



# Botley West Solar Farm

Environmental Statement

## Non-Technical Summary

November 2024

---

PINS Ref: EN010147

Document Ref: EN010147/APP/6.2

Revision P0

APFP Regulation 5(2)(a); Planning Act 2008; and Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations

## Approval for issue

Jonathan Alsop

15 November 2024

The report has been prepared for the exclusive use and benefit of the Applicant and solely for the purpose for which it is provided. Unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS') no part of this report should be reproduced, distributed or communicated to any third party. RPS does not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report.

The report has been prepared using the information provided to RPS by its client, or others on behalf of its client. To the fullest extent permitted by law, RPS shall not be liable for any loss or damage suffered by the client arising from fraud, misrepresentation, withholding of information material relevant to the report or required by RPS, or other default relating to such information, whether on the client's part or that of the other information sources, unless such fraud, misrepresentation, withholding or such other default is evident to RPS without further enquiry. It is expressly stated that no independent verification of any documents or information supplied by the client or others on behalf of the client has been made. The report shall be used for general information only.

---

**Prepared by:**

**RPS**  
**20 Western Avenue,**  
**Milton Park,**  
**Abingdon, Oxfordshire OX14 4SH,**  
**United Kingdom**

**Prepared for:**

**Photovolt Development Partners GmbH,**  
**on behalf of SolarFive Ltd.**

---

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Purpose of this Non-Technical Summary .....	1
1.2	Overview of the Project .....	1
1.3	Site Location .....	2
1.4	Consenting Process .....	2
<b>2</b>	<b>Approach to Environmental Impact Assessment .....</b>	<b>4</b>
2.1	What is the Environmental Impact Assessment (EIA) .....	4
2.2	Consultation and Engagement.....	4
2.3	Scope of the Assessment .....	5
2.4	EIA Methodology and Approach to ES .....	5
2.5	The key elements in EIA for a Nationally Significant Infrastructure Project (NSIP) are:.....	5
<b>3</b>	<b>Planning Policy Context .....</b>	<b>6</b>
3.1	National Planning Policy .....	6
3.2	Local Planning Policy .....	7
<b>4</b>	<b>Need and Alternatives Considered.....</b>	<b>8</b>
4.1	Introduction .....	8
4.2	Need.....	8
4.3	Alternatives .....	9
<b>5</b>	<b>Project Description .....</b>	<b>10</b>
5.1	Introduction and Overview of Project .....	10
5.2	Location of Project .....	11
5.3	Key Components of the Project and Details .....	11
5.4	Construction .....	17
5.5	Operational Development .....	18
5.6	Decommissioning and Enhancement .....	18
<b>6</b>	<b>Summary of Environmental Effects .....</b>	<b>18</b>
6.2	Historic Environment.....	19
6.3	Landscape and Visual Impact Assessment .....	22
6.4	Ecology and Nature Conservation .....	26
6.5	Hydrology and Flood Risk.....	29
6.6	Ground Conditions .....	31
6.7	Traffic and Transport.....	33
6.8	Noise and Vibration.....	35
6.9	Climate Change .....	37
6.10	Socio Economics.....	38
6.11	Human Health .....	40
6.12	Agricultural Land Use and Public Rights of Way .....	43
6.13	Waste and Resources.....	44
6.14	Air Quality.....	46
<b>7</b>	<b>Further Information and Next Steps .....</b>	<b>48</b>
<b>8</b>	<b>References .....</b>	<b>49</b>

## Diagrams

Diagram 1.1:	Overview of the PA08 Application Process. ....	3
Diagram 5.1:	Key Components of the Project .....	12

## Figures

Figure No.	Title
Figure 1	Site Location Plan
Figure 2	Landscape Designations and Green Belt
Figure 3	Heritage Designations with Zone of Theoretical Visibility

## Glossary

Term	Meaning
The Project	Botley West Solar Farm
PA 08	Planning Act 2008

## Abbreviations

Acronym	Meaning
CDC	Cherwell District Council
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DESNZ	Department of Energy Security and Net Zero
EIA	Environmental Impact Assessment
ES	Environmental Statement
GHG	Greenhouse Gas
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
INNS	Invasive Non-Native Species
NGET	National Grid Electricity Transmission
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
OCC	Oxfordshire County Council
PEIR	Preliminary Environmental Information Report
PINS	The Planning Inspectorate
PV	Photovoltaic
PVDP	Photovolt Development Partners GmbH
SoCC	Statement of Community Consultation
SPV	Special Purpose Vehicle
VWHDC	Vale of White Horse District Council
WODC	West Oxfordshire District Council

## Units

Unit	Description
ha	Hectares
km <sup>2</sup>	Square kilometres
MWe	Megawatts electric – electric output capability of the Project

# 1 Introduction

## 1.1 Purpose of this Non-Technical Summary

- 1.1.1 This Non-Technical Summary provides an overview of the Environmental Statement (ES) prepared for the Botley West Solar Farm. The ES has been prepared by RPS for Photovolt Development Partners GmbH (PVDP) on behalf of the Applicant, SolarFive Ltd. (SolarFive). SolarFive is a licence holder under the Electricity Act 1989 and also a registered company in England and Wales (company no. 12602740).
- 1.1.2 This Non-Technical Summary forms part of the documents submitted by the Applicant in support of the application for development consent for the Botley West Solar Farm (*hereafter referred to as 'the Project'*) and has been written in non-technical language and summarises the information contained within the ES.
- 1.1.3 The purpose of ES is to present the findings of the Environmental Impact Assessment (EIA) being undertaken for the Project, in accordance with the Planning Act 2008 (PA 2008) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations').
- 1.1.4 The Project is classed as a Nationally Significant Infrastructure Project (NSIP) for the purposes of PA 2008, which defines an NSIP as including the construction of an onshore generating station exceeding 50MWe in England and requires an application for a Development Consent Order (DCO). The application for development consent is being submitted to the Planning Inspectorate (PINS), with the decision on whether to grant a DCO to be made by the Secretary of State for Energy Security and Net Zero (the Secretary of State), as required under the PA 2008.
- 1.1.5 The Project is also considered to be 'EIA development' as defined by the 'EIA Regulations', requiring Environmental Impact Assessment (EIA).
- 1.1.6 For access to project information on the National Infrastructure Planning Website, please visit the Project PINS' page, here: <https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010147>. Details of how to view the ES and its volumes, or to obtain further copies of this NTS, are provided at the end of this document.

## 1.2 Overview of the Project

- 1.2.1 The UK Government has legislated to commit the country to achieving net zero carbon emissions by 2050, and to de-carbonising electricity by 2035. The Government's 'British Energy Security Strategy' (April 2022) also expects a five-fold increase in solar power generation, to 70GW, by 2035. These commitments mean that the UK urgently needs more renewable forms of electricity to be produced. The Project's generation output will be vitally important if the Government's commitments are to succeed, significantly helping to deliver the transition to net zero.
- 1.2.2 The Project is formed of three areas of solar installation (Northern Site, Central Site and Southern Site) with interconnecting cables, which together would

generate renewable power through photovoltaic (PV) panels. The Project aims to deliver approximately 840MWe of power to the National Electricity Transmission System (NETS), which would provide secure and clean energy of an equivalent level to meet the needs of approximately 330,000 homes.

- 1.2.3 The Project's solar arrays (comprising all the mounting structures, frames and foundations) will be connected by underground electrical cables within each section of the site, and via underground electric cables to the substation at the grid connection point. The interconnecting cable route will largely follow the public highway, but some parts will cross land controlled by the Applicant.

## **1.3 Site Location**

- 1.3.1 The Project lies within the administrative areas of Cherwell District Council (CDC), West Oxfordshire District Council (WODC), Vale of White Horse District Council (VWHDC) and Oxfordshire County Council (OCC).

- 1.3.2 The Project location extends from an area of land in the north, situated between the A4260 and the Dorn River Valley near Tackley and Wootton (the Northern Site), through a central section, situated broadly between Bladon and Cassington (the Central Site), and connecting to a section further south near to Farmoor Reservoir and north of Cumnor (the Southern Site), where the Project will connect to the National Grid transmission network. The name 'Botley West' is derived from the location of the grid connection point.

- 1.3.3 The majority of the Project lies within West Oxfordshire and within the Oxford Green Belt, with most of the land proposed for the Project currently used for arable crops or otherwise down to pasture. Details of the Project and its components have been provided in Section 5: Project Description of this document and the location of the Project is shown in Figure 1 Site Location Plan.

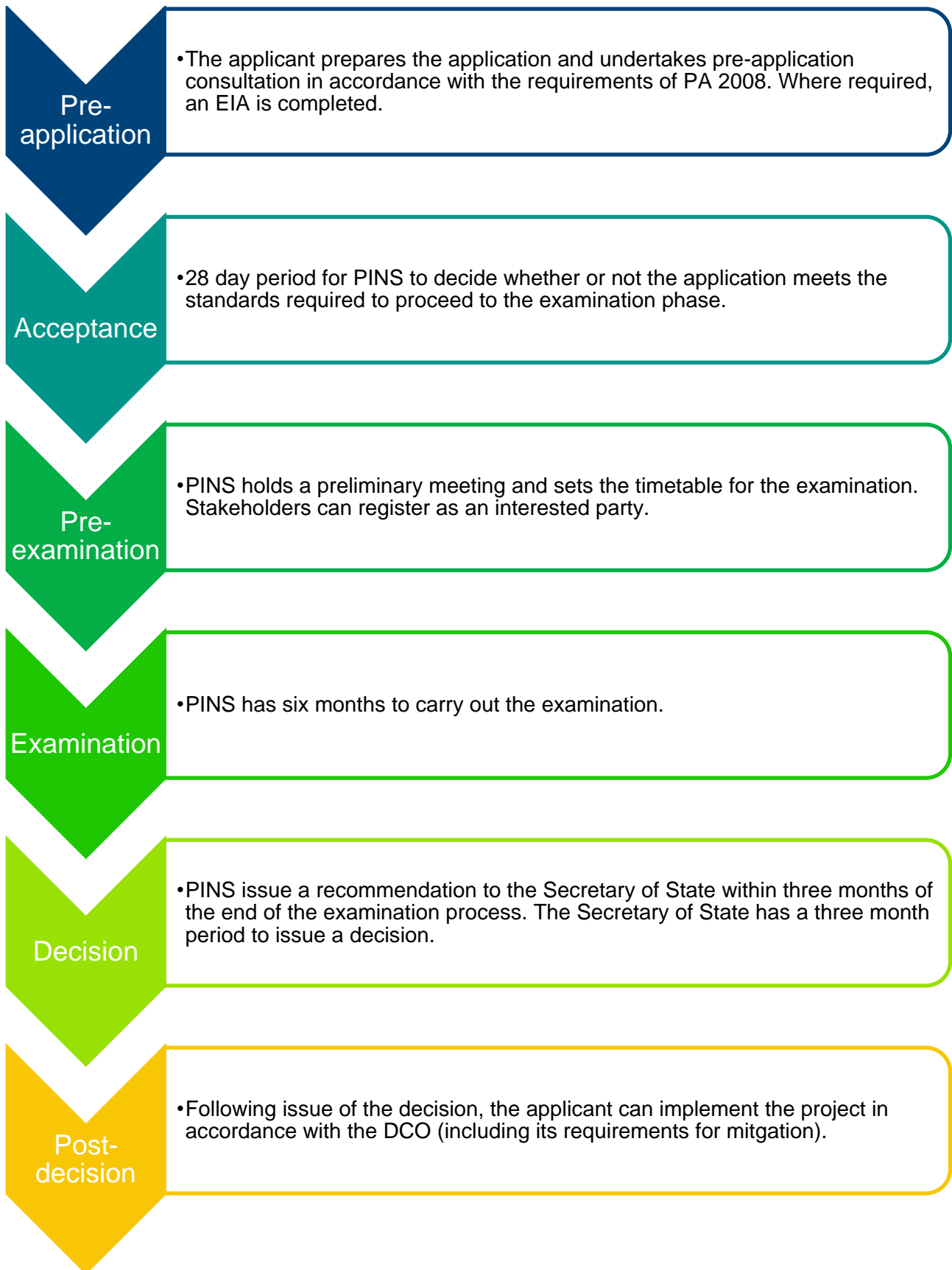
## **1.4 Consenting Process**

- 1.4.1 The PA 2008 created a new development consent regime for major infrastructure projects in the fields of energy, transport, water, wastewater, and waste. The intention was to speed up the process for approving major infrastructure projects categorised as NSIPs.

- 1.4.2 The Planning Inspectorate is a government agency responsible for dealing with applications for development consent for NSIPs in England and Wales. The application for development consent for the Project is then ultimately decided by the Secretary of State.

- 1.4.3 PA 2008 defines the key stages in the application process for Nationally Significant Infrastructure Projects. These stages are summarised below in Diagram 1.1. The Environmental Impact Assessment (EIA) is undertaken during the pre-application stage.

**Diagram 1.1: Overview of the Application Process.**





## 2 Approach to Environmental Impact Assessment

### 2.1 What is the Environmental Impact Assessment (EIA)

2.1.1 EIA is the formal process of identifying and assessing the positive (beneficial) and negative (adverse) effects of a proposed development on the environment and determining if these are likely to be significant. Where significant adverse impacts are identified, suitable measures are proposed to avoid, prevent, reduce, or offset their effect on the environment. The EIA is then reported in an Environmental Statement (ES) to assist with the decision-making process.

### 2.2 Consultation and Engagement

2.2.1 Consultation and engagement with stakeholders have formed an integral part in the development of the Project and the EIA process. The following consultation and engagement activities have been undertaken for the Project:

- **Public Consultation (September 2022 onwards):** The Applicant undertook early engagement about the Project with the host authorities (CDC, WODC, VWHDC and OCC), political leaders and statutory consultees from September 2022 onwards, including holding a webinar for elected members prior to the start of the first stage of community consultation. Subsequently, the initial non-statutory community consultation was undertaken between Thursday 3 November 2022 and Thursday 22 December 2022, including with Parish Councils and key stakeholder groups. This initial consultation period had a series of events.
- **EIA Scoping:** In order to inform the scope of the EIA, the Applicant sought a Scoping Opinion from PINS (on behalf of the Secretary of State) on 15 June 2023. The Scoping Opinion was subsequently received on 24 July 2023 and is reflected in the format and contents of the ES.
- **Statutory Public Consultation (between 30<sup>th</sup> November 2023 and 8<sup>th</sup> February 2024):** Consultation, including consultation on the Preliminary Environmental Impact Report (PEIR), was undertaken as part of the second (statutory) phase of public consultation. In doing so, the Applicant consulted with statutory and prescribed consultees, land interests, and the local community in parallel. Feedback from consultation has been assimilated and used to further inform and guide the development of the Project, in considering design options, environmental impacts and benefits.
- **Targeted Consultation (between 14<sup>th</sup> June and 28<sup>th</sup> July 2024):** Targeted consultation was undertaken which focused on specific changes made across the Site since the PIER submission. This consultation focused on specific changes to the Project site boundary (indicative Order Limits), primarily with small increases in land area, but also reductions to the land required in some areas. Feedback from targeted consultation helped inform refinements in project design.
- **Further Targeted Consultation (between 15<sup>th</sup> August and 15<sup>th</sup> September 2024):** further consultation on a single change, focused on an

addition to the Order Limit to include land around an established veteran tree, adding flexibility to the existing cable corridor.

- **Further Statutory Consultation (between 1<sup>st</sup> October 2024 and 30<sup>th</sup> or 31<sup>st</sup> October 2024):** the Applicant carried out further consultation with a limited number of new or changed land interests in accordance with section 42 of the PA 2008. These land interests were identified as part of a land referencing refresh that was carried out in preparation of the Book of Reference [EN010147/APP/4.3]. The deadline for responses to be provided was either 30 or 31 October – depending on when the letters were received by the relevant parties – to ensure that all land interests received at least the statutory minimum period to provide any consultation response(s). The deadline also allowed sufficient time for any responses to be considered as part of the application ahead of submission. A full summary of the consultation and engagement activities undertaken for the Project during the pre-application process, including this further round of statutory consultation, is set out in the Consultation Report [EN010147/APP/5.1].

## 2.3 Scope of the Assessment

2.3.1 As set out above, a Scoping Opinion from PINS was sought by submitting the EIA Scoping Report on 15 June 2023. The EIA Scoping Report set out the scope and methodology of the EIA for the Project and was consulted upon by the Planning Inspectorate and feedback was received from relevant stakeholders.

2.3.2 Following consultation, the Planning Inspectorate provided its Scoping Opinion on 24 July 2023. The Scoping Opinion formed the basis of the EIA for the Project by identifying and confirming which environmental topics require assessment in the Environmental Statement. The scope of the EIA will also be informed by relevant legislative requirements; the nature, size and location of the Project; and ongoing consultation responses received to date.

## 2.4 EIA Methodology and Approach to ES

2.5 The key elements in EIA for a Nationally Significant Infrastructure Project (NSIP) are:

- Iterative project design, taking feedback from consultation and applying it to the development design process on an ongoing basis throughout the EIA process;
- Scoping and ongoing consultation, including consideration of responses and how these should be addressed as part of the EIA process;
- Technical environmental impact assessments, including baseline studies, input to the design process, and identification and reporting of likely adverse or beneficial significant environmental effects;
- Proposed measures to avoid, reduce or mitigate likely significant adverse effects;

- Consultation on a Preliminary Environmental Information Report (PEIR); and
- Preparation and submission of the Environmental Statement (ES).

2.5.1 Each of the technical assessments within the EIA follows a systematic approach, with the principal steps being:

- a. Description of baseline conditions collected by desk study and/or survey;
- b. Assessment of likely significant effects incorporating embedded mitigation;
- c. Identification of appropriate additional mitigation measures, including design changes;
- d. Assessment of residual (likely) environmental effects that remain following the additional mitigation; and
- e. Assessment of cumulative effects when considering the Project along with other planned developments in the area and an assessment of inter-related effects (i.e. the cumulative environmental impacts assessment of various specialisms taken together e.g. noise and traffic or noise and health).

2.5.2 See Chapter 4: Approach to Environmental Assessment in Volume 1 of the ES [EN010147/APP/6.3] for further details of the EIA methodology and approach to the EIA.

### 3 Planning Policy Context

#### 3.1 National Planning Policy

##### National Policy Statements (NPS)

3.1.1 The EIA process has considered existing and emerging national planning policy relevant to the Project. In doing so, the application, including the EIA, has considered the National Policy Statements (NPS) that will be important and relevant to the Secretary of State’s decision as to whether to grant a DCO for the Project.

3.1.2 NPS are designated under PA 2008 and set out the Government’s policy for the delivery of energy infrastructure, providing the legal framework for planning decisions. The current suite of designated NPS were published in November 2023 and designated in January 2024.

3.1.3 The designated energy NPS subject to consultation comprised the overarching NPS for energy (EN-1) alongside technology-specific NPS (EN-2 to EN-5). The EIA has been undertaken with reference to the following:

- EN-1: Overarching NPS for Energy;
- EN-3: NPS for Renewable Energy Infrastructure; and
- EN-5: NPS for Electricity Networks Infrastructure.

3.1.4 EN-1 sets out the ‘need case’ for energy infrastructure projects, and planning guidance on assessment criteria that are common across a number of

technologies. EN-5 refers to the need case in EN-1 and includes planning guidance on the assessment of technology specific criteria.

3.1.5 EN-3 emphasises the central role that solar will play in decarbonising the energy sector. The scale of such proposals and their impacts are also recognised.

3.1.6 Paragraph 2.1.5 of the PSS explains that NPS EN-1 sets out national policy for energy infrastructure, including solar (at Paragraphs 3.3.61 to 3.3.63);

*“The need for all these types of infrastructure is established by this NPS and a combination of many or all of them is urgently required for both energy security and Net Zero, as set out above.*

*Government has concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Section 4.2 states which energy generating technologies are low carbon and are therefore CNP infrastructure.*

3.1.7 This point in relation to critical national priority applies to Botley West, and is expanded further at Section 4.2 of this document, in relation to the need for the Project.

### **National Planning Policy Framework (NPPF)**

3.1.8 The National Planning Policy Framework (NPPF), published in 2012 and revised in December 2023, sets out the Government’s planning policies for England and how these are to be applied, supported by the National Planning Practice Guidance (NPPG). Under the new Government elected in May 2024, a consultation on proposed amendments to the NPPF will close on 24 September 2024.

3.1.9 NPPF paragraph 5 sets out that an NSIP will be determined in accordance with NPSs. However, paragraph 5 goes on to confirm that the NPPF may be a matter that is both important and relevant for the purposes of assessing DCO applications. It reads;

*“The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework). National policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans and making decisions on planning applications.”*

3.1.10 The EIA for the Project has therefore had regard to the relevant policies of the NPPF as part of the overall framework of national policy relevant to solar development.

## **3.2 Local Planning Policy**

3.2.1 The Project lies within the administrative areas of West Oxfordshire, Cherwell and Vale of White Horse Districts, and within Oxfordshire County Council, and

for the area within which the Project sits the adopted Development Plans currently comprise the following;

- West Oxfordshire Local Plan 2031, adopted in 2018;
  - Including the ‘made’ Neighbourhood Plans for Woodstock (2023) and Eynsham (2020) and Cassington (2023);
- Cherwell Local Plan 2011-2031 (Part 1) including saved policies from the Cherwell Local Plan 1996, and its Partial Review, adopted in 2020;
- Vale of White Horse Local Plan 2031 Parts 1 and 2;
- The ‘made’ Neighbourhood Plan for Cumnor (2021); and
- The Oxfordshire Minerals & Waste Local Plan Part 1 – Core Strategy (2017) and saved policies of the Oxfordshire Minerals and Waste Local Plan (1996).

3.2.2 The Applicant has had regard to relevant local policies in compiling the ES. Each technical chapter contains a summary of the relevant Local Development Plan policies for each of the technical disciplines.

## **4 Need and Alternatives Considered**

### **4.1 Introduction**

4.1.1 This section provides a summary of the need for the Project and the main alternatives considered by the Applicant during the project development and EIA process. As part of the EIA process, the Applicant considered alternatives for the selection of the site, its scale, alongside alternative design and layout options and chose the most appropriate.

### **4.2 Need**

4.2.1 There is a strong need case for the increase in UK based renewable energy due to commitments and obligations at international level, such as the Kyoto Protocol and COP21 and more recently COP26. At a national level, legally binding targets of net zero by 2050, the phasing out of fossil fuel generation by 2035 and an expansion of low carbon energy supplies so that renewable make up 80% of the generation by 2050 all further support the urgent need case for the Project.

4.2.2 Looking at solar specifically, the UK Energy Security strategy highlights the importance of solar energy in the move towards renewables and it outlines that it seeks solar generation to reach 70 GW by 2035. Given the generating capacity of the Project, if consented the Project would significantly help contribute towards this need. The need case is explored in detail in the Planning Supporting Statement (PSS) **[EN010147/APP/7.1]**

4.2.3 Paragraph 2.1.5 of the PSS explains that NPS EN-1 sets out national policy for energy infrastructure, including solar (at Paragraphs 3.3.61 to 3.3.63);



*“The need for all these types of infrastructure is established by this NPS and a combination of many or all of them is urgently required for both energy security and Net Zero, as set out above.*

*Government has concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Section 4.2 states which energy generating technologies are low carbon and are therefore CNP infrastructure.*

*Subject to any legal requirements, the urgent need for CNP Infrastructure to achieving our energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by application of the mitigation hierarchy. Government strongly supports the delivery of CNP Infrastructure and it should be progressed as quickly as possible.”*

### **4.3 Alternatives**

4.3.1 The location of the Project Site was driven by a number of factors. Discussions were held with National Grid to identify where their priorities were to meet demand and manage the UK electricity supply network. As a result, the Applicant became aware that National Grid wished to invest in reinforcing and extending the grid network in the Oxfordshire area, partly in response to Oxfordshire’s fast-growing economy and the increasing demand for electricity.

4.3.2 The location and overall size of the Project has been influenced by landscape, cultural heritage, ecology, and other environmental and planning designations including land ownership, commercial viability and availability of a suitable grid connection. The precise boundaries have been refined as necessary in response to known or assumed physical and environmental constraints and additional surveys and baseline studies.

#### **Site Layout and Design**

4.3.3 At the early stages of the feasibility of the Project, the Applicant produced a high-level constraints plan to understand site sensitivities in planning and environmental terms. The evaluation of site constraints presented an opportunity to provide the following;

- Area for habitat enhancement, including planting of native species and opportunity to enhance existing habitat;
- Ability to enhance the landscape and provide screening for the Project;
- Retention of agricultural use beneath the solar arrays, and for areas of land made available for community-based food growing initiatives;
- Enhance the existing network of public rights of way, where appropriate, with new landscaping and,
- The provision of new footpaths and cycleways to improve pedestrian access in the area.

4.3.4 The EIA and consultation processes have formed an integral part of the iterative design process of the Project, through the identification of

environmental constraints and identifying opportunities for mitigation and enhancement.

- 4.3.5 Measures have been included within the Project to reduce the adverse effects on environmental receptors. The design parameters approach to accommodate emerging technology has the potential to further reduce environmental effects. Therefore, there have been a number of iterations and refinements to the layout of the Project.

### **Choice of Solar Array – Type and Height**

- 4.3.6 The Project does not incorporate any battery storage. Energy generated by the Project will be despatched to the grid but stored, as required, by Battery Energy Storage Systems (BESS) that are connected to the Grid elsewhere.
- 4.3.7 Fixed arrays, rather than rotating systems, have been decided upon by the Applicant. The maximum height of the panels across the Site has been decided to be 2.2m.
- 4.3.8 In response to consultation feedback, advice from Savills and the Blenheim Estate, it has been decided that low-density sheep grazing will be used as part of the Project.

### **Cable Corridor Route and Laying System**

- 4.3.9 The cable system has also been the subject of evaluation in terms of its optimum route and method of laying the cables. The route has evolved with a clear view from the outset that it should avoid or minimise its impact upon the environment.
- 4.3.10 In light of this, it was decided that where possible the cable route should be located within the existing highway. Where the cable route needed to cross agricultural land or cross other features, then routes or route options have been selected which avoid impact on archaeologically sensitive areas, away from sensitive receptors where possible.
- 4.3.11 The cable laying system will predominantly use the cut and cover technique; trenches would be cut into the ground, soil placed to one side, the cable laid, then covered over. However, where features are encountered along the route which are considered sensitive, or where cut and cover would otherwise be inappropriate, the Applicant has selected a horizontal directional drilling (HDD) method of cable laying or pipe-ramming.
- 4.3.12 See Chapter 5: Alternatives Considered in Volume 1 of the ES [EN010147/APP/6.3] for further details on alternatives.

## **5 Project Description**

### **5.1 Introduction and Overview of Project**

- 5.1.1 The Applicant seeks consent to install and operate approximately 840MWe of solar generation development in parts of WODC, CDC and VWHDC. By delivering approximately 840 MWp of power to the National Grid it aims to

provide secure and clean energy to the equivalent of approximately 330,000 homes.

- 5.1.2 The Project will connect to a new National Grid Electricity Transmission (NGET) system, via a new National Grid 400kV substation, to be located close to the existing National Grid 400kV line that runs between Cowley, in Oxford, and Walham in Gloucestershire.

## 5.2 Location of Project

- 5.2.1 All of the Project will be located within the county of Oxfordshire which has a total area of approximately 1,418 ha. The Project extends from an area of land in the north (the Northern Site), situated between the A4260 and the Dorn River Valley near Tackley and Wootton, through a central section (the Central Site), situated broadly between Bladon and Cassington, and connecting to a section further south near to Farmoor Reservoir and north of Cumnor (the Southern Site), where the Project will connect to the NGET system.

- 5.2.2 The majority of the land proposed for the Project is currently used for arable crops or is otherwise down to pasture.

- 5.2.3 The Project will be confined to the Project Site boundary as shown on Figure 1: Site Location Plan. This boundary also allows for land used temporarily, including land for construction compounds and cable route options.

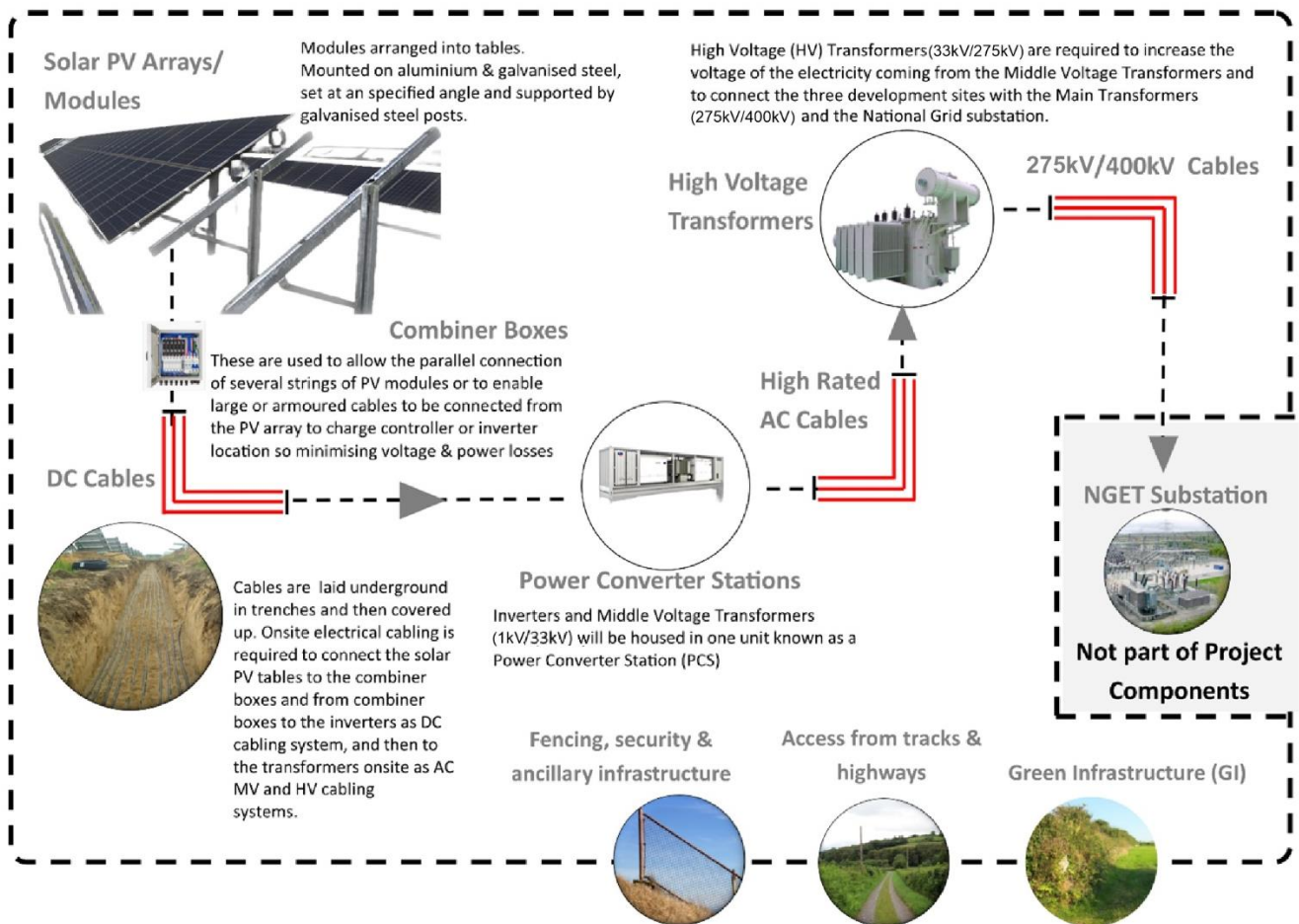
## 5.3 Key Components of the Project and Details

- 5.3.1 The key components of the Project comprise the following, which have been illustrated in Diagram 5.1 below:

- Retained agricultural use of the land for conservation grazing, and with some areas given over to horticulture;
- Solar PV Modules;
- PCS (inverters, transformers and supporting equipment);
- High Voltage Transformers, including switchgear;
- Onsite cabling (33kV and 275kV);
- National Grid Electricity Transmission (NGET) 400kV substation;
- Fencing, security cameras and lighting;
- New vehicular accesses from the public highway and internal maintenance tracks;
- New green infrastructure including trees and hedgerows and other planting measures to enhance biodiversity; and
- New footpaths and cycleways.



**Diagram 5.1: Key Components of the Project**



Source of Diagram: RPS (Not to Scale – for illustration purposes only)

5.3.2 The Project’s solar arrays will be connected by electrical cables within each of the Site Areas. The interconnecting cable routes between the Site Areas will largely follow the public highway, but some parts will cross land either leased by the Applicant or the subject of an easement agreement.

**Solar Design Parameters**

5.3.3 The Project components used for assessment purposes in this ES are summarised in Table 5.1 below. The ‘Parameter Range’ describes possible deviations or approximate ranges in the detail, to allow for the assessment of ‘worst case’ scenarios, as certain elements will not be known in detail until the Project is procured.

**Table 5.1: Operational Development Parameters**

Project Component	Parameter range
Total Installation area for solar arrays – Northern Site Area (exc. 275kV corridor route)	Approx. 247.3 ha
Total Installation area for solar array – Central Site Area (exc. 275kV corridor route)	Approx. 545.2ha
Total Installation areas for solar array – Southern Site Area	Approx. 46 ha (with NGET substation) Approx. 50 ha (without NGET substation)
Indicative Number of Solar PV Modules	Range from 1,800,000 to 2,200,000 PV modules
Watts peak (Wp)	1200 to 1375 MWp
Indicative Solar PV Module Dimensions	Width (m) 1.1 to 1.4 m
	Length (m) 2.1 to 2.4 m
	Depth (m) 0.03 to 0.04 m
	Area (m <sup>2</sup> ) 2.3 to 3.5 m <sup>2</sup>
Indicative Slope of Solar PV Modules from Horizontal	12 to 18 degrees
Height of Solar PV modules above ground level	0.8 m at lower edge 2.20 m - edge when land is flat 2.30m at higher edge when land is not flat
Indicative Solar PV Module Colour	Dark blue or dark grey or black
Frame type	Anodized Aluminium Alloy
Indicative Number of Pyranometers (used to measure solar irradiance) Note: these are devices that are small and typically mounted onto the frame of the arrays or adjacent on freestanding poles no higher than 1.9m AGL	50-60
Indicative Table Width (incl. Ridge Break) East/West Width	3 m to 22 m
Indicative North/South separation distance (m) between tables	1.5 m to 3 m (to allow for gradients and overshadowing effects)
Indicative East/West separation distance (m) between tables	0.25 m to 0.50 m
Indicative Mounting Structure Material	Galvanized steel fixed tilt
Minimum distance between solar array field fence boundary and table areas (m)	Minimum 7.0 m and in some locations up to 100 m Minimum distance between residential property boundary and table areas is approximately 25 m
Indicative Foundation Type	Driven piles or screw piles

Project Component	Parameter range
Indicative total number of piles	780,000 to 1,600,000
Depth of piles below ground level (m)	1.0 m to 3.0 m
Power Converter Stations (PCS) - number, sound power levels, and total installed capacity of inverters	156 no. PCS units Sound power levels - approximately 92 dB Total installed capacity approximately 936,000 kVA (total apparent power in AC)
Power Converter Station (PCS) - dimensions	Height (m) 2.7 – 3.5 m Length (m) 12.0 – 14.0 m Width (m) 2.2 – 2.9 m
Applicant Main Project Substation - number, dimensions and sound power output	1 no. Applicant Main Substation with 2 HV transformers Length (m) – Approx. 156 Width (m) – Approx. 63 Height (m) – 11 Sound power output – 93 dB(A)
Applicant Secondary Project Substations - number, dimensions and sound power output	6 no. Applicant Secondary Substations - 5no with 1 HV Transformer and the 6th housing two MV Transformers. Total Max MVA rating will be 1000. Length (m) 12 – 18 m Width (m) 6 – 10 m Height (m) 4.0 m – 6.0 m (inc. isolator) Sound power output – variable 73-86 dB(A)
Indicative Transformer Foundation Dimensions	Length (m) 19 – 22.0m Width (m) 18 – 21m Height (m) 0 – 1.0 m
Indicative Transformer Colour	Grey
DC Cables from Solar PV Modules to Inverters	DC string cables in the mounting structure, DC collection cables in underground trenches (unless on sensitive archaeology in which case to be laid on surface) Depth: between approx. 0.40 and 0.80 m
AC Cables from Transformers to Secondary Substation (HV Transformer) (33/275kV)	Depth: Roadways: 0.75 – 0.85 m  Fields: 0.90 – 1.2 m

Project Component	Parameter range
	Footpaths, verges, uncultivated land: 0.70 – 0.90 m
NGET substation (approx)	87m x 30m footprint of main building (Gas Insulated) 12m height of main building (colour – dark green) 12.5m height of landing gantry 2.3 to 3.8ha site area requirement Sound Power Level – 95 dB(A)

## Solar PV Array Areas and Mounting Structure

- 5.3.4 The proposed solar PV modules convert solar irradiance (light) into direct current (DC) electricity. They are designed to maximise the absorbency of the sun’s rays and minimise solar glare.
- 5.3.5 The individual solar PV modules within the Project Site are likely to consist of dark blue, and/or dark grey and / or black, photovoltaic (PV) cells. A range of alternative PV technologies is developing rapidly and may be available at the time of construction, therefore the solar PV modules are not limited to a particular type of PV cell. At the highest point the modules will be 2.2m and at the lowest point the modules will be 0.8m. The arrays are intended to be fixed, not rotating.
- 5.3.6 The solar PV modules are expected to be mounted on a metal framework using a mix between galvanised steel and aluminium, supported by galvanised steel piles or screws driven into the ground by an impact piling or screwing rig to a depth of approximately 1.0 to 3.0 m.
- 5.3.7 A network of other infrastructure is connected to the Solar PV Array. These include electrical installations such as transformers, inverters, power convertor stations (PCS), high voltage (HV) and middle voltage (MV) transformers and associated electrical cabling which will be routed through underground cable trenches.
- 5.3.8 MV Transformers (1kV/33kV) and switchgear will be housed in one unit known as a Power Converter Station (PCS). There will be 156 PCS located within the solar PV installation area. The dimensions of a PCS are up to 14m long and up to 3.5m high. Inverters might also be located within the PCS.
- 5.3.9 High Voltage (HV) Transformers (33/275 kV) are required to increase the voltage of the electricity coming from the MV Transformers and to connect the three development sites with the Main Transformers (275/400kV) and the NGET substation. The HV Transformers will be located within the solar PV installation area. In total, there are likely to be two HV Transformers (33/275 kV) and six High Voltage Transformers (275/400kV). The dimensions of a HV transformer are approximately 18m long and 6m high.
- 5.3.10 Onsite electrical cabling is required to connect the solar PV tables to the combiner boxes and from combiner boxes to the inverters as DC cabling system, and then to the transformers on site as AC, MV and HV cabling systems.

- 5.3.11 Alternate Current (AC) cables from the inverters to the substation will be routed through underground cable trenches. Within trenches the AC cables between the transformers and the Project substations will be buried at the following approximate depths:
- Roadways: approximately 0.75 - 0.85 m;
  - Agricultural land: approximately 0.91 - 1.2 m;
  - Footpaths, verges, uncultivated land: approximately 0.75 - 0.85 m; and
  - Depth under railway and river crossings - to be determined, but to be in accordance with relevant regulations - likely to be 5 m.

### **Landscaping**

- 5.3.12 Planting and management of grassland, hedgerows, trees and areas of scrub is proposed across the site for landscape, visual and biodiversity mitigation and enhancement. Landscape mitigation is embedded in the overall project design and has been formulated to minimise potential landscape and visual impacts and maximise enhancement of landscape features, landscape character and biodiversity of the Site.
- 5.3.13 Areas under and around the panels will develop vegetation that is fit for grazing by sheep or can be cut back to produce compost. In areas not affecting power generation vegetation growth will be facilitated to improve biodiversity.
- 5.3.14 Areas under and around the panels will develop vegetation that will be managed by conservation grazing. Conservation grazing entails lower levels of stocking than traditional commercial sheep farming, and a regenerative approach to soil management which also supports the management of areas that deliver the Project BNG target. In areas not affecting power generation vegetation growth will be facilitated to improve biodiversity.
- 5.3.15 Earthworks on the Site (e.g. transformer foundation excavations) may result in a small surplus of material within areas of the Site. This material will be reused in landscaping and restoration of the Site during and after construction and is not intended to be exported.

### **Fencing, Lighting, Access and CCTV**

- 5.3.16 Fencing, lighting and security systems are also proposed to enclose and secure the main Project infrastructure components. The fencing will be for operational security purposes and may be up to 2.1 m in height. Lighting and CCTV will be installed too, but only within limited areas of the development, generally around the high voltage infrastructure for safety and security.
- 5.3.17 The large, mostly arable, areas within the Site have been sub-divided using existing physical features such as hedgerow, ditches and overhead power lines, into developable land parcels.

### **Site Access**

- 5.3.18 Vehicles will access the Project Site either via existing field entrances or purpose-built new access roads.



5.3.19 During construction, haul roads will be positioned to minimise impacts upon sensitive receptors. Where possible haul road routes will use existing unsurfaced tracks and field access points and where it is necessary to cross existing rights of way, these will be carefully managed to reduce, or avoid, adverse effects.

5.3.20 The final position and treatment of all internal maintenance roads, and any haul roads required during the construction phase, will be confirmed post consent and be the subject of approval via Requirements to be secured within the draft DCO.

## **5.4 Construction**

5.4.1 The construction of all aspects of the Project is subject to the final Project design and potential environmental constraints. Construction is expected to last approximately 24 months, plus a period for testing and commissioning. The indicative start date for construction is dependent on when the necessary consents are granted, but is likely to be the end of Q2 2026. The following are the main construction activities:

- Site preparation
- Establishment of the perimeter fence and main construction compound(s);
- Delivery of construction material, plant and equipment to site;
- Solar PV module and associated infrastructure construction, comprising;
  - Delivery of components to site
  - Erection of module mounting structures
  - Installation of modules and Power Converter Stations (PCS)
  - Trenching and installation of electric cabling
  - Transformer foundation excavation and construction
  - Testing and commissioning
- Landscaping and other environmental enhancements

5.4.2 There will be four main temporary construction compounds in the Project Sites, one in the Northern Site, two in the Central Site and one in the Southern Site. The temporary construction compounds will be carefully located in order to minimise environmental or amenity impact. Topsoil and subsoil will be stripped from such areas and stored on site for replacement following the completion of construction works.

5.4.3 Each compound will have fencing and suitable hard standing, offices, welfare facilities and generators to supply electricity. The temporary construction compounds will be returned to original state upon completing construction.

5.4.4 Once construction is complete, the temporary construction compounds will be used as additional solar installation areas and any related infrastructure.

## 5.5 Operational Development

- 5.5.1 During the operational phase, activity on the Site will be minimal and will be restricted principally to continued agricultural use, landscape and ecology management, equipment/infrastructure maintenance and servicing, including cleaning and replacement of any components that fail, and monitoring to ensure the continued effective operation of the development. Operational and maintenance staff (amounting to approximately 19 FTE per year), may require access to the Site during daylight hours, seven days a week.
- 5.5.2 The undeveloped areas of the site will be designed and managed to enhance the landscape and ecological value of the area. Agreement has been reached in principle with a number of organisations to manage and operate small scale food production areas, and for all other parts of the site to be given over to conservation grazing.
- 5.5.3 The Project does not incorporate any battery storage. Energy generated by the Project will be stored, as required, by Battery Energy Storage Systems (BESS) that are connected to the Grid elsewhere, including the EDF 50MW BESS located at Cowley substation.

## 5.6 Decommissioning and Enhancement

- 5.6.1 The consent being sought for the Project is a temporary one. Temporary consent is being sought for a 42-year period during which the solar farm will be constructed, operated and decommissioned. Decommissioning of the Project is also expected to last 24 months.
- 5.6.2 Other than all 33kV and 275 kV cables (where they have been laid in the public highway and where cables have been laid using horizontal directional drilling – either under rivers, road, rail crossings, or existing landscape features), and any NGET substation, all other solar PV array infrastructure including solar PV modules, mounting structures, cabling, inverters and transformers will be removed from the Site and recycled or disposed of in accordance with good practice and market conditions at that time.
- 5.6.3 An Outline Decommissioning Plan [EN010147/APP/7.6.4], including timescales and transportation methods, ecological and landscape enhancements and other environmental improvements, has been developed in consultation the local planning authority, local community and key stakeholders and forms an integral part of the DCO application. This is secured by way of Requirement in the draft DCO.
- 5.6.4 See Chapter 6: Project Description in Volume 1 of the ES [EN010147/APP/6.3] for further details on description of the Project.

## 6 Summary of Environmental Effects

- 6.1.1 This section provides a summary of the preliminary findings of the environmental assessments undertaken to date for all topics. Figures supporting the environmental assessments have been provided in Figure 2: Landscape Designations and Green Belt and Figure 3: Heritage Designations with Zone of Visual Visibility.

- 6.1.2 The process of both identifying environmental effects and proposing mitigation measures is both iterative and cyclical, running in tandem with the iterative design process. Therefore, after the statutory consultation period, the following sections for each environmental topics have been updated and the assessments reflect the feedback received during statutory consultation, the findings of the ongoing surveys and the scheme design refinements.
- 6.1.3 As part of the mitigation measures and are secured in the DCO, a number of environmental topics refer to various documents that have been prepared as part of the ES, for e.g. Outline Code of Construction Practice (oCoCP), Outline Landscape and Ecology Management Plan (oLEMP) etc.
- 6.1.4 Cumulative assessment has also been carried out for each of the environmental topics arising from the Project during the construction and operation and maintenance and decommissioning phases. The cumulative assessment uses a short list of ‘other developments’ which could result in cumulative effects on the same receptors as the Project.
- 6.1.5 The assessment of inter-related effects for the Project has been undertaken to determine how individual effects for each environmental topic may combine to create significant inter-related effects on identified receptors.
- 6.1.6 See Chapter 20: Cumulative Effects and Inter-relationships and Chapter 21: Summary of Significant Effects in Volume 1 of the ES [EN010147/APP/6.3] for further details.

## **6.2 Historic Environment**

### **Introduction**

- 6.2.1 This section presents a summary of the assessment of the likely significant effects on the historic environment during the construction, operation and maintenance, and decommissioning of the Project. The assessment covers all aspects of the historic environment including buried archaeological remains, historic buildings and areas, and the character of the historic landscape.

### **Assessment Methodology**

- 6.2.2 The historic environment baseline was established through a combination of desk-based studies using appropriate sources of data, along with site visits and a purposive programme of geophysical survey. A specialist review of historic aerial photography and LiDAR information was also undertaken. A programme of archaeological trial trenching has commenced and this will provide additional information regarding the nature of the archaeological sites known to be present within the Project Site.
- 6.2.3 The site visits were aimed at gaining an understanding of the current settings of key designated heritage assets, in order to be able to assess whether the Project could result in a change within the setting which could harm the significance of the heritage assets. The Zone of Theoretical Visibility (ZTV) was also utilised within this part of the assessment. A ZTV is a computer generated tool which identifies the likely extent (theoretical) of visibility of the



Project on the terrain and helps to identify locations for Representative Viewpoints (see Figure 3: Heritage Designations with Zone of Visual Visibility).

- 6.2.4 The Blenheim Palace World Heritage Site (WHS) is located just to the west of the Project Site. The boundary of the WHS is almost contiguous with the boundary of the Blenheim Palace Grade I Registered Park and Garden whilst this defined historic landscape also contains numerous listed buildings including the palace, the water terrace gardens and Bernini fountain, the Grand Bridge and the New Bridge (all listed as Grade I).
- 6.2.5 There are concentrations of listed buildings within the settlements close to the perimeter of the Project Site, such as Woodstock, Bladon, Begbroke, Wootton, Church Hanborough, Cassington and Cumnor. Outside of the settlements, listed buildings close to the perimeter of the Project Site include the Grade II\* listed Hordley House and nearby Grade II listed gazebo, also a number of Grade II listed buildings at Lower Dornford Farm, Spring Hill, Burleigh Farmhouse, City Farm, Eynsham Mill and Upper Whitley Farm.
- 6.2.6 The Roman road known as Akeman Street passes through the Northern Site Area on a north-east/south-west alignment. Land directly adjacent to the Project Site in this area has been designated as a Scheduled Monument due to the presence of a Roman villa here (now considered more likely to be a Roman 'small town'). Evidence suggests that the area of Roman activity extends beyond the designation. A second Scheduled Roman villa is located to the east of the Blenheim Palace WHS whilst further south a hillfort on Bladon Heath (and known as Bladon Camp) is also Scheduled.
- 6.2.7 Its location within the well-drained landscape of the Thames Valley means that there is reasonable potential for buried archaeological remains to be present within all parts of the Project Site. Investigations undertaken in connection with gravel extraction around Purwell Farm in the Central Site Area identified activity from the Bronze Age and the Iron Age as well as extensive evidence of settlement, industry and burial during the Anglo-Saxon period.
- 6.2.8 Elsewhere within the Project Site, features recorded as cropmarks on aerial photographs include enclosures as well as ring ditches that may represent the remains of burial monuments of probable Bronze Age. The geophysical surveys undertaken across the Project Site have provided additional detail with regard to some of those features recorded as cropmarks. The surveys have also identified 'new' archaeological sites and features, i.e. ones not known from desk-based sources. These include sites potentially of national importance. Artefacts recovered from various locations within the Project Site include material dating from the Mesolithic period through to the Post-medieval and Modern eras.

## Mitigation Measures

- 6.2.9 Mitigation has primarily been through input into the design of the Project. Direct physical impacts on designated heritage assets have been avoided by ensuring that such assets are generally excluded from the Project Site. Small areas of land comprising parts of two Conservation Areas (at Bladon and Church Hanborough) do fall within the Project Site, but these areas are not proposed to be developed for the Project but would instead be used for

environmental mitigation purposes. The Project design also includes the establishment of buffer zones to ensure adequate separation between the Project elements and certain designated heritage assets, along with the use of new planting and enhancement of existing vegetation to screen views towards the Project.

- 6.2.10 The desk-based studies and purposive fieldwork have identified the presence of significant archaeological sites and features within the Project Site. A total of 43 such areas have been removed from the developable land and would be retained within the Project Site as managed grassland. These areas are indicated on the Illustrative Masterplan [EN010147/APP/6.4] and include an area in excess of 17 hectares around the Roman Scheduled Monument adjacent to Akeman Street.
- 6.2.11 Further archaeological work will be undertaken ahead of and during construction of the Project; this is set out within an Outline Written Scheme of Investigation [EN010147/APP/7.6.5]. The work would aim to avoid and/or reduce any impacts on currently unknown archaeological sites and features, particularly any such sites and features located within the cable connection corridors where these are located outside of the three main part of the Project Site.

### **Likely Significant Effects**

- 6.2.12 No significant effects in respect of any aspect of the historic environment have been identified within the ES.
- 6.2.13 The effects on designated heritage assets, including the Blenheim Palace WHS, as a result of change within their setting have been assessed as not significant. These effects are fully reversible in that they would cease following decommissioning of the Project. New areas of vegetation established as part of the environmental mitigation would not be removed during decommissioning due to their ecological value, but these would not represent detracting elements within the setting of any designated heritage asset nor would they negatively impact on the character of the historic landscape.
- 6.2.14 The effects on buried archaeological remains resulting from physical impacts have also been assessed as being not significant as a result of the mitigation described above.
- 6.2.15 The cumulative effects assessment examined likely impacts on designated heritage assets as a result of change within their setting and the impacts on the character of the historic landscape. It is concluded that there are no significant cumulative effects from the Project alongside other projects/plans. This is because all of the other schemes are relatively small in comparison, although in most cases the impacts of the other schemes are not time-limited and reversible as they are for the Project. The other schemes may also require removal of elements of the historic landscape such as field boundaries, which is not the case for the Project.
- 6.2.16 Screening of potential transboundary impacts has identified that there was no potential for significant transboundary effects with regard to the historic environment.

## 6.3 Landscape and Visual Impact Assessment

### Introduction

- 6.3.1 The Landscape and Visual Impact Assessment (LVIA) ES Chapter 8 in Volume 1 of the ES [EN010147/APP/6.3], assesses potential impacts of the Project upon the landscape character and visual resources. Landscape and visual resources refer to the existing physical elements of the landscape, landscape character, areas designated for their scenic or landscape-related qualities and views from publicly accessible locations such as settlements, transport routes, and Public Rights of Way (PRoW).
- 6.3.2 The LVIA considers the potential impact of the Project during the construction, operations and maintenance, and decommissioning phases.

### Assessment Methodology

- 6.3.3 The visual baseline assessment involved a desktop exercise, including production of the Zone of Theoretical Visibility (ZTV), refer to Figures 8.7, 8.8, 8.8a and 8.9 to 8.11 in Volume 2 of the ES, and consultation process to identify appropriate visual receptors and Representative viewpoints within the LVIA Study Area (falling within the Zone of Theoretical Visibility (ZTV) [EN010147/APP/6.4].
- 6.3.4 A ZTV is a computer-generated tool which identifies the likely extent (theoretical) of visibility of the Project on the terrain and helps to identify locations for Representative Viewpoints. A ZTV 'with barriers' (Figures 8.7, 8.8 and 8.9 to 8.11 in Volume 2 of the ES) takes account of the visual screening from existing settlement, larger vegetation such as woodland blocks and local topography. The 'bare earth' ZTV (Figure 8.8a in Volume 2 of the ES) takes account of existing settlement and topography only.
- 6.3.5 A total of 55 Representative Viewpoints were selected to represent a broad range of locations and sensitive visual receptors throughout the 5 km Study Area. It is considered that, due to distance, there is no potential for significant effects beyond the 5 km buffer from the outer edges of the Project Site, in all directions. Fieldwork was undertaken (during winter 2022/2023 and summer 2023 for the ES) to verify the visual receptors and Representative Viewpoint locations, inclusive of photographic panoramas being captured from each Representative Viewpoint location.
- 6.3.6 For the ES, winter and summer Representative Viewpoints in the assessment included a total of 55 located within the 5 km Study Area and falling within the ZTV envelope for the Project. The focus / direction of the Representative Viewpoints were divided between the Northern Site (16 viewpoints), Central Site (27 viewpoints) and the Southern Site (12 viewpoints). All Representative Viewpoints were taken forward for assessment at the ES stage.
- 6.3.7 Due to the low level of the solar development and proposed mitigation, there is no potential for any private views to be adversely affected over and above substantial.

## Current Baseline Environment

- 6.3.8 The Project site and wider study area are representative of the local landscape character types / areas within which they site. At a regional / county level, the northern section of the Project is entirely located within the Cotswolds character area, the central section is located within the Upper Thames Vale character area and the southern section is entirely within the Midvale Ridge character area. As derived from the Oxfordshire Regional Character Areas (OWLS).
- 6.3.9 At the local / district level the northern section of the Project is located within landscape character area (LCA) 4: Eastern Parks and Valleys. The central section of the Project is located within LCA 11: Eynsham Vale. As derived from the West Oxfordshire District Council Landscape Character Assessment. The majority of the southern section of the Project is located landscape character type (LCT) LM19: Whitley Copse to Chawley Corallian Limestone Ridge with Woodland. With a small part of its north easternmost parts falling within LCT LM20: Farmoor to Botley Corallian Limestone Ridge with Woodland. As derived from the Vale of Whitehorse District Council landscape character assessment.
- 6.3.10 The majority of the Project site comprises grazed improved grassland, arable fields, wetland meadow and areas of poor semi improved grassland. The fields are bounded by largely intact native species hedgerows with trees. There are scattered individual trees with existing and newly planted blocks of woodland throughout the local landscape.
- 6.3.11 There a number of isolated residential properties, associated with farms, in close proximity to the Project site. Within the wider 5 km study area there are larger areas of predominantly residential developments, including the villages and towns of Wootton, Woodstock, Kidlington, Eynsham, Bladon, Church Hanborough, Cassington, Begbroke and Cumnor. These residential properties and developments would have varying levels of intervisibility to parts of the Project site. Views of the Project as a whole, i.e. northern, central and southern sections, would not be possible from any one location. Other people with views of the Project site would be predominantly vehicle travellers, cyclists and other users on the local roads and walkers using the several public rights of way (PRoW) located throughout the study area and through the Project site itself.
- 6.3.12 The Project would be primarily accessed via the A44 to the east. With secondary access from a network of local roads including the A4095, A4260, B4027 and series of smaller roads / lanes throughout the local area such as Lower Road and Cassington Road.
- 6.3.13 The Project would involve the construction of a large scale solar array, invertors, substations, internal access tracks and other infrastructure. The Project would see the implementation of a landscape strategy, which would include a range of measures which have been designed, as part of an iterative process, to reduce or avoid where possible any significant adverse landscape and / or visual effects. Existing vegetation such as the field boundary hedgerows and trees and woodland blocks, would be retained and supplemented as appropriate, with newly planted native species trees, hedgerows and scrub areas planted in selected areas.

6.3.14 The indicative construction programme for the Project is assumed to be for a duration of approximately 24 months. There would be limited tall plant machinery, such as piling rigs. The Project site is located within an area of landscape that has some influence by energy-based industry, including large overhead electricity pylons to the south and existing solar developments within the 5 km study area. The Project would increase the overall level of development within the study area and infill areas of undeveloped land. Whilst the character of the area has been influenced by transportation corridors and the towns, villages, overhead power line pylons and other development, the landscape remains predominantly rural in nature with farmland and other grassland habitats.

### **Mitigation Measures**

6.3.15 An Illustrative Masterplan [EN010147/APP/6.4] has been developed for the Project which includes the landscape and ecological strategy for implementation and long-term maintenance and management of the Project site, including:

- Creation of woodland belts;
- Reinforcement of existing field boundary hedgerows;
- Planting of lengths of new hedgerows along lengths of PRowS and where existing hedgerows require more extensive infilling;
- Meadow grassland to perimeter of solar array areas and areas of enhancement;
- Planting of individual trees where appropriate; and
- Areas within solar arrays left clear for Skylark plots.
- The purpose of these mitigation measures to be adopted are as follows:
  - To minimise impact on landform and integrate development into landscape whilst providing spoil cut and fill balance.
  - To ensure proposed development is successfully integrated into the landscape and to screen views gained by visual receptors.
  - To create diversity within the landscape and visual interest.
  - To ensure long-term contribution to landscape features and integration with surrounding agricultural landscape.
  - To reflect distinctive landscape character and enhance biodiversity.
  - To restore and conserve distinctive landscape character.

### **Likely Significant Effects**

6.3.16 A number of potential impacts upon landscape and visual resources associated with the construction, operational and maintenance, and decommissioning phases of the Project, were identified.



- 6.3.17 The sensitivity of the landscape character, within which the Project site is located, is Medium to High and direct effects on the Project site area during construction, at winter Year 1 (on completion) and for the lifetime of the Project (during Operation), would result in Moderate adverse significance of effect on the landscape character of the Project site itself which, on balance when considering the protection and retention of existing landscape features, is not considered significant. Indirect / perceived landscape effects on other landscape character areas / types, within the wider 5 km study area would not be significant.
- 6.3.18 Over time, as proposed landscape planting matures and the appropriate management of the existing vegetation is implemented, effects on landscape character would reduce further. Overall, the quality and character of the wider landscape within the study area would be maintained and would have the capacity to accommodate the Project without significant effects.
- 6.3.19 There are likely to be very few people who would experience significant visual adverse effects as a result of the Project. During construction some temporary significant effects on views are possible but these will be localised, in the short term and before mitigation planting matures. The activities and developments may be barely perceptible when seen at distance, or prominent and at times dominant when in close proximity.
- 6.3.20 Taking into account the mitigation measures described above, the following significant effects are likely to occur with respect to landscape and visual resources:
- There are no significant adverse effects either temporary and permanent effects on the local landscape character arising from construction and operation of the Project.
  - 12 significant adverse temporary and permanent effects on the views experienced by users of public rights of way (PRoW) and road users have been identified. These are views from PRoW 416/5/20 and 416/5/10, northern section of the Project (Representative Viewpoints 5b and c), bridleway 342/1/10, near Banbury Road (Representative Viewpoint 13), PRoW 265/24/20 (Representative Viewpoint 17), PRoW 238/5/20 (Representative Viewpoints 25 and 26) near Church Hanborough, PRoW 124/5/10, near Begbroke (Representative Viewpoint 32 and 33), PRoW 152/6/10, near Purwell Farm (Representative Viewpoints 38 and 39), PRoW 184/50/20, Oxford Green Belt Way adjacent Farmoor Reservoir (Representative Viewpoint 50) and PRoW 184/16/20 (Representative Viewpoint 54).
  - Significant effects identified above are for winter Year 1 only, i.e. before mitigation has been established. There are no significant effects identified once the mitigation matures. No residual significant effects, at summer Year 15, have been identified.
- 6.3.21 The visual amenity within the wider 5 km study area, due to intervening layered vegetation and topographical variation, would largely be maintained. The nature of the Project would not be entirely uncharacteristic of the study area as a whole, albeit that it would be at a larger scale, and significant effects would be limited to people experiencing views in close proximity during the

operational phase of the Project from a number of local public rights of way passing through the Project. Over time, as proposed landscape planting matures, potentially significant visual effects would be reduced.

6.3.22 In terms of cumulative effects, the Project has the potential to contribute to localised adverse effects on the Landscape Character Areas / Types within which the Project and cumulative scheme(s) are located. In addition, cumulative adverse visual effects where the Project and cumulative scheme(s) are visible within the same view(s). However, no significant cumulative landscape or visual effects on visual receptors have been identified as a result of the Project.

6.3.23 A total of 12 significant effects, detailed above, have been identified. In the remaining 43 Representative Viewpoints, no other significant effects have been identified. On balance, it is considered that the quality and character of the landscape and visual resources would largely be maintained and would have the capacity to accommodate the Project without significant effects beyond those identified at a very local level or where it would be difficult to entirely mitigate visual effects. In addition, proposed planting would have a longer term benefit reinforcing the landscape character of the local landscape.

## **6.4 Ecology and Nature Conservation**

### **Introduction**

6.4.1 This section presents a summary of the assessment of the likely significant effects on ecology during construction, operation and decommissioning of the Project. This includes with respect to flora, fauna, habitats and designated sites.

### **Assessment Methodology**

6.4.2 The ecology of the Project was characterised via a series of site-specific surveys including those for both habitats and fauna. These surveys followed best practice guidelines and were completed between 2022 and 2024 at appropriate times of the year.

6.4.3 A desk-based study of existing background information was also undertaken by contacting the local records centre and using web-based sources. Records of international designated sites within 10km, national sites within 5km and local sites within 2km were gathered. Species records within 2km were gathered other than for bats where a study area of 10km was used.

6.4.4 The assessment of effects with respect to ecology within the PEIR was undertaken following best practice guidelines

### **Current Baseline Environment**

6.4.5 The Project site comprises a series of mainly arable fields divided by an extensive hedgerow network. The fields were considered to be of very little ecological value while the hedgerow network was an important feature in the landscape. A small number of water bodies occur within the Project site while the River Evenlode forms a significant landscape feature through the central

section of the Project site and is associated with small areas of floodplain grazing marsh priority habitat in the north of the Central Site Area. The Project site boundary has been drawn to avoid blocks of woodland (both broadleaved and designated ancient woodland) although these habitats do occur adjacent to the boundaries of the Project site.

- 6.4.6 Two international designated sites were identified within the study area – Oxford Meadows Special Area of Conservation (SAC) and Cothill Fen SAC. A total of 15 Sites of Special Scientific Interest (SSSI) were located within 5km of the Project site, two of which (Blenheim Park SSSI and Wytham Woods SSSI) occur adjacent to the Project site boundary. A total of 28 local sites were located within 2km of the Project site boundary. A number of other locally designated sites occur adjacent to the Project boundary.
- 6.4.7 A range of species IEFs were identified through the study programme. This included the presence of great crested newt in ponds offsite along with a number of badger setts and associated activity. Populations of breeding and wintering birds were identified, with the overall assemblages of species during both periods considered important.
- 6.4.8 Extensive bat surveys and the background data search identified a range of species using the site, focused along hedgerows, the Evenlode corridor and the blocks of ancient woodland in the surrounding landscape. Dormice were identified in the hedgerows on site. Although no specific surveys for otter were completed, their presence was assumed from the data search, similarly, brown hare and hedgehog. The terrestrial invertebrate assemblage was considered to represent the poor arable habitat present across the majority of the Project site.

### **Mitigation Measures**

- 6.4.9 The Project incorporates a number of mitigation measures to ensure the effects on ecology are minimised. These include:
- The Project has been designed to avoid any removal woodlands or waterbodies/courses while hedgerow removal has been minimised;
  - Production of an Outline Code of Construction Practice (CoCP) to ensure effective management of environmental risk during the construction phase of the Project and supporting infrastructure. The Outline CoCP sets out the management measures that the Applicant and its contractors will be required to implement for all construction activities associated with the Project. It will include strategies, control measures and monitoring procedures for managing the potential environmental impacts during the construction phase and limiting disturbance from construction activities as far as reasonably practicable. The CoCP will include regulatory guidance and industry best practice guidance including:
    - Construction method statement to include measures to minimise impacts on protected species.
    - Construction method statement for watercourse crossings that will include a bentonite breakout plan.



- Construction lighting strategy to include methods to minimise impacts to wildlife. Lighting will be designed in accordance with Institute of Lighting Professionals /Bat Conservation Trust guidelines.
- Dust Management Plan to set out how dust generation will be managed and minimised.
- Vegetation clearance to be undertaken outside of nesting bird season or following check by Ecology Clerk of Works (ECoW).
- Invasive Non-Native Species (INNS) Management Plan.
- All hedgerows, trees, ponds and woodland to have minimum of 5m buffer. All buffers to be protected with appropriate fencing, to be set up before construction commences. This distance of buffer is considered the minimum distance sufficient to ensure impacts to such features are avoided;
- All ancient woodland to have 15m buffer, as per Natural England guidance;
- All watercourses to have a minimum 8m buffer, as per Environment Agency guidelines for protection of such features;
- Creation of new landscape-scale corridor along River Evenlode;
- All cable routing outside panel fields to be within hardstanding of highways as far as practicable;
- New skylark plots to be delivered;
- Provision of Outline Landscape and Ecological Management Plan (oLEMP) to include details of habitat management to ensure delivery of a significant level of BNG. A LEMP is a site-specific document which details immediate and long-term commitments to manage the planting, protection and enhancement of biodiversity in and around the Project site. These measures will be in accordance with wildlife legislation, National Planning Policy Framework (NPPF) and other local plans and planning policies. The oLEMP will include design plans, programmes, specifications, monitoring requirements, responsibilities and costs. It will also include any temporary land take for construction compounds etc. to be restored to habitats of existing or greater ecological value. The oLEMP will also include details of ecological enhancements to be sited around the Project to include:
  - bee hives;
  - log piles and other refugia;
  - bird boxes on retained trees; and
  - bat boxes on retained trees.

6.4.10 In addition, any necessary mitigation licence for impacts to protected species will also be considered, depending on the results of updated pre-commencement surveys.

## Likely Significant Effects

- 6.4.11 After the application of mitigation, the majority of potential impacts resulting from the Project on the majority of IEFs were considered not significant. This includes with respect to habitat loss, disturbance, habitat severance, pollution events, dust generation and the spread of INNS.
- 6.4.12 Significant adverse effects were identified on the wintering bird assemblage as a result of habitat loss, primarily the loss of arable fields during construction. It is anticipated that the creation of new habitats during the Project will mitigate this to some extent during the operational period of the project.
- 6.4.13 The creation of new habitat within the Project is predicted to result in significant beneficial effects on a range of IEFs including national sites, local sites, hedgerows, water bodies, breeding birds, great crested newts, bats and dormice.
- 6.4.14 The significance of cumulative effects upon ecology receptors arising from each identified impact was carried out and no significant adverse cumulative effects on ecology and nature conservation were identified as a result of the Project. This is due to the use of various mitigation measures in place such as CoCP.
- 6.4.15 Screening of potential transboundary impacts has identified that there was no potential for significant transboundary effects with regard to ecology and nature conservation.

## 6.5 Hydrology and Flood Risk

### Introduction

- 6.5.1 This section presents a summary of the assessment of the likely significant effects flood risk and deterioration in water quality within EA Main Rivers and Ordinary Watercourses during construction, operation and decommissioning of the Project.

### Assessment methodology

- 6.5.2 Existing hydrological conditions were established using a detailed desk review of existing studies and data sets. Technical studies were undertaken to support the ES which included the following studies and production of reports;
- The Flood Risk Assessment (FRA);
  - Conceptual Drainage Strategy;
  - Hydraulic modelling report;
  - Hydrology studies and report;
  - Surface water modelling report
  - Surface water abstraction licences, discharge consents and pollution incidents technical report; and
  - A Water Framework Directive (WFD) technical report.

## Current Baseline Environment

- 6.5.3 The hydrology and flood risk study area are located within the Thames River Basin District and EA Flood Zones 1, 2 and 3. Flooding is associated with fluvial sources i.e. rivers and streams.

## Mitigation Measures

- 6.5.4 Several measures are proposed as part of the Project to mitigate potential impacts on hydrology and flood risk during construction and operation.

- 6.5.5 These include:

- 6.5.6 Conceptual Drainage strategy to be incorporated into the NGET substation, applicant substation, secondary substations, PCS units and operation and maintenance facility design to attenuate any increase in surface water runoff, in turn increase in flood risk. The Flood Risk Assessment therefore demonstrates that the site meets the requirements of National Policy Statement EN-1 and the National Planning Policy Framework.

- Outline CoCP **[EN010147/APP/7.6.1]** to be provided as part of application for development consent. CoCP to be developed in line with Outline CoCP and agreed with relevant stakeholders. CoCP to be secured as DCO requirement.
- OMP to be provided as part of application for development consent **[EN010147/APP/7.6.5]**. Detailed OMP's to be developed in line with Outline OMP and agreed with relevant stakeholders. Detailed OMP's to be secured as DCO requirement.
- An 8m, 9m or 10m buffer will be maintained from the banks ordinary watercourses (West Oxfordshire District Council, Cherwell District Council and Vale of White Horse District Council respectively) for permanent development associated with the Project. This is secured through the submitted Illustrative Masterplans **[EN010147/APP/6.4]**.
- Main rivers and Ordinary Watercourses will be crossed via HDD (or other trenchless techniques). Secured as a requirement of the DCO. Where required, open cut techniques may be used for minor ditches or smaller watercourses that are frequently dry.
- Conceptual Drainage strategy to be incorporated into the NGET substation, applicant substation, secondary substations, PCS units and operation and maintenance facility design to attenuate any increase in surface water runoff, in turn increase in flood risk. The Flood Risk Assessment therefore demonstrates that the site meets the requirements of National Policy Statement EN-1 and the National Planning Policy Framework.
- Temporary haul road(s) will be installed using permeable gravel aggregate with a geotextile or other type of protective matting, or plastic or metal plates or grating.
- Appropriate seeded vegetation will be provided below and between rows of the solar PV modules to act as a filter strip to dissipate energy of surface

water and promote low erosivity sheet flow during operation of the solar farm. The vegetation will be managed organically and will either be mowed or used for light grazing. The grassland will not only grow between array gaps.

## Likely Significant Effects

- 6.5.7 Potential impacts of increased flood risk, contamination of surface waters and damage to field drainage, water supply and drainage infrastructure have been identified during construction, operation and decommissioning of the Project. Taking into account mitigation measures, no likely significant effects are anticipated to occur with respect to hydrology and flood risk during the construction, operation or decommissioning phases.
- 6.5.8 Cumulative impacts from projects screened into the assessment have been assessed using a tiered approach that takes into account their current stage in the planning and development process. No likely significant effects are predicted to result with respect to cumulative impacts.

## 6.6 Ground Conditions

### Introduction

- 6.6.1 Ground Conditions refers to the geological and hydrogeological (groundwater) setting of the Project with respect to possible land and groundwater contamination, geo-conservation sites, ground instability and existing mineral reserves and the nature and extent of effects on human health, groundwater and surface water quality and mineral reserves that may result from the construction, operation and decommissioning phases of the Project.

### Assessment Methodology

- 6.6.2 Existing geological and ground conditions including any contamination were established using a detailed desk review of existing studies and data sets. A series of desk based Preliminary Risk Assessments and a Minerals Resource Assessment provided the prime source of data that informed the assessment.

### Current Baseline Environment

- 6.6.3 Baseline surveys undertaken have indicated that the geology of the study area comprises limestone dominated strata of the White Limestone Formation, Cornbrash Formation and the Forest Marble Formation across Botley Northern Site Area, tending to superficial cover of Alluvium and River Terrace Sands and Gravels and bedrock of mudstones weathering to clays of the Kellaways Clay and Sand Members in Botley Central Site Area and outcropping bedrock of the Oxford Clay Formation And West Walton Formation in Botley Southern Site Area.
- 6.6.4 The geological sequence comprises Primary Aquifers (White Limestone Formation and Forest Marble Formation (limestone)) and Secondary A Aquifers (both superficial and bedrock strata) recorded within the North and Central Botley Study Areas. Botley Southern Site Area is located on

unproductive Oxford Clay strata. A mainly low risk of ground instability associated with these strata has been identified from BGS sources, the exception being a moderate risk presented by former land slipped strata associated with the cable route corridor option south of the River Thames on the northern side of Beacon Hill. No geological conservation sites have been identified within the study area associated with the geological sequence present, however the River Terrace Sands and Gravels in Botley Central Site Area and the cable route corridor linking Botley Central Site Area and Botley Southern Site Area have been identified as being part of designated Mineral Safeguarding Areas.

- 6.6.5 Historical research has indicated a predominantly agricultural past land use for the Project area, the key potential contamination sources being a former railway cutting used as a landfill site for the disposal of a variety of waste types located on the proposed cable route between Botley Northern Site Area and Botley Central Site Area, and former sandpits infilled in an area of proposed solar arrays in Botley Central Site Area.

### **Mitigation Measures**

- 6.6.6 Several measures are proposed as part of the Project to mitigate the potential impacts on geology and ground conditions during construction and operation.

- 6.6.7 These include:

- A discovery strategy that would comprise a watching brief that would be undertaken by suitably trained personnel during construction activities. The strategy would also include a procedure for construction workers to follow in the event that previously unknown contamination is discovered during the construction phase. The principles of the discovery strategy will be set out in the Outline CoCP [EN010147/APP/7.6.1].
- Further ground investigations would be undertaken in areas with the potential for contamination to exist within the Project site. These ground investigations would inform an appropriate Remediation Strategy if remediation is required. Also geotechnical ground investigation and slope stability assessments would be undertaken for confirmation of pile design parameters and in areas of identified potential land instability.
- The Outline CoCP, which will contain measures to prevent and control accidental spillages of potentially harmful liquids and measures to protect groundwater and human health during construction.
- The Outline CoCP will also contain details on Health and Safety measures to be adopted by construction workers for safe working on the Project.
- Where incidental extraction of minerals (sand and gravel) generates an excess which cannot be retained within the Project site, this material would be exported for reuse offsite.
- A Materials Management Plan would be prepared as part of the Outline CoCP, which would contain measures to document the management of soils within the Project site and ensure these are undertaken in accordance with best practice.



## Likely Significant Effects

- 6.6.8 Potential impacts of ground contamination upon groundwater, surface water, future site users and off-site users, associated with the construction, operational and maintenance, and decommissioning phases of the Project, were identified. These included mobilisation of ground gases/leachate from the former landfill site, mobilisation of leachable contaminants from infilled former sand pits and the potential for causation of groundwater or soil contamination by construction activity. These impacts result in effects of either negligible or minor/moderate adverse significance. Possible impacts on temporary sterilisation of mineral reserves will need to be assessed further through continued consultations with the minerals officer of the county council and review of an updated Minerals Resource Assessment prepared for the Project and included as an Appendix to the Ground Conditions chapter.
- 6.6.9 Cumulative effects from mobilisation of liquid/gaseous contaminants and contamination of soil/groundwater from construction activities were assessed and predicted to result in effects of negligible or minor adverse significance (not significant in EIA terms) upon Ground Conditions within a 250m buffer of the Project.
- 6.6.10 No transboundary effects with regard to Ground Conditions from the Project on the interests of other EEA states were predicted and therefore the assessment has not been conducted in the ES.

## 6.7 Traffic and Transport

### Introduction

- 6.7.1 Traffic and transport relates to the movement demand generated by the Project and its effects upon other road users and surroundings. This section presents a summary of the assessment of the likely significant effects on traffic and transport during the construction phase of the Project. During operation and maintenance and the decommissioning phases a limited number of additional vehicles will be generated due to the Project and therefore the assessment for these phases have been scoped out as its unlikely to result in any significant effects for traffic and transport.

### Assessment Methodology

- 6.7.2 The base traffic flow data used in the ES has been obtained from recognised sources and methodologies and is considered representative of current conditions. The construction traffic flows have been undertaken by the Applicant using a first principles approach based upon estimates of construction materials, construction and engineering requirements and construction programme.
- 6.7.3 The construction phase of the Project is likely to generate the greatest number of vehicle movements as the transportation of construction materials will incur the greatest number of Heavy Goods Vehicle (HGV) and staff movements and it is this phase that the traffic and transport chapter of the ES focusses on.

6.7.4 The significance of transport environmental effects has been assessed by considering the interaction between the magnitude of the impacts and the sensitivity of the receptors in the vicinity of transport corridors. The assessment has assessed the construction traffic flows against the baseline traffic flows and considered;

- Driver delay (including temporary delays to public transport services);
- Severance;
- Non-motorised user delay;
- Fear and intimidation (non-motorised user amenity);
- Road safety; and
- Abnormal Indivisible Loads (AILs).

### **Current Baseline Environment**

6.7.5 Information on traffic and transport within the traffic and transport study area was collected through a detailed review of existing studies and datasets.

6.7.6 For the purposes of the ES, a future baseline position has been established by undertaking site-specific traffic surveys, obtaining publicly available traffic survey / traffic flow data, consideration of traffic flows generated by any committed developments, consideration of traffic growth, investigating highway link sensitivities, analysing road safety, and analysing public transport services and provision and facilities for pedestrians and cyclists.

6.7.7 The traffic and transport study area has been identified including the A34 and relevant parts of the local highway network determined as being likely to be used by construction generated vehicles to access construction compounds, Horizontal Directional Drilling (HDD) compounds and existing gated field accesses.

### **Mitigation Measures**

6.7.8 Mitigation measures include highway works on the B4044 Eynsham Road / B4017 Cumnor Road / B4044 Oxford Road mini-roundabout, the B4017 Cumnor Road through Filchampstead, the Burleigh Road / Yarnton Road junction and the B4027 / Banbury Road junction. Mitigation measures also include the preparation of an Outline Construction Traffic Management Plan (OCTMP) which has been submitted in support of the application. The OCTMP incorporates travel plan measures for construction staff.

### **Likely Significant Effects**

6.7.9 A number of potential impacts on traffic and transport associated with the construction phase of the Project, were identified and assessed. These included potential impacts on driver delay including temporary delays to public transport services, severance, non-motorised user delay, fear and intimidation (non-motorised user amenity), road safety and AILs. The impact assessment has identified that the daily construction traffic flows are generally low in comparison to base traffic flows throughout the traffic and transport study area.

- 6.7.10 Overall, it is concluded that there will be no significant effects arising from the Project during the construction, operation and maintenance or decommissioning phases. It is also concluded that there will be no significant cumulative effects from the Project alongside other projects/plans.
- 6.7.11 No significant inter-related effects and predicted between impacts from the construction of the Project on traffic and transport receptors.
- 6.7.12 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to traffic and transport for the Project upon the interests of other states. This is because the impacts from traffic and transport are of local spatial extent.

## **6.8 Noise and Vibration**

### **Introduction**

- 6.8.1 An assessment has been undertaken to consider the potential adverse effects from noise and vibration on sensitive receptors which are within the study area. The assessment considers noise and vibration during the construction and decommissioning of the Project, and any noise sources associated with the operation of the solar farm. The assessment does not include vibration during the operational phase, as there are no sources of vibration associated with the Project .

### **Assessment Methodology**

- 6.8.2 The assessment has considered noise and vibration effects due to all construction activities associated with the Project. This included noise effects due to;
- Noise impacts during the preparation and use of the construction compounds.
  - Noise and vibration impact due to solar PV modules pile driving;
  - Noise and vibration impact due to HDD or pipe-ramming;
  - Noise impacts due to open cut trenching along the cable route (including cable route options); and,
  - Noise impacts due to additional vehicle movements on local highway networks.
- 6.8.3 The assessment also considered noise effects due to the plant and equipment associated with the project site such as noise effects from the Power Conversion Systems (PCS) and noise effects from the secondary, main and National Grid substations.

### **Current Baseline Environment**

- 6.8.4 A baseline study has been undertaken. This baseline study includes the identification of the noise sensitive receptors which could be affected by the Project. This information has been used to define the sensitivity of the receptors.



6.8.5 Further noise measurements have been taken across the entire Project Site so that the existing noise level (without any effect caused by the Project) can be defined. These noise level measurements have been undertaken over several days, in 2023 and 2024. The results of this baseline study have informed the construction, operational and decommissioning phase noise assessments so that the potential effect of the Project can be accurately determined.

### **Mitigation Measures**

6.8.6 A number of mitigation measures have been adopted as part of the Project. During the construction and decommissioning phase, all works will be undertaken using Best Available Techniques (BAT), and these will be controlled within an Outline CoCP [EN010147/APP/7.6.1]. Continuous monitoring of vibration will be undertaken for a limited number of HDD locations to protect local residents and flood defences.

6.8.7 Where required, noise screens will be employed to reduce construction noise emissions at receptors. Noise from the electrical equipment associated with the Project will be controlled through the embedded mitigation. This includes the location and orientation of the equipment, and any specific noise control measures which are required such as silencers on specific PCS units.

### **Potential Likely Significant Effects**

6.8.8 The construction phase assessment has found that the magnitude of the impact is low for all noise and vibration impacts, when assessed at the nearby sensitive receptors, and with the embedded mitigation measures implemented. With the measures adopted as part of the Project in place, the impacts result in an effect of minor adverse significance.

- Noise impacts during the operation.

6.8.9 The operational phase assessment has found that the magnitude of the impact is low for all noise impacts, when assessed at the nearby sensitive receptors, and with the embedded mitigation measures implemented. With the measures adopted as part of the Project in place, the impacts result in an effect of minor adverse significance.

- Noise and vibration impact during decommissioning. During decommissioning, all above ground infrastructure will be removed, and along with all cabling as far as is reasonably practicable.

6.8.10 The decommissioning phase assessment has found that the magnitude of the impact is low for all noise and vibration impacts, when assessed at the nearby sensitive receptors, and with the embedded mitigation measures implemented. With the measures adopted as part of the Project in place, the impacts result in an effect of minor adverse significance.

6.8.11 Cumulative effects from noise and vibration were assessed and are predicted to result in effects of minor adverse significance (not significant in EIA terms) upon noise and vibration sensitive receptors within the study area.

6.8.12 No transboundary effects with regard to noise and vibration from the Project on noise and vibration sensitive receptors within the study area are predicted.

## **6.9 Climate Change**

### **Introduction**

6.9.1 This section presents a summary of the assessment of the likely significant effects on Climate Change due to the Project.

6.9.2 The climate change assessment has considered the effect of GHG emissions arising from the construction, operation and decommissioning of the Project.

### **Assessment Methodology**

6.9.3 The GHG emissions arising from, and avoided by, the Project are assessed through a series of desk-based assessments to determine the impact of the Project on climate change. GHG calculations are provided within the technical appendices [EN010147/APP/6.5] submitted as part of the Environmental Statement.

### **Current Baseline Environment**

6.9.4 With regard to current GHG emissions, the current baseline for the Project site is agricultural land, comprised of a series of agricultural fields of varying sizes. They are primarily used for pasture grazing and arable farming. This land is unlikely to have high soil or vegetation carbon stocks (e.g. peat) that would be subject to disturbance and dispersion by construction.

### **Mitigation Measures**

6.9.5 Specific mitigation has been recommended reduction measures across the construction, operation and maintenance and decommissioning phases of the Project. It is considered that reduction measures identified would be suitable mitigation to prevent significant impacts towards the identified receptor.

### **Likely Significant Effects**

6.9.6 The construction-stage impact due to the extraction of raw materials, manufacturing and transportation of the panels, substations and associated equipment have been assessed. The GHG impacts were calculated to be approximately 717,006 tCO<sub>2</sub>e, causing a minor adverse effect which has been assessed as not significant.

6.9.7 GHG effects from the operational phase, due to the generation of low-carbon electricity and consequent displacement of marginal sources of generation that would provide energy in the absence of the Project and which would have greater GHG impacts, have been assessed. The magnitude of avoided GHG emissions from the operational phase are expected to be between -7,012,809 to 182,307 tCO<sub>2</sub>e over the Project's lifetime compared to a current business-as-usual baseline and projected future energy baseline across the

development's 37.5 year operational lifespan. The operational GHG impact of the Project has been determined to have a significant beneficial effect.

6.9.8 The whole-life impact of the Project has been determined to have a beneficial effect that is significant when comparing to current UK electricity grid factors. Although a significant initial carbon cost of manufacturing and installation is incurred, by achieving a carbon payback period of 6 years (earliest estimated payback period) and providing subsequent net negative emissions in operation, the Project meets policy goals for the rate of carbon reduction in the context of UK carbon budgets.

6.9.9 Cumulative effects due to other specific local development projects cannot be individually identified and assessed. Therefore, no relevant cumulative effects assessment has been completed for the climate change topic. This approach is consistent with EIA Guidance.

6.9.10 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects.

## 6.10 Socio Economics

### Introduction

6.10.1 The socioeconomic assessment considers the interaction of social and economic factors such as income, education, and employment of the local and regional area and the impact on this that the Project is likely to have. It also assesses any potential tourism impacts of the Project and is informed by the following other environmental topics:

- Landscape and Visual Resources;
- Noise & Vibration;
- Traffic and Transport;
- Human Health;
- Agricultural Land Use & Public Rights of Way; and
- Historic Environment.

6.10.2 The assessment also draws upon information contained within the socio-economic baseline report which includes an assessment of commuting patterns and travel to work areas and has been used to define the study area for this assessment. This includes the Local Authority areas of Cherwell District Council, West Oxfordshire District Council, Vale of White Horse District Council, South Oxfordshire and Oxford City.

6.10.3 The socio-economic indicators considered within the assessment include population, demographics, employment, health, travel to work patterns, access to renewable energy, deprivation, tourism and recreation.

### Assessment Methodology

6.10.4 The approach to determining the significance of effects is a two-stage process that involves defining the magnitude of the impact and the sensitivity of the

receptor. Specific criteria for determining magnitude, sensitivity and significance have been set out with Chapter 15.

## Current Baseline Environment

- 6.10.5 The baseline assessment found that population growth (between 2011 and 2021) has been significantly higher in the study area (12.7%) compared to the South East region as a whole (7.5%). In the same period, the working age population in the study area has declined by 1.8% compared to the 2011 Census results.
- 6.10.6 When looking at employment sectors across Oxfordshire we can see that agriculture only accounted for 0.5% of all employment with circa 4,360 people employed in the industry. Compared to 2018, the sector has lost circa 42.7% of its employees. Furthermore, there has been a decrease in construction related employment of circa 20.9% across Oxfordshire the same period.

## Mitigation Measures

- 6.10.7 The Project provides for a number of socioeconomic mitigation measures which will help avoid, reduce or offset likely adverse socioeconomic impacts and enhance any likely beneficial socioeconomic effects of the Project. The measures which are to be adopted as part of the Project are;
- Work with local education and training providers to support opportunities to provide local adult learning linked to construction, operation and maintenance and decommissioning job opportunities relevant to disadvantaged adults facing skills barriers to employment opportunities.
  - As far as reasonably practicable (e.g. subject to standards and security checks) provide a targeted scheme of access to construction, operation and maintenance and decommissioning training schemes and apprenticeships for young people in the local and regional area who are Not in Education, Employment, or Training (NEET).
  - Engage in the ethical procurement of the supply chain.
  - Advertise lane closures in advance so road users are forewarned and can manage commute to work effectively.
  - Make retained and new routes through the arrays appealing to people to encourage their use by providing information boards (with details of new routes); wildflowers and hedgerows (for visual screening); children's fun trails and education boards (e.g., on wildlife, heritage and solar energy).
  - Ensure suitable pedestrian access is maintained for diversions of any temporary route closures and provide appropriate wayfinding information for temporary diversions during construction and decommissioning, such as signposting, including approximate journey times on the routes. Wayfinding for circular walks or to destinations should be clearly signposted.

- Provide space for at least two food growing community groups (up to 30ha) to operate on the Site, secured by means of an Agricultural License Agreement.
- Monitor supply chain and employment records. Monitoring of the proportion of local people (particularly within the local study area) who are not in employment, education or training (NEET), unemployed, have high job instability or low-income characteristics who access training and apprenticeship or good quality stable employment opportunities related to the Project. Monitoring would allow the benefit to be confirmed, support engagement of NEET populations with any relevant opportunities, and also allow further tailoring to target local vulnerable groups if required.

### Likely Significant Effects

- 6.10.8 The significance of the Project’s effect upon the identified socioeconomic receptors has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact.
- 6.10.9 The effects associated with providing employment opportunities as part of the Project were assessed during all phases of development (construction, operation and maintenance and decommissioning). The employment generation associated with each phase of works was independently assessed with all phases considered to have a beneficial impact – moderate during construction and decommissioning and minor during operation. The impact of direct investment, supply chain investment and employment generation on the ‘economic output’ receptor, and the impact of directed skills and training as part of a skills and employment plan on existing skills and qualifications on the ‘education / skills’ receptor is expected to be minor beneficial. However, this is not significant in EIA terms.
- 6.10.10 There will be no significant adverse effects on socioeconomics during the construction, operation and maintenance or decommissioning phases of the Project.
- 6.10.11 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects.

## 6.11 Human Health

### Introduction

- 6.11.1 The Human Health chapter integrates a comprehensive Health Impact Assessment (HIA) and follows best practice to assess the population health effects as part of the Environmental Impact Assessment (EIA).
- 6.11.2 Population health refers to the health outcomes of a group of individuals, including the distribution of such outcomes within the group. Population health varies, given factors such as personal choice, location, mobility and exposure. These factors that influence health are called determinants of health and span environmental, social, behavioural, economic and institutional aspects. The Project has the potential to change determinants of health, with beneficial and adverse effects, either directly, indirectly or cumulatively.



6.11.3 The methods follow the health in EIA guidance set out by the Institute of Environmental Management and Assessment and the Oxfordshire HIA Toolkit. The assessment provides reasoned conclusions for the identification and assessment of any likely significant effects of the Project on population health. Physical health, mental health and health inequalities are considered across a broad range of determinants of health.

6.11.4 The health assessment looks at the potential for likely significant effects for both the general population and for vulnerable groups. Vulnerability relates to experiencing effects differently due to age, income level, health status, degree of social disadvantage or the ability to access services or resources. The health assessment considers localised population effects and also considers wider population effects at the regional and national and international levels.

### **Assessment Methodology**

6.11.5 The health assessment is informed by the findings of other ES chapters, including agricultural land use and soils, traffic and transport, landscape and visual resources; socio-economic, climate change, air quality, and noise and vibration. The health assessment has also been informed by a review of relevant public health evidence sources, including scientific literature, baseline data, health policy, local health priorities and health protection standards.

### **Current Baseline Environment**

6.11.6 An overall baseline health profile was gathered for relevant local authorities and wards in Oxfordshire, using regional (South-East) and national (England) data as comparators. Data was gathered from publicly available public health evidence sources. This data shows that overall, physical health indicators (e.g. heart health, respiratory health), lifestyle indicators (e.g. diet, childhood obesity) and socio-economic indicators (e.g. income, education levels, employment) perform better in the local study area compared to national averages. However, some indicators such as certain mental health indicators (e.g. depression), mortality related to air pollution, levels of physical activity and adult obesity perform worse than national levels. The indicators do not suggest increased sensitivity to change in the area as a whole, however this does not exclude vulnerable groups. Community health baselines are also set out and have informed the assessment.

### **Mitigation Measures**

The Project incorporates several measures into its design, to mitigate potential adverse health impacts and enhance positive health outcomes. These include:

- Local employment and skills development: A Skills and Employment Plan has been developed to provide local employment opportunities during construction and operation. This includes partnerships with local job centres to target individuals facing socio-economic challenges and those not in employment, education or training.



- Air quality and noise control: The Outline Code of Construction Practice [EN010147/APP/7.6.1] includes dust and noise control measures to limit exposure for nearby residents during construction. This includes dust monitoring and best practice mitigation measures to minimise temporary impacts during construction, in accordance with relevant environmental guidelines set to be protective of health.
- Public Rights of Way (PRoW) mitigations and enhancements: The Project will provide new hedging, information boards and signage along existing PRoWs and add new routes to encourage physical activity such as walking and cycling. The aim is to provide a series of greenways where PRoW pass through the solar farm areas. These would promote access with signage that accommodate all users, including those with mobility needs.
- Open and covered space for field trips: An educational area within the solar farm will offer local schools a space for outdoor learning. This space, equipped with benches, covered areas and information boards, has the potential to foster environmental awareness and provide opportunities for community engagement with renewable energy insights.

### Likely Significant Effects

- 6.11.7 The assessment identified several potential health impacts across construction, operation, and decommissioning of the Project, including in relation to diet and nutrition; transport modes, access and connections; community identity, culture, resilience and influence; climate change and adaptation; air quality; noise and vibration; and public understanding of electro-magnetic field (EMF) risk. With mitigation measures in place, these impacts result in negligible to minor adverse or minor beneficial significance, which are not significant. The Project has committed to the appropriate health protection standards for EMF exposures, such that there would be no potential for significant public health effects from the Project's electrical infrastructure.
- 6.11.8 Following the mitigation measures embedded into the design of the Project discussed above, for both education and training and employment and income determinants, the resulting effects are assessed to be moderate beneficial (significant) for all phases.
- 6.11.9 In relation to open space, leisure and play, the construction of the Project will result in minor adverse (not significant) effects due to temporary disruption to and change in experience of using routes during construction. However these effects are temporary, and access will be maintained throughout. During operation, the Project has the potential to result in minor beneficial (not significant) effects from the new permissive paths and cycle routes provided. With regard to the visual change along routes and resulting potential for reduced use of PRoW, moderate adverse (significant) effects are anticipated in the short-term, a conclusion driven by community concern about the Project. In the medium term, as a result of extensive visual mitigation provided along affected routes (e.g. hedgerow and tree planting, provision of greenways), and with consideration of community feedback, the public health implication of the changes in the setting of PRoWs due to the Project would be a minor adverse, which is not significant. Once the planting matures to provide appropriate

screening of the solar panels along the routes passing through the Project sites, there is expected to be a minor beneficial (not significant) effect in the medium to long term.

- 6.11.10 The Project will result in improved wider societal infrastructure and resources associated with renewable energy generation and energy security during operation. The Project would have continuous public health benefits to energy security. For example, having power to safely cook and refrigerate food, regulating temperature and lighting of homes and schools, and operating health and social care services. This is assessed to have a moderate beneficial effect on population health, which is significant.
- 6.11.11 Cumulative effects are evaluated by considering other short-listed developments in the surrounding area that may interact with the Project's impacts. Cumulative impacts are assessed for all health determinants, however no significant cumulative effects have been identified for human health. The Project assessed cumulatively with other local developments would provide enhanced energy security.
- 6.11.12 No transboundary effects with regard to population health from the Project on the interests of other States were predicted.

## **6.12 Agricultural Land Use and Public Rights of Way**

### **Introduction**

- 6.12.1 This section presents a summary of the assessment of likely significant effects on agricultural land and public rights of way during construction, operation and decommissioning of the Project. The assessment considered the potential impacts on agricultural land quality, land holdings and public rights of way, including footpaths, bridleways and other promoted routes, such as National Cycle Routes and Long Distance Paths.

### **Assessment Methodology**

- 6.12.2 Baseline agricultural land use and public rights of way were established using a detailed review of existing studies and datasets. In addition, soil surveys were undertaken to determine the quality and characteristics of agricultural land within the Project site. However, some areas within the Project site were not subject to soil surveys, due to dry soils or crop conditions.

### **Current Baseline Environment**

- 6.12.3 The soil surveys determined that the Project site predominantly comprised Agricultural Land Classification (ALC) Grade 3a (good quality) and Grade 3b (lower quality) agricultural land and four land holdings. ALC Grade 3a agricultural land is categorised as best and most versatile land, and considered the most capable of delivering crops for food and non-food uses.
- 6.12.4 Desk based analysis identified the following public rights of way, which intersect the Project site: National Cycle Route 5; Oxford Greenbelt Way Long Distance Path; Shakespeare Way Long Distance Path; and several public footpaths and bridleways.

## Mitigation Measures

- 6.12.5 Several mitigation measures are intended to be included as part of the Project to mitigate potential impacts on agricultural land and public rights of way:
- A Public Rights of Way Management Strategy (PRoWMS) will be developed in accordance with the Outline PRoWMS which will form the Outline Code of Construction Practice **[EN010147/APP/7.6.1]**, which is to be submitted alongside the ES. The Outline PRoWMS will include measures to avoid severance and maintain access to affected public rights of way and other promoted routes during construction of the Project.
  - A CoCP will be developed in accordance with the Outline CoCP, which is to be submitted alongside the ES. The Outline CoCP will include measures to maintain access to affected land holdings during construction of the Project and ensure that affected public rights of way are reinstated post-construction.
  - A Soil Management Plan (SMP) will be developed in accordance with the Outline SMP which will form the Outline Code of Construction Practice **[EN010147/APP/7.6.1]**, which is to be submitted alongside the ES. The Outline SMP will contain measures to maintain the quality of affected agricultural soils, including the requirement to reinstate land (as near as possible) to its former condition post-construction.

## Likely Significant Effects

- 6.12.6 Taking into account the mitigation measures described above, no significant effects are likely to occur with respect to agricultural land and public rights of way.
- 6.12.7 The following significant cumulative effects are likely to occur with respect to agricultural land and public rights of way:
- Permanent adverse cumulative effect as a result of the permanent loss of Best and Most Versatile agricultural land during construction of the Project and other projects/plans.
- 6.12.8 No transboundary effects with regard to Agricultural Land Use and Public Rights of Way from the Project on the interests of other States were predicted.

## 6.13 Waste and Resources

### Introduction

- 6.13.1 This section presents a summary of the assessment of likely significant effects on waste and resources during construction, operation and decommissioning of the Project. The assessment has focused on the reduction in landfill capacity and the depletion of key resources during all phases of the Project.

## Assessment Methodology

- 6.13.2 Characterisation of the waste and resources baseline, including the identification of sensitive receptors has followed guidance in IEMA's Guide to Materials and Waste in Environmental Impact Assessment (IEMA, 2020) (specifically the W1 I- void capacity method) and DMRB Sustainability and Environment Appraisal; LA110 Materials and Waste 2019 (Highways England et al, 2019)
- 6.13.3 Information on the current and permitted landfill capacity and resource availability was sourced from Oxfordshire County Council (as the minerals and waste planning authority) and the Environment Agency.

## Current Baseline Environment

- 6.13.4 The Oxfordshire Minerals and Waste Local Plan: Part 1 – Core Strategy (Oxfordshire County Council, 2017) (Core Strategy) provides the framework for monitoring policies that control waste management in Oxfordshire for the plan period up to 2031.
- 6.13.5 A new Minerals and Waste Plan for Oxfordshire is currently in preparation and once adopted, it will replace the Core Strategy (2017). Initial consultation on the Issues and Options for the Plan concluded in September 2023 and the new Minerals and Waste Plan is expected to be adopted in March 2026. The Authority Monitoring Report (AMR) 2020 (Oxfordshire County Council, 2023) estimates have been used to determine baseline and understand the total tonnes of construction, demolition and excavation (CDE) waste generated in Oxfordshire in 2020.
- 6.13.6 Oxfordshire is served by a network of waste management facilities including various non-hazardous and inert landfills.

## Mitigation Measures

- 6.13.7 The design of the Project predominantly uses prefabrication; this reduces the generation of construction waste on Site. Opportunities for further minimising waste and achieving resource efficiencies will be considered during detailed design..
- 6.13.8 A Site Resources and Waste Management Plan (SRWMP) will be implemented as part of the Outline Code of Construction Practice **[EN010147/APP/7.6.1]** which is secured through the DCO. The SRWMP will be in substantial accordance with the Outline SRWMP that forms part of the DCO application. The Outline SRWMP sets out the estimated types and quantities of waste that would be generated during all phases of the Project, together with measures for how the waste will be managed. The Outline SWRMP is based on the waste hierarchy and proximity principles for managing waste generated by the Project including targets to divert waste from landfill. The Outline SWRMP also identifies the key resources that will be used in the construction of the Project and commitments for using secondary/recycled content materials where feasible.

- 6.13.9 Waste management plans will also be prepared for the operation and maintenance phase and the decommissioning phase as secured through the Outline Operations Management Plan and the Decommissioning Statement. Waste Electrical and Electronic Equipment (WEEE) including photovoltaic panels and from supporting electrical infrastructure (e.g. power converter stations) generated during the operation and decommissioning phases will be recovered and recycled by an authorised reprocessor.

### Likely Significant Effects

- 6.13.10 Taking into account the mitigation measures described above, no significant effects are likely to occur on landfill void capacity and depletion of key resources as a result of the construction, operation and maintenance and decommissioning of the Project.
- 6.13.11 No transboundary effects with regard to Waste and Resources from the Project on the interests of other States were predicted.

## 6.14 Air Quality

### Introduction

- 6.14.1 This section presents a summary of the assessment of likely significant effects on waste and resources during construction, operation and decommissioning of the Project. The assessment has focused on the reduction in landfill capacity and the depletion of key resources during all phases of the Project.
- 6.14.2 The Air Quality Chapter (Volume 1, Chapter 19 of the ES [EN010147/APP/6.3]) sets out the assessment of effects in relation to air quality. The term air quality is a measure used to describe the level of pollutants present within the atmosphere relative to nationally designated environmental and health-based standards, objectives and targets.

### Assessment Methodology

- 6.14.3 Existing air quality data has been obtained from publicly available sources, including the Department for Environment, Food & Rural Affairs (Defra) UK AIR Information Source national pollution maps and published results of local authority studies of air quality, including local monitoring and modelling studies.
- 6.14.4 A dust risk assessment has been carried out in accordance with the Institute of Air Quality Management's (IAQM) '*Guidance on the assessment of dust from demolition and construction*'
- 6.14.5 An assessment of construction traffic has been carried out for all roads where construction traffic is predicted to exceed the trip-generation criteria stated in the EPUK and IAQM Land-Use Planning & Development Control: Planning for Air Quality guidance document (EPUK and IAQM, 2017).



## Current Baseline Environment

- 6.14.6 The baseline conditions for this report have been characterised by drawing on information from Defra Maps (Defra, 2018) and published results of local authority Review and Assessment (R and A) studies of air quality.
- 6.14.7 The background annual-mean NO<sub>2</sub> concentrations used in this assessment have been derived from the Defra mapped concentration estimates at each modelled receptor.
- 6.14.8 The background annual-mean PM<sub>10</sub> concentration used in this assessment for the construction dust risk assessment has been derived from the highest study area concentration of 17.9 µg/m<sup>3</sup> predicted by Defra's annual-mean PM<sub>10</sub> concentration estimates. For the construction traffic modelling, the concentrations used in this assessment have been derived from the Defra mapped concentration estimates at each modelled receptor.
- 6.14.9 The background annual-mean PM<sub>2.5</sub> concentrations used in this assessment have been derived from the Defra mapped concentration estimates at each modelled receptor.

## Mitigation Measures

- 6.14.10 Embedded mitigation measures for the construction phase are set out in the ES Volume 1, Chapter 6: Project Description [EN010147/APP/6.3], Appendix 6.1: Project Mitigation Measures and Commitments Schedule [EN010147/APP/6.5] and the various management plans outlined in this chapter [EN010147/APP/7.6].
- 6.14.11 Further mitigation measures appropriate to the level of risk of the Project have been secured in a Dust Management Plan as part of the Code of Construction Practice [EN010147/APP/7.6.1] and secured as a condition of the DCO.
- 6.14.12 By implementing appropriate mitigation measures commensurate to the level of risk of the Proposed Development, impacts will be mitigated to a level that is not significant.

## Likely Significant Effects

- 6.14.13 The main effect of any dust emissions during the construction phase, if not mitigated, soiling of surfaces, particularly windows, cars and laundry and the effects on human health from suspended particulate matter. However, it is normally possible, by implementation of proper control, to ensure that dust deposition does not give rise to significant adverse effects, although short-term events may occur (for example, due to technical failure or exceptional weather conditions). With the implementation of the recommended mitigation measures, the residual effect is considered not significant.
- 6.14.14 Emissions of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> generated by construction traffic could have detrimental effects on human receptors. The impacts of these pollutants have been predicted at sensitive receptors and the effects are considered not significant.



- 6.14.15 The likely effects once the development is operational are considered not significant.
- 6.14.16 Cumulative effects with other developments have been assessed. Overall, it is concluded that there will be no significant cumulative effects from dust arising from the Proposed Development alongside other projects.
- 6.14.17 No transboundary effects with regard to air quality from the Proposed Development on the interests of other States were predicted.

## **7 Further Information and Next Steps**

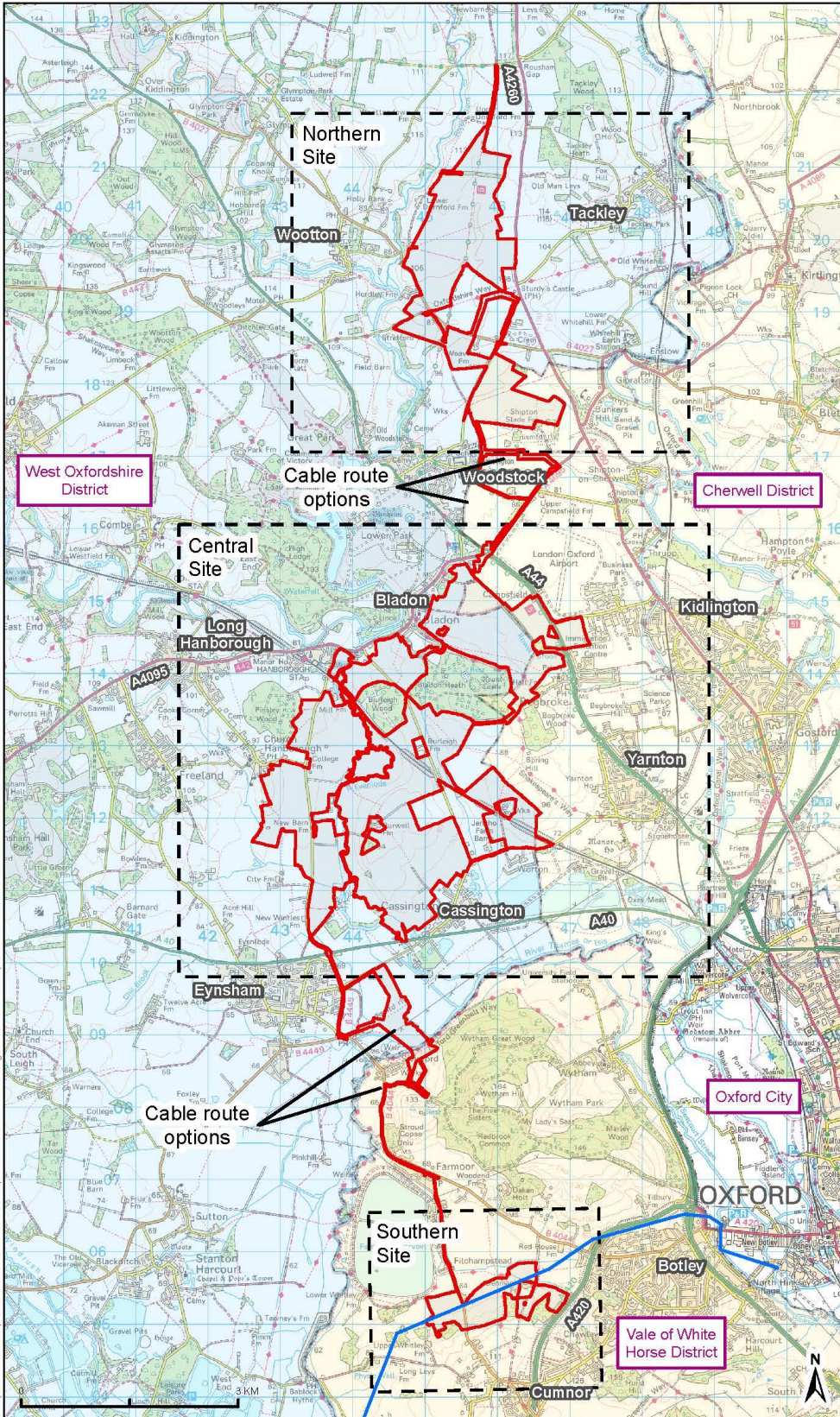
- 7.1.1 Digital copies of the full Environmental Statement (ES), including this Non-Technical Summary can be viewed at: [Botley West Solar Farm | National Infrastructure Planning \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/botley-west-solar-farm/national-infrastructure-planning). The ES has three volumes, Volume 1: Chapters [EN010147/APP/6.3], Volume 2: Figures [EN010147/APP/6.4] and Volume 3: Appendices [EN010147/APP/6.5]. Address for communication is [info@botleywest.co.uk](mailto:info@botleywest.co.uk) and the freephone is 08081753085.

## 8 References

- Cherwell District Council (2015) Adopted Cherwell Local Plan 2011 – 2031 (Part 1)
- Defra (2018) Defra Maps at <http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>
- Department for Levelling Up, Housing and Communities (2023) National Planning Policy Framework.
- EPUK & IAQM (January 2017) Land-Use Planning & Development Control: Planning For Air Quality
- Eynsham Parish Council (2020) Eynsham Neighbourhood Plan 2018 – 2031.
- HM Government Legislation. Planning Act, 2008 (as amended).
- IAQM (2023) Guidance on the assessment of dust from demolition and construction
- Institute of Environmental Management and Assessment (IEMA) (2022) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance. 2nd Edition.
- Oxfordshire County Council (2017) Oxfordshire Minerals and Waste Local Plan.
- Oxfordshire County Council (2023) Minerals and Waste Authority Monitoring Report 2020.
- Vale of White Horse District Council (2016) Local Plan 2031 Part 1 – Strategic Sites and Policies.
- Vale of White Horse District Council (2019) Local Plan 2031 Part 2 – Detailed Policies and Additional Sites.
- Vale of White Horse District Council (2021) Cumnor Parish Neighbourhood Development Plan 2021 to 2031.
- West Oxfordshire District Council (2018) Local Plan 2031, adopted in 2018.
- Woodstock Town Council (2023) Woodstock Neighbourhood Plan 2020 – 2031.

# FIGURES





© 2024 RPS Group

Notes  
 1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.  
 2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.

**LEGEND**

- Order Limits
- 400kV Overhead Line

**Local Planning Authorities**

- Cherwell District
- Oxford City
- Vale of White Horse District
- West Oxfordshire District

PHOTOVOLT DEVELOPMENT PARTNERS RPS A TETRA TECH COMPANY

Figure Number	Rev
1	-

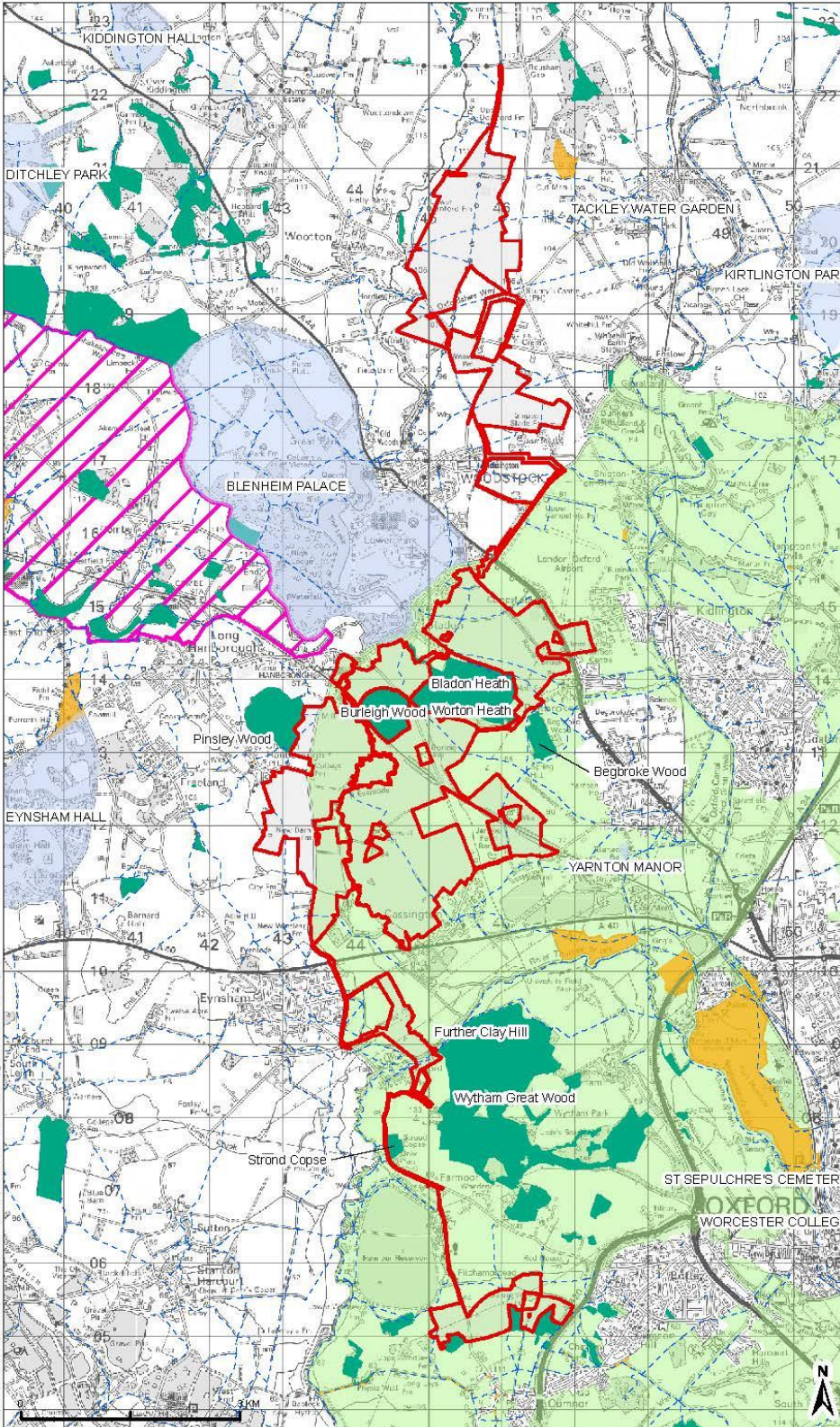
VER	DATE	DETAILS	BY	CHECK

**rpsgroup.com**  
 20 Western Avenue, Milton Park, Abingdon,  
 Oxfordshire, OX14 4SH  
 T: +44(0)1235 821 888 E: rpsxo@rpsgroup.com

P:\eum-mps-02\_eur-rpsgroup.com\Projects\12426\_Proposed DCO Scale Solar Development\860mw\Tech Drawings\12426-0045-04.aprx

**Figure 1: Site Location Plan**





© 2024 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.

**LEGEND**

- Order Limits
- Green Belt
- Parks and Gardens
- CRoW Access Land
- Ancient Woodland
- National Landscape
- Public Right of Way

P:\env\pfs\02\_eur\pfs\group.com\Project\12426\_Proposed DCO\_Scale Solar Development\600max\Tech\Drawings\12426-0046-05.aprx

Client	PVDP	Status	Final	Drawn By	JM	PM/Checked By	MB
Project	Botley West Solar Farm	Drawing Number	EN010147/APP/6/4	Scale @A3	1:100,000	Date Created	NOV 2024
Title	Landscape Designations and Green Belt						

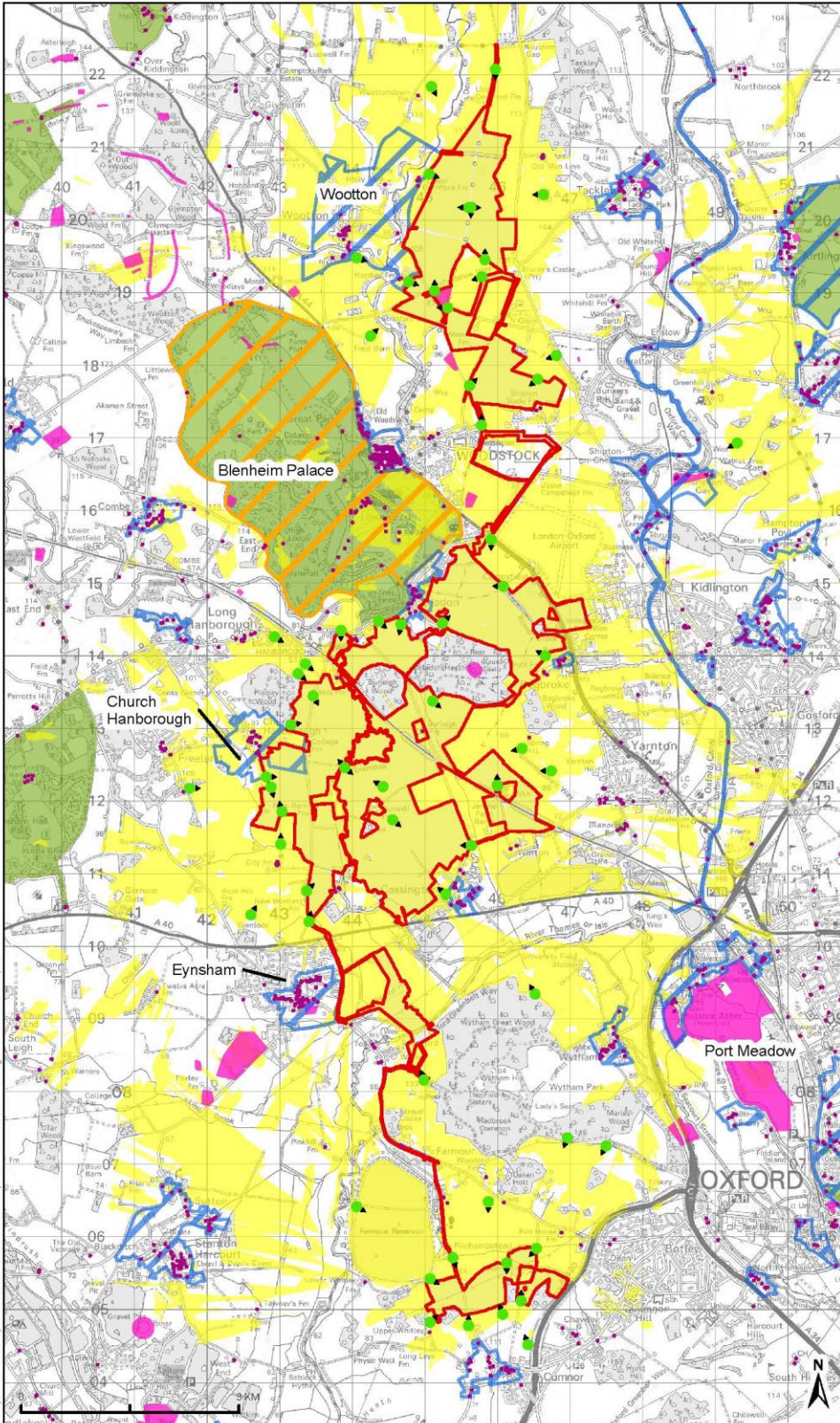
Figure Number	Rev
2	-

VER	DATE	DETAILS	BY	CHECK

**rpsgroup.com**  
 20 Western Avenue, Milton Park, Abingdon,  
 Oxfordshire, OX14 4SH  
 T: +44(0)1235 821 888 E: rps@rpsgroup.com

**Figure 2: Landscape Designations and Green Belt**





© 2024 RPS Group

Notes  
 1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.  
 2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.

**LEGEND**

- Order Limits
- Zone of Theoretical Visibility
- ▲ Representative Viewpoints
- Listed Building
- Conservation Area
- World Heritage Site
- Scheduled Monument
- Parks and Gardens

P:\air-rps\02\_air-rps\026\_Proposed DCO Scale Solar Development\660mw\Tech Drawings\12426-0076-05.dwg

Figure Number	Rev			
3	-			
VER	DATE	DETAILS	BY	CHECK
<p><b>rpsgroup.com</b>                  20 Western Avenue, Milton Park, Abingdon,                  Oxfordshire, OX14 4SH                  T: +44(0)1235 821 888 E: rps@rpsgroup.com</p>				

Client	PVDP	Status	Drawn By	PM/Checked By
Project	Botley West Solar Farm	Final	JM	MB
Title	Heritage Designations with Zone of Theoretical Visibility	Drawing Number	Scale @ A3	Date Created
		EN010147/APP/6.4	1:100,000	NOV 2024

**Figure 3: Heritage Designations with Zone of Theoretical Visibility**