys
Brook Farm
Sewage Works
Shipton Farm
Shipton Bridge
Tinkers End
Jubilee Cottages
Rose Hill Farm
Poors Piece
The Old Brick Yard (disused)
Clarion House
Calverts Jubilee
Calverts Cottages
Blackmorehill Farm
Catherine Farm
Ivy Nook
Phoenix Fruit Farm
South Lodge
Botolph Farm
Home Farm
Oak Cemy
Meat Whitehouse Farm
New Farm
Verney Farm
Old Railway House
Earthworks
Electricity Grid Station
Millknoll Hill Mound
Rookery Farm
Green End
Green End Farm
Lower Green End Farm
Lathwells Farm
Jersey Farm
Hogshaw Road Farm
Wings Farm
Marston Farm
Lower Farm
Middle Farm
Borshaw Farm
Hill End Farm
Fulbrook House
Fulbrook Farm
Oak Cottages
Rare Breeds Centre
Dismantled Railway
Three Points Lane (Track)
Bernwood Jubilee Way
North Buckinghamshire Way
Midshires Way
Outer Aylesbury Ring
Swan's Way
Matthew's Way
Meadow Way
Carters Lane Farm
St John's Manor
Manor Farm
Stonehill Farm
Millwood Village (site of)
Hogshaw Hill Farm
Conduit Hill
Quainton Hill
Woad Hill
Denham Farm
Denham Hill
Denham Hill Farm
Denham Farm Cottage
Denham Lodge
Denham Cottages
Carters Lane Buildings
Pitchcott Hill Farm
Pitchcott
Lower Farm
Manor Farm
Ladymead Farm
Station Road Farm
The Willows
Willows Farm
Banner Hill Cottage
Ladymead Farm Cottage
Fieldside Farm
Civil War Battery
Dismantled Railway
Lee Bridge Cottage
Grange Farm
Grange Hill
Simbor Hill
Lee Road
Bernwood Jubilee Way
Townsend
Cross
Allot Gdns
Rectory
Meat
Moat
Pond
Well
Weir
Cemy
Sch
Memi Sch
Rest
Fb
Mp
Hm Prison
Sharp's Hill
Sharpshill Farm
Brick Kiln Farm
Oving Hill Farm
Tetchwick
Lower South Farm
Upper
Lawn Hill Farm
Fox House Farm
Prune Farm
Edgcott House
Prune Farm Cottages
Lower Greatmoor Farm
Spring Hill
Mill Hill
Hall Cottages
Sewage Works
Hedge End Farm
Grange Farm
Bailey's Farm
Bernwood Farm
Oak Tree Cottages
Bear Tree Farm
Lawn Farm Business Centre
Knapps Hook Farm
Knapps Hook Wood
Doddershall House
Doddershall Wood
Woodside Farm
North Cottage
North Farm
Balancing Pond
Balancing Ponds
Woodlands Farm
Woodlands Farm Cottages
Oak Tree Farm
Dons Bay
River Ray
Hewit's Wood
Lee Wood
Grendon Wood
Finemere Wood
Finemere House
Runt's Wood
Balmore Wood
Greatsea Wood
Romer Wood
Sheephouse Wood
Decoypond Wood
Dunsty Hill
Dunsty Farm
Knowl Hill
Calvert
Dry Leys Farm
Hill Farm
Middle Farm
Lee House
Botolph Farm
Berry Farm
Botyl
Lowhill Farm
Hogshaw Farm
Meat
Pond
Sch
Memi
Rest
Fb
Mp
Earthworks
Electricity Grid Station
Millknoll Hill Mound
Rookery Farm
Green End
Green End Farm
Lower Green End Farm
Lathwells Farm
Jersey Farm
Hogshaw Road Farm
Wings Farm
Marston Farm
Lower Farm
Middle Farm
Borshaw Farm
Hill End Farm
Fulbrook House
Fulbrook Farm
Oak Cottages
Rare Breeds Centre
Dismantled Railway
Three Points Lane (Track)
Bernwood Jubilee Way
North Buckinghamshire Way
Midshires Way
Outer Aylesbury Ring
Swan's Way
Matthew's Way
Meadow Way
Carters Lane Farm
St John's Manor
Manor Farm
Stonehill Farm
Millwood Village (site of)
Hogshaw Hill Farm
Conduit Hill
Quainton Hill
Woad Hill
Denham Farm
Denham Hill
Denham Hill Farm
Denham Farm Cottage
Denham Lodge
Denham Cottages
Carters Lane Buildings
Pitchcott Hill Farm
Pitchcott
Lower Farm
Manor Farm
Ladymead Farm
Station Road Farm
The Willows
Willows Farm
Banner Hill Cottage
Ladymead Farm Cottage
Fieldside Farm
Civil War Battery
Dismantled Railway
Lee Bridge Cottage
Grange Farm
Grange Hill
Simbor Hill
Lee Road
Bernwood Jubilee Way
Townsend
Cross
Allot Gdns
Rectory
Meat
Moat
Pond
Well
Weir
Cemy
Sch
Memi Sch
Rest
Fb
Mp
Hm Prison
Sharp's Hill
Sharpshill Farm
Brick Kiln Farm
Oving Hill Farm
Tetchwick
Lower South Farm
Upper
Lawn Hill Farm
Fox House Farm
Prune Farm
Edgcott House
Prune Farm Cottages
Lower Greatmoor Farm
Spring Hill
Mill Hill
Hall Cottages
Sewage Works
Hedge End Farm
Grange Farm
Bailey's Farm
Bernwood Farm
Oak Tree Cottages
Bear Tree Farm
Lawn Farm Business Centre
Knapps Hook Farm
Knapps Hook Wood
Doddershall House
Doddershall Wood
Woodside Farm
North Cottage
North Farm
Balancing Pond
Balancing Ponds
Woodlands Farm
Woodlands Farm Cottages
Oak Tree Farm
Dons Bay
River Ray
Hewit's Wood
Lee Wood
Grendon Wood
Finemere Wood
Finemere House
Runt's Wood
Balmore Wood
Greatsea Wood
Romer Wood
Sheephouse Wood
Decoypond Wood
Dunsty Hill
Dunsty Farm
Knowl Hill
Calvert
Dry Leys Farm
Hill Farm
Middle Farm
Lee House
Botolph Farm
Berry Farm
Botyl
Lowhill Farm
Hogshaw Farm
Meat
Pond
Sch
Memi

Rosefield
Solar Farm

rosefieldsolarfarm.co.uk

Application Document Ref: EN010158/APP/5.8.3
Planning Inspectorate Scheme Ref: EN010158